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```
This file contains the parameter estimates of all
linear and non-linear models, fitted to each response
variable in turn. Only models that converged are shown.

The models are grouped by

 (i) response variable
(ii) type of model (both separated by dollar signs).

Models per type are numbered consecutively.

Abbreviated model types:

L.......Linear
M.......Michaelis-Menten models
E.......Exponential models
P.......Power models
AS......Self-starting asymptotic models
BIEXP...Self-starting biexponential models
LG......Self-starting logistic models

Models contained blocks (B1-B4), grass presence, legume presence
and number of plant functional groups in addition to the main
explanatory variable (sowndiv, plant species richness).

For a ranking of models, see Table S2.

####


$`Microbial biomass `$L01
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 61.26038

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.166613956    0.185699231    0.217197034    0.157708731
0.033482250
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.288413458   -0.541249029   -0.528399323   -0.005446655
0.005421499
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.013746113    0.113116715    0.145606663    0.220482784

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   power
0.655927
```

```
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2281479

$`Microbial biomass `$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 61.9346

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.076203913    0.180388317    0.217389470    0.158597014
0.033698018
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.267735228   -0.477924193   -0.481581418   -0.005632530
0.007267982
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.014876138    0.097714359    0.142691024    0.189994151

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
2.038393
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.05295806

$`Microbial biomass `$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 57.84676

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.291682412    0.182847550    0.199292019    0.140312999
0.018740795
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.293453870   -0.535141839   -0.563782438   -0.003333745
0.004909450
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.007305964    0.109432669    0.137695814    0.209942310

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04494402
```

```
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1117926

$`Microbial biomass `$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 57.76887

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.407071420    0.180799812    0.195369582    0.134301219
0.015543597
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.314183436   -0.590966569   -0.610526591   -0.002842570
0.004666344
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.005909582    0.121337183    0.138905351    0.232584327

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002285044
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1219897

$`Microbial biomass `$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.383907     0.002804     0.016636    -0.048376


$`Microbial biomass `$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.31563

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.372506932  0.003088426  0.018528600 -0.045070543

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
```

```
    power
0.3925366
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2221355

$`Microbial biomass `$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.21234

Coefficients:
(Intercept)     sowndiv      funcgr         leg
 0.37581178  0.00305587  0.01786584 -0.04602664

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
    expon
0.7428834
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1137764

$`Microbial biomass `$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.16279

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.374469011  0.002931848  0.018037502 -0.045684910

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03070032
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1434010

$`Microbial biomass `$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.57724

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.395044418  0.002279406  0.016064979 -0.051553441

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00784338
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1597333

$`Microbial biomass `$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.4732 0.8767
 residual sum-of-squares: 1.760

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.649e-07

$`Microbial biomass `$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.4732 0.8767
 residual sum-of-squares: 1.760

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.335e-06

$`Microbial biomass `$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
     a      b      d
0.3463 1.9691 0.1466
 residual sum-of-squares: 1.755

Number of iterations to convergence: 7
Achieved convergence tolerance: 5.819e-06

$`Microbial biomass `$M211
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.48849

Coefficients:
        a         b         d
0.3595576 1.6806960 0.1273808

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
   power
0.058389
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1362937

$`Microbial biomass `$M222
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.56385

Coefficients:
        a         b         d
0.3313970 2.6705047 0.1761445

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006281512
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1567270

$`Microbial biomass `$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.87916

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
    0.6333594    -0.1177495     1.7604516    -0.6276455

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1470695

$`Microbial biomass `$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.93783

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
    0.6291894    -0.1150229     1.7156729    -0.6009236

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02917223
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1407354

$`Microbial biomass `$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.37478

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
    0.6425148    -0.1228591     1.8456693    -0.6730959

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007472615
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1558691

$`Microbial biomass `$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.48285

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.40790291    0.05179107    0.63962616    0.20621206

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1495953

$`Microbial biomass `$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.76829

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.39566014    0.05794642    0.51247693    0.26924749

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06290398
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1357841
```

```
$`Microbial biomass `$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.6134

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.42948921    0.04021002    0.84128192    0.10048097

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004117594
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1547317

$`Microbial biomass `$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.51328

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.41291925    0.02488170    0.45059642    0.22252802

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1495398

$`Microbial biomass `$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.6941

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.41639747    0.02303531    0.48508055    0.19884014

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05142434
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1382431

$`Microbial biomass `$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
```

```
  Data: DF
  Log-likelihood: 41.92676

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.40691037    0.02833383    0.39736464    0.26139975

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007048674
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1580696

$`Microbial biomass `$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.17232

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.77557872   -0.02632395   -0.16609042    2.49196149   -0.09117077
        b.leg
  -0.91014333

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1484604

$`Microbial biomass `$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.22154

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.77312414   -0.02681783   -0.16403091    2.46379225   -0.09803511
        b.leg
  -0.88862338

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02654467
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.142638

$`Microbial biomass `$M622
Generalized nonlinear least squares fit
```

```
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.63443

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.76222586   -0.02083043   -0.16367523    2.36417645   -0.02997730
        b.leg
  -0.88461424

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007277595
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1571441

$`Microbial biomass `$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.4971

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
    0.2167675     0.0460553     0.1061114    -0.4412272     0.3005945
      b.grass
    0.5006104

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1496879

$`Microbial biomass `$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.62053

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.21998083    0.04430573    0.10616151   -0.41550221    0.27965590
      b.grass
   0.50357884

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04184964
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1404593
```

```
$`Microbial biomass `$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.87197

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.21788866    0.04921181    0.10175733   -0.44729198    0.34037629
      b.grass
   0.46980628

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006690928
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1578152

$`Microbial biomass `$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.19536

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.57101657    0.05231126   -0.12013190    1.55935750    0.25339056
        b.leg
  -0.69594933

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1484187

$`Microbial biomass `$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.25356

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.56389921    0.05369995   -0.11693862    1.47992196    0.26671081
        b.leg
  -0.66199293

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
```

```
0.02880191
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1421053

$`Microbial biomass `$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.62374

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.59547052    0.04402642   -0.12731519    1.77186657    0.19313709
        b.leg
  -0.76154671

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007035876
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1568388

$`Microbial biomass `$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.24014

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.656871962  -0.011760065   0.035153055  -0.141493922   1.793927603
     b.funcgr       b.grass         b.leg
 -0.007281231   0.207308545  -0.766211143

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1503288

$`Microbial biomass `$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.29431

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.64930098   -0.01171344    0.03674372   -0.13832938    1.73299414
     b.funcgr       b.grass         b.leg
  -0.01138088    0.21833340   -0.73791883

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02780186
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1441552

$`Microbial biomass `$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.68027

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.666487281  -0.009098335   0.028501484  -0.143955056   1.800321906
     b.funcgr       b.grass         b.leg
  0.037522135   0.169539328  -0.770210989

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007136876
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1589724

$`Microbial biomass `$M111
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.02787

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
    0.1366246     0.1492708    25.3762544   -11.8437813     0.4785390
      d.grass
   -0.1925723

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1505469

$`Microbial biomass `$M1132
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.43559

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
    0.1317396     0.1553871    26.0499692   -12.2713542     0.4946508
      d.grass
   -0.2081471
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006937727
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1589938

$`Microbial biomass `$M131
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 44.33896

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.12270701    0.05776488    0.04584730  -93.06234456   27.75784481
        b.leg d.(Intercept)      d.funcgr         d.leg
  41.06748999    0.31711072    0.01684919   -0.02846671

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1493403

$`Microbial biomass `$M1332
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.22579

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   -0.1901386     0.1008317     0.1237712   -20.7500219     5.5736804
        b.leg d.(Intercept)      d.funcgr         d.leg
   10.2600737     0.4245506    -0.0216960    -0.0668219

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006965124
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1607099

$`Microbial biomass `$M141
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 48.04177

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
```

```
  0.429753841   0.008390143  -0.219201503  47.900679823   0.213349629
      b.grass d.(Intercept)       d.funcgr       d.grass
-28.084795424   0.236290151   0.021407537   0.025934334

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1427467

$`Microbial biomass `$M1621
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.82867

Coefficients:
a.(Intercept)       a.funcgr        a.grass          a.leg b.(Intercept)
   1.33504316   -0.09457035   -0.18670183   -0.42626870   36.94835850
     b.funcgr       b.grass         b.leg d.(Intercept)       d.funcgr
  -2.21002466   -8.72463308  -12.01205779   -0.09245285    0.03928225
      d.grass         d.leg
   0.07375816    0.09791911

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02574381
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1477045

$`Microbial biomass `$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
3.643e-01 1.360e-27
 residual sum-of-squares: 2.084

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.222e-08

$`Microbial biomass `$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Microbial biomass `$E5
Nonlinear regression model
```

```
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
4.55e-27
 residual sum-of-squares: 12.44

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.650e-08

$`Microbial biomass `$E21
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 34.22429

Coefficients:
           a            b
3.635465e-01 1.366553e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.00613502
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1599219

$`Microbial biomass `$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 34.84026

Coefficients:
           a            b
3.696510e-01 1.313098e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008872625
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1728556

$`Microbial biomass `$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 36.78189

Coefficients:
```

```
          a           c
-0.66341259  0.00369182

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02756984
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1501559

$`Microbial biomass `$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 37.16667

Coefficients:
           a            c
-0.654360178  0.003070372

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007778773
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1664499

$`Microbial biomass `$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.079

Coefficients:
        a
-2.462211

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07020
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.06724473

$`Microbial biomass `$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
```

```
  Log-likelihood: -800.9884

Coefficients:
        a
-3.099336

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014765
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6999242

$`Microbial biomass `$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -1656.492

Coefficients:
         b
0.07776686

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.43074
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.07169706

$`Microbial biomass `$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -38.41257

Coefficients:
           b
4.549951e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01258417
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4333031

$`Microbial biomass `$E61
```

```
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -25.83710

Coefficients:
         c
-0.9774835

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3505123
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1982788

$`Microbial biomass `$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -31.04317

Coefficients:
         c
-0.6919993

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01705533
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3070777

$`Microbial biomass `$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
     -2963126        911706

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Microbial biomass `$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: -29.32285

Coefficients:
c.(Intercept)         c.leg
    0.5483713    -0.7065756

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3502891

$`Microbial biomass `$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.94326

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
-0.5325662079 -0.0877833815 -0.0009775838  0.0037441116

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.01055477
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1519019

$`Microbial biomass `$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 39.53611

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.517567126  -0.094386991  -0.001603329   0.003912477

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008542137
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.164846

$`Microbial biomass `$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.390

Coefficients:
```

```
a.(Intercept)         a.leg
  -2.38346200   -0.04499927

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07342
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06677758

$`Microbial biomass `$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.886

Coefficients:
a.(Intercept)         a.leg
   -3.9000608     0.4616403

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014838
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7029687

$`Microbial biomass `$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -24.80916

Coefficients:
c.(Intercept)         c.leg
   -0.2173166    -0.4285978

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3322020
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2024580

$`Microbial biomass `$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: -27.4095

Coefficients:
c.(Intercept)         c.leg
    0.4437789    -0.6635958

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01308981
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3058346

$`Microbial biomass `$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508713       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Microbial biomass `$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -30.73342

Coefficients:
c.(Intercept)       c.grass
    0.4277878    -0.6521125

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3563669

$`Microbial biomass `$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.74081

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.598645888  -0.055059506  -0.006526529   0.009641372

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
0.04625037
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1444178

$`Microbial biomass `$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.96318

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.592388690  -0.053945553  -0.005974365   0.008737063

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006920597
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1637068

$`Microbial biomass `$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.038

Coefficients:
a.(Intercept)       a.grass
  -2.48151154    0.01102905

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07039
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.0676108

$`Microbial biomass `$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.8691

Coefficients:
a.(Intercept)       a.grass
   -3.9630805     0.4979842
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014856
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7027132

$`Microbial biomass `$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -24.8741

Coefficients:
c.(Intercept)       c.grass
   -0.2044469    -0.4273689

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3214632
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2058746

$`Microbial biomass `$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -28.06223

Coefficients:
c.(Intercept)       c.grass
    0.3087346    -0.6034059

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01603783
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3005742

$`Microbial biomass `$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
```

```
a.(Intercept)      a.funcgr
     252095.8     -912137.5

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Microbial biomass `$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -25.82217

Coefficients:
c.(Intercept)      c.funcgr
   -0.9396606     0.2096280

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3356496

$`Microbial biomass `$Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2877.534

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
 0.4481109050 -0.2042303971  0.0025138369 -0.0006284561  0.9998429581
     c.funcgr
 1.0000392604

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
  expon
4.81646
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.0004807627

$`Microbial biomass `$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 40.37348

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.757878116   0.042592404   0.012514505  -0.002690194

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
       expon
-0.007441648
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1616368

$`Microbial biomass `$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.079

Coefficients:
a.(Intercept)      a.funcgr
     2.107968     -4.570178

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07020
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06766368

$`Microbial biomass `$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.3282

Coefficients:
a.(Intercept)      a.funcgr
     3.506409     -6.220623

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022193
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6092293

$`Microbial biomass `$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -16.77887

Coefficients:
c.(Intercept)      c.funcgr
   -1.2873857     0.2861425

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3588624
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1764474

$`Microbial biomass `$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -22.01001

Coefficients:
c.(Intercept)      c.funcgr
   -1.0072283     0.2213265

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    expon
0.0195956
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2707897

$`Microbial biomass `$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.2     -990730.5     -307654.7

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Microbial biomass `$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.390

Coefficients:
a.(Intercept)      a.funcgr         a.leg
   2.19796605   -4.58142803   -0.04499927

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
   power
15.07342
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06719888

$`Microbial biomass `$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.3276

Coefficients:
a.(Intercept)      a.funcgr         a.leg
   3.56986977   -6.22854831   -0.03173434

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022194
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6130616

$`Microbial biomass `$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -21.87297

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   -0.6762935     0.1809676    -0.1678372

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01923615
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2728840

$`Microbial biomass `$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.6     -839615.5      296563.3

Degrees of freedom: 82 total; 79 residual
```

```
Residual standard error: 2.569717e+25

$`Microbial biomass `$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.038

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   2.08590943   -4.56742096    0.01102904

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07039
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06803735

$`Microbial biomass `$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.3282

Coefficients:
a.(Intercept)      a.funcgr       a.grass
  3.495194768  -6.219221340   0.005607121

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022193
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6130727

$`Microbial biomass `$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Microbial biomass `$Ef3721
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2719.873

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 3.386504e-01 -1.611308e-03 -4.623395e-02  1.801116e-04 -7.609184e-05
       b.leg c.(Intercept)       c.grass         c.leg
-1.260945e-05  9.999884e-01  1.000005e+00  1.000001e+00

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.527347
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0008582994

$`Microbial biomass `$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 40.85162

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.471064993  -0.056608918  -0.075798403  -0.006928818   0.007711895
       c.leg
  0.001292316

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007490311
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1628658

$`Microbial biomass `$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.384

Coefficients:
a.(Intercept)       a.grass         a.leg
 -2.373038886  -0.004467048  -0.046488281

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
   power
15.07344
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06719103

$`Microbial biomass `$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.6425

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.6870078     0.7593425     0.7325372

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.015019
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7042094

$`Microbial biomass `$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -18.45191

Coefficients:
c.(Intercept)       c.grass         c.leg
    1.0150746    -0.5875177    -0.5877623

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3077127
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1955177

$`Microbial biomass `$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -22.29754

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.8367020    -0.4877268    -0.4777367
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    expon
0.0171708
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2792077

$`Microbial biomass `$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292091.8     -918391.4      183181.3     -199834.2

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Microbial biomass `$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.384

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
  2.209878210  -4.582917053  -0.004467059  -0.046488292

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07344
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06762035

$`Microbial biomass `$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.3276

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
  3.591182637  -6.231212076  -0.007701756  -0.034689198

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
   expon
1.022194
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6169784

$`Microbial biomass `$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.336476 0.004126
 residual sum-of-squares: 1.949

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.776e-10

$`Microbial biomass `$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.71888  0.05716
 residual sum-of-squares: 1.765

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.625e-07

$`Microbial biomass `$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.2898 0.1580
 residual sum-of-squares: 1.778

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.803e-07

$`Microbial biomass `$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.5422
 residual sum-of-squares: 14.22

Number of iterations to convergence: 14
Achieved convergence tolerance: 7.2e-06

$`Microbial biomass `$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
```

```
  Log-likelihood: 36.96076

Coefficients:
          a           b
0.336476164 0.004125718

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1560883

$`Microbial biomass `$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.02073

Coefficients:
          a           c
-0.71888046  0.05715492

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1485483

$`Microbial biomass `$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.73806

Coefficients:
        b         c
0.2897725 0.1580283

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1490613

$`Microbial biomass `$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -44.52038

Coefficients:
         c
-0.5422031

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4190052

$`Microbial biomass `$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 37.02406
```

```
Coefficients:
          a           b
0.332444210 0.004359331

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
0.032711
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1485747

$`Microbial biomass `$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 37.34375

Coefficients:
          a           b
0.342814527 0.003487978

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007503355
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1656986

$`Microbial biomass `$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.21007

Coefficients:
         a          c
-0.7211767  0.0585016

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05264561
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1370635

$`Microbial biomass `$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
```

```
  Data: DF
  Log-likelihood: 41.40456

Coefficients:
          a           c
-0.71618166  0.05507333

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006869461
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1568369

$`Microbial biomass `$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.91377

Coefficients:
        b         c
0.2870557 0.1631600

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.0509429
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1379078

$`Microbial biomass `$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.11141

Coefficients:
        b         c
0.2930870 0.1499929

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006844048
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1573642
```

```
$`Microbial biomass `$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -31.05171

Coefficients:
         c
-0.3141903

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3696795
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6155098

$`Microbial biomass `$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.2067

Coefficients:
        c
-0.431136

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01015067
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4498931

$`Microbial biomass `$Pd61
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 43.04026

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  -2.56016479    0.60779410    2.83080359   -0.60253586   -0.01139930
     c.funcgr
   0.02824325

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1486996

$`Microbial biomass `$Pd71
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.03284

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.237093292   0.042712670   0.014651932  -0.003169064

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1522641

$`Microbial biomass `$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.28237

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.748641079   0.019907020   0.063995466  -0.005284921

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1499615

$`Microbial biomass `$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.27506

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.24411294    0.02709654    0.21193026   -0.02991555

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1499748

$`Microbial biomass `$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.13097

Coefficients:
c.(Intercept)      c.funcgr
   -1.0099876     0.1726411

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4095076

$`Microbial biomass `$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
```

```
  Data: DF
  Log-likelihood: 40.20746

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.233130958   0.043369891   0.015394330  -0.003345766

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05118879
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1408215

$`Microbial biomass `$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.48165

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.238640497   0.042978491   0.014021152  -0.003036082

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007389384
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1613513

$`Microbial biomass `$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.47642

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.750757579   0.020444507   0.066071133  -0.005839522

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05329022
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1382271
```

```
$`Microbial biomass `$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.69914

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.748159839   0.020260379   0.062507185  -0.005063292

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007073773
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1585432

$`Microbial biomass `$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.4661

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.24214943    0.02772196    0.21863072   -0.03194872

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05292123
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1383203

$`Microbial biomass `$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.69461

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.24523734    0.02676648    0.20583548   -0.02803624

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007100683
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1585886

$`Microbial biomass `$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.00411

Coefficients:
c.(Intercept)      c.funcgr
   -0.6273438     0.1062891

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4753241
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6567864

$`Microbial biomass `$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -33.60828

Coefficients:
c.(Intercept)      c.funcgr
   -0.8666610     0.1739901

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03261438
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4883471

$`Microbial biomass `$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.854

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.403745475  -0.056539696  -0.007394764   0.010755847

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1544689
```

```
$`Microbial biomass `$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.72147

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.69642385   -0.01770846    0.02449197    0.02635335

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1491606

$`Microbial biomass `$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.48720

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.31111204   -0.01743101    0.06293662    0.07865262

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1495874

$`Microbial biomass `$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -44.03444

Coefficients:
c.(Intercept)       c.grass
   -0.2523209    -0.2201906

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4191247

$`Microbial biomass `$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.03842

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
 0.4653169804 -0.0869936693 -0.0007470766  0.0038195204

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1541219

$`Microbial biomass `$Pg181
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.12215

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.67294907   -0.02470195    0.07132477   -0.01486690

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1484335

$`Microbial biomass `$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.85989

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.34900711   -0.03409829    0.15802005   -0.01552544

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.148909

$`Microbial biomass `$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.04784

Coefficients:
c.(Intercept)         c.leg
  -0.03783580   -0.38355360

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4141121

$`Microbial biomass `$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.69544

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.231109492   0.043224533   0.001701334   0.037000878  -0.006146820
       b.leg
 -0.010415420

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1511585

$`Microbial biomass `$Ph231
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.00363

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.77437683    0.02211231    0.01289246    0.16273666   -0.01776095
        c.leg
  -0.04797342

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1487661

$`Microbial biomass `$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.11686

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.20043676    0.03385176    0.01984171    0.51634235   -0.07014217
        c.leg
  -0.14761289

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1485608

$`Microbial biomass `$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -41.96952

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   -0.6908294     0.1345153    -0.1653919

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4112807

$`Microbial biomass `$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.78295

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.215032512   0.045333997   0.010285549   0.004914165  -0.002058117
      b.grass
  0.005306966

Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.1528499

$`Microbial biomass `$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.35526

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.720812817   0.016024023  -0.014074953  -0.009087851   0.003644050
      c.grass
  0.037599247

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1499470

$`Microbial biomass `$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.35735

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  0.254792448   0.026342524  -0.006103272   0.028461943  -0.008164079
      c.grass
  0.094039450

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1499432

$`Microbial biomass `$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.00313

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.3130587     0.2114817     0.1474538

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4114493

$`Microbial biomass `$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.56554

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.519974491  -0.060795213  -0.069706221  -0.008224235   0.009724642
```

```
       b.leg
  0.001010692

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1532557

$`Microbial biomass `$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.93356

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.63617578   -0.03449706   -0.01638429    0.03704288    0.03227001
       c.leg
  -0.02045317

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1488933

$`Microbial biomass `$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.74853

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.38735537   -0.03378377   -0.02794488    0.05498936    0.09739673
       c.leg
  -0.03181284

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1492296

$`Microbial biomass `$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.41599

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.2478340    -0.2209077    -0.3803795

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4135261

$`Microbial biomass `$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.72244
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 0.1861338394  0.0488467826  0.0146439813  0.0095467830  0.0394972558
     b.funcgr       b.grass         b.leg
-0.0064586381 -0.0008434272 -0.0108211248

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1531371

$`Microbial biomass `$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.08294

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.740556181   0.017917230  -0.011056430   0.006998392   0.114107912
     c.funcgr       c.grass         c.leg
 -0.011722228   0.014951569  -0.038518987

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1506173

$`Microbial biomass `$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.1627

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.19777752    0.03413374    0.00174404    0.01953692    0.44409223
     c.funcgr       c.grass         c.leg
  -0.06106459    0.01979614   -0.13141387

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1504709

$`Microbial biomass `$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -41.9481

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.93046600    0.16467446    0.07506066   -0.12162601

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4138006

$`Microbial biomass `$Pm1221
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.01313

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.40146045   -0.05807734   -0.00788716    0.01141821

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04895204
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1433628

$`Microbial biomass `$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.19321

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.40820907   -0.05695188   -0.00717501    0.01024767

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006722681
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1629711

$`Microbial biomass `$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.9164

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.69474233   -0.01950539    0.02301555    0.02788350

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05246447
Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.1376561

$`Microbial biomass `$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.06854

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.69942850   -0.01535618    0.02713550    0.02407854

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006512847
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1570723

$`Microbial biomass `$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.67821

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.31228180   -0.01927817    0.05847143    0.08418369

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.05213795
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1381235

$`Microbial biomass `$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.83636

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.31035532   -0.01610096    0.06739311    0.07313190

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
       expon
-0.006547681
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1575648

$`Microbial biomass `$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -29.44967

Coefficients:
c.(Intercept)       c.grass
   -0.1248195    -0.1470732

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3996867
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6350306

$`Microbial biomass `$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.7658

Coefficients:
c.(Intercept)       c.grass
    0.1345091    -0.3296981

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03044903
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.523074

$`Microbial biomass `$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.04898

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
 0.4625749331 -0.0860090871 -0.0006997079  0.0038467139

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.01316943
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1511184

$`Microbial biomass `$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.61339

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.479431671  -0.093436642  -0.001555517   0.004099001

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00843563
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1645402

$`Microbial biomass `$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.20786

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.67763884   -0.02307313    0.07289764   -0.01503849

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03566375
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1406319

$`Microbial biomass `$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.52942

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
```

```
  -0.65737150   -0.03214449    0.06289819   -0.01111236

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007055654
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1569215

$`Microbial biomass `$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.93729

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.34408340   -0.03229861    0.16346815   -0.01640692

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03410354
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1414239

$`Microbial biomass `$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.27679

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
  0.363627161  -0.041082811   0.133337142  -0.004564306

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007178055
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1575712

$`Microbial biomass `$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -25.44735
```

```
Coefficients:
c.(Intercept)         c.leg
   0.02439203   -0.26065920

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4481359
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6498823

$`Microbial biomass `$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.75472

Coefficients:
c.(Intercept)         c.leg
    0.2486636    -0.4335888

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03196687
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5108284

$`Microbial biomass `$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.779

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.225269184   0.044072903   0.003287601   0.038052206  -0.006335945
       b.leg
 -0.010688302

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03517119
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1433222
```

```
$`Microbial biomass `$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.17617

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.238803278   0.042676037  -0.001350002   0.035127811  -0.005853422
       b.leg
 -0.009805219

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007494411
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1602618

$`Microbial biomass `$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.06334

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.77372462    0.02218492    0.01201465    0.16236615   -0.01785417
       c.leg
  -0.04728633

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.02925296
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.14234

$`Microbial biomass `$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.48732

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.77247286    0.02227757    0.01215010    0.16046633   -0.01747570
       c.leg
  -0.04747493
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007395065
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1575851

$`Microbial biomass `$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.18075

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.20107203    0.03400912    0.01899989    0.51701315   -0.07091827
        c.leg
  -0.14615421

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03019153
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1419384

$`Microbial biomass `$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.584

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.20498604    0.03259207    0.01851749    0.50162072   -0.06655219
        c.leg
  -0.14374157

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007298736
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1572693

$`Microbial biomass `$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: -22.31842

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.40072821    0.07843802   -0.11445421

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4810318
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6610038

$`Microbial biomass `$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -33.35057

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   -0.6101750     0.1431063    -0.1328996

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03263521
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4899738

$`Microbial biomass `$Pq2631
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 45.38668

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -1.01282003    0.14209722    0.62913268    1.35045417   -0.14234013
      b.grass c.(Intercept)      c.funcgr       c.grass
  -0.67066334    0.83878558    0.07806126   -0.87776507

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006764649
Degrees of freedom: 82 total; 73 residual
```

```
Residual standard error: 0.1562610

$`Microbial biomass `$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.935

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.221738698   0.044645721   0.005092552   0.004179533  -0.002048883
      b.grass
  0.006035999

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04773811
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1421285

$`Microbial biomass `$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.18965

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.206352158   0.046841297   0.015418021   0.006097190  -0.002145218
      b.grass
  0.004381853

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007064159
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1616034

$`Microbial biomass `$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.50516

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.719567523   0.016080309  -0.015554378  -0.009699953   0.003490436
      c.grass
```

```
  0.038727143

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04592993
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1398076

$`Microbial biomass `$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.71661

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.726718447   0.017117787  -0.010904120  -0.004657297   0.003128925
      c.grass
  0.034734502

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006585009
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1579708

$`Microbial biomass `$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.5143

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  0.257384236   0.026525808  -0.008393974   0.023921829  -0.008847298
      c.grass
  0.099362226

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04717589
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1395337

$`Microbial biomass `$Pq2931
```

```
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.71182

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  0.250244301   0.026356937  -0.003016204   0.040766269  -0.008234453
      c.grass
  0.084869176

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00655037
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1579330

$`Microbial biomass `$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.75071

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -0.76248625    0.12322157    0.06720479

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4749447
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6585198

$`Microbial biomass `$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -33.50686

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -1.02988611    0.19479893    0.07991391

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
```

```
-0.03256152
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4905981

$`Microbial biomass `$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.65128

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.5168612613 -0.0625377335 -0.0677386764 -0.0086045264  0.0102274546
       b.leg
 0.0009871547

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03605914
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1451155

$`Microbial biomass `$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.00305

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.528073139  -0.059714719  -0.074030635  -0.008020193   0.009011539
       b.leg
  0.001270468

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007342647
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1623593

$`Microbial biomass `$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.01911

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
```

```
  -0.63754499   -0.03461126   -0.01620579    0.03656193    0.03282452
       c.leg
  -0.02008047

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03477835
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1412533

$`Microbial biomass `$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.34004

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.62789496   -0.03501659   -0.01984176    0.03466192    0.03130126
       c.leg
  -0.01900136

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00689536
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1571926

$`Microbial biomass `$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.83898

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.38565454   -0.03432817   -0.02724757    0.05328494    0.10033143
       c.leg
  -0.03135258

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03594588
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1413188
```

```
$`Microbial biomass `$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.15433

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.39461733   -0.03399994   -0.03113385    0.04939747    0.09349555
        c.leg
  -0.02757952

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006914078
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1575743

$`Microbial biomass `$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.32972

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.1696281    -0.1318883    -0.2480324

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4767493
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6649652

$`Microbial biomass `$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -34.58352

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.4646305    -0.2561756    -0.3824112

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
      expon
-0.03274933
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4978843

$`Microbial biomass `$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.79784

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 0.1936962863  0.0480115407  0.0104766644  0.0086542858  0.0386663089
     b.funcgr       b.grass         b.leg
-0.0064112141 -0.0002788291 -0.0107234248

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03381456
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1455055

$`Microbial biomass `$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.2173

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.176120253   0.050523945   0.020253493   0.009778975   0.040923822
     b.funcgr       b.grass         b.leg
 -0.006573030  -0.001855361  -0.010869356

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007618332
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1625044

$`Microbial biomass `$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.15511
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.733578776   0.017216942  -0.013254450   0.005105006   0.108156571
     c.funcgr       c.grass         c.leg
 -0.011133934   0.016776387  -0.036820287

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03215278
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1434704

$`Microbial biomass `$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.5326

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.751120541   0.019615046  -0.006825007   0.008272530   0.125225482
     c.funcgr       c.grass         c.leg
 -0.013096155   0.010701009  -0.040470763

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007197967
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1593425

$`Microbial biomass `$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.23408

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.207653644   0.033167299  -0.001115847   0.016900738   0.421924819
     c.funcgr       c.grass         c.leg
 -0.059052672   0.026722767  -0.125349574

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03212689
```

```
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1433378

$`Microbial biomass `$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.60998

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.188467028   0.034604517   0.005811227   0.021019747   0.474973713
     c.funcgr       c.grass         c.leg
 -0.063207629   0.006548958  -0.136916708

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007201753
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1591973

$`Microbial biomass `$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.31840

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
-0.4032618087  0.0787560188  0.0007762873 -0.1139730226

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4809996
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6651956

$`Microbial biomass `$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -33.34910

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.64678069    0.14772337    0.01152149   -0.12629269

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03262592
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4930565

$`Microbial biomass `$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.4592  0.2098 -1.2930
 residual sum-of-squares: 1.77

Number of iterations to convergence: 10
Achieved convergence tolerance: 8.682e-06

$`Microbial biomass `$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.4592 -1.2931 -2.2241
 residual sum-of-squares: 1.77

Number of iterations to convergence: 10
Achieved convergence tolerance: 9.487e-06

$`Microbial biomass `$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.4281 -0.2150
 residual sum-of-squares: 1.811

Number of iterations to convergence: 6
Achieved convergence tolerance: 6.154e-06

$`Microbial biomass `$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
    Asym     xmid     scal
 0.45479 -0.08847  2.64378
 residual sum-of-squares: 1.775

Number of iterations to convergence: 9
Achieved convergence tolerance: 5.392e-06

$`Microbial respiration `$L01
Generalized least squares fit by maximum likelihood
```

```
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 66.29191

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  0.0971726254   0.0523450999   0.0796403354   0.0629400645
0.0249253472
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
 -0.0081160347  -0.0499426079   0.0460419844  -0.0051481232  -
0.0011418402
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
 -0.0021583241   0.0396741576  -0.0001113372  -0.0257695886

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
    power
0.6649813
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.3048384

$`Microbial respiration `$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 67.29897

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  -0.117696265    0.045130996    0.084416647    0.067752814
0.039911176
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.036124557    0.041696967    0.141733792   -0.007603072   -
0.002710302
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.005643991    0.024931403   -0.014500042   -0.063829707

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
3.952133
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.04342441

$`Microbial respiration `$L011
Generalized least squares fit by maximum likelihood
```

```
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 63.31731

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  0.1902255247   0.0593659978   0.0789638219   0.0725917514
0.0160002508
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
 -0.0180771558  -0.0765763704   0.0016587666  -0.0039677303
0.0007775239
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  0.0002668673   0.0353954059   0.0051592991  -0.0152206304

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1848720
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.08496138

$`Microbial respiration `$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 62.58916

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  0.4306075623   0.0859601636   0.0978973953   0.0640848631  -
0.0036979432
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
 -0.0767083561  -0.1562591317  -0.1071816341  -0.0009412327
0.0027273171
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  0.0054695031   0.0505530302   0.0283747042   0.0137328054

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.01142284
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1244126

$`Microbial respiration `$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.140284     0.001500     0.029908     0.004830


$`Microbial respiration `$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 52.79872

Coefficients:
(Intercept)     sowndiv      funcgr         leg
0.143902019 0.001335543 0.029251588 0.004486356

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
     power
-0.2067939
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09294533

$`Microbial respiration `$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 52.93664

Coefficients:
(Intercept)     sowndiv      funcgr         leg
0.145929326 0.001190281 0.028903010 0.004444837

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
    expon
-1.633253
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1829401

$`Microbial respiration `$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 54.15545

Coefficients:
(Intercept)     sowndiv      funcgr         leg
```

```
0.116591541 0.002712024 0.032938150 0.004464579

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1748227
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09643274

$`Microbial respiration `$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 52.83896

Coefficients:
(Intercept)     sowndiv      funcgr         leg
0.141246787 0.001076389 0.030578405 0.005890471

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004416224
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1319409

$`Microbial respiration `$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.3299 1.6653
 residual sum-of-squares: 1.119

Number of iterations to convergence: 5
Achieved convergence tolerance: 9.095e-06

$`Microbial respiration `$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.3299 1.6652
 residual sum-of-squares: 1.119

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.314e-06

$`Microbial respiration `$M2
Nonlinear regression model
```

```
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.6982  0.4204 -0.3874
 residual sum-of-squares: 1.107

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.358e-06

$`Microbial respiration `$M211
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 62.40936

Coefficients:
         a          b          d
 0.6982302  0.4213176 -0.3871629

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1968301
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.08598322

$`Microbial respiration `$M222
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.22406

Coefficients:
         a          b          d
 0.7365635  0.3867678 -0.4271569

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003411667
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1217906

$`Microbial respiration `$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.73087

Coefficients:
```

```
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.326857306   0.002134018   1.580649196   0.055836495

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1197489

$`Microbial respiration `$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 61.88362

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.350182583  -0.006611364   2.086126769  -0.149449496

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1914648
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08778568

$`Microbial respiration `$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.79978

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.318884361   0.006170269   1.445764619   0.123928778

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003098961
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1228743

$`Microbial respiration `$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.32581

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.30852874    0.01107377    0.25432498    0.87657993
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1188832

$`Microbial respiration `$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 62.78314

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.29748555    0.02550948    0.07653057    1.11295941

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2053818
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08505241

$`Microbial respiration `$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.38679

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.30765905    0.01031516    0.23997157    0.86679435

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.002894638
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1217840

$`Microbial respiration `$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.76359

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.341962837  -0.005576186   1.947615931  -0.156629792

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1197011
```

```
$`Microbial respiration `$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 61.90018

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.357479510  -0.007701292   2.119998278  -0.145758240

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1905368
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08788896

$`Microbial respiration `$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.84582

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.342099584  -0.006588195   1.969395994  -0.185622278

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003361687
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1230827

$`Microbial respiration `$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.76729

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.356797882  -0.007476935  -0.007273931   2.178676081  -0.185088294
       b.leg
 -0.115659288

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1212604

$`Microbial respiration `$M611
```

```
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 61.94042

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.41212059   -0.01489927   -0.02623709    2.96425571   -0.25368091
        b.leg
  -0.41162572

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1924045
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08874778

$`Microbial respiration `$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.84676

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.348854101  -0.007428589  -0.003346935   2.088197741  -0.199585643
        b.leg
 -0.060346018

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.003327552
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1246537

$`Microbial respiration `$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.42249

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.330218449  -0.002816289   0.005040695   0.010246555   0.135937683
      b.grass
  0.954642430

Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.1202954

$`Microbial respiration `$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 62.96

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.330496980  -0.002702145   0.015185593  -0.171520726   0.208918092
      b.grass
  1.167337593

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2090193
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08551557

$`Microbial respiration `$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.47483

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.333460840  -0.004137084   0.003323164   0.081568402   0.102649347
      b.grass
  0.925372082

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002732781
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1230725

$`Microbial respiration `$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.3689

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.292826611   0.013941225   0.006823199  -0.384575772   0.972583546
       b.leg
```

```
  0.299422049

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.120374

$`Microbial respiration `$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 62.82142

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.281162809   0.029396713   0.005355821  -0.543957271   1.222374072
       b.leg
  0.261221620

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2054305
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08611782

$`Microbial respiration `$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.43926

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.28821010    0.01329618    0.00965758   -0.48335725    0.97179928
        b.leg
   0.35047670

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.003128149
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1235446

$`Microbial respiration `$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.71974

Coefficients:
```

```
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.361065077  -0.008769352   0.001860795  -0.007798666  -1.981339707
     b.funcgr       b.grass         b.leg
  0.325212120   1.382203125   0.673986917

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.121469

$`Microbial respiration `$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 63.32324

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.443380448  -0.019535072  -0.003904994  -0.032708805  -1.059270648
     b.funcgr       b.grass         b.leg
  0.251000536   1.361808883   0.343654253

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2113500
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.08598242

$`Microbial respiration `$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 60.76561

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.352695795  -0.008450712   0.002447687  -0.004328447  -2.075788816
     b.funcgr       b.grass         b.leg
  0.316448356   1.388942036   0.721717945

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002567479
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1241068

$`Microbial respiration `$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
```

```
  Log-likelihood: 61.63093

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.07777128    0.09703965   -6.28270783    5.05122860    0.19983042
     d.funcgr
  -0.01357152

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2199258
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08551698

$`Microbial respiration `$M1421
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 63.11021

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.041726774   0.095817035  -0.024516224  -8.375442872   6.592756538
      b.grass d.(Intercept)      d.funcgr       d.grass
  0.367180114   0.227690151  -0.015220441  -0.008020673

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2331689
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.08402812

$`Microbial respiration `$M1432
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.11157

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
-2.110903e-01  1.785503e-01  6.264926e-02 -8.136022e+00  1.085236e+02
      b.grass d.(Intercept)      d.funcgr       d.grass
-1.016819e+02  3.185106e-01  3.741374e-03 -8.633738e-02

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
       expon
-0.001468909
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1263031

$`Microbial respiration `$M1521
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 63.31914

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
    1.3835343     0.7580737    -0.7275315     0.4253561    -0.1805788
        b.leg d.(Intercept)       d.grass         d.leg
    0.0388338    -0.9912137    -0.7944077     0.7028837

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2052779
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0873576

$`Microbial respiration `$M161
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.88302

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 -0.896803384   0.111343830   0.190501991   0.427096788 -56.440350555
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
  7.855060479  11.994529357  19.329392532   0.314998580  -0.004740474
      d.grass         d.leg
 -0.030622876  -0.085686439

Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1261723

$`Microbial respiration `$M1621
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 61.22538

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  -1.47363339    0.14957965    0.37653744    0.65176733 -208.44454855
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
  29.20168083   41.97985415   71.49079035    0.24507155    0.01725007
```

```
      d.grass         d.leg
  -0.03914873   -0.04338803

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1646066
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.09721314

$`Microbial respiration `$M1632
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.48186

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 -6.057880111   0.008080652   0.066059944   5.925489542  -5.116725821
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
  0.032634639   0.005487238   2.552560880   6.273034052   0.010288494
      d.grass         d.leg
 -0.108064491  -5.864548469

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.004594324
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1318921

$`Microbial respiration `$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a        b
2.203e-01 6.220e-28
 residual sum-of-squares: 1.480

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.857e-08

$`Microbial respiration `$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Microbial respiration `$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
2.551e-27
 residual sum-of-squares: 5.265

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.079e-08

$`Microbial respiration `$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 48.70784

Coefficients:
           a            b
2.250835e-01 5.800307e-28

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007947522
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1448064

$`Microbial respiration `$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 51.40519

Coefficients:
           a            c
-0.817961541  0.003531556

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1417875
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1060356

$`Microbial respiration `$E32
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 50.66772

Coefficients:
           a            c
-0.794014932  0.002078811

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004647726
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1374371

$`Microbial respiration `$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1705.469

Coefficients:
        a
-2.615066

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18052
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.0428033

$`Microbial respiration `$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.9376

Coefficients:
        a
-3.250971

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014825
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6991326
```

```
$`Microbial respiration `$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -0.1826411

Coefficients:
           b
2.550977e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2473099
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1690217

$`Microbial respiration `$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -3.732239

Coefficients:
           b
2.550977e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003886036
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2634411

$`Microbial respiration `$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.333655

Coefficients:
        c
-2.028304

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
```

```
0.3818898
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1309945

$`Microbial respiration `$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2.728685

Coefficients:
        c
-1.836439

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01390992
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2233649

$`Microbial respiration `$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
     -2963126        911706

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Microbial respiration `$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -4.268699

Coefficients:
c.(Intercept)         c.leg
   -1.3624178    -0.2566368

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2580673

$`Microbial respiration `$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 54.45759
```

```
Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.717243363  -0.071810143  -0.007058127   0.009266933

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1164607
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1074268

$`Microbial respiration `$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 54.09506

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.685245234  -0.083555175  -0.007859084   0.009126230

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006524177
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1356582

$`Microbial respiration `$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1705.442

Coefficients:
a.(Intercept)         a.leg
 -2.625047071   0.005703349

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18065
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.04304777

$`Microbial respiration `$Ea1021
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.816

Coefficients:
a.(Intercept)         a.leg
   -4.1222359     0.5023206

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014918
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7018862

$`Microbial respiration `$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.3412

Coefficients:
c.(Intercept)         c.leg
  -1.88896853   -0.07879736

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3816182
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1318517

$`Microbial respiration `$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2.699643

Coefficients:
c.(Intercept)         c.leg
   -1.4148567    -0.2366533

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01391670
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2246639
```

```
$`Microbial respiration `$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508713       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Microbial respiration `$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -3.830379

Coefficients:
c.(Intercept)       c.grass
   -0.2058422    -0.9182494

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2566915

$`Microbial respiration `$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 56.1161

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.679921503  -0.098689090  -0.007494082   0.009754511

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1787663
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09597483

$`Microbial respiration `$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 54.59126

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
```

```
 -0.654465384  -0.101965262  -0.006881406   0.008066124

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004111777
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1320758

$`Microbial respiration `$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1703.664

Coefficients:
a.(Intercept)       a.grass
  -2.53478386   -0.04587563

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18896
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.04160783

$`Microbial respiration `$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.8393

Coefficients:
a.(Intercept)       a.grass
   -4.0341765     0.4515378

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014894
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7022306

$`Microbial respiration `$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.923836
```

```
Coefficients:
c.(Intercept)       c.grass
   -0.9781530    -0.6100284

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3879937
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1296849

$`Microbial respiration `$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2.195488

Coefficients:
c.(Intercept)       c.grass
   -0.3066110    -0.8735264

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01426320
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2226236

$`Microbial respiration `$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252095.7     -912137.5

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Microbial respiration `$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 0.6148857

Coefficients:
c.(Intercept)      c.funcgr
```

```
   -2.1229396     0.4730984

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2431466

$`Microbial respiration `$Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2845.25

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.640058154  -0.561425071   0.005069170  -0.001267290   0.999683335
     c.funcgr
  1.000079166

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.823858
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.0003043408

$`Microbial respiration `$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 56.30016

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.905521178   0.045086157   0.013966989  -0.003392665

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004824038
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1301452

$`Microbial respiration `$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1705.469

Coefficients:
a.(Intercept)      a.funcgr
     2.002441     -4.617507
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18053
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.04306996

$`Microbial respiration `$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.1537

Coefficients:
a.(Intercept)      a.funcgr
     3.399746     -6.262941

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022475
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6064625

$`Microbial respiration `$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 10.15619

Coefficients:
c.(Intercept)      c.funcgr
   -2.4843649     0.5531454

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3884654
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1215831

$`Microbial respiration `$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 2.869752
```

```
Coefficients:
c.(Intercept)      c.funcgr
   -2.1625707     0.4786686

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01714776
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2041686

$`Microbial respiration `$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.0     -990730.5     -307654.7

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Microbial respiration `$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1705.442

Coefficients:
a.(Intercept)      a.funcgr         a.leg
  1.991033965  -4.616081018   0.005703342

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18065
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.04331934

$`Microbial respiration `$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.1537

Coefficients:
a.(Intercept)      a.funcgr         a.leg
  3.386720391  -6.261312260   0.006512855
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022475
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6102883

$`Microbial respiration `$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 2.872662

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -2.01162275    0.46019826   -0.07678796

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01713342
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2054748

$`Microbial respiration `$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.5     -839615.5      296563.2

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Microbial respiration `$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1703.664

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   2.09419192   -4.62897576   -0.04587563

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18896
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.04187031

$`Microbial respiration `$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.1525

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.49036542   -6.27425360   -0.04531730

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022477
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6102664

$`Microbial respiration `$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Microbial respiration `$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2708.06

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 2.017897e-01 -4.797664e-02 -9.065392e-03  1.908278e-04 -4.412649e-05
        b.leg c.(Intercept)       c.grass         c.leg
-4.966808e-05  9.999876e-01  1.000003e+00  1.000003e+00

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
   expon
4.570895
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.000511331

$`Microbial respiration `$Ef3911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 58.20031

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.591295723  -0.092825407  -0.064825592  -0.012796461   0.007336161
        c.leg
  0.006692929

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1721915
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.09571905

$`Microbial respiration `$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 56.7808

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.570247554  -0.087149727  -0.074904836  -0.011533213   0.005258353
        c.leg
  0.006846085

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00495024
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1312181

$`Microbial respiration `$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1703.572
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg
  -2.50961398   -0.04947132   -0.01078709

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18939
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.04179669

$`Microbial respiration `$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.5948

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.8230982     0.7227343     0.7601809

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.015076
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7034557

$`Microbial respiration `$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 10.03772

Coefficients:
c.(Intercept)       c.grass         c.leg
     2.380080     -1.470691     -1.198116

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3573199
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1283256

$`Microbial respiration `$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
```

```
  Data: DF
  Log-likelihood: 3.631886

Coefficients:
c.(Intercept)       c.grass         c.leg
     2.083739     -1.323845     -1.019870

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01679461
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2041741

$`Microbial respiration `$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292091.7     -918391.4      183181.2     -199834.1

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Microbial respiration `$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1703.572

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   2.12295753   -4.63257146   -0.04947134   -0.01078710

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.18939
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.04206374

$`Microbial respiration `$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.1524
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   3.52564380   -6.27866244   -0.05020820   -0.01274880

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022478
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6141644

$`Microbial respiration `$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.199411 0.002836
 residual sum-of-squares: 1.392

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.81e-09

$`Microbial respiration `$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.85616  0.05071
 residual sum-of-squares: 1.179

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.37e-07

$`Microbial respiration `$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.1610 0.2069
 residual sum-of-squares: 1.215

Number of iterations to convergence: 10
Achieved convergence tolerance: 2.370e-06

$`Microbial respiration `$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.221
 residual sum-of-squares: 16.84
```

```
Number of iterations to convergence: 23
Achieved convergence tolerance: 7.941e-06

$`Microbial respiration `$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 50.74906

Coefficients:
          a           b
0.199411228 0.002835612

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1319301

$`Microbial respiration `$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 57.57778

Coefficients:
          a           c
-0.85616771  0.05071204

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1213884

$`Microbial respiration `$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 56.34837

Coefficients:
        b         c
0.1609923 0.2068689

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1232220

$`Microbial respiration `$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -51.46014

Coefficients:
        c
-1.221471

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4560099
```

```
$`Microbial respiration `$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 51.76933

Coefficients:
          a           b
0.176122796 0.004449545

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1598409
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1027740

$`Microbial respiration `$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 50.80191

Coefficients:
          a           b
0.203419164 0.002401077

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003726245
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1361311

$`Microbial respiration `$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 60.19028

Coefficients:
          a           c
-0.87266367  0.06186367

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
```

```
0.2122137
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.08580579

$`Microbial respiration `$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 57.62524

Coefficients:
          a           c
-0.85906395  0.05306823

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.002781907
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1184549

$`Microbial respiration `$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.48574

Coefficients:
        b         c
0.1441568 0.2667658

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1973600
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.08956147

$`Microbial respiration `$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 56.37364

Coefficients:
        b         c
0.1588255 0.2164106

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.002226376
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1208518

$`Microbial respiration `$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -28.00235

Coefficients:
         c
-0.4865414

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5138108
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7345355

$`Microbial respiration `$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -47.5707

Coefficients:
         c
-0.8054995

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01712165
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.5037489

$`Microbial respiration `$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.34964

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.089005374   0.045479721   0.016267702  -0.003937681
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1247899

$`Microbial respiration `$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.84096

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.90890345    0.03152540    0.07960637   -0.01397259

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1210555

$`Microbial respiration `$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.71226

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.08924556    0.03800721    0.41685004   -0.09023305

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1212457

$`Microbial respiration `$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.73295

Coefficients:
c.(Intercept)      c.funcgr
   -2.1793586     0.4005665

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4492873

$`Microbial respiration `$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 58.03166

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.074833359   0.046971009   0.019509800  -0.004687325

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1738378
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09444733

$`Microbial respiration `$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.50564

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.090101881   0.045817418   0.015758435  -0.003835515

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004677084
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1296558

$`Microbial respiration `$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 61.06714

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.90899239    0.02615204    0.08588779   -0.01349399

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1961218
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08805325

$`Microbial respiration `$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.90381

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
```

```
  -0.91031811    0.03319336    0.07965289   -0.01456918

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003042928
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1241645

$`Microbial respiration `$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 60.55484

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.08992308    0.03373743    0.45053764   -0.09251206

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1785027
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09095332

$`Microbial respiration `$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.83183

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.08811165    0.03926827    0.41338553   -0.09097455

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004053705
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1253567

$`Microbial respiration `$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -20.44073
```

```
Coefficients:
c.(Intercept)      c.funcgr
   -0.8995584     0.1377903

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6034551
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.769945

$`Microbial respiration `$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.72982

Coefficients:
c.(Intercept)      c.funcgr
   -1.6624862     0.3372814

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03728732
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5345408

$`Microbial respiration `$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 54.67367

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.342804281  -0.103452619  -0.007875516   0.009399906

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1273666

$`Microbial respiration `$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.96102

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
```

```
 -0.740478691  -0.072705341   0.007560598   0.028473321

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1208784

$`Microbial respiration `$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.114

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.26731297   -0.06938620   -0.04463967    0.17995253

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1221335

$`Microbial respiration `$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.45279

Coefficients:
c.(Intercept)       c.grass
    0.2013782    -1.0406869

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4532487

$`Microbial respiration `$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 53.90424

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.306530535  -0.081493616  -0.008325645   0.010061339

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1285674

$`Microbial respiration `$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.01112

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.80398015   -0.03401755    0.02260682    0.02008364
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1222868

$`Microbial respiration `$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 57.21511

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.22104356   -0.04140109    0.01933167    0.14239006

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1234797

$`Microbial respiration `$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.89915

Coefficients:
c.(Intercept)         c.leg
   -0.1344110    -0.7676083

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4557227

$`Microbial respiration `$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.38684

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.108434913   0.043079504  -0.009559122   0.012403081  -0.003432396
       b.leg
  0.001840765

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1263638

$`Microbial respiration `$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.84406

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.916077711   0.032437210   0.003546758   0.084514066  -0.014610687
       c.leg
```

```
 -0.002380419

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1226334

$`Microbial respiration `$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.71253

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.091315785   0.037714760  -0.001011664   0.410692630  -0.089408648
       c.leg
  0.003050268

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1228302

$`Microbial respiration `$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.73263

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -2.13026461    0.39452657   -0.02489018

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4521201

$`Microbial respiration `$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.83354

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.164114143   0.036121097  -0.037390560   0.014018455  -0.003633151
      b.grass
  0.001028269

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1256773

$`Microbial respiration `$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 59.42453
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.81355435    0.01956769   -0.04753213    0.05700612   -0.01107188
      c.grass
   0.01104714

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1217683

$`Microbial respiration `$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.43959

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.17274103    0.02981441   -0.04389485    0.26157077   -0.07483255
      c.grass
   0.08327039

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1217460

$`Microbial respiration `$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.71011

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.6783664     0.3376907    -0.2532940

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.451996

$`Microbial respiration `$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.83865

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.428509595  -0.090708333  -0.073733631  -0.013444124   0.006682023
        b.leg
  0.007494271

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1256695

$`Microbial respiration `$Pj331
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 59.39385

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.67259535   -0.07423296   -0.04087482   -0.01761855    0.02648239
       c.leg
   0.01831340

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1218139

$`Microbial respiration `$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.74379

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.38078733   -0.08266533   -0.06200165   -0.29109248    0.19339787
       c.leg
   0.16369264

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1212952

$`Microbial respiration `$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.75755

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.9884388    -0.9726134    -0.6577870

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4522576

$`Microbial respiration `$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 57.12197

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.290592076   0.020315285  -0.059522146  -0.041085901   0.005558407
     b.funcgr       b.grass         b.leg
 -0.002572580   0.002458855   0.002786805

Degrees of freedom: 82 total; 74 residual
```

```
Residual standard error: 0.1269171

$`Microbial respiration `$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 59.65819

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.739079566   0.010267306  -0.060114104  -0.024745301   0.064888986
     c.funcgr       c.grass         c.leg
 -0.012111040   0.008998353  -0.001699999

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1230517

$`Microbial respiration `$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.87273

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.307835649   0.012448046  -0.068152295  -0.043520614  -0.003802831
     c.funcgr       c.grass         c.leg
 -0.042168816   0.133055621   0.087844469

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1227302

$`Microbial respiration `$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.67979

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   -0.5905758     0.2043269    -0.5122727    -0.3026938

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.454716

$`Microbial respiration `$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.41545

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.319843333  -0.100962367  -0.008821005   0.011419565
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1853397
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09469647

$`Microbial respiration `$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 54.75623

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.347353158  -0.104791454  -0.007946616   0.009227673

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.003772452
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1314269

$`Microbial respiration `$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 61.70902

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.76962867   -0.06231396    0.01959712    0.02655313

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2179149
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08458529

$`Microbial respiration `$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.96118
```

```
Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.740138577  -0.072857030   0.007372384   0.028545543

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.0001538966
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.121038

$`Microbial respiration `$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 60.5516

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
  0.242673999  -0.062243699  -0.009749694   0.190977629

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2075967
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.0871119

$`Microbial respiration `$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.11922

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.26924398   -0.07021826   -0.04939153    0.18143481

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.0009405838
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1231159

$`Microbial respiration `$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: -24.07944

Coefficients:
c.(Intercept)       c.grass
  -0.08600842   -0.31991853

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5649148
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7601208

$`Microbial respiration `$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.13794

Coefficients:
c.(Intercept)       c.grass
    0.7793182    -1.1156663

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03692335
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.562303

$`Microbial respiration `$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 54.63644

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.280537101  -0.072429139  -0.007868985   0.010407504

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1231054
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1061405
```

```
$`Microbial respiration `$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 54.19172

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.31588282   -0.08555073   -0.00883490    0.01018897

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006383408
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1353347

$`Microbial respiration `$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 60.32068

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.85143636   -0.01308069    0.04531228    0.01137661

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
0.205258
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08766138

$`Microbial respiration `$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.01642

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.80081191   -0.03556859    0.02067441    0.02100772

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
        expon
-0.0009696893
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1233012

$`Microbial respiration `$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.99839

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.18494488   -0.02620548    0.10868457    0.11169913

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1821684
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.09219311

$`Microbial respiration `$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 57.25404

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
 0.2272008733 -0.0443787169 -0.0003636652  0.1515924029

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002580117
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1261855

$`Microbial respiration `$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -25.63431

Coefficients:
c.(Intercept)         c.leg
   -0.1866333    -0.2331165

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.5465825
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7538726

$`Microbial respiration `$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.37593

Coefficients:
c.(Intercept)         c.leg
    0.4677713    -0.8064268

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03659326
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5692412

$`Microbial respiration `$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 58.03278

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 0.0708151858  0.0474705905  0.0019834618  0.0199335013 -0.0047426105
       b.leg
-0.0002017624

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1743157
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.09561281

$`Microbial respiration `$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.56855

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
```

```
  0.114925412   0.042793434  -0.012161428   0.010734461  -0.003175198
       b.leg
  0.002371022

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.005045164
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1316654

$`Microbial respiration `$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 61.10396

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.928187423   0.028518424   0.009537289   0.101834887  -0.015538869
       c.leg
 -0.007757288

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1976249
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08896553

$`Microbial respiration `$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 58.90488

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.915255648   0.033801819   0.002458985   0.082228418  -0.014895019
       c.leg
 -0.001258016

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.003014016
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1257548
```

```
$`Microbial respiration `$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 60.5878

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.074587969   0.035768211   0.007533121   0.527114993  -0.102692959
       c.leg
 -0.036980297

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1811066
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.0917499

$`Microbial respiration `$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 58.83594

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.094088937   0.038539424  -0.003010614   0.387361076  -0.087668822
       c.leg
  0.012810419

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.004152684
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.127097

$`Microbial respiration `$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -20.30973

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -1.03978087    0.15557072    0.06967505

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.606964
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7776061

$`Microbial respiration `$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.71677

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -1.81120608    0.35568831    0.07512042

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03731561
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5379584

$`Microbial respiration `$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 58.82828

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.166482251   0.035471373  -0.046446667   0.014630398  -0.004110641
      b.grass
  0.002599940

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1918163
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.09226127

$`Microbial respiration `$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 56.97049
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 0.1616475376  0.0368918998 -0.0356052719  0.0141863850 -0.0036133149
      b.grass
 0.0006833155

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00444112
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1303439

$`Microbial respiration `$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 62.03227

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.807336163   0.012813452  -0.050642093   0.058909235  -0.009908292
      c.grass
  0.013607161

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2137288
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08588598

$`Microbial respiration `$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 59.46815

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.81616971    0.02117528   -0.04682785    0.05830373   -0.01173808
      c.grass
   0.01040527

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002575074
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1244242

$`Microbial respiration `$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 61.647

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.17905495    0.02514584   -0.04705315    0.25827849   -0.07483087
      c.grass
   0.10662831

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1963893
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08854057

$`Microbial respiration `$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.52951

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.17081032    0.03078489   -0.04322450    0.26647780   -0.07579589
      c.grass
   0.07844493

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003563513
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1253907

$`Microbial respiration `$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -20.25239

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -0.72432002    0.11605744   -0.08807366
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6066679
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.776721

$`Microbial respiration `$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.69283

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.3604017     0.2995533    -0.1512191

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03732085
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5378255

$`Microbial respiration `$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 58.5069

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.410330435  -0.095560108  -0.065425192  -0.015164510   0.008849700
       b.leg
  0.007609817

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1759106
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.09483677

$`Microbial respiration `$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
```

```
  Log-likelihood: 56.99763

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.432794042  -0.090157175  -0.075861050  -0.013286944   0.006284303
       b.leg
  0.007589753

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.004759752
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1306577

$`Microbial respiration `$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 61.95734

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.718090234  -0.067180237  -0.025961373  -0.001113989   0.026871466
       c.leg
  0.012259491

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2124785
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08612421

$`Microbial respiration `$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 59.42284

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.66568108   -0.07555059   -0.04323089   -0.02111459    0.02687587
       c.leg
   0.01966653

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
       expon
-0.002138357
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1240270

$`Microbial respiration `$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 61.70068

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.33678999   -0.07513304   -0.04602501   -0.23474192    0.20305310
        c.leg
   0.13589119

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1876357
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08964001

$`Microbial respiration `$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.8464

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
    0.3877102    -0.0839343    -0.0645233    -0.3017943     0.1920325
        c.leg
    0.1692223

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003789002
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1251491

$`Microbial respiration `$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -21.78842

Coefficients:
```

```
c.(Intercept)       c.grass         c.leg
    0.0983735    -0.2799979    -0.1852750

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5901747
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.772265

$`Microbial respiration `$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -38.99911

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.9702269    -0.8046709    -0.4857232

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03712303
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5455346

$`Microbial respiration `$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 59.09674

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 0.2485291629  0.0252074108 -0.0602873059 -0.0272289890  0.0140241251
     b.funcgr       b.grass         b.leg
-0.0040424017  0.0025727222  0.0003609101

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1918945
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.09318331

$`Microbial respiration `$Ps3731
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 57.26071

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.294408348   0.020307259  -0.058853259  -0.043091603   0.004373144
     b.funcgr       b.grass         b.leg
 -0.002381111   0.002357349   0.003209017

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004471175
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1316608

$`Microbial respiration `$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 62.34296

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.758568128   0.006731880  -0.058804171  -0.016349344   0.093648241
     c.funcgr       c.grass         c.leg
 -0.014345080   0.006681259  -0.010132262

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2164253
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.08636329

$`Microbial respiration `$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 59.69163

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
-0.7392124007  0.0113955394 -0.0598669176 -0.0254448894  0.0633574748
     c.funcgr       c.grass         c.leg
-0.0123546021  0.0089282053 -0.0008692602

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002270894
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1254232

$`Microbial respiration `$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 62.01715

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.25868127    0.01469318   -0.06080888   -0.02590398    0.19920389
     c.funcgr       c.grass         c.leg
  -0.06727244    0.11605615    0.02217935

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1955927
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.08943067

$`Microbial respiration `$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.96754

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.31237116    0.01264660   -0.06868913   -0.04559151   -0.02516167
     c.funcgr       c.grass         c.leg
  -0.03997350    0.13319821    0.09620737

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003655054
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1264962

$`Microbial respiration `$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -20.2245
```

```
Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.83751052    0.13043483   -0.06879915    0.03668404

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6077387
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.7826615

$`Microbial respiration `$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.69144

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -1.43726132    0.30919124   -0.13860272    0.02570969

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03732847
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5412884

$`Microbial respiration `$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
     Asym        R0       lrc
 0.291486  0.003924 -0.769550
 residual sum-of-squares: 1.111

Number of iterations to convergence: 2
Achieved convergence tolerance: 8.271e-06

$`Microbial respiration `$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
 0.29149 -0.76955 -0.02926
 residual sum-of-squares: 1.111

Number of iterations to convergence: 2
Achieved convergence tolerance: 8.271e-06
```

```
$`Microbial respiration `$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.2911 -0.7495
 residual sum-of-squares: 1.111

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.962e-06

$`Microbial respiration `$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
0.2894 1.4920 1.4317
 residual sum-of-squares: 1.12

Number of iterations to convergence: 5
Achieved convergence tolerance: 8.227e-06

$`Saprophagous macrofauna abundance`
$`Saprophagous macrofauna abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
    -0.3072817      -0.0746838      -0.1098295      -0.1301468      -
0.0012881
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     0.1023091       0.1380578       0.3071122      -0.0008684
0.0082285
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -0.0035285       0.0250139      -0.0582777      -0.1099047


$`Saprophagous macrofauna abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
  0.1648771    0.0003210    0.0232660   -0.0279574


$`Saprophagous macrofauna abundance`$M1
```

```
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.2393 1.2810
 residual sum-of-squares: 1.615

Number of iterations to convergence: 6
Achieved convergence tolerance: 2.831e-06

$`Saprophagous macrofauna abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.2393 1.2810
 residual sum-of-squares: 1.615

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.082e-06

$`Saprophagous macrofauna abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
0.18070 4.70228 0.08737
 residual sum-of-squares: 1.605

Number of iterations to convergence: 14
Achieved convergence tolerance: 5.486e-06

$`Saprophagous macrofauna abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
1.747e-01 1.017e-28
 residual sum-of-squares: 1.744

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.471e-09

$`Saprophagous macrofauna abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20
```

```
$`Saprophagous macrofauna abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
         b
1.631e-27
 residual sum-of-squares: 4.063

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.273e-08

$`Saprophagous macrofauna abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a        b
0.160034 0.001741
 residual sum-of-squares: 1.705

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.749e-09

$`Saprophagous macrofauna abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
        a        c
-0.87704  0.03342
 residual sum-of-squares: 1.619

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.842e-07

$`Saprophagous macrofauna abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b      c
0.1316 0.1787
 residual sum-of-squares: 1.628

Number of iterations to convergence: 8
Achieved convergence tolerance: 6.81e-06

$`Saprophagous macrofauna abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-2.084
 residual sum-of-squares: 15.08

Number of iterations to convergence: 21
Achieved convergence tolerance: 8.678e-06
```

```
$`Saprophagous macrofauna abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
0.2545 1.2717 5.2241
 residual sum-of-squares: 1.589

Number of iterations to convergence: 11
Achieved convergence tolerance: 4.895e-06


$`Saprophagous macrofauna species richness`
$`Saprophagous macrofauna species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
       0.46563        -0.09351        -0.15181        -0.17229
0.11004
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      -0.15994         0.04545        -0.14398        -0.01321        -
0.01792
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      -0.03125         0.05120         0.11829         0.02618


$`Saprophagous macrofauna species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.681633     0.007353    -0.045287    -0.111485


$`Saprophagous macrofauna species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5595 0.4718
 residual sum-of-squares: 4.651

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.636e-06
```

```
$`Saprophagous macrofauna species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm      k
0.5595 0.4718
 residual sum-of-squares: 4.651

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.575e-06

$`Saprophagous macrofauna species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a        b        d
  2.9231 388.3379   0.4228
 residual sum-of-squares: 4.349

Number of iterations to convergence: 9
Achieved convergence tolerance: 2.902e-07

$`Saprophagous macrofauna species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a         b
4.671e-01 3.024e-27
 residual sum-of-squares: 4.465

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.2e-08

$`Saprophagous macrofauna species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Saprophagous macrofauna species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
         b
7.115e-27
 residual sum-of-squares: 21.05

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.535e-09
```

```
$`Saprophagous macrofauna species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
0.418704 0.009942 0.898775
 residual sum-of-squares: 4.348

Number of iterations to convergence: 5
Achieved convergence tolerance: 4.798e-06

$`Saprophagous macrofauna species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.427089 0.006556
 residual sum-of-squares: 4.35

Number of iterations to convergence: 1
Achieved convergence tolerance: 5.935e-10

$`Saprophagous macrofauna species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.6138  0.0607
 residual sum-of-squares: 4.48

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.294e-06

$`Saprophagous macrofauna species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.3862 0.1415
 residual sum-of-squares: 4.459

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.413e-06

$`Saprophagous macrofauna species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3557
 residual sum-of-squares: 13.42

Number of iterations to convergence: 12
```

```
Achieved convergence tolerance: 8.16e-06

$`Saprophagous macrofauna species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 1.9580  0.4228 -5.3183
 residual sum-of-squares: 4.349

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.981e-07

$`Saprophagous macrofauna species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
  1.958  -5.318 -49.630
 residual sum-of-squares: 4.349

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.376e-08

$`Saprophagous macrofauna species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.5170 0.2968
 residual sum-of-squares: 4.716

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.055e-06

$`Saprophagous macrofauna species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
 1.016 11.673 34.726
 residual sum-of-squares: 4.348

Number of iterations to convergence: 2
Achieved convergence tolerance: 7.056e-06


$`Saprophagous mesofauna abundance`
$`Saprophagous mesofauna abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```
Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      1.341015        0.039409       -0.004169       -0.003262       -
0.059874
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.314140       -0.597975       -0.418526        0.009234
0.015003
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.010432        0.154441        0.046500        0.172970


$`Saprophagous mesofauna abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.186943     0.001177    -0.011622    -0.037172


$`Saprophagous mesofauna abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
       a        b
 0.09657 -0.39941
 residual sum-of-squares: 1.869

Number of iterations to convergence: 6
Achieved convergence tolerance: 7.25e-06

$`Saprophagous mesofauna abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
      Vm        k
 0.09656 -0.39942
 residual sum-of-squares: 1.869

Number of iterations to convergence: 6
Achieved convergence tolerance: 2.423e-06

$`Saprophagous mesofauna abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a         b         d
  0.03643 -34.55860   0.12232
 residual sum-of-squares: 1.857

Number of iterations to convergence: 7
```

```
Achieved convergence tolerance: 2.384e-06

$`Saprophagous mesofauna abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
1.127e-01 8.263e-28
 residual sum-of-squares: 1.867

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.483e-08

$`Saprophagous mesofauna abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Saprophagous mesofauna abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
1.813e-27
 residual sum-of-squares: 2.831

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.072e-08

$`Saprophagous mesofauna abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.107998 0.001074
 residual sum-of-squares: 1.885

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.15e-09

$`Saprophagous mesofauna abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
        a         c
-0.877629 -0.003329
 residual sum-of-squares: 1.899
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 7.765e-07

$`Saprophagous mesofauna abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
 0.12427 -0.03869
 residual sum-of-squares: 1.899

Number of iterations to convergence: 11
Achieved convergence tolerance: 5.355e-06

$`Saprophagous mesofauna abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-3.338
 residual sum-of-squares: 12.70

Number of iterations to convergence: 16
Achieved convergence tolerance: 5.94e-06


$`Saprophagous mesofauna species richness`
$`Saprophagous mesofauna species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     -0.918696        0.084647       -0.089643       -0.111853       -
0.018711
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.251719        0.753861        0.636052        0.004837       -
0.002650
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.003633       -0.099412       -0.066297       -0.316524


$`Saprophagous mesofauna species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
  0.5041918    0.0004479    0.0003795   -0.0311977
```

```
$`Saprophagous mesofauna species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.4360 -0.1470
 residual sum-of-squares: 5.612

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.894e-07

$`Saprophagous mesofauna species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.4360 -0.1470
 residual sum-of-squares: 5.612

Number of iterations to convergence: 2
Achieved convergence tolerance: 5.377e-06

$`Saprophagous mesofauna species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
-0.8202  0.1030  1.2533
 residual sum-of-squares: 5.612

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.66e-07

$`Saprophagous mesofauna species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
4.561e-01 1.114e-27
 residual sum-of-squares: 5.604

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.132e-09

$`Saprophagous mesofauna species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Saprophagous mesofauna species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
5.108e-27
 residual sum-of-squares: 21.42

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.146e-08

$`Saprophagous mesofauna species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
         a         b
0.4551992 0.0008356
 residual sum-of-squares: 5.656

Number of iterations to convergence: 1
Achieved convergence tolerance: 7.193e-09

$`Saprophagous mesofauna species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.51338 -0.01634
 residual sum-of-squares: 5.641

Number of iterations to convergence: 9
Achieved convergence tolerance: 8.892e-07

$`Saprophagous mesofauna species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
 0.48795 -0.03618
 residual sum-of-squares: 5.64

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.076e-06

$`Saprophagous mesofauna species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.4514
 residual sum-of-squares: 11.13
```

```
Number of iterations to convergence: 12
Achieved convergence tolerance: 4.126e-06


$`Herbivorous macrofauna abundance`
$`Herbivorous macrofauna abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
       0.61859         0.11238        -0.08339        -0.05245
0.09465
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      -0.26974        -0.26221        -0.15178        -0.01104        -
0.01779
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      -0.02717         0.13958         0.10263         0.04449


$`Herbivorous macrofauna abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.289741     0.004172    -0.005636    -0.042776


$`Herbivorous macrofauna abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.3109 0.7648
 residual sum-of-squares: 3.4

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.112e-06

$`Herbivorous macrofauna abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.3109 0.7648
 residual sum-of-squares: 3.4
```

```
Number of iterations to convergence: 3
Achieved convergence tolerance: 8.72e-06

$`Herbivorous macrofauna abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a        b        d
  4.3785 934.0906   0.2109
 residual sum-of-squares: 3.311

Number of iterations to convergence: 11
Achieved convergence tolerance: 4.341e-06

$`Herbivorous macrofauna abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a         b
2.389e-01 2.056e-27
 residual sum-of-squares: 3.36

Number of iterations to convergence: 4
Achieved convergence tolerance: 9.195e-10

$`Herbivorous macrofauna abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Herbivorous macrofauna abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
         b
4.148e-27
 residual sum-of-squares: 7.698

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.254e-09

$`Herbivorous macrofauna abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
0.206534 0.006654 0.900217
 residual sum-of-squares: 3.311
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 6.458e-06

$`Herbivorous macrofauna abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.212078 0.004415
 residual sum-of-squares: 3.311

Number of iterations to convergence: 1
Achieved convergence tolerance: 3.969e-10

$`Herbivorous macrofauna abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.81813  0.04344
 residual sum-of-squares: 3.354

Number of iterations to convergence: 8
Achieved convergence tolerance: 9.875e-07

$`Herbivorous macrofauna abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.1843 0.1884
 residual sum-of-squares: 3.343

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.223e-06

$`Herbivorous macrofauna abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.015
 residual sum-of-squares: 16.57

Number of iterations to convergence: 17
Achieved convergence tolerance: 9.69e-06

$`Herbivorous macrofauna abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 2.4220  0.2108 -6.1558
```

```
 residual sum-of-squares: 3.311

Number of iterations to convergence: 10
Achieved convergence tolerance: 3.86e-06

$`Herbivorous macrofauna abundance`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
  2.422  -6.156 -42.933
 residual sum-of-squares: 3.311

Number of iterations to convergence: 27
Achieved convergence tolerance: 4.669e-07

$`Herbivorous macrofauna abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
     Asym       lrc
0.2797793 0.0003725
 residual sum-of-squares: 3.397

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.384e-06

$`Herbivorous macrofauna abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.6051 19.5021 31.2907
 residual sum-of-squares: 3.311

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.205e-06


$`Herbivorous macrofauna species richness`
$`Herbivorous macrofauna species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      -0.47987         0.10763        -0.11919        -0.11541
0.07662
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
```

```
       0.01873          0.24153          0.29892         -0.01005         -
0.01299
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      -0.01936          0.03315          0.05511         -0.11922


$`Herbivorous macrofauna species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.162776     0.003608     0.045569     0.051962


$`Herbivorous macrofauna species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.4841 1.0599
 residual sum-of-squares: 3.598

Number of iterations to convergence: 3
Achieved convergence tolerance: 7.27e-06

$`Herbivorous macrofauna species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.4841 1.0599
 residual sum-of-squares: 3.598

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.053e-06

$`Herbivorous macrofauna species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
0.45459 1.22556 0.03293
 residual sum-of-squares: 3.598

Number of iterations to convergence: 13
Achieved convergence tolerance: 6.964e-06

$`Herbivorous macrofauna species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
```

```
3.571e-01 1.876e-27
 residual sum-of-squares: 3.939

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.219e-08

$`Herbivorous macrofauna species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Herbivorous macrofauna species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
5.004e-27
 residual sum-of-squares: 13.63

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.260e-08

$`Herbivorous macrofauna species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.323094 0.005123
 residual sum-of-squares: 3.766

Number of iterations to convergence: 1
Achieved convergence tolerance: 3.661e-09

$`Herbivorous macrofauna species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a       c
-0.73738  0.06477
 residual sum-of-squares: 3.586

Number of iterations to convergence: 7
Achieved convergence tolerance: 8.508e-06

$`Herbivorous macrofauna species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
```

```
     b      c
0.2732 0.1840
 residual sum-of-squares: 3.597

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.319e-06

$`Herbivorous macrofauna species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.5415
 residual sum-of-squares: 16.19

Number of iterations to convergence: 14
Achieved convergence tolerance: 8.433e-06

$`Herbivorous macrofauna species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.5322  0.2552 -2.3413
 residual sum-of-squares: 3.643

Number of iterations to convergence: 20
Achieved convergence tolerance: 7.566e-06

$`Herbivorous macrofauna species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.5322 -2.3413 -6.7866
 residual sum-of-squares: 3.643

Number of iterations to convergence: 20
Achieved convergence tolerance: 7.581e-06

$`Herbivorous macrofauna species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.4316 -0.3215
 residual sum-of-squares: 3.641

Number of iterations to convergence: 5
Achieved convergence tolerance: 9.734e-07

$`Herbivorous macrofauna species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
```

```
   data:  DF
   Asym    xmid    scal
 0.5406 -0.4005  8.5349
 residual sum-of-squares: 3.661

Number of iterations to convergence: 14
Achieved convergence tolerance: 6.172e-06


$`Predatory macrofauna abundance`
$`Predatory macrofauna abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     -0.202176        0.053584       -0.119942       -0.128746
0.017235
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.012339        0.111254        0.216122       -0.001862       -
0.002489
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.004593        0.017909       -0.011525       -0.068991


$`Predatory macrofauna abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.105210     0.002395    -0.008339     0.030135


$`Predatory macrofauna abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.1644 0.2051
 residual sum-of-squares: 1.940

Number of iterations to convergence: 5
Achieved convergence tolerance: 4.989e-06

$`Predatory macrofauna abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
```

```
    Vm      k
0.1644 0.2051
 residual sum-of-squares: 1.940

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.223e-07

$`Predatory macrofauna abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
1.483e-01 8.909e-28
 residual sum-of-squares: 1.907

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.245e-08

$`Predatory macrofauna abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Predatory macrofauna abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
2.189e-27
 residual sum-of-squares: 3.578

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.364e-08

$`Predatory macrofauna abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.138950 0.001647
 residual sum-of-squares: 1.911

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.856e-15

$`Predatory macrofauna abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
```

```
   data:  DF
       a        c
-0.86547  0.01232
 residual sum-of-squares: 1.931

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.042e-06

$`Predatory macrofauna abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.13359 0.08807
 residual sum-of-squares: 1.930

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.052e-06

$`Predatory macrofauna abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-2.094
 residual sum-of-squares: 14.23

Number of iterations to convergence: 18
Achieved convergence tolerance: 3.997e-06

$`Predatory macrofauna abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.1585 0.6448
 residual sum-of-squares: 1.939

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.688e-06


$`Predatory macrofauna species richness`
$`Predatory macrofauna species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      1.625178        0.078577       -0.177474       -0.152123
0.058597
```

```
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.384025       -0.641716       -0.372303       -0.008019       -
0.005931
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.017018        0.167187        0.102339        0.164552


$`Predatory macrofauna species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.400356     0.002948    -0.023652     0.027495


$`Predatory macrofauna species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.4393 0.1497
 residual sum-of-squares: 3.881

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.244e-07

$`Predatory macrofauna species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.4393 0.1497
 residual sum-of-squares: 3.881

Number of iterations to convergence: 3
Achieved convergence tolerance: 6.163e-06

$`Predatory macrofauna species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
4.127e-01 7.646e-28
 residual sum-of-squares: 3.883

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.281e-08

$`Predatory macrofauna species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
```

```
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Predatory macrofauna species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
         b
4.378e-27
 residual sum-of-squares: 16.83

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.998e-09

$`Predatory macrofauna species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
         a         b         c
0.4088279 0.0002075 1.4879992
 residual sum-of-squares: 3.881

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.256e-06

$`Predatory macrofauna species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a        b
0.403806 0.001515
 residual sum-of-squares: 3.882

Number of iterations to convergence: 1
Achieved convergence tolerance: 7.321e-09

$`Predatory macrofauna species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
        a        c
-0.60703  0.01571
 residual sum-of-squares: 3.886

Number of iterations to convergence: 7
Achieved convergence tolerance: 9.456e-06

$`Predatory macrofauna species richness`$Pa4
Nonlinear regression model
```

```
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.39325 0.03844
 residual sum-of-squares: 3.886

Number of iterations to convergence: 6
Achieved convergence tolerance: 8.142e-06

$`Predatory macrofauna species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.4887
 residual sum-of-squares: 12.06

Number of iterations to convergence: 12
Achieved convergence tolerance: 9.496e-06

$`Predatory macrofauna species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.4305 0.6601
 residual sum-of-squares: 3.868

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.721e-06


$`Amobae abundance`
$`Amobae abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      -0.54335        -0.01291         0.12950         0.31241        -
0.11167
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
       0.10524         0.35813        -0.08285         0.01318
0.01856
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
       0.05646        -0.07554              NA              NA


$`Amobae abundance`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   -0.45379      0.02164      0.05197      0.25842


$`Amobae abundance`$E1
Nonlinear regression model
  model:  response ~ a + b * exp(c * sowndiv)
   data:  DF
       a        b        c
0.045121 0.004798 0.280140
 residual sum-of-squares: 0.4619

Number of iterations to convergence: 13
Achieved convergence tolerance: 3.528e-07

$`Amobae abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
5.565e-02 4.657e-08
 residual sum-of-squares: 0.4621

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.807e-10

$`Amobae abundance`$E3
Nonlinear regression model
  model:  response ~ a + exp(c * sowndiv)
   data:  DF
       a        c
-1.00409  0.02399
 residual sum-of-squares: 0.4714

Number of iterations to convergence: 20
Achieved convergence tolerance: 2.139e-07

$`Amobae abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
       a
-2962056
 residual sum-of-squares: 2.106e+14

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.027e-16

$`Amobae abundance`$E5
Nonlinear regression model
```

```
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
5.283e-08
 residual sum-of-squares: 0.4869

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.657e-10

$`Amobae abundance`$E6
Nonlinear regression model
  model:  response ~ exp(c * sowndiv)
   data:  DF
     c
-2.966
 residual sum-of-squares: 1.358

Number of iterations to convergence: 27
Achieved convergence tolerance: 6.662e-08

$`Amobae abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
-0.01401  0.02966
 residual sum-of-squares: 0.4754

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.403e-09

$`Amobae abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-1.0188  0.1310
 residual sum-of-squares: 0.5499

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.142e-06

$`Amobae abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.01115 1.34820
 residual sum-of-squares: 0.4691

Number of iterations to convergence: 6
Achieved convergence tolerance: 2.942e-06

$`Amobae abundance`$Pa5
```

```
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-0.924
 residual sum-of-squares: 4.866

Number of iterations to convergence: 23
Achieved convergence tolerance: 6.88e-06


$`Flagellate abundance`
$`Flagellate abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      -5.15959        -1.31843        -0.80018         0.28485
0.60133
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
       0.54256         1.44368         1.45352        -0.06533        -
0.19331
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      -0.13968         0.32460              NA              NA


$`Flagellate abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   -0.02244     -0.01529      0.11788      0.30827


$`Flagellate abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.6124 0.1404
 residual sum-of-squares: 1.205

Number of iterations to convergence: 5
Achieved convergence tolerance: 9.216e-06

$`Flagellate abundance`$M1a
Nonlinear regression model
```

```
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm      k
0.6124 0.1404
 residual sum-of-squares: 1.205

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.815e-07

$`Flagellate abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 5.972e-01 -6.307e-09
 residual sum-of-squares: 1.209

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.860e-08

$`Flagellate abundance`$E3
Nonlinear regression model
  model:  response ~ a + exp(c * sowndiv)
   data:  DF
        a         c
-0.407344 -0.002050
 residual sum-of-squares: 1.215

Number of iterations to convergence: 20
Achieved convergence tolerance: 6.577e-06

$`Flagellate abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
       a
-2962055
 residual sum-of-squares: 2.106e+14

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.504e-16

$`Flagellate abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
6.09e-08
 residual sum-of-squares: 4.061

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.236e-10

$`Flagellate abundance`$E6
```

```
Nonlinear regression model
  model:  response ~ exp(c * sowndiv)
   data:  DF
       c
-0.05427
 residual sum-of-squares: 2.023

Number of iterations to convergence: 24
Achieved convergence tolerance: 5.472e-06

$`Flagellate abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.592978 -0.002069
 residual sum-of-squares: 1.215

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.402e-15

$`Flagellate abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
        a         c
-0.433482  0.008553
 residual sum-of-squares: 1.216

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.397e-06

$`Flagellate abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.56695 0.01445
 residual sum-of-squares: 1.216

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.712e-06

$`Flagellate abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.2399
 residual sum-of-squares: 2.102

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.101e-06
```

```
$`Bacterivorous nematode species richness`
$`Bacterivorous nematode species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     -0.318444       -0.087825       -0.158204       -0.045658       -
0.034080
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.310109        0.487349        0.486881        0.004117
0.024294
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.001638       -0.116599       -0.171749       -0.218221


$`Bacterivorous nematode species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.875937     0.006438    -0.070078    -0.202421


$`Bacterivorous nematode species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5235 0.2333
 residual sum-of-squares: 4.994

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.274e-06

$`Bacterivorous nematode species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5235 0.2333
 residual sum-of-squares: 4.994

Number of iterations to convergence: 6
Achieved convergence tolerance: 2.365e-06

$`Bacterivorous nematode species richness`$M2
```

```
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.6767 66.3663  0.4186
 residual sum-of-squares: 4.729

Number of iterations to convergence: 11
Achieved convergence tolerance: 9.064e-06

$`Bacterivorous nematode species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
4.734e-01 2.179e-27
 residual sum-of-squares: 4.886

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.104e-08

$`Bacterivorous nematode species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20

$`Bacterivorous nematode species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
6.324e-27
 residual sum-of-squares: 20.35

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.36e-09

$`Bacterivorous nematode species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.41674 0.01512 0.75580
 residual sum-of-squares: 4.741

Number of iterations to convergence: 10
Achieved convergence tolerance: 4.539e-06
```

```
$`Bacterivorous nematode species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.437612 0.005515
 residual sum-of-squares: 4.75

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.870e-09

$`Bacterivorous nematode species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.59152  0.04781
 residual sum-of-squares: 4.838

Number of iterations to convergence: 8
Achieved convergence tolerance: 9.52e-06

$`Bacterivorous nematode species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.4063 0.1115
 residual sum-of-squares: 4.825

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.109e-06

$`Bacterivorous nematode species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3686
 residual sum-of-squares: 12.19

Number of iterations to convergence: 12
Achieved convergence tolerance: 6.692e-06

$`Bacterivorous nematode species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.8267  0.4175 -3.6850
 residual sum-of-squares: 4.727

Number of iterations to convergence: 5
Achieved convergence tolerance: 4.955e-06
```

```
$`Bacterivorous nematode species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.8267  -3.6850 -28.0226
 residual sum-of-squares: 4.727

Number of iterations to convergence: 5
Achieved convergence tolerance: 4.802e-06

$`Bacterivorous nematode species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.4901 1.0404
 residual sum-of-squares: 5.057

Number of iterations to convergence: 8
Achieved convergence tolerance: 3.186e-06

$`Bacterivorous nematode species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.7632 -3.6602 19.6752
 residual sum-of-squares: 4.722

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.326e-06


$`Fungivorous nematode species richness`
$`Fungivorous nematode species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.511959       -0.048813       -0.087673       -0.024309       -
0.075731
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.178719        0.172345        0.044442        0.010451
0.005365
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.029630       -0.054520       -0.117897       -0.037698
```

```
$`Fungivorous nematode species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.747072     0.001506    -0.007748    -0.095203


$`Fungivorous nematode species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
0.61926 0.06743
 residual sum-of-squares: 5.08

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.448e-06

$`Fungivorous nematode species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
0.61926 0.06744
 residual sum-of-squares: 5.08

Number of iterations to convergence: 3
Achieved convergence tolerance: 3.753e-06

$`Fungivorous nematode species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
5.978e-01 1.333e-27
 residual sum-of-squares: 5.027

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.257e-09

$`Fungivorous nematode species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20
```

```
$`Fungivorous nematode species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
6.567e-27
 residual sum-of-squares: 29.69

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.015e-09

$`Fungivorous nematode species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.585358 0.002246
 residual sum-of-squares: 5.042

Number of iterations to convergence: 1
Achieved convergence tolerance: 9.241e-09

$`Fungivorous nematode species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.41728  0.01417
 residual sum-of-squares: 5.076

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.062e-06

$`Fungivorous nematode species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b       c
0.58258 0.02418
 residual sum-of-squares: 5.075

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.968e-06

$`Fungivorous nematode species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.242
 residual sum-of-squares: 8.971

Number of iterations to convergence: 10
```

```
Achieved convergence tolerance: 2.664e-06

$`Fungivorous nematode species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.6143 0.9533
 residual sum-of-squares: 5.068

Number of iterations to convergence: 3
Achieved convergence tolerance: 7.017e-06


$`Omnivorous nematode species richness`
$`Omnivorous nematode species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.418437       -0.141997        0.073453        0.326920       -
0.012106
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.088971       -0.024654        0.223959        0.003278       -
0.010343
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.014175        0.032212       -0.194145       -0.070754


$`Omnivorous nematode species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
    0.53156      0.00510     -0.05349     -0.05579


$`Omnivorous nematode species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.3671 -0.0725
 residual sum-of-squares: 5.878

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.529e-06
```

```
$`Omnivorous nematode species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
      Vm        k
 0.36715 -0.07249
 residual sum-of-squares: 5.878

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.275e-06

$`Omnivorous nematode species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
3.681e-01 2.030e-27
 residual sum-of-squares: 5.73

Number of iterations to convergence: 4
Achieved convergence tolerance: 9.57e-10

$`Omnivorous nematode species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20

$`Omnivorous nematode species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
5.254e-27
 residual sum-of-squares: 15.08

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.294e-09

$`Omnivorous nematode species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.350523 0.003254
 residual sum-of-squares: 5.775

Number of iterations to convergence: 1
```

```
Achieved convergence tolerance: 5.555e-10

$`Omnivorous nematode species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.6393  0.0113
 residual sum-of-squares: 5.873

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.479e-06

$`Omnivorous nematode species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.35902 0.03365
 residual sum-of-squares: 5.872

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.928e-06

$`Omnivorous nematode species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.6064
 residual sum-of-squares: 13.4

Number of iterations to convergence: 14
Achieved convergence tolerance: 5.292e-06


$`Plant-feeding nematode species richness`
$`Plant-feeding nematode species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.555186       -0.110306       -0.257135       -0.203600
0.013882
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.137924       -0.131863        0.161175       -0.004076
0.004630
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.001713       -0.018504       -0.133758        0.031712
```

```
$`Plant-feeding nematode species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.375780     0.007087    -0.023934     0.066479


$`Plant-feeding nematode species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5536 0.4558
 residual sum-of-squares: 3.665

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.088e-06

$`Plant-feeding nematode species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5536 0.4558
 residual sum-of-squares: 3.665

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.888e-06

$`Plant-feeding nematode species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.4185 25.6553  0.3993
 residual sum-of-squares: 3.567

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.66e-06

$`Plant-feeding nematode species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
4.710e-01 2.005e-27
 residual sum-of-squares: 3.742

Number of iterations to convergence: 4
```

```
Achieved convergence tolerance: 1.749e-08

$`Plant-feeding nematode species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20

$`Plant-feeding nematode species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
6.13e-27
 residual sum-of-squares: 19.05

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.446e-09

$`Plant-feeding nematode species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
     a      b      c
0.3252 0.0825 0.3677
 residual sum-of-squares: 3.562

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.665e-06

$`Plant-feeding nematode species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.436977 0.005203
 residual sum-of-squares: 3.613

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.440e-09

$`Plant-feeding nematode species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.6068  0.0550
 residual sum-of-squares: 3.577
```

```
Number of iterations to convergence: 8
Achieved convergence tolerance: 4.466e-07

$`Plant-feeding nematode species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.3951 0.1248
 residual sum-of-squares: 3.571

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.134e-07

$`Plant-feeding nematode species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3523
 residual sum-of-squares: 11.69

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.712e-06

$`Plant-feeding nematode species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.7185  0.4044 -3.1448
 residual sum-of-squares: 3.568

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.844e-06

$`Plant-feeding nematode species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.7185  -3.1448 -19.2105
 residual sum-of-squares: 3.568

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.850e-06

$`Plant-feeding nematode species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.5131 0.3125
 residual sum-of-squares: 3.749
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 6.768e-06

$`Plant-feeding nematode species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.7047 -4.9959 15.3458
 residual sum-of-squares: 3.571

Number of iterations to convergence: 3
Achieved convergence tolerance: 2.132e-06


$`Predatory nematode species richness`
$`Predatory nematode species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     -0.940341       -0.008989       -0.092801       -0.062547       -
0.061245
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.415795        0.577016        0.709755        0.009625
0.019112
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.009799       -0.203875       -0.187749       -0.258812


$`Predatory nematode species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.040028     0.006618    -0.012927     0.074263


$`Predatory nematode species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
       a        b
 0.17031 -0.08201
 residual sum-of-squares: 4.658
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 3.430e-06

$`Predatory nematode species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.1703 -0.0820
 residual sum-of-squares: 4.658

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.429e-07

$`Predatory nematode species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
1.594e-01 3.469e-27
 residual sum-of-squares: 4.209

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.713e-09

$`Predatory nematode species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20

$`Predatory nematode species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
4.865e-27
 residual sum-of-squares: 5.963

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.700e-09

$`Predatory nematode species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.132732 0.005157
 residual sum-of-squares: 4.386
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 7.456e-10

$`Predatory nematode species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.84871  0.01623
 residual sum-of-squares: 4.638

Number of iterations to convergence: 9
Achieved convergence tolerance: 5.39e-06

$`Predatory nematode species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.1352 0.1606
 residual sum-of-squares: 4.622

Number of iterations to convergence: 17
Achieved convergence tolerance: 8.792e-06

$`Predatory nematode species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.678
 residual sum-of-squares: 15.56

Number of iterations to convergence: 16
Achieved convergence tolerance: 3.511e-06

$`Predatory nematode species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.5967 -3.5023
 residual sum-of-squares: 5.137

Number of iterations to convergence: 8
Achieved convergence tolerance: 6.351e-06


$`Plant-feeding nematode abundance`
$`Plant-feeding nematode abundance`$L0

Call:
```

```
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     5.611e-01       2.077e-02      -1.618e-01       4.669e-04      -
7.277e-03
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     5.311e-02      -1.714e-01      -1.139e-03       2.884e-05
1.879e-02
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -1.183e-02      -4.756e-02      -2.401e-02       4.268e-02


$`Plant-feeding nematode abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
  0.2294488    0.0009399    0.0107855    0.0227016


$`Plant-feeding nematode abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.3158 0.2136
 residual sum-of-squares: 3.018

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.456e-06

$`Plant-feeding nematode abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.3158 0.2136
 residual sum-of-squares: 3.018

Number of iterations to convergence: 2
Achieved convergence tolerance: 7.715e-07

$`Plant-feeding nematode abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
0.08968 7.51206 0.25826
```

```
 residual sum-of-squares: 3.016

Number of iterations to convergence: 5
Achieved convergence tolerance: 6.331e-07

$`Plant-feeding nematode abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.925e-01 2.361e-28
 residual sum-of-squares: 3.043

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.666e-09

$`Plant-feeding nematode abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

$`Plant-feeding nematode abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
2.797e-27
 residual sum-of-squares: 9.03

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.1e-09

$`Plant-feeding nematode abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.283762 0.001180
 residual sum-of-squares: 3.030

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.156e-09

$`Plant-feeding nematode abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
```

```
-0.73310  0.01757
 residual sum-of-squares: 3.016

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.895e-06

$`Plant-feeding nematode abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.26768 0.06056
 residual sum-of-squares: 3.016

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.235e-07

$`Plant-feeding nematode abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.8012
 residual sum-of-squares: 13.22

Number of iterations to convergence: 15
Achieved convergence tolerance: 7.024e-06

$`Plant-feeding nematode abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.3369  0.2630 -2.2987
 residual sum-of-squares: 3.015

Number of iterations to convergence: 22
Achieved convergence tolerance: 8.95e-06

$`Plant-feeding nematode abundance`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.3369  -2.2987 -15.1113
 residual sum-of-squares: 3.015

Number of iterations to convergence: 15
Achieved convergence tolerance: 8.89e-06

$`Plant-feeding nematode abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
```

```
  Asym    lrc
0.3037 0.6562
 residual sum-of-squares: 3.023

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.096e-06

$`Plant-feeding nematode abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
    Asym     xmid     scal
  0.3373 -11.3104   8.8154
 residual sum-of-squares: 3.014

Number of iterations to convergence: 32
Achieved convergence tolerance: 8.12e-06


$`Omnivorous nematode abundance`
$`Omnivorous nematode abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.580168       -0.023768        0.047648        0.221986       -
0.049526
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.030450       -0.153541       -0.129963        0.006406
0.004660
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.020150        0.027354       -0.045683        0.050059


$`Omnivorous nematode abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.288068     0.001003    -0.016602    -0.026873


$`Omnivorous nematode abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
       Vm         k
```

```
0.2214690 0.0001752
 residual sum-of-squares: 2.695

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.273e-06

$`Omnivorous nematode abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.198e-01 3.511e-28
 residual sum-of-squares: 2.691

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.99e-10

$`Omnivorous nematode abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

$`Omnivorous nematode abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
2.276e-27
 residual sum-of-squares: 6.073

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.339e-10

$`Omnivorous nematode abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
0.2169470 0.0005421
 residual sum-of-squares: 2.692

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.516e-08

$`Omnivorous nematode abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
```

```
        a         c
-0.784102  0.003718
 residual sum-of-squares: 2.694

Number of iterations to convergence: 8
Achieved convergence tolerance: 4.483e-08

$`Omnivorous nematode abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.21579 0.01728
 residual sum-of-squares: 2.694

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.32e-07

$`Omnivorous nematode abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.284
 residual sum-of-squares: 13.18

Number of iterations to convergence: 20
Achieved convergence tolerance: 5.335e-06


$`Predatory nematode abundance`
$`Predatory nematode abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
       2.87930         0.05726         0.03274        -0.00908        -
0.08246
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      -0.52723        -1.17278        -1.26450         0.01222
0.01961
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
       0.02061         0.10943         0.17711         0.48587


$`Predatory nematode abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.079820     0.005578    -0.013658    -0.014687


$`Predatory nematode abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
6.084e-02 3.086e-27
 residual sum-of-squares: 1.217

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.242e-08

$`Predatory nematode abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

$`Predatory nematode abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
3.618e-27
 residual sum-of-squares: 1.477

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.905e-08

$`Predatory nematode abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.032787 0.005115
 residual sum-of-squares: 1.304

Number of iterations to convergence: 1
Achieved convergence tolerance: 3.545e-09

$`Predatory nematode abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
```

```
       a        c
-0.96994  0.02940
 residual sum-of-squares: 1.495

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.723e-06

$`Predatory nematode abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
0.008507 0.921069
 residual sum-of-squares: 1.356

Number of iterations to convergence: 12
Achieved convergence tolerance: 9.82e-06

$`Predatory nematode abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-3.902
 residual sum-of-squares: 15.13

Number of iterations to convergence: 15
Achieved convergence tolerance: 6.27e-06


$`Bacterivorous nematode abundance`
$`Bacterivorous nematode abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     -0.721558       -0.102526       -0.095018       -0.120770       -
0.054064
       funcgr          grass             leg  sowndiv:funcgr
sowndiv:grass
      0.339564        0.494652        0.464718        0.006983
0.018475
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.010363       -0.124975       -0.167984       -0.150982


$`Bacterivorous nematode abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.422191     0.003742    -0.053107    -0.087098


$`Bacterivorous nematode abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
0.21562 0.04743
 residual sum-of-squares: 2.463

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.762e-06

$`Bacterivorous nematode abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
0.21562 0.04745
 residual sum-of-squares: 2.463

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.502e-06

$`Bacterivorous nematode abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.069e-01 1.063e-27
 residual sum-of-squares: 2.421

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.315e-08

$`Bacterivorous nematode abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

$`Bacterivorous nematode abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
```

```
        b
2.875e-27
 residual sum-of-squares: 5.418

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.08e-09

$`Bacterivorous nematode abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.192929 0.002281
 residual sum-of-squares: 2.410

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.425e-11

$`Bacterivorous nematode abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.81056  0.01483
 residual sum-of-squares: 2.444

Number of iterations to convergence: 8
Achieved convergence tolerance: 7.34e-06

$`Bacterivorous nematode abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b       c
0.18720 0.08027
 residual sum-of-squares: 2.441

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.978e-06

$`Bacterivorous nematode abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-1.452
 residual sum-of-squares: 13.18

Number of iterations to convergence: 21
Achieved convergence tolerance: 5.128e-06

$`Bacterivorous nematode abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
```

```
   data:  DF
   Asym    xmid    scal
 0.5185 28.8115 55.2367
 residual sum-of-squares: 2.409

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.208e-06


$`Fungivorous nematode abundance`
$`Fungivorous nematode abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.469115        0.024585       -0.016396        0.077099       -
0.021021
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.035548       -0.077821       -0.013231        0.002742
0.007002
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.001644       -0.023833       -0.055108        0.011134


$`Fungivorous nematode abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.335010    -0.001201    -0.020037    -0.042390


$`Fungivorous nematode abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
       a        b
 0.21498 -0.06063
 residual sum-of-squares: 2.761

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.831e-06

$`Fungivorous nematode abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
```

```
      Vm        k
 0.21498 -0.06065
 residual sum-of-squares: 2.761

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.173e-06

$`Fungivorous nematode abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
        a         b         d
-0.002992 -4.310560  0.213767
 residual sum-of-squares: 2.742

Number of iterations to convergence: 14
Achieved convergence tolerance: 3.159e-06

$`Fungivorous nematode abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 2.240e-01 -8.294e-28
 residual sum-of-squares: 2.737

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.46e-09

$`Fungivorous nematode abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

$`Fungivorous nematode abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
1.132e-27
 residual sum-of-squares: 6.249

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.222e-09

$`Fungivorous nematode abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
```

```
   data:  DF
        a         b
 0.233777 -0.001645
 residual sum-of-squares: 2.735

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.468e-10

$`Fungivorous nematode abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.76322 -0.01136
 residual sum-of-squares: 2.752

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.819e-07

$`Fungivorous nematode abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
 0.23608 -0.04795
 residual sum-of-squares: 2.752

Number of iterations to convergence: 8
Achieved convergence tolerance: 8.743e-06

$`Fungivorous nematode abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.187
 residual sum-of-squares: 13.08

Number of iterations to convergence: 17
Achieved convergence tolerance: 9.556e-06

$`Fungivorous nematode abundance`$BIEXP
Nonlinear regression model
  model:  response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
   data:  DF
      A1     lrc1       A2     lrc2
-0.04701 -0.43045  0.24788 -4.51583
 residual sum-of-squares: 2.731

Number of iterations to convergence: 23
Achieved convergence tolerance: 8.412e-06

$`Fungivorous nematode abundance`$LG2
Nonlinear regression model
```

```
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
    Asym     xmid     scal
  0.2619  59.0430 -29.6045
 residual sum-of-squares: 2.734

Number of iterations to convergence: 2
Achieved convergence tolerance: 5.513e-06


$`Collembola abundance`
$`Collembola abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
       3.32716        -0.12775        -0.03627        -0.15423        -
0.08519
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      -0.68085        -1.29444        -1.32048         0.01055
0.01323
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
       0.03218         0.22039         0.23004         0.47891


$`Collembola abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.133770     0.001950     0.015583     0.058705


$`Collembola abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.3187 0.5408
 residual sum-of-squares: 2.58

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.938e-07

$`Collembola abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
```

```
   data:  DF
    Vm      k
0.3187 0.5408
 residual sum-of-squares: 2.58

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.391e-06

$`Collembola abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
     a      b      d
0.2046 1.3001 0.1223
 residual sum-of-squares: 2.579

Number of iterations to convergence: 9
Achieved convergence tolerance: 4.061e-06

$`Collembola abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.670e-01 5.672e-28
 residual sum-of-squares: 2.674

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.437e-11

$`Collembola abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20

$`Collembola abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
2.905e-27
 residual sum-of-squares: 8.09

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.465e-08

$`Collembola abundance`$Pa2
Nonlinear regression model
```

```
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.253377 0.001961
 residual sum-of-squares: 2.639

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.108e-09

$`Collembola abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.77704  0.03082
 residual sum-of-squares: 2.584

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.657e-07

$`Collembola abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.2267 0.1134
 residual sum-of-squares: 2.587

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.289e-06

$`Collembola abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-0.933
 residual sum-of-squares: 15.17

Number of iterations to convergence: 18
Achieved convergence tolerance: 5.093e-06

$`Collembola abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.3176  0.1907 -1.3890
 residual sum-of-squares: 2.584

Number of iterations to convergence: 13
Achieved convergence tolerance: 7.181e-06

$`Collembola abundance`$AS2
```

```
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.3176 -1.3890 -3.6780
 residual sum-of-squares: 2.584

Number of iterations to convergence: 13
Achieved convergence tolerance: 7.243e-06

$`Collembola abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.2952 0.1290
 residual sum-of-squares: 2.595

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.259e-06

$`Collembola abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.3165 -1.7959  3.3273
 residual sum-of-squares: 2.586

Number of iterations to convergence: 16
Achieved convergence tolerance: 6.976e-06


$`Mite abundance`
$`Mite abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      5.081596       -0.009796        0.019798       -0.101649       -
0.110498
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.924492       -2.230046       -2.139964        0.014004
0.025339
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.029644        0.305586        0.251218        0.924884


$`Mite abundance`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
  2.598e-01    4.268e-05   -1.760e-02   -5.472e-03


$`Mite abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
0.21700 0.02833
 residual sum-of-squares: 2.867

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.515e-06

$`Mite abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
0.21700 0.02834
 residual sum-of-squares: 2.867

Number of iterations to convergence: 3
Achieved convergence tolerance: 7.903e-06

$`Mite abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 2.167e-01 -3.524e-28
 residual sum-of-squares: 2.862

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.838e-08

$`Mite abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20

$`Mite abundance`$E5
```

```
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
1.545e-27
 residual sum-of-squares: 6.431

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.232e-09

$`Mite abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
         a          b
 0.2206881 -0.0006976
 residual sum-of-squares: 2.861

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.618e-09

$`Mite abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
        a         c
-0.781150 -0.002813
 residual sum-of-squares: 2.867

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.483e-07

$`Mite abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
 0.21868 -0.01247
 residual sum-of-squares: 2.867

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.286e-06

$`Mite abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.305
 residual sum-of-squares: 14.49

Number of iterations to convergence: 18
Achieved convergence tolerance: 6.399e-06
```

```
$`Mite abundance`$BIEXP
Nonlinear regression model
  model:  response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
   data:  DF
      A1     lrc1       A2     lrc2
-0.03812 -1.33549  0.24011 -5.09350
 residual sum-of-squares: 2.856

Number of iterations to convergence: 19
Achieved convergence tolerance: 7.275e-06

$`Mite abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
    Asym     xmid     scal
  0.2289  97.1762 -31.5272
 residual sum-of-squares: 2.861

Number of iterations to convergence: 40
Achieved convergence tolerance: 9.444e-06


$`Gamasida abundance`
$`Gamasida abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.223179       -0.009512       -0.140608       -0.129438       -
0.037086
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.030971       -0.022045       -0.014081        0.005080
0.011566
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.010214        0.025204       -0.014118        0.014940


$`Gamasida abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.230764     0.005071    -0.035075    -0.037496


$`Gamasida abundance`$M1
```

```
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.1914 1.1112
 residual sum-of-squares: 2.791

Number of iterations to convergence: 9
Achieved convergence tolerance: 5.854e-06

$`Gamasida abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.1914 1.1114
 residual sum-of-squares: 2.791

Number of iterations to convergence: 12
Achieved convergence tolerance: 6.86e-06

$`Gamasida abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
1.333e-01 1.944e-27
 residual sum-of-squares: 2.662

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.078e-08

$`Gamasida abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20

$`Gamasida abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
3.111e-27
 residual sum-of-squares: 4.012

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.189e-08
```

```
$`Gamasida abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
0.118550 0.001507 1.234152
 residual sum-of-squares: 2.645

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.447e-07

$`Gamasida abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.110844 0.003914
 residual sum-of-squares: 2.647

Number of iterations to convergence: 1
Achieved convergence tolerance: 5.87e-11

$`Gamasida abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.90674  0.03328
 residual sum-of-squares: 2.730

Number of iterations to convergence: 8
Achieved convergence tolerance: 8.492e-06

$`Gamasida abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.08985 0.27981
 residual sum-of-squares: 2.701

Number of iterations to convergence: 9
Achieved convergence tolerance: 6.145e-06

$`Gamasida abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-2.452
 residual sum-of-squares: 16.47

Number of iterations to convergence: 18
Achieved convergence tolerance: 3.593e-06
```

```
$`Gamasida abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
0.15954 0.03061
 residual sum-of-squares: 2.824

Number of iterations to convergence: 19
Achieved convergence tolerance: 5.873e-06

$`Gamasida abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.8968 77.2008 40.7402
 residual sum-of-squares: 2.644

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.708e-06


$`Collembola species richness`
$`Collembola species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
       4.74471        -0.12271        -0.01488        -0.14914        -
0.17695
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      -0.89443        -1.72479        -1.84417         0.02206
0.03562
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
       0.05797         0.27653         0.27812         0.64757


$`Collembola species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.537532     0.004415    -0.014021    -0.020130
```

```
$`Collembola species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5738 0.3234
 residual sum-of-squares: 2.971

Number of iterations to convergence: 5
Achieved convergence tolerance: 1.778e-06

$`Collembola species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5738 0.3234
 residual sum-of-squares: 2.971

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.738e-06

$`Collembola species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.3232 21.7764  0.4465
 residual sum-of-squares: 2.879

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.110e-07

$`Collembola species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
5.072e-01 1.529e-27
 residual sum-of-squares: 3.021

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.023e-08

$`Collembola species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20
```

```
$`Collembola species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
5.97e-27
 residual sum-of-squares: 22.57

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.196e-10

$`Collembola species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.37785 0.07782 0.33780
 residual sum-of-squares: 2.88

Number of iterations to convergence: 9
Achieved convergence tolerance: 8.77e-07

$`Collembola species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a       b
0.481486 0.004014
 residual sum-of-squares: 2.924

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.876e-09

$`Collembola species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a       c
-0.55624  0.04622
 residual sum-of-squares: 2.891

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.994e-07

$`Collembola species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.44496 0.09605
 residual sum-of-squares: 2.888

Number of iterations to convergence: 7
```

```
Achieved convergence tolerance: 2.901e-07

$`Collembola species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3213
 residual sum-of-squares: 10.57

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.504e-06

$`Collembola species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.6934  0.4500 -2.9736
 residual sum-of-squares: 2.879

Number of iterations to convergence: 1
Achieved convergence tolerance: 8.852e-07

$`Collembola species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.6934  -2.9736 -20.4813
 residual sum-of-squares: 2.879

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.365e-06

$`Collembola species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.5385 0.5376
 residual sum-of-squares: 3.043

Number of iterations to convergence: 6
Achieved convergence tolerance: 4.798e-06

$`Collembola species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.6866 -9.4396 14.2829
 residual sum-of-squares: 2.879
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 5.776e-06


$`Aboveground herbivore abundance`
$`Aboveground herbivore abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      3.211833       -0.022801       -0.103561       -0.140502
0.066319
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.629014       -1.264339       -1.362688       -0.007438       -
0.007964
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.019563        0.159127        0.265130        0.506788


$`Aboveground herbivore abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.304450     0.008327     0.006768    -0.061162


$`Aboveground herbivore abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5849 3.8403
 residual sum-of-squares: 1.508

Number of iterations to convergence: 14
Achieved convergence tolerance: 7.193e-06

$`Aboveground herbivore abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5849 3.8406
 residual sum-of-squares: 1.508

Number of iterations to convergence: 12
```

```
Achieved convergence tolerance: 9.82e-06

$`Aboveground herbivore abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 1.2291 73.8072  0.1897
 residual sum-of-squares: 1.251

Number of iterations to convergence: 8
Achieved convergence tolerance: 8.297e-06

$`Aboveground herbivore abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.835e-01 4.061e-27
 residual sum-of-squares: 1.558

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.021e-08

$`Aboveground herbivore abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground herbivore abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
6.543e-27
 residual sum-of-squares: 5.256

Number of iterations to convergence: 4
Achieved convergence tolerance: 9.403e-09

$`Aboveground herbivore abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.14125 0.05342 0.58765
 residual sum-of-squares: 1.237
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 9.668e-06

$`Aboveground herbivore abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.219536 0.009292
 residual sum-of-squares: 1.284

Number of iterations to convergence: 1
Achieved convergence tolerance: 9.678e-10

$`Aboveground herbivore abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.8436  0.0934
 residual sum-of-squares: 1.331

Number of iterations to convergence: 8
Achieved convergence tolerance: 4.092e-06

$`Aboveground herbivore abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.1681 0.3455
 residual sum-of-squares: 1.261

Number of iterations to convergence: 6
Achieved convergence tolerance: 9.92e-06

$`Aboveground herbivore abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.4642
 residual sum-of-squares: 14.49

Number of iterations to convergence: 14
Achieved convergence tolerance: 9.666e-06

$`Aboveground herbivore abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.9843  0.1921 -3.9221
 residual sum-of-squares: 1.253
```

```
Number of iterations to convergence: 3
Achieved convergence tolerance: 1.304e-06

$`Aboveground herbivore abundance`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.9843  -3.9221 -10.9625
 residual sum-of-squares: 1.253

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.307e-06

$`Aboveground herbivore abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.4746 -1.2771
 residual sum-of-squares: 1.666

Number of iterations to convergence: 18
Achieved convergence tolerance: 5.758e-06

$`Aboveground herbivore abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
 0.779 15.018 14.595
 residual sum-of-squares: 1.264

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.350e-06


$`Aboveground carnivore abundance`
$`Aboveground carnivore abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     4.7208466      -0.0886979      -0.0550726      -0.0237293      -
0.0181320
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
    -0.9023465      -1.7673288      -2.0982837       0.0001356
0.0150569
```

```
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     0.0050220       0.2318474       0.3733037       0.7164957


$`Aboveground carnivore abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.633127     0.002308    -0.003545    -0.189020


$`Aboveground carnivore abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5117 1.1924
 residual sum-of-squares: 1.806

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.961e-07

$`Aboveground carnivore abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5117 1.1924
 residual sum-of-squares: 1.806

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.252e-06

$`Aboveground carnivore abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
0.47154 1.47757 0.04569
 residual sum-of-squares: 1.806

Number of iterations to convergence: 3
Achieved convergence tolerance: 9.555e-06

$`Aboveground carnivore abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
3.639e-01 1.160e-27
 residual sum-of-squares: 2.269
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.832e-08

$`Aboveground carnivore abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground carnivore abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
4.347e-27
 residual sum-of-squares: 8.36

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.062e-08

$`Aboveground carnivore abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.328693 0.004208
 residual sum-of-squares: 2.115

Number of iterations to convergence: 1
Achieved convergence tolerance: 8.806e-10

$`Aboveground carnivore abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.73615  0.06541
 residual sum-of-squares: 1.859

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.877e-06

$`Aboveground carnivore abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.2773 0.1782
```

```
 residual sum-of-squares: 1.885

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.433e-06

$`Aboveground carnivore abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3737
 residual sum-of-squares: 12.36

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.792e-06

$`Aboveground carnivore abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.4867  0.1448 -1.1667
 residual sum-of-squares: 1.806

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.346e-06

$`Aboveground carnivore abundance`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.4867 -1.1667 -1.1342
 residual sum-of-squares: 1.806

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.393e-06

$`Aboveground carnivore abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.4647 -0.4869
 residual sum-of-squares: 1.843

Number of iterations to convergence: 7
Achieved convergence tolerance: 5.382e-06

$`Aboveground carnivore abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
```

```
0.4851 1.1073 2.0759
 residual sum-of-squares: 1.806

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.695e-07


$`Aboveground omnivore abundance`
$`Aboveground omnivore abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     1.4261864      -0.1177153      -0.1273346      -0.0681818
0.0467792
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
    -0.2237831      -0.2175366      -0.7035044      -0.0069720
0.0062441
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -0.0220844       0.0001476       0.1397496       0.1683369


$`Aboveground omnivore abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   1.001860     0.003109    -0.090819    -0.352086


$`Aboveground omnivore abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.3691 0.4050
 residual sum-of-squares: 2.396

Number of iterations to convergence: 5
Achieved convergence tolerance: 8.796e-06

$`Aboveground omnivore abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.3691 0.4050
```

```
 residual sum-of-squares: 2.396

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.686e-06

$`Aboveground omnivore abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.2379 17.8646  0.2577
 residual sum-of-squares: 2.333

Number of iterations to convergence: 14
Achieved convergence tolerance: 6.94e-06

$`Aboveground omnivore abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a         b
3.127e-01 9.990e-28
 residual sum-of-squares: 2.424

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.259e-08

$`Aboveground omnivore abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground omnivore abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
3.737e-27
 residual sum-of-squares: 6.922

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.296e-09

$`Aboveground omnivore abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
```

```
0.20931 0.06141 0.32966
 residual sum-of-squares: 2.341

Number of iterations to convergence: 13
Achieved convergence tolerance: 8.086e-06

$`Aboveground omnivore abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.290158 0.002912
 residual sum-of-squares: 2.367

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.224e-09

$`Aboveground omnivore abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.7365  0.0359
 residual sum-of-squares: 2.348

Number of iterations to convergence: 8
Achieved convergence tolerance: 7.745e-07

$`Aboveground omnivore abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.2643 0.1190
 residual sum-of-squares: 2.345

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.189e-06

$`Aboveground omnivore abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.5454
 residual sum-of-squares: 11.93

Number of iterations to convergence: 14
Achieved convergence tolerance: 3.366e-06

$`Aboveground omnivore abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
```

```
   Asym      R0     lrc
 0.4388  0.2585 -2.7408
 residual sum-of-squares: 2.33

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.867e-06

$`Aboveground omnivore abundance`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.4388  -2.7408 -13.7847
 residual sum-of-squares: 2.33

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.769e-06

$`Aboveground omnivore abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.3414 0.5438
 residual sum-of-squares: 2.433

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.377e-06

$`Aboveground omnivore abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.4348 -4.3436 10.8311
 residual sum-of-squares: 2.328

Number of iterations to convergence: 5
Achieved convergence tolerance: 8.04e-06


$`Parasitoid abundance`
$`Parasitoid abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         block2         block3         block4
sowndiv
      6.176487      -0.131229      -0.243014      -0.065277
0.024879
```

```
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -1.120755       -2.414636       -2.630248       -0.001607
0.007002
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.015767        0.292672        0.371989        0.971772


$`Parasitoid abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.831973     0.008307    -0.062920    -0.325588


$`Parasitoid abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5475 3.7200
 residual sum-of-squares: 3.219

Number of iterations to convergence: 21
Achieved convergence tolerance: 8.92e-06

$`Parasitoid abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5475 3.7207
 residual sum-of-squares: 3.219

Number of iterations to convergence: 21
Achieved convergence tolerance: 7.14e-06

$`Parasitoid abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a        b        d
  3.5740 335.9181   0.2029
 residual sum-of-squares: 2.772

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.569e-06

$`Parasitoid abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
```

```
   data:  DF
        a         b
2.706e-01 4.156e-27
 residual sum-of-squares: 2.958

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.82e-09

$`Parasitoid abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Parasitoid abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
6.526e-27
 residual sum-of-squares: 6.326

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.800e-08

$`Parasitoid abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a       b       c
0.19684 0.01455 0.88557
 residual sum-of-squares: 2.771

Number of iterations to convergence: 5
Achieved convergence tolerance: 1.343e-06

$`Parasitoid abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a        b
0.210010 0.009059
 residual sum-of-squares: 2.774

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.407e-10

$`Parasitoid abundance`$Pa3
Nonlinear regression model
```

```
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.83867  0.08475
 residual sum-of-squares: 2.989

Number of iterations to convergence: 9
Achieved convergence tolerance: 4.719e-07

$`Parasitoid abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.1606 0.3449
 residual sum-of-squares: 2.876

Number of iterations to convergence: 8
Achieved convergence tolerance: 7.317e-06

$`Parasitoid abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.5338
 residual sum-of-squares: 15.50

Number of iterations to convergence: 16
Achieved convergence tolerance: 3.879e-06

$`Parasitoid abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
  Asym     R0    lrc
 2.129  0.203 -5.203
 residual sum-of-squares: 2.772

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.416e-08

$`Parasitoid abundance`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
  2.129  -5.203 -18.210
 residual sum-of-squares: 2.772

Number of iterations to convergence: 2
Achieved convergence tolerance: 6.217e-08

$`Parasitoid abundance`$LG2
```

```
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.8386 20.9265 18.8546
 residual sum-of-squares: 2.773

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.611e-06


$`Hyperparasitoid abundance`
$`Hyperparasitoid abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB4         sowndiv
funcgr
     1.8521809      -0.0320712       0.3509313       0.0255851      -
0.5250246
         grass             leg  sowndiv:funcgr   sowndiv:grass
sowndiv:leg
    -0.7114799      -0.6803634      -0.0004056      -0.0189907      -
0.0037382
  funcgr:grass      funcgr:leg       grass:leg
     0.1759965       0.2076345       0.2063541


$`Hyperparasitoid abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.133847    -0.002814     0.059486     0.043011


$`Hyperparasitoid abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
       a        b
 0.28749 -0.04046
 residual sum-of-squares: 3.158

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.454e-06

$`Hyperparasitoid abundance`$M1a
Nonlinear regression model
```

```
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
      Vm        k
 0.28750 -0.04044
 residual sum-of-squares: 3.158

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.970e-06

$`Hyperparasitoid abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a        b        d
-0.06718 -5.96317  0.28368
 residual sum-of-squares: 2.912

Number of iterations to convergence: 13
Achieved convergence tolerance: 6.082e-06

$`Hyperparasitoid abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a        b
2.88e-01 3.97e-28
 residual sum-of-squares: 3.153

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.245e-08

$`Hyperparasitoid abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.29e-20

$`Hyperparasitoid abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
2.919e-27
 residual sum-of-squares: 5.227

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.508e-08

$`Hyperparasitoid abundance`$Pa1
```

```
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
 0.40685 -0.08832  0.15208
 residual sum-of-squares: 3.141

Number of iterations to convergence: 15
Achieved convergence tolerance: 8.373e-06

$`Hyperparasitoid abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
         a          b
 0.3002417 -0.0006191
 residual sum-of-squares: 3.155

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.213e-08

$`Hyperparasitoid abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.68051 -0.01787
 residual sum-of-squares: 3.142

Number of iterations to convergence: 8
Achieved convergence tolerance: 9.192e-07

$`Hyperparasitoid abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
 0.31900 -0.05795
 residual sum-of-squares: 3.143

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.611e-06

$`Hyperparasitoid abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.5917
 residual sum-of-squares: 8.238

Number of iterations to convergence: 11
Achieved convergence tolerance: 8.552e-07
```

```
$`Hyperparasitoid abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.2999 0.9994
 residual sum-of-squares: 3.156

Number of iterations to convergence: 2
Achieved convergence tolerance: 2.620e-07


$`Pollinator abundance`
$`Pollinator abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      1.002187       -0.141355       -0.160610       -0.108764
0.012896
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.044395       -0.080761       -0.213346       -0.001070
0.007455
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.015239       -0.045765        0.020650       -0.015216


$`Pollinator abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.632480     0.000598    -0.027858    -0.210336


$`Pollinator abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.2856 0.1398
 residual sum-of-squares: 2.009

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.577e-06

$`Pollinator abundance`$M1a
```

```
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.2856 0.1398
 residual sum-of-squares: 2.009

Number of iterations to convergence: 2
Achieved convergence tolerance: 9.826e-06

$`Pollinator abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
2.629e-01 8.424e-28
 residual sum-of-squares: 1.984

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.549e-08

$`Pollinator abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Pollinator abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
3.145e-27
 residual sum-of-squares: 5.164

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.324e-08

$`Pollinator abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.252644 0.001651
 residual sum-of-squares: 1.985

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.878e-09
```

```
$`Pollinator abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.75295  0.01492
 residual sum-of-squares: 1.998

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.534e-06

$`Pollinator abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.24658 0.05811
 residual sum-of-squares: 1.998

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.814e-06

$`Pollinator abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.6934
 residual sum-of-squares: 11.67

Number of iterations to convergence: 13
Achieved convergence tolerance: 9.425e-06

$`Pollinator abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.2784 0.8920
 residual sum-of-squares: 2.012

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.674e-06

$`Invader abundance`
$`Invader abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
```

```
     0.0948471      -0.1047890      -0.0822876      -0.0698602
0.0008283
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     0.0579528       0.3623876       0.0139182       0.0011248      -
0.0100594
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     0.0013060      -0.0776286      -0.0003597      -0.1033390


$`Invader abundance`$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 53.2507

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
 -0.4229337492  -0.1183189954  -0.1304634129  -0.0910711246
0.0136915868
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  0.1684421917   0.6006197821   0.2276533374  -0.0004172888  -
0.0119627573
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
 -0.0038335378  -0.1155916413  -0.0182514680  -0.1950475315

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
5.720827
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.03759467

$`Invader abundance`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 53.39595

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.214463989   -0.088644602   -0.088227958   -0.073070824   -
0.004116072
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.027564026    0.343163236   -0.045344435    0.001604593   -
0.008266401
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
   0.002525867   -0.080155696    0.021008184   -0.102308085
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3738835
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2197977

$`Invader abundance`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 56.94919

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.186472665    0.005263845    0.021510854    0.024733810   -
0.028393251
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.041281594    0.315519961   -0.024930964    0.004424593   -
0.001421379
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
   0.008427897   -0.081210990    0.002836866   -0.107116026

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.08592699
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2526560

$`Invader abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.567230    -0.004025    -0.051769    -0.144489


$`Invader abundance`$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 44.7894

Coefficients:
```

```
 (Intercept)      sowndiv       funcgr          leg
 0.484491856 -0.003471566 -0.037187508 -0.114501179

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   power
0.942972
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6937715

$`Invader abundance`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.72063

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.441504105 -0.003573788 -0.029447487 -0.099416362

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
6.289382
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.04194056

$`Invader abundance`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 42.1319

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.447412914 -0.003567621 -0.030316035 -0.108397163

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3388165
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2393709

$`Invader abundance`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
```

```
  Log-likelihood: 46.25071

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.455606549 -0.003420561 -0.032132902 -0.109051649

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04910265
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2098406

$`Invader abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.1641 -0.4761
 residual sum-of-squares: 2.435

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.998e-06

$`Invader abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.1641 -0.4761
 residual sum-of-squares: 2.435

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.607e-06

$`Invader abundance`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
-0.3348 12.3555  0.3110
 residual sum-of-squares: 2.305

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.069e-06

$`Invader abundance`$M211
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 40.14578
```

```
Coefficients:
         a          b          d
-0.3690034 22.1355213  0.2850952

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3712425
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2621744

$`Invader abundance`$M222
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 44.88807

Coefficients:
         a          b          d
-0.3787998 21.3212682  0.2927103

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05099692
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2209340

$`Invader abundance`$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 30.97222

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.24914479   -0.06172622   -0.61869389    0.04318655

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1700533

$`Invader abundance`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.41162

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.19583611   -0.03598630   -0.75896319    0.10937049
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1827186
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2138829

$`Invader abundance`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.41477

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.22005059   -0.04743426   -0.68820082    0.07689891

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005816461
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1777986

$`Invader abundance`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.73078

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.07260709    0.06756012   -0.45254503    0.03465354

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1726474

$`Invader abundance`$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.38195

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.05861905    0.06422998   -0.59408588    0.06845999

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2175738
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2253233

$`Invader abundance`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.71743

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.01305763    0.09259118   -0.76114135    0.17346143

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01481194
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1913664

$`Invader abundance`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 35.62032

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.19010293   -0.02595969    0.19713078   -0.64645796

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2698072
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2398416

$`Invader abundance`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.94891

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
    0.2238262    -0.0497326     0.5401651    -0.9112279
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0419854
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2323107

$`Invader abundance`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 13.07694

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  -0.23798558    0.04922908    0.14909558   -8.43494986    0.63234113
        b.leg
   3.60372733

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.214291

$`Invader abundance`$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 39.48383

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.35486102   -0.04600789   -0.08004049    0.07769520   -0.58759789
        b.leg
   0.04365296

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2406816
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2219853

$`Invader abundance`$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.10479

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
```

```
   0.01866494   -0.01629558    0.06478459   -2.91537403   -0.01334685
       b.leg
   1.20935978

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05140486
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2912490

$`Invader abundance`$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 30.88462

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.11149679   -0.01188506    0.04362230    0.35698982   -0.54330152
      b.grass
  -0.12480209

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1724605

$`Invader abundance`$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.90214

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.16392725   -0.02314251    0.01543774    0.86396713   -0.73015934
      b.grass
  -0.30525716

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2575043
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2348789

$`Invader abundance`$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.12136
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.19177306   -0.04536400    0.01705130    0.98483053   -0.93873615
      b.grass
  -0.22912603

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03959124
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2272863

$`Invader abundance`$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.2338

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.14438475    0.06545733   -0.05180781   -0.99526402    0.19436730
        b.leg
   0.11400671

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1696461

$`Invader abundance`$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.09408

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.09134739    0.06759404   -0.02697942   -1.28479553    0.25070728
        b.leg
   0.21784472

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1972918
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2169212

$`Invader abundance`$M832
Generalized nonlinear least squares fit
```

```
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.41921

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.04804095    0.08994424   -0.01898503   -1.42632619    0.32362842
        b.leg
   0.24646832

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.01189590
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1851912

$`Invader abundance`$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.29109

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.53857176   -0.06361510   -0.04335824   -0.12531460    0.93021793
     b.funcgr       b.grass         b.leg
  -0.53314224   -0.32274917   -0.13194821

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1676636

$`Invader abundance`$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.03216

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  -0.22851219    0.05024008    0.08061437    0.06446704  -14.86289205
     b.funcgr       b.grass         b.leg
   2.25089738    2.84219721    3.16774921

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3299815
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2989774
```

```
$`Invader abundance`$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.20703

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.46677146   -0.07765869   -0.03216412   -0.08813560    0.86002467
     b.funcgr       b.grass         b.leg
  -0.83772691   -0.20409047   -0.02626041

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03360188
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2132977

$`Invader abundance`$M1332
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 51.8033

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  -3.06324133    0.32394216    1.18141394   82.28886459   21.85153865
       b.leg d.(Intercept)      d.funcgr         d.leg
 -47.44499433    0.72391757   -0.08353662   -0.18371000

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0494803
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2085139

$`Invader abundance`$M1421
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 43.54543

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -7.00327421    0.13867722    3.14584406 1750.08547192   -7.77040726
      b.grass d.(Intercept)      d.funcgr       d.grass
-863.09808881   -0.05787106    0.02003169    0.20781047
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3687438
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2606909

$`Invader abundance`$M151
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.03919

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  -0.71311972   -0.04280351    0.21235215  154.16358571  -65.73402975
       b.leg d.(Intercept)       d.grass         d.leg
 -10.04856066    0.11409034    0.20155085   -0.06552941

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1652475

$`Invader abundance`$M1521
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 45.93036

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
-2.689393e+01  1.304132e+01  2.113955e-01  7.604110e+03 -3.789799e+03
       b.leg d.(Intercept)       d.grass         d.leg
-1.105012e+01  4.960164e-02  2.231372e-01 -4.754850e-02

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3595345
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2497796

$`Invader abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 2.197e-01 -1.809e-27
 residual sum-of-squares: 2.536
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 5.939e-08

$`Invader abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Invader abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
1.151e-28
 residual sum-of-squares: 6.3

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.372e-09

$`Invader abundance`$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 40.11754

Coefficients:
            a             b
 1.882089e-01 -1.532909e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05172093
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2341514

$`Invader abundance`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.79981

Coefficients:
           a            c
-0.775235528 -0.004168319
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3790989
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2679494

$`Invader abundance`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 43.20836

Coefficients:
           a            c
-0.770078973 -0.004080025

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05130422
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2246845

$`Invader abundance`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1768.036

Coefficients:
        a
-2.415134

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.88816
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1416940

$`Invader abundance`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.5105

Coefficients:
```

```
        a
-3.069749

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014182
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7079285

$`Invader abundance`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -1.920097

Coefficients:
           b
1.151439e-28

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3560951
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4228511

$`Invader abundance`$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: 4.865807

Coefficients:
           b
1.151439e-28

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05786626
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3770643

$`Invader abundance`$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: 11.00391

Coefficients:
         c
-0.7305366

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2148205
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2928547

$`Invader abundance`$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.51183

Coefficients:
        c
-0.811601

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04292147
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2877479

$`Invader abundance`$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
     -2963126        911706

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Invader abundance`$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.695

Coefficients:
```

```
c.(Intercept)         c.leg
    0.3438988    -0.7503805

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1998497

$`Invader abundance`$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 41.26493

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.687672739  -0.052484133  -0.002881459  -0.002035232

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3742735
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2614469

$`Invader abundance`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 45.52539

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.688344745  -0.045309377  -0.001729266  -0.003143998

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05068551
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2200353

$`Invader abundance`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1766.566

Coefficients:
a.(Intercept)         a.leg
   -2.1745485    -0.1374774
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.89503
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1386226

$`Invader abundance`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.4501

Coefficients:
a.(Intercept)         a.leg
   -3.6915954     0.3584942

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014214
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7116208

$`Invader abundance`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.20608

Coefficients:
c.(Intercept)         c.leg
    0.4395948    -0.7699244

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2217967
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2661401

$`Invader abundance`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 24.20597

Coefficients:
```

```
c.(Intercept)         c.leg
    0.4431009    -0.7919247

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04040003
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2579633

$`Invader abundance`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508714       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Invader abundance`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 8.491606

Coefficients:
c.(Intercept)       c.grass
   -1.3351941     0.2671049

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2208772

$`Invader abundance`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 42.25407

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.928306486   0.129727349   0.009783139  -0.013238877

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3580496
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2521647

$`Invader abundance`$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 47.01877

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.929791968   0.131945974   0.009743024  -0.013233999

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05031111
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2153709

$`Invader abundance`$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1767.522

Coefficients:
a.(Intercept)       a.grass
  -2.55864026    0.08200363

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.89056
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1411824

$`Invader abundance`$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.3425

Coefficients:
a.(Intercept)       a.grass
   -4.1052831     0.5970601

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
   expon
1.014318
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7100529

$`Invader abundance`$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 11.13965

Coefficients:
c.(Intercept)       c.grass
   -1.0395104     0.1703889

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2050308
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2899472

$`Invader abundance`$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.71487

Coefficients:
c.(Intercept)       c.grass
   -1.2203830     0.2292794

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04265491
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2881644

$`Invader abundance`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252095.8     -912137.6
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Invader abundance`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 13.66704

Coefficients:
c.(Intercept)      c.funcgr
   -1.1822421     0.2267671

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2073673

$`Invader abundance`$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 45.81655

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.677003919  -0.024301135  -0.018282488   0.003574789

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05139769
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2206001

$`Invader abundance`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1768.036

Coefficients:
a.(Intercept)      a.funcgr
     2.293596     -4.708730

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.88816
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1425766
```

```
$`Invader abundance`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.7024

Coefficients:
a.(Intercept)      a.funcgr
     3.673552     -6.349790

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021545
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6154255

$`Invader abundance`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.33890

Coefficients:
c.(Intercept)      c.funcgr
   -1.0879521     0.2061365

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1929917
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.267313

$`Invader abundance`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 21.53604

Coefficients:
c.(Intercept)      c.funcgr
   -1.1494337     0.2263834

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04149374
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2690151

$`Invader abundance`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.4     -990730.6     -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Invader abundance`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1766.566

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    2.5685513    -4.7430997    -0.1374774

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.89503
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1394972

$`Invader abundance`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.6891

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    3.9686351    -6.3865345    -0.1476168

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021569
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6190824
```

```
$`Invader abundance`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 25.09075

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   0.08860051    0.07610679   -0.65174044

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0398211
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2555317

$`Invader abundance`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.6     -839615.5      296563.3

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Invader abundance`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1767.522

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   2.12958922   -4.68822946    0.08200362

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.89056
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1420732

$`Invader abundance`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -794.6968

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.48229916   -6.32582543    0.09559537

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021555
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6192145

$`Invader abundance`$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Invader abundance`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2739.352

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 4.550016e-01  3.824826e-02 -1.244299e-01 -1.671282e-04  6.483160e-05
       b.leg c.(Intercept)       c.grass         c.leg
 1.766882e-05  1.000011e+00  9.999959e-01  9.999988e-01

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.462693
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.001896154

$`Invader abundance`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: 49.45979

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.801347675   0.135550858  -0.088151532   0.008757770  -0.015175787
       c.leg
  0.001997876

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.04984311
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2109377

$`Invader abundance`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1766.448

Coefficients:
a.(Intercept)       a.grass         a.leg
  -2.26951526    0.04070006   -0.12391071

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.89558
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1391824

$`Invader abundance`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.165

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.6465543     0.8307653     0.6548644

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014429
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7123082
```

```
$`Invader abundance`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.86188

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.6029478    -0.1165741    -0.7653157

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2064317
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.259694

$`Invader abundance`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 25.19821

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.6912315    -0.1620634    -0.7931793

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04032088
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2562944

$`Invader abundance`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292092.0     -918391.5      183181.3     -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Invader abundance`$Eg4611
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1766.448

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   2.46001782   -4.72953304    0.04070005   -0.12391072

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.89558
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1400717

$`Invader abundance`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.688

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   3.84221323   -6.37072032    0.04567755   -0.13008952

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021571
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6230196

$`Invader abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
 0.6022 -0.3072  0.1550
 residual sum-of-squares: 2.295

Number of iterations to convergence: 11
Achieved convergence tolerance: 2.866e-06

$`Invader abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.250758 -0.004793
 residual sum-of-squares: 2.393
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 1.430e-10

$`Invader abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.6949 -0.0696
 residual sum-of-squares: 2.302

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.388e-06

$`Invader abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
 0.3097 -0.2947
 residual sum-of-squares: 2.322

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.03e-06

$`Invader abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.388
 residual sum-of-squares: 10.87

Number of iterations to convergence: 16
Achieved convergence tolerance: 4.725e-06

$`Invader abundance`$Pb11
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 30.27011

Coefficients:
         a          b          c
 0.6021535 -0.3071771  0.1549520

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1704266

$`Invader abundance`$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
```

```
  Log-likelihood: 28.55619

Coefficients:
           a            b
 0.250758061 -0.004792753

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1729352

$`Invader abundance`$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 30.13368

Coefficients:
          a           c
-0.69489839 -0.06960382

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1696401

$`Invader abundance`$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 29.78818

Coefficients:
         b          c
 0.3097057 -0.2947488

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1703564

$`Invader abundance`$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -33.51072

Coefficients:
        c
-1.387611

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.366361

$`Invader abundance`$Pc121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 40.35215
```

```
Coefficients:
         a          b          c
 0.4463549 -0.1595320  0.2430347

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3705384
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2612421

$`Invader abundance`$Pc131
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 45.11403

Coefficients:
         a          b          c
 0.4565660 -0.1664563  0.2392683

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05095225
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2202416

$`Invader abundance`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.58775

Coefficients:
           a            b
 0.219798405 -0.003585873

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3806004
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2692427

$`Invader abundance`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
```

```
  Data: DF
  Log-likelihood: 42.97463

Coefficients:
           a            b
 0.225341330 -0.003541865

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05134829
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2254111

$`Invader abundance`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.60107

Coefficients:
          a           c
-0.67341011 -0.08345803

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3556401
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.256262

$`Invader abundance`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.82733

Coefficients:
          a           c
-0.66409766 -0.09471116

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05052622
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2215104
```

```
$`Invader abundance`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.77617

Coefficients:
         b          c
 0.3350423 -0.3643016

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3072863
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2438784

$`Invader abundance`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 36.14356

Coefficients:
         b          c
 0.3489759 -0.5070250

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03289137
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2090916

$`Invader abundance`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 8.496593

Coefficients:
        c
-0.872734

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7349819
```

```
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6535871

$`Invader abundance`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -4.439147

Coefficients:
        c
-1.046137

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06754658
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4589769

$`Invader abundance`$Pd61
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 30.47216

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.334886306  -0.024877669  -0.022998214   0.002586177   0.950513525
     c.funcgr
 -0.065539989

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1733301

$`Invader abundance`$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.40951

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.329927604  -0.029343753  -0.017308412   0.003515594

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1712243

$`Invader abundance`$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
```

```
  Log-likelihood: 30.16052

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.707741015   0.009028536  -0.062774310  -0.004499274

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.171745

$`Invader abundance`$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 29.91367

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.27563864    0.02688852   -0.22760621   -0.04409281

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1722628

$`Invader abundance`$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -32.67393

Coefficients:
c.(Intercept)      c.funcgr
   -2.0533833     0.2959445

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3649008

$`Invader abundance`$Pe621
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 41.38124

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
 0.3029607303 -0.0236047650 -0.0059872898  0.0007383095  1.4547741331
     c.funcgr
-0.1099692391

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3914348
Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.2713142

$`Invader abundance`$Pe631
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 45.96573

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.311832748  -0.023913670  -0.008152650   0.001042906   1.338836124
     c.funcgr
 -0.094651265

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05146487
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2232064

$`Invader abundance`$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.20443

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.317563066  -0.025127691  -0.016136583   0.003191292

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3877693
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2669348

$`Invader abundance`$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 45.8575

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.321984677  -0.025366830  -0.016541130   0.003271439

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05141859
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2205295

$`Invader abundance`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.85312

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.71712737    0.02334206   -0.06350915   -0.01016126

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3624853
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2613728

$`Invader abundance`$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.56813

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.73405610    0.03616619   -0.05556796   -0.01698256

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05085261
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2229386

$`Invader abundance`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 38.53071

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.23886600    0.06471418   -0.21923353   -0.07966958
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3289522
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2527224

$`Invader abundance`$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.77589

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.13600578    0.15785010   -0.08859434   -0.20082956

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04712211
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2261312

$`Invader abundance`$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 8.958299

Coefficients:
c.(Intercept)      c.funcgr
  -1.01814997    0.04865806

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7216424
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6411433

$`Invader abundance`$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -4.182259
```

```
Coefficients:
c.(Intercept)      c.funcgr
   -1.3155657     0.0710146

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06700493
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.458256

$`Invader abundance`$Pf111
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 32.65248

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass c.(Intercept)
   0.01246323    0.18392084    0.04580310   -0.04841561    1.46016543
      c.grass
  -0.42282426

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1687821

$`Invader abundance`$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.56315

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.060921396   0.136957262   0.009385455  -0.012442343

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1667858

$`Invader abundance`$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 31.75053

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
-0.8780006764  0.1103969138  0.0006062357 -0.0406280171

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1684469
```

```
$`Invader abundance`$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 31.3878

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.12053981    0.11105461   -0.13533294   -0.06973454

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1691937

$`Invader abundance`$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -33.45612

Coefficients:
c.(Intercept)       c.grass
   -1.7512639     0.2226676

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3683982

$`Invader abundance`$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.24589

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.367348662  -0.069728795  -0.002226355  -0.003299537

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1694867

$`Invader abundance`$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.98048

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.38687935   -0.18352827   -0.18833358    0.06448595

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1619408

$`Invader abundance`$Pg191
Generalized nonlinear least squares fit
```

```
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.617

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.64453474   -0.19511823   -0.46081723    0.05862756

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1626602

$`Invader abundance`$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -31.33639

Coefficients:
c.(Intercept)         c.leg
    0.3461394    -1.2994556

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3589970

$`Invader abundance`$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 36.48591

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.74196716   -0.08085495   -0.20605396   -0.04247883    0.00665702
        b.leg
   0.01260532

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1610733

$`Invader abundance`$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 35.82151

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.29330126   -0.04519313   -0.20575353   -0.18272442    0.01151563
        c.leg
   0.05964037

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1623837
```

```
$`Invader abundance`$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 36.03314

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.606486707  -0.002070936  -0.174474923   0.139433226  -0.118852294
       c.leg
 -0.162655265

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1619651

$`Invader abundance`$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -31.33605

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  0.371502130  -0.005913315  -1.308434410

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3612605

$`Invader abundance`$Pi261
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 32.91713

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.810997336   0.020617861   0.993457000   0.817768129   0.001028162
      b.grass c.(Intercept)      c.funcgr       c.grass
 -0.839826789   1.061651547   0.021512249  -0.508249447

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1716604

$`Invader abundance`$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.72635

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 0.0568018865  0.0048470791  0.1368367932  0.0038503489  0.0009098336
      b.grass
-0.0107404964
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1686302

$`Invader abundance`$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.28086

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.98693651    0.04177543    0.14131378    0.04795075   -0.01709286
      c.grass
  -0.05690232

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1695488

$`Invader abundance`$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.28284

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  -0.08027685    0.07968513    0.16941868    0.18680723   -0.11349684
      c.grass
  -0.17106800

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1695447

$`Invader abundance`$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -32.36455

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -2.9840753     0.4046579     0.4628305

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3658202

$`Invader abundance`$Pj311
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 35.96113

Coefficients:
```

```
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.62644521    0.36488683   -0.36160357   -0.25609047   -0.26999765
        b.leg c.(Intercept)       c.grass         c.leg
   0.22230622    0.15029902   -0.02564616    0.04504088

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1654049

$`Invader abundance`$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 35.06818

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.211907505   0.131319410  -0.090396796   0.008342197  -0.013768391
        b.leg
  0.001266285

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1638824

$`Invader abundance`$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 35.63367

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.54051894    0.07542841   -0.16684317   -0.11468758   -0.03678350
        c.leg
   0.05770076

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1627561

$`Invader abundance`$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 35.06263

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.52666596    0.04666181   -0.17349889   -0.45241915    0.02444973
        c.leg
   0.04997824

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1638935

$`Invader abundance`$Pj351
```

```
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -31.29572

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.5413296    -0.1156257    -1.3220242

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3610829

$`Invader abundance`$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 36.71996

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.624691484  -0.066163108   0.037170612  -0.184409728  -0.020357008
     b.funcgr       b.grass         b.leg
  0.003917047  -0.006774679   0.008214975

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1627702

$`Invader abundance`$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 36.23872

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.459401161  -0.025255999   0.056790821  -0.178382472  -0.021458703
     c.funcgr       c.grass         c.leg
 -0.007875366  -0.053316744   0.030532974

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1637283

$`Invader abundance`$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 36.9996

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.33098399    0.04054253    0.09658130   -0.13986018    1.18043035
     c.funcgr       c.grass         c.leg
  -0.26125736   -0.33538575   -0.33347420
```

```
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1622161

$`Invader abundance`$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -31.17508

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    1.9325895    -0.1990075    -0.4236287    -1.7021928

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3628559

$`Invader abundance`$Pm1121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 42.42333

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass c.(Intercept)
  -0.05037650    0.24254113    0.09448375   -0.09626433    1.81522301
      c.grass
  -0.68911776

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3604728
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2558531

$`Invader abundance`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.18275

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.073515985   0.125042409   0.008016638  -0.011098131

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3579639
Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.2523521

$`Invader abundance`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 46.96174

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.070209116   0.128894368   0.008104369  -0.011203394

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05032007
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2155373

$`Invader abundance`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.15715

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.78883988    0.07384008   -0.03833572   -0.02887602

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3358681
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2503161

$`Invader abundance`$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.25284

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.738973564   0.044413990  -0.076195327  -0.007767322

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
      expon
-0.04985922
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2218969

$`Invader abundance`$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 38.55335

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.20007863    0.07929307   -0.30412670   -0.01490977

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2918026
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2390957

$`Invader abundance`$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 38.29122

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.29353730    0.02802755   -0.84750757    0.26258246

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03967438
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2186506

$`Invader abundance`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 8.557915

Coefficients:
c.(Intercept)       c.grass
   -0.8147400    -0.0457785

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7336138
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6558344

$`Invader abundance`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -4.433769

Coefficients:
c.(Intercept)       c.grass
  -1.01642869   -0.02797205

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06750813
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4616539

$`Invader abundance`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.99492

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.298743334  -0.046613021  -0.001761901  -0.002341891

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3768088
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2632983

$`Invader abundance`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 45.23193

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
```

```
 0.2984515528 -0.0396607377 -0.0008158036 -0.0032827198

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05077733
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2209983

$`Invader abundance`$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.15542

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.34990756   -0.20756525   -0.21488556    0.08246755

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3448227
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2415940

$`Invader abundance`$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 48.69719

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.33708150   -0.21043306   -0.22848745    0.08741645

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0494622
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2094751

$`Invader abundance`$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.29265
```

```
Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    0.7492946    -0.2515664    -0.6667354     0.1829145

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2990622
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2309129

$`Invader abundance`$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.14902

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    0.8091815    -0.2787171    -0.9716606     0.3260912

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03473652
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2023969

$`Invader abundance`$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 10.34763

Coefficients:
c.(Intercept)         c.leg
   -0.4946436    -0.3184766

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7059934
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6158959

$`Invader abundance`$Pn2031
Generalized nonlinear least squares fit
```

```
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -2.959177

Coefficients:
c.(Intercept)         c.leg
   -0.1215847    -0.8989223

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06618317
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4482976

$`Invader abundance`$Pp2121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 47.06444

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.731900609  -0.075370031  -0.217215733  -0.024957840   0.002177117
       b.leg c.(Intercept)      c.funcgr         c.leg
  0.010331652   1.116923794  -0.143047205   0.313475037

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3696229
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2500662

$`Invader abundance`$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 46.6413

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.754060781  -0.079920835  -0.217718144  -0.043749592   0.006657424
       b.leg
  0.013757482

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
     power
-0.3602385
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2429406

$`Invader abundance`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 50.80888

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.740612710  -0.077819900  -0.209156810  -0.042672968   0.006541472
       b.leg
  0.013057536

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.04959603
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.207056

$`Invader abundance`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.9155

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.18916469   -0.04644753   -0.26095110   -0.27502109    0.01819533
       c.leg
   0.10311909

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3405568
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2409632

$`Invader abundance`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 48.98426

Coefficients:
```

```
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.266122291  -0.025560877  -0.231704014  -0.239340627   0.007489603
        c.leg
  0.090219468

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04906694
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2107554

$`Invader abundance`$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.81555

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.64446407    0.02388094   -0.21455454   -0.10939863   -0.11341270
        c.leg
  -0.01819977

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.303572
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2311695

$`Invader abundance`$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 45.80999

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.56237821    0.09185412   -0.20903260    0.11062056   -0.22723805
        c.leg
  -0.07450236

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04446559
Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.2105882

$`Invader abundance`$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 10.51697

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.28614192   -0.03840577   -0.39871699

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7098015
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6220096

$`Invader abundance`$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -2.462987

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.6423419    -0.1113610    -1.2335512

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06657737
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4499246

$`Invader abundance`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.66089

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.076943882   0.004811255   0.121049346   0.001683290   0.001004948
      b.grass
 -0.009075095

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3669896
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2575931

$`Invader abundance`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 47.46071

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.071523283   0.005966201   0.125508102   0.001488101   0.001046019
      b.grass
 -0.009133785

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0506212
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2175921

$`Invader abundance`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.2799

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -1.00835861    0.05601574    0.14973096    0.06816375   -0.02453366
      c.grass
  -0.06928831

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3438254
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2531123

$`Invader abundance`$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 45.97365
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -1.00525405    0.06742965    0.13836045    0.06473201   -0.03062228
      c.grass
  -0.06256849

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05004287
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2204766

$`Invader abundance`$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.11316

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   -0.3448916     0.1536346     0.2688783     0.7131279    -0.2275026
      c.grass
   -0.3869549

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3399824
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2521847

$`Invader abundance`$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 43.01545

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   -0.3339144     0.2182006     0.2252733     0.5564066    -0.2952986
      c.grass
   -0.2688959

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
```

```
-0.04687295
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2224389

$`Invader abundance`$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 8.990034

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -1.10297731    0.05878646    0.04319733

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7205282
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6438729

$`Invader abundance`$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -3.964087

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.9753290     0.1581112     0.3096115

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06687784
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4594204

$`Invader abundance`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 44.78195

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.196492807   0.126535135  -0.085288302   0.006717771  -0.012186934
       b.leg
  0.001707759
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3582216
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2477692

$`Invader abundance`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 49.30091

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.193026617   0.130338893  -0.082782212   0.007252526  -0.012392393
       b.leg
  0.001348527

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04988375
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2114206

$`Invader abundance`$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.68341

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.46334874    0.07627850   -0.20942265   -0.15508330   -0.04404392
       c.leg
   0.08509773

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3415551
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2420046

$`Invader abundance`$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
```

```
  Data: DF
  Log-likelihood: 48.97447

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.41702788    0.05235117   -0.21163406   -0.19016920   -0.02883295
        c.leg
   0.09023691

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04925354
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2111185

$`Invader abundance`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.4812

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
  0.708111731   0.009703086  -0.238226255  -0.703096917   0.049586930
        c.leg
  0.167742551

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2963200
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2324460

$`Invader abundance`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.48675

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.85619892   -0.04350173   -0.26717430   -1.25121982    0.25687070
        c.leg
   0.27014410

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
      expon
-0.03985363
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2107846

$`Invader abundance`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 10.35181

Coefficients:
c.(Intercept)       c.grass         c.leg
  -0.48284607   -0.01162401   -0.31575693

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7056322
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6194177

$`Invader abundance`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -2.778649

Coefficients:
c.(Intercept)       c.grass         c.leg
   -0.2063479     0.1515175    -0.9744229

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06642155
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4510561

$`Invader abundance`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 46.84857

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.776174517  -0.082647454  -0.007852252  -0.220787127  -0.036558090
     b.funcgr       b.grass         b.leg
```

```
  0.005773283  -0.002044155   0.012142087

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3625649
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2464298

$`Invader abundance`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 50.94663

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.693154335  -0.071849069   0.014540558  -0.199851089  -0.031594904
     b.funcgr       b.grass         b.leg
  0.005171200  -0.003313974   0.010770025

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04953642
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2093760

$`Invader abundance`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 45.28678

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.283895851  -0.035825698   0.033826188  -0.244978060  -0.159881072
     c.funcgr       c.grass         c.leg
  0.004723799  -0.038601205   0.081705168

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3400161
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2428995

$`Invader abundance`$Ps3831
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 49.27361

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.38812892   -0.01120230    0.04260621   -0.21164686   -0.12185627
     c.funcgr       c.grass         c.leg
  -0.00651053   -0.03936069    0.06887257

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04892602
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2125748

$`Invader abundance`$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 45.54622

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
 -0.003213657   0.136682055   0.227219740  -0.157069295   1.603625748
     c.funcgr       c.grass         c.leg
 -0.386059476  -0.591665215  -0.160257241

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3418101
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2427780

$`Invader abundance`$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 47.28533

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  -0.01290679    0.18135957    0.21354815   -0.16338695    1.77183934
     c.funcgr       c.grass         c.leg
  -0.47068837   -0.58851221   -0.21576149

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04665023
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2135781

$`Invader abundance`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 10.95581

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    0.3715612    -0.1197887    -0.1884820    -0.5465698

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7104753
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6232662

$`Invader abundance`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -2.209384

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    1.9667590    -0.2649226    -0.3764372    -1.5687500

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06654936
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4512928

$`Invader abundance`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
    Asym       R0      lrc
 0.02133  0.29604 -2.75052
 residual sum-of-squares: 2.312
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 8.803e-06

$`Invader abundance`$BIEXP
Nonlinear regression model
  model:  response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
   data:  DF
     A1    lrc1      A2    lrc2
 0.3584  0.6365  0.2597 -3.1622
 residual sum-of-squares: 2.292

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.807e-06


$`Mycorrhiza species richness`
$`Mycorrhiza species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      1.801373        0.083645       -0.026957        0.021404
0.008348
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.412400       -0.840267       -0.405923        0.001045       -
0.004643
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.003388        0.247349        0.074420        0.217500


$`Mycorrhiza species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.218492     0.002933     0.047786     0.098950


$`Mycorrhiza species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.5110 0.1226
 residual sum-of-squares: 2.822

Number of iterations to convergence: 6
```

```
Achieved convergence tolerance: 1.955e-06

$`Mycorrhiza species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.5110 0.1226
 residual sum-of-squares: 2.822

Number of iterations to convergence: 5
Achieved convergence tolerance: 6.473e-06

$`Mycorrhiza species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.3852 37.6075  0.4336
 residual sum-of-squares: 2.643

Number of iterations to convergence: 10
Achieved convergence tolerance: 5.1e-07

$`Mycorrhiza species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
4.835e-01 1.280e-27
 residual sum-of-squares: 2.784

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.687e-08

$`Mycorrhiza species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.792e-20

$`Mycorrhiza species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
5.513e-27
 residual sum-of-squares: 20.08
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 3.044e-09

$`Mycorrhiza species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.43059 0.01744 0.64943
 residual sum-of-squares: 2.664

Number of iterations to convergence: 46
Achieved convergence tolerance: 9.603e-06

$`Mycorrhiza species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.456963 0.003994
 residual sum-of-squares: 2.679

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.551e-10

$`Mycorrhiza species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.56583  0.03604
 residual sum-of-squares: 2.719

Number of iterations to convergence: 9
Achieved convergence tolerance: 3.814e-07

$`Mycorrhiza species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.4327 0.0809
 residual sum-of-squares: 2.712

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.267e-06

$`Mycorrhiza species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3848
 residual sum-of-squares: 9.692
```

```
Number of iterations to convergence: 12
Achieved convergence tolerance: 8.646e-06

$`Mycorrhiza species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.6817  0.4309 -3.1654
 residual sum-of-squares: 2.637

Number of iterations to convergence: 18
Achieved convergence tolerance: 8.598e-06

$`Mycorrhiza species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.6818  -3.1655 -23.6945
 residual sum-of-squares: 2.637

Number of iterations to convergence: 14
Achieved convergence tolerance: 8.431e-06

$`Mycorrhiza species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.4893 1.9651
 residual sum-of-squares: 2.846

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.289e-06

$`Mycorrhiza species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.6688 -8.9144 15.2449
 residual sum-of-squares: 2.63

Number of iterations to convergence: 18
Achieved convergence tolerance: 9.797e-06


$`Aboveground herbivore species richness`
$`Aboveground herbivore species richness`$L0

Call:
```

```
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      3.542690       -0.049192       -0.145620       -0.013189
0.025763
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.565416       -1.373447       -1.547001       -0.003388
0.007026
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.010016        0.146057        0.217942        0.570139


$`Aboveground herbivore species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.541702     0.009016     0.010269    -0.205594


$`Aboveground herbivore species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
    a     b
0.811 6.987
 residual sum-of-squares: 1.354

Number of iterations to convergence: 15
Achieved convergence tolerance: 6.603e-06

$`Aboveground herbivore species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
   Vm     k
0.811 6.988
 residual sum-of-squares: 1.354

Number of iterations to convergence: 12
Achieved convergence tolerance: 5.025e-06

$`Aboveground herbivore species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 1.1572 40.0162  0.1715
```

```
 residual sum-of-squares: 1.098

Number of iterations to convergence: 6
Achieved convergence tolerance: 8.631e-06

$`Aboveground herbivore species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
3.178e-01 4.857e-27
 residual sum-of-squares: 1.793

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.452e-08

$`Aboveground herbivore species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground herbivore species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
7.64e-27
 residual sum-of-squares: 6.44

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.903e-08

$`Aboveground herbivore species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.07643 0.11129 0.47917
 residual sum-of-squares: 1.085

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.311e-07

$`Aboveground herbivore species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
      a       b
```

```
0.23483 0.01171
 residual sum-of-squares: 1.234

Number of iterations to convergence: 1
Achieved convergence tolerance: 9.27e-10

$`Aboveground herbivore species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.8503  0.1169
 residual sum-of-squares: 1.184

Number of iterations to convergence: 8
Achieved convergence tolerance: 3.12e-06

$`Aboveground herbivore species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.1734 0.3880
 residual sum-of-squares: 1.092

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.723e-06

$`Aboveground herbivore species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.3583
 residual sum-of-squares: 15.11

Number of iterations to convergence: 14
Achieved convergence tolerance: 5.685e-06

$`Aboveground herbivore species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.9883  0.1772 -3.4479
 residual sum-of-squares: 1.101

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.077e-07

$`Aboveground herbivore species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
```

```
   Asym     lrc      c0
 0.9883 -3.4479 -6.2111
 residual sum-of-squares: 1.101

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.08e-07

$`Aboveground herbivore species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.7294 -2.2898
 residual sum-of-squares: 1.551

Number of iterations to convergence: 33
Achieved convergence tolerance: 9.188e-06

$`Aboveground herbivore species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.8811 13.1636 10.8363
 residual sum-of-squares: 1.122

Number of iterations to convergence: 2
Achieved convergence tolerance: 2.494e-06


$`Aboveground carnivore species richness`
$`Aboveground carnivore species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      5.429105       -0.156202       -0.104682        0.009385       -
0.077174
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.873498       -2.091119       -2.278339        0.008375
0.024366
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.026581        0.269358        0.264119        0.870962


$`Aboveground carnivore species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)      sowndiv       funcgr          leg
    0.81312      0.00748     -0.01456     -0.20032


$`Aboveground carnivore species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.7875 1.2819
 residual sum-of-squares: 2.042

Number of iterations to convergence: 6
Achieved convergence tolerance: 6.784e-06

$`Aboveground carnivore species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.7875 1.2819
 residual sum-of-squares: 2.042

Number of iterations to convergence: 6
Achieved convergence tolerance: 2.215e-06

$`Aboveground carnivore species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
     a      b      d
0.6395 9.6391 0.3349
 residual sum-of-squares: 1.911

Number of iterations to convergence: 10
Achieved convergence tolerance: 4.073e-06

$`Aboveground carnivore species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a        b
5.393e-01 3.364e-27
 residual sum-of-squares: 2.670

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.622e-09

$`Aboveground carnivore species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
```

```
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground carnivore species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
8.086e-27
 residual sum-of-squares: 16.05

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.72e-09

$`Aboveground carnivore species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
-0.5644  0.9508  0.1076
 residual sum-of-squares: 1.885

Number of iterations to convergence: 16
Achieved convergence tolerance: 1.334e-06

$`Aboveground carnivore species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.471926 0.009014
 residual sum-of-squares: 2.21

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.713e-09

$`Aboveground carnivore species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.6141  0.1032
 residual sum-of-squares: 1.885

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.247e-06

$`Aboveground carnivore species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
```

```
   data:  DF
     b      c
0.3977 0.2085
 residual sum-of-squares: 1.891

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.128e-06

$`Aboveground carnivore species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.1519
 residual sum-of-squares: 9.702

Number of iterations to convergence: 10
Achieved convergence tolerance: 8.666e-06

$`Aboveground carnivore species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.9103  0.3763 -2.6824
 residual sum-of-squares: 1.937

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.383e-06

$`Aboveground carnivore species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.9103 -2.6824 -7.7979
 residual sum-of-squares: 1.937

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.399e-06

$`Aboveground carnivore species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.7027 -0.4829
 residual sum-of-squares: 2.278

Number of iterations to convergence: 15
Achieved convergence tolerance: 6.976e-06

$`Aboveground carnivore species richness`$LG2
Nonlinear regression model
```

```
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
0.9086 2.2419 9.9254
 residual sum-of-squares: 1.965

Number of iterations to convergence: 5
Achieved convergence tolerance: 6.799e-06


$`Aboveground omnivore species richness`
$`Aboveground omnivore species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     1.2588258      -0.0373488      -0.1012202       0.0191073      -
0.0114090
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
    -0.1216172       0.0400796      -0.7112026      -0.0002074
0.0234268
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -0.0083184      -0.1584131       0.2065219       0.1351638


$`Aboveground omnivore species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.975284     0.003096    -0.077447    -0.255278


$`Aboveground omnivore species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.4929 0.1468
 residual sum-of-squares: 2.261

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.888e-06

$`Aboveground omnivore species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
```

```
   data:  DF
    Vm      k
0.4929 0.1468
 residual sum-of-squares: 2.261

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.083e-06

$`Aboveground omnivore species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.2128 20.1657  0.4123
 residual sum-of-squares: 2.186

Number of iterations to convergence: 9
Achieved convergence tolerance: 2.921e-06

$`Aboveground omnivore species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
4.591e-01 7.446e-28
 residual sum-of-squares: 2.263

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.282e-08

$`Aboveground omnivore species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground omnivore species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
4.765e-27
 residual sum-of-squares: 11.96

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.452e-08

$`Aboveground omnivore species richness`$Pa1
Nonlinear regression model
```

```
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a       b       c
0.39352 0.03213 0.42307
 residual sum-of-squares: 2.199

Number of iterations to convergence: 47
Achieved convergence tolerance: 9.933e-06

$`Aboveground omnivore species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a       b
0.439347 0.002439
 residual sum-of-squares: 2.216

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.904e-09

$`Aboveground omnivore species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a       c
-0.58117  0.02924
 residual sum-of-squares: 2.21

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.413e-06

$`Aboveground omnivore species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b       c
0.41847 0.06676
 residual sum-of-squares: 2.208

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.796e-06

$`Aboveground omnivore species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
       c
-0.3272
 residual sum-of-squares: 8.423

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.322e-06

$`Aboveground omnivore species richness`$AS1
```

```
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.5673  0.4100 -2.7219
 residual sum-of-squares: 2.181

Number of iterations to convergence: 40
Achieved convergence tolerance: 9.847e-06

$`Aboveground omnivore species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.5674  -2.7221 -19.5121
 residual sum-of-squares: 2.181

Number of iterations to convergence: 25
Achieved convergence tolerance: 8.746e-06

$`Aboveground omnivore species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.4741 1.0713
 residual sum-of-squares: 2.282

Number of iterations to convergence: 3
Achieved convergence tolerance: 2.584e-06

$`Aboveground omnivore species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
    Asym     xmid     scal
  0.5653 -11.3956  11.7725
 residual sum-of-squares: 2.178

Number of iterations to convergence: 44
Achieved convergence tolerance: 8.336e-06


$`Parasitoid species richness`
$`Parasitoid species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
```

```
     1.3918128      -0.0959923      -0.1500167      -0.0030301
0.0416670
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
    -0.1637666      -0.3441796      -0.2710549      -0.0047511      -
0.0006327
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -0.0143749       0.0786142       0.0076970       0.0426012


$`Parasitoid species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.733584     0.007586    -0.019561    -0.187555


$`Parasitoid species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.6457 0.9254
 residual sum-of-squares: 1.835

Number of iterations to convergence: 6
Achieved convergence tolerance: 7.932e-06

$`Parasitoid species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.6457 0.9253
 residual sum-of-squares: 1.835

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.306e-06

$`Parasitoid species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a        b        d
  1.4177 103.3241   0.3831
 residual sum-of-squares: 1.44

Number of iterations to convergence: 8
Achieved convergence tolerance: 6.492e-06

$`Parasitoid species richness`$E2
```

```
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
4.638e-01 3.885e-27
 residual sum-of-squares: 1.680

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.057e-09

$`Parasitoid species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Parasitoid species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
7.946e-27
 residual sum-of-squares: 11.57

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.214e-09

$`Parasitoid species richness`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.35598 0.03326 0.68231
 residual sum-of-squares: 1.433

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.989e-06

$`Parasitoid species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
      a       b
0.40395 0.00876
 residual sum-of-squares: 1.457

Number of iterations to convergence: 1
Achieved convergence tolerance: 5.614e-10
```

```
$`Parasitoid species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.65174  0.08668
 residual sum-of-squares: 1.553

Number of iterations to convergence: 8
Achieved convergence tolerance: 6.311e-06

$`Parasitoid species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.3494 0.2052
 residual sum-of-squares: 1.512

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.041e-06

$`Parasitoid species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.2351
 residual sum-of-squares: 9.827

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.209e-06

$`Parasitoid species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 1.2497  0.3842 -4.1777
 residual sum-of-squares: 1.440

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.802e-06

$`Parasitoid species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
  1.250  -4.178 -23.958
 residual sum-of-squares: 1.440

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.821e-06
```

```
$`Parasitoid species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
     Asym       lrc
 0.568112 -0.004174
 residual sum-of-squares: 2.031

Number of iterations to convergence: 12
Achieved convergence tolerance: 5.773e-06

$`Parasitoid species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.9936  9.5018 21.6578
 residual sum-of-squares: 1.444

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.368e-07


$`Pollinator species richness`
$`Pollinator species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      3.774504       -0.146067       -0.252304       -0.065976
0.048946
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.604833       -1.387454       -1.700949       -0.008840
0.003963
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.012843        0.174636        0.232653        0.633571


$`Pollinator species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.875319     0.005249    -0.032371    -0.288501
```

```
$`Pollinator species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.6529 1.7491
 residual sum-of-squares: 2.138

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.771e-06

$`Pollinator species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.6529 1.7491
 residual sum-of-squares: 2.138

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.336e-06

$`Pollinator species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
     a      b      d
0.5437 5.1878 0.1811
 residual sum-of-squares: 2.088

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.133e-06

$`Pollinator species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
       a         b
4.203e-01 2.157e-27
 residual sum-of-squares: 2.897

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.189e-08

$`Pollinator species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20
```

```
$`Pollinator species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
5.838e-27
 residual sum-of-squares: 11.02

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.382e-08

$`Pollinator species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.364358 0.006952
 residual sum-of-squares: 2.524

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.732e-09

$`Pollinator species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.71962  0.09106
 residual sum-of-squares: 2.120

Number of iterations to convergence: 7
Achieved convergence tolerance: 5.532e-06

$`Pollinator species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b      c
0.2985 0.2243
 residual sum-of-squares: 2.152

Number of iterations to convergence: 8
Achieved convergence tolerance: 3.038e-06

$`Pollinator species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.2713
 residual sum-of-squares: 12.48

Number of iterations to convergence: 11
```

```
Achieved convergence tolerance: 9.727e-06

$`Pollinator species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.6510  0.2154 -1.9354
 residual sum-of-squares: 2.089

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.955e-06

$`Pollinator species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
  Asym    lrc     c0
 0.651 -1.935 -2.783
 residual sum-of-squares: 2.089

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.969e-06

$`Pollinator species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.5931 -0.9086
 residual sum-of-squares: 2.259

Number of iterations to convergence: 9
Achieved convergence tolerance: 5.317e-06

$`Pollinator species richness`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
0.6234 1.8274 3.3834
 residual sum-of-squares: 2.097

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.943e-06

$`Invader species richness`
$`Invader species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
```

```
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
    -0.8696588      -0.0741752      -0.0763104      -0.0870208
0.0287076
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     0.1641398       0.8386769       0.4239302      -0.0005527      -
0.0206278
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -0.0100043      -0.0929594      -0.0273729      -0.2326095


$`Invader species richness`$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 49.34961

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
 -0.8755590223  -0.0364875483  -0.0259437467  -0.0313083836
0.0174771973
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  0.1679137338   0.8850495455   0.3960277132   0.0005156306  -
0.0171791223
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
 -0.0062638686  -0.1182599297  -0.0151106133  -0.2504513006

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
2.677272
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.05314511

$`Invader species richness`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 47.23053

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  -1.059376314   -0.021027002    0.001390864   -0.009293654
0.028430914
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.189198945    0.965782179    0.421379116   -0.001073868   -
0.019028230
```

```
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.008825354   -0.134342737   -0.003999912   -0.265886656

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3902477
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2427882

$`Invader species richness`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 52.31982

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  -0.957393444    0.013686513    0.100197677    0.031931240
0.009492330
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.164051251    0.913646299    0.342664292    0.001263172   -
0.015253015
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.002851171   -0.131801439    0.005157409   -0.234921059

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.08868277
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2737306

$`Invader species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.856929    -0.005806    -0.101818    -0.168073


$`Invader species richness`$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 30.44476
```

```
Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.772691168 -0.003966816 -0.090492733 -0.140033771

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   power
0.740228
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4013454

$`Invader species richness`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 31.62189

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.678468103 -0.004035291 -0.074440144 -0.110156946

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
4.647493
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.03661918

$`Invader species richness`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 29.75327

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.729383569 -0.004077178 -0.078861611 -0.154818799

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3722554
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2925442

$`Invader species richness`$L222
Generalized least squares fit by maximum likelihood
```

```
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 27.85592

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.801428372 -0.003787894 -0.095387170 -0.161872261

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03068574
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2242045

$`Invader species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
       a       b
 0.2614 -0.5167
 residual sum-of-squares: 3.486

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.604e-06

$`Invader species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.2614 -0.5167
 residual sum-of-squares: 3.486

Number of iterations to convergence: 6
Achieved convergence tolerance: 4.148e-06

$`Invader species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a       b       d
-0.6166  5.3995  0.6237
 residual sum-of-squares: 2.838

Number of iterations to convergence: 9
Achieved convergence tolerance: 8.74e-07

$`Invader species richness`$M211
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
```

```
  Log-likelihood: 32.39396

Coefficients:
         a          b          d
-0.6148211  6.4549092  0.6007534

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3712023
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.288151

$`Invader species richness`$M222
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 30.84111

Coefficients:
         a          b          d
-0.6273309  6.7207306  0.6022064

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03227654
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2232846

$`Invader species richness`$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 14.23710

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.31338494   -0.03713824   -0.60983174    0.04202515

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2085542

$`Invader species richness`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 17.32547

Coefficients:
```

```
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.24293979   -0.01112464   -0.72898638    0.08093060

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1836267
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2637877

$`Invader species richness`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 14.33456

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.29736029   -0.02995577   -0.63499497    0.05284561

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002618793
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2130429

$`Invader species richness`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 25.14466

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  -0.02753018    0.21050859   -0.70480736    0.18272411

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1825784

$`Invader species richness`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 26.25377

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  -0.06552824    0.22344803   -0.82735139    0.23278602
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01025615
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1967053

$`Invader species richness`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: -38.46439

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   -1.1594272     0.3807862   -78.8806130    23.4563579

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3965887

$`Invader species richness`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.24935

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.33888495   -0.05975709    0.23481253   -0.70373143

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3034175
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2792091

$`Invader species richness`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.79522

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.37237642   -0.07647321    0.35142898   -0.77577462

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
      expon
-0.02749054
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2321671

$`Invader species richness`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.8594

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.66146237   -0.09926636   -0.14154427    0.43150520   -0.63514914
        b.leg
  -0.11597899

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1856097

$`Invader species richness`$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.77305

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
    0.5803347    -0.0903548    -0.1176348     0.3589807    -0.7072431
        b.leg
   -0.0673866

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2949823
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2611419

$`Invader species richness`$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.62458

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.62153896   -0.10701614   -0.12245165    0.50662297   -0.77955051
        b.leg
  -0.08640912
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02533785
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2176894

$`Invader species richness`$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.21946

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.06034288   -0.02424396    0.15957061    0.07991952   -0.58888938
      b.grass
   0.06032706

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1759984

$`Invader species richness`$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.07311

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.08075086   -0.02780305    0.13343584    0.17854639   -0.67847707
      b.grass
   0.02333110

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2709792
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2420598

$`Invader species richness`$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.10838

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.09730423   -0.04009736    0.13982871    0.24214926   -0.72896584
```

```
      b.grass
   0.03768198

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02274148
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2040353

$`Invader species richness`$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 25.50035

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  -0.01308350    0.20979853   -0.01034301   -0.89517590    0.22254734
       b.leg
   0.06583228

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1841646

$`Invader species richness`$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 30.05757

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 -0.052966270   0.198753104   0.006670851  -1.076495311   0.239135801
       b.leg
  0.115837171

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2230148
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2425815

$`Invader species richness`$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 26.65086
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  -0.10033544    0.22814802    0.01843387   -1.10353748    0.27707688
        b.leg
   0.12433801

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01165125
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2007036

$`Invader species richness`$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.6004

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.230361602  -0.045192955   0.125533370  -0.050483230   0.309723030
     b.funcgr       b.grass         b.leg
 -0.608686373   0.004682253  -0.062427634

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1775342

$`Invader species richness`$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.55591

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.23581701   -0.04714367    0.10381128   -0.04741346    0.36776081
     b.funcgr       b.grass         b.leg
  -0.69645559   -0.01493465   -0.05908719

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
-0.27264
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2444710

$`Invader species richness`$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
```

```
  Data: DF
  Log-likelihood: -20.1709

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.154742277  -0.012688615  -0.068472733   0.009060244   3.091674011
     b.funcgr       b.grass         b.leg
 -0.875700261  -3.081295756   0.068947882

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04443995
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.4770702

$`Invader species richness`$M111
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.75786

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
    0.2105159    -0.5871141     0.7620374     9.5745325     0.1071789
      d.grass
    0.2656661

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1685654

$`Invader species richness`$M1132
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.0249

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
   0.17213565   -0.56687186    9.97150692    4.93267526    0.06837465
      d.grass
   0.28511332

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02970084
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1966644
```

```
$`Invader species richness`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.14295

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.68750113    0.04952297   10.54774181   -1.11372183    0.61790043
     d.funcgr
  -0.02922212

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1918615

$`Invader species richness`$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.3862

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.78583177    0.09067713    9.63876241    1.28935836    0.65653564
     d.funcgr
  -0.06926793

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3772727
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2928772

$`Invader species richness`$M1232
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.48695

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.76996288    0.08060100   10.59586748    0.58532421    0.64321828
     d.funcgr
  -0.05947297

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03223497
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2257823

$`Invader species richness`$M131
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.67949

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   -2.6141507     0.3664406     0.7370165    81.3561071    -7.1368400
        b.leg d.(Intercept)      d.funcgr         d.leg
  -30.6265476     0.9753803    -0.1203790    -0.1568531

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1807648

$`Invader species richness`$M1321
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 39.9969

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.61517821   -0.14172470   -0.49427271  -15.68682841    5.87811699
        b.leg d.(Intercept)      d.funcgr         d.leg
   7.67227313    0.50431680   -0.03986849    0.03842124

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3755647
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2749904

$`Invader species richness`$M1332
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.25412

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   -2.4565512     0.3408683     0.6925005    77.5155909    -6.3746884
        b.leg d.(Intercept)      d.funcgr         d.leg
  -29.6652322     0.9838190    -0.1241351    -0.1587125

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
      expon
-0.03131458
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2104567

$`Invader species richness`$M141
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.08728

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.042606968  -0.020707395  -0.346630180  12.216629190  -1.532412675
      b.grass d.(Intercept)      d.funcgr       d.grass
  0.443001572  -0.002119850   0.044553531   0.306208239

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1713046

$`Invader species richness`$M1432
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.58411

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.346249988  -0.028277111  -0.700274393 -23.087422778   2.758196149
      b.grass d.(Intercept)      d.funcgr       d.grass
 22.083331706   0.305506157  -0.009116099   0.168999831

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02958036
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1990949

$`Invader species richness`$M151
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.97925

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 -0.074534284  -0.477019360   0.115727765  22.376641570   2.726468809
       b.leg d.(Intercept)       d.grass         d.leg
 -9.756980404   0.094377905   0.288504761  -0.001676065
```

```
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1694513

$`Invader species richness`$M1521
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 45.848

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.03156529   -0.55700289    0.11398264   26.52481431    3.80375048
       b.leg d.(Intercept)       d.grass         d.leg
 -12.85946621    0.02898520    0.30385442    0.02362958

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3671795
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2528845

$`Invader species richness`$M1532
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.51194

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 -0.027212016  -0.520447833   0.121713545  24.535028423   3.243172328
       b.leg d.(Intercept)       d.grass         d.leg
-11.259857028   0.069752128   0.294602237   0.006246683

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02970589
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1970671

$`Invader species richness`$M161
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.50523

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 -2.309110462   0.350051853  -0.139943157   0.637271542 154.449334110
```

```
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
-17.370532774 -24.792560766 -36.930582097   0.101832000  -0.009206486
      d.grass         d.leg
  0.295591080  -0.023308855

Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1719379

$`Invader species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 3.587e-01 -2.821e-27
 residual sum-of-squares: 4.103

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.286e-08

$`Invader species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Invader species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
3.199e-28
 residual sum-of-squares: 14.14

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.304e-08

$`Invader species richness`$E21
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 16.35315

Coefficients:
           a             b
 2.618194e-01 -1.972752e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
    power
-0.450275
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3915858

$`Invader species richness`$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 13.98649

Coefficients:
            a             b
 3.124052e-01 -2.415707e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03410473
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2768284

$`Invader species richness`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 23.21724

Coefficients:
         a          c
-0.6550308 -0.0068674

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3996771
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3340797

$`Invader species richness`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 21.20065

Coefficients:
           a            c
-0.615932071 -0.007323298
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03278747
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2506634

$`Invader species richness`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1768.39

Coefficients:
        a
-2.208674

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.88650
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1426569

$`Invader species richness`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.4686

Coefficients:
        a
-2.857788

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014251
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7071498

$`Invader species richness`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -1715.803

Coefficients:
```

```
        b
0.1463439

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.39585
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1556430

$`Invader species richness`$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -29.16024

Coefficients:
           b
3.198725e-28

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04616619
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.5164188

$`Invader species richness`$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 8.6749

Coefficients:
         c
-0.2294122

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3137089
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3489355

$`Invader species richness`$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: 7.984434

Coefficients:
         c
-0.2886913

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02739641
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2794404

$`Invader species richness`$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
     -2963126        911706

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Invader species richness`$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 9.940523

Coefficients:
c.(Intercept)         c.leg
   0.07027172   -0.27978125

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2170086

$`Invader species richness`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 25.08048

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.65560671    0.05808522    0.01117756   -0.01890015

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
      expon
-0.03262556
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2417888

$`Invader species richness`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1768.089

Coefficients:
a.(Intercept)         a.leg
  -2.09791148   -0.06329274

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.88791
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1427223

$`Invader species richness`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.392

Coefficients:
a.(Intercept)         a.leg
    -3.557476      0.403380

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014299
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7105965

$`Invader species richness`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 14.62785

Coefficients:
c.(Intercept)         c.leg
   0.04724133   -0.22411372
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2598078
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3014128

$`Invader species richness`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 15.01052

Coefficients:
c.(Intercept)         c.leg
   0.09369032   -0.28107660

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0261203
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2552798

$`Invader species richness`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508714       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Invader species richness`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 5.873459

Coefficients:
c.(Intercept)       c.grass
   -0.7107069     0.2352284

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2280433
```

```
$`Invader species richness`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 42.18982

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -1.11257729    0.36126322    0.02479703   -0.02891492

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3590787
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2527482

$`Invader species richness`$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 39.69403

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -1.09315945    0.35459464    0.02532085   -0.02961015

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02997079
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1977609

$`Invader species richness`$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1765.168

Coefficients:
a.(Intercept)       a.grass
   -2.5613818     0.2015474

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.90156
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1349648

$`Invader species richness`$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.2233

Coefficients:
a.(Intercept)       a.grass
   -4.1066329     0.7200957

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014469
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7081031

$`Invader species richness`$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 12.40135

Coefficients:
c.(Intercept)       c.grass
   -0.4722994     0.1557393

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3227594
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3400491

$`Invader species richness`$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 10.93501

Coefficients:
c.(Intercept)       c.grass
   -0.6457749     0.2191184

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
      expon
-0.02658537
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2693615

$`Invader species richness`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252096.1     -912137.6

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Invader species richness`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.719322

Coefficients:
c.(Intercept)      c.funcgr
   -0.4535248     0.0614036

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2312757

$`Invader species richness`$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 30.93506

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.361463110  -0.091661133  -0.039336297   0.008713791

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03234552
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2245870

$`Invader species richness`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -1768.39

Coefficients:
a.(Intercept)      a.funcgr
     2.478558     -4.687232

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.88650
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1435456

$`Invader species richness`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.6692

Coefficients:
a.(Intercept)      a.funcgr
     3.874402     -6.339405

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021634
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6147121

$`Invader species richness`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 9.415064

Coefficients:
c.(Intercept)      c.funcgr
  -0.31494618    0.03079770

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2776935
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3298388
```

```
$`Invader species richness`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 9.885686

Coefficients:
c.(Intercept)      c.funcgr
   -0.4188951     0.0572270

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0268367
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2734199

$`Invader species richness`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.7     -990730.7     -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Invader species richness`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1768.089

Coefficients:
a.(Intercept)      a.funcgr         a.leg
   2.60514365   -4.70305511   -0.06329275

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.88791
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1436228

$`Invader species richness`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -794.6631

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    4.0755148    -6.3644827    -0.1005894

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021644
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6184893

$`Invader species richness`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 15.31406

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   0.18948785   -0.02097112   -0.31658809

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.02635913
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2564666

$`Invader species richness`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.7     -839615.5      296563.5

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Invader species richness`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1765.168
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass
    2.0754633    -4.6368451     0.2015474

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.90156
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1358163

$`Invader species richness`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.6393

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    3.4300182    -6.2835356     0.2220201

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021687
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6180783

$`Invader species richness`$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394677       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Invader species richness`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2712.751

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 1.419691e-01  2.012095e-01  8.611878e-03  1.071776e-04  4.652869e-05
```

```
        b.leg c.(Intercept)       c.grass         c.leg
-1.006911e-04  9.999935e-01  9.999970e-01  1.000006e+00

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.423157
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.001924846

$`Invader species richness`$Ef3911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 43.4042

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -1.057936251   0.342852252  -0.011580879   0.027034455  -0.027627968
       c.leg
 -0.004010485

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.3622474
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2534778

$`Invader species richness`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 40.65308

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -1.045465471   0.333136267  -0.002225989   0.028542689  -0.027713348
       c.leg
 -0.005629043

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.02983964
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1977937
```

```
$`Invader species richness`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1765.167

Coefficients:
a.(Intercept)       a.grass         a.leg
 -2.571592378   0.203006099   0.004375961

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.90156
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1358126

$`Invader species richness`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.985

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.8867231     0.9899655     0.7564188

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014643
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7094427

$`Invader species richness`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 17.78622

Coefficients:
c.(Intercept)       c.grass         c.leg
   -0.1508073     0.1095076    -0.1949573

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2899755
```

```
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3052221

$`Invader species richness`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.9982

Coefficients:
c.(Intercept)       c.grass         c.leg
   -0.1003633     0.1106902    -0.2632032

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02590937
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2502846

$`Invader species richness`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292091.9     -918391.5      183181.4     -199834.2

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Invader species richness`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1765.167

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
  2.063794081  -4.635386417   0.203006089   0.004375951

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.90156
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1366804
```

```
$`Invader species richness`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.6391

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   3.47998058   -6.28977955    0.21509253   -0.01805433

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021688
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6220253

$`Invader species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.417129 -0.008632
 residual sum-of-squares: 3.507

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.236e-09

$`Invader species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.4553 -0.1624
 residual sum-of-squares: 2.866

Number of iterations to convergence: 9
Achieved convergence tolerance: 3.763e-07

$`Invader species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
 0.5529 -0.3708
 residual sum-of-squares: 2.926

Number of iterations to convergence: 9
Achieved convergence tolerance: 4.003e-06

$`Invader species richness`$Pa5
Nonlinear regression model
```

```
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.7758
 residual sum-of-squares: 6.844

Number of iterations to convergence: 11
Achieved convergence tolerance: 1.481e-06

$`Invader species richness`$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 12.88056

Coefficients:
           a            b
 0.417129359 -0.008631752

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2093658

$`Invader species richness`$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 21.15601

Coefficients:
         a          c
-0.4553454 -0.1624136

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1892678

$`Invader species richness`$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 20.30381

Coefficients:
         b          c
 0.5529273 -0.3707754

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1912450

$`Invader species richness`$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -14.53352
```

```
Coefficients:
         c
-0.7758186

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2906704

$`Invader species richness`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 22.21624

Coefficients:
           a            b
 0.326729178 -0.005179762

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4159826
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3464691

$`Invader species richness`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 20.10696

Coefficients:
           a            b
 0.369223372 -0.005640003

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03318851
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2549052

$`Invader species richness`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.50991

Coefficients:
         a          c
-0.4387390 -0.1772267
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3794411
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2894586

$`Invader species richness`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 30.55208

Coefficients:
         a          c
-0.4448249 -0.1766571

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03242523
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2229526

$`Invader species richness`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.11980

Coefficients:
         b          c
 0.5960487 -0.4465598

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3417814
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2818151

$`Invader species richness`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 26.00437
```

```
Coefficients:
         b          c
 0.5839645 -0.4759169

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02546366
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2219942

$`Invader species richness`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 15.82466

Coefficients:
        c
-0.695587

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5683133
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4666951

$`Invader species richness`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 1.713970

Coefficients:
        c
-0.762298

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04135571
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3400537

$`Invader species richness`$Pd61
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
```

```
  Data: DF
  Log-likelihood: 22.04046

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
   0.69693583   -0.01204201   -0.11754105   -0.03675916    0.50035632
     c.funcgr
  -0.07337373

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1921015

$`Invader species richness`$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 21.33612

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.630167330  -0.089314529  -0.033176218   0.007268427

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1912584

$`Invader species richness`$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 21.68425

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.458342103  -0.003366539  -0.118504949  -0.013242964

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1904481

$`Invader species richness`$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 21.63043

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.47145739    0.06381308   -0.15277006   -0.11400496

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1905732

$`Invader species richness`$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: -14.52953

Coefficients:
c.(Intercept)      c.funcgr
  -0.79368895    0.00765095

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2924672

$`Invader species richness`$Pe621
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 33.50194

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
   0.84230527   -0.04263488   -0.24458503   -0.01422285    0.36393765
     c.funcgr
  -0.04553150

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3803518
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2938040

$`Invader species richness`$Pe631
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 31.4902

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
   0.73732804   -0.03098583   -0.15141668   -0.02259400    0.46596031
     c.funcgr
  -0.06338947

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03229696
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2258936

$`Invader species richness`$Pe721
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.44078

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.611738355  -0.089326220  -0.029794959   0.006534511

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3795758
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2934520

$`Invader species richness`$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.7238

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.62704760   -0.09164936   -0.03132883    0.00689777

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03239339
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2252589

$`Invader species richness`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.06976

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.417567066  -0.021645713  -0.161038712   0.003049373

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3794307
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.291147
```

```
$`Invader species richness`$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 30.05476

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.58354769    0.11546947   -0.02176777   -0.10861881

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03220079
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2267291

$`Invader species richness`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.27755

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.48810276    0.06741560   -0.22497351   -0.09829296

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3619244
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2864316

$`Invader species richness`$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.40131

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
    0.4266011     0.1103235    -0.1481938    -0.1438805

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
```

```
-0.03162179
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2246534

$`Invader species richness`$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 16.10336

Coefficients:
c.(Intercept)      c.funcgr
  -0.62441777   -0.02542857

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5766707
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4738524

$`Invader species richness`$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 1.832112

Coefficients:
c.(Intercept)      c.funcgr
  -0.68495826   -0.02409634

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04166035
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3425747

$`Invader species richness`$Pf111
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 32.75374

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass c.(Intercept)
    1.5069269    -0.4201459    -1.3917740     0.6582016    -0.4827015
      c.grass
    0.5693927
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1685738

$`Invader species richness`$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.16652

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  -0.05405562    0.32841511    0.01721410   -0.02175244

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1696508

$`Invader species richness`$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 31.35253

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.87486993    0.24422907   -0.03644039   -0.05248520

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1692664

$`Invader species richness`$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.66643

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.14854720    0.23238258   -0.39446566    0.07229237

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1706886

$`Invader species richness`$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -12.32948

Coefficients:
c.(Intercept)       c.grass
   -1.4005608     0.4061233

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2847246
```

```
$`Invader species richness`$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 15.86537

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.412542457   0.022516667   0.006604696  -0.014723930

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2044538

$`Invader species richness`$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.38817

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.15811003   -0.17428692   -0.30971908    0.07706301

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1842706

$`Invader species richness`$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 23.54685

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.87570692   -0.18786335   -0.47217817    0.03754091

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1861709

$`Invader species richness`$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -12.82061

Coefficients:
c.(Intercept)         c.leg
   -0.2798797    -0.3739393

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2864351

$`Invader species richness`$Ph221
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 26.75476

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  1.015514463  -0.137610858  -0.193372861  -0.045353257   0.008690782
       b.leg
  0.006499813

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1813687

$`Invader species richness`$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 27.19862

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.136405780  -0.043468172  -0.162036429  -0.108570009  -0.015545757
       c.leg
 -0.001374916

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1803896

$`Invader species richness`$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 28.54119

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.73575274    0.04165656   -0.13995582    0.35646033   -0.19782181
       c.leg
  -0.24241006

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1774602

$`Invader species richness`$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -11.81655

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.2735073    -0.1332462    -0.5562679
```

```
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2847344

$`Invader species richness`$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.08462

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.063678443  -0.018592589   0.282757047  -0.005044938   0.003682476
      b.grass
 -0.013778975

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1699550

$`Invader species richness`$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.13330

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -1.00108667    0.05983559    0.27361119    0.01532652   -0.02767011
      c.grass
  -0.06655799

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1698542

$`Invader species richness`$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.43288

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  -0.09063530    0.13572666    0.27853058   -0.27181359   -0.10501154
      c.grass
   0.06788672

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1692347

$`Invader species richness`$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -11.61194
```

```
Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.8166817     0.1212961     0.5041612

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2840248

$`Invader species richness`$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.13525

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 -0.020635335   0.311193310   0.002453275   0.021968754  -0.020077170
       b.leg
 -0.006507661

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1698501

$`Invader species richness`$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.59551

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.67654278    0.21960945   -0.09267028   -0.10761020   -0.04680049
       c.leg
   0.03035498

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1688994

$`Invader species richness`$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 31.93707

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
 0.3808502517  0.1930088170 -0.0958376885 -0.5051045589  0.1167130758
       c.leg
-0.0004397458

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1702611

$`Invader species richness`$Pj351
Generalized nonlinear least squares fit
```

```
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -11.07876

Coefficients:
c.(Intercept)       c.grass         c.leg
   -0.8507797     0.3308007    -0.3173230

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.282184

$`Invader species richness`$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.69562

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 0.2463421302 -0.0414611831  0.2505014302 -0.0592709971 -0.0035913038
     b.funcgr       b.grass         b.leg
 0.0034729818 -0.0141514205 -0.0002398164

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1709578

$`Invader species richness`$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.85072

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.84184688    0.04090840    0.24590219   -0.05280485    0.06788732
     c.funcgr       c.grass         c.leg
  -0.03505635   -0.07750161   -0.01423810

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1706348

$`Invader species richness`$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.93438

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.02826615    0.12008834    0.25839679   -0.03975164    0.34677209
     c.funcgr       c.grass         c.leg
  -0.18977842   -0.04771701   -0.18335220

Degrees of freedom: 82 total; 74 residual
```

```
Residual standard error: 0.1683946

$`Invader species richness`$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -11.07875

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
 -0.855308355   0.000730808   0.331740345  -0.316246224

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2839871

$`Invader species richness`$Pm1131
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 41.11341

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass c.(Intercept)
    0.9651428    -0.1447366    -0.8585680     0.3875217    -0.3746046
      c.grass
    0.4988814

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02975738
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1965476

$`Invader species richness`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.79731

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  -0.09996902    0.34329718    0.01731705   -0.02086094

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3609832
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.25468
```

```
$`Invader species richness`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.35593

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  -0.08537011    0.34165769    0.01796586   -0.02165696

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03003527
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1986879

$`Invader species richness`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.10798

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.86106131    0.25360980   -0.02570178   -0.07694270

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3526547
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2505992

$`Invader species richness`$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.37394

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.84042252    0.23107728   -0.05223669   -0.05297478

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
```

```
-0.02975453
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1981661

$`Invader species richness`$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.15399

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.21660160    0.21522733   -0.50179903    0.09355505

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3258341
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2466244

$`Invader species richness`$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 36.62846

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
    0.2439211     0.1887773    -0.6599966     0.1895947

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02665412
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1995308

$`Invader species richness`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 20.26987

Coefficients:
c.(Intercept)       c.grass
   -1.0048581     0.2288813

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5877286
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4578314

$`Invader species richness`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 3.926738

Coefficients:
c.(Intercept)       c.grass
   -1.0886432     0.2597931

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04147372
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3334000

$`Invader species richness`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 26.04545

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.286090424   0.059738925   0.006601245  -0.011968258

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4077572
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3308098

$`Invader species richness`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 24.01991

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.324673516   0.059356680   0.008611559  -0.014459520
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03297544
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2456733

$`Invader species richness`$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 35.50666

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.11753302   -0.19465764   -0.34878051    0.09663866

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3694779
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2784767

$`Invader species richness`$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.49728

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.13300881   -0.18714082   -0.34491949    0.09516301

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03168886
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2164542

$`Invader species richness`$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.48263
```

```
Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    1.0260803    -0.2583930    -0.6270084     0.1014506

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3398739
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2731628

$`Invader species richness`$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 29.51901

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    1.0035289    -0.2507705    -0.7209066     0.1560956

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02652077
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2173534

$`Invader species richness`$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 17.17423

Coefficients:
c.(Intercept)         c.leg
   -0.5051655    -0.1516705

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5555069
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4532378

$`Invader species richness`$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: 2.42626

Coefficients:
c.(Intercept)         c.leg
   -0.5379375    -0.1932928

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04034197
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3362736

$`Invader species richness`$Pp2121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 45.01433

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  -1.95173396    1.11905981    1.76976177    2.85281801   -1.19574945
       b.leg c.(Intercept)      c.funcgr         c.leg
  -1.93423489    0.14782170   -0.02204228   -0.03605776

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4191833
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2759731

$`Invader species richness`$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.79377

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  1.047892157  -0.143963401  -0.219425587  -0.046799270   0.008552152
       b.leg
  0.008962449

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
```

```
-0.3837133
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2768204

$`Invader species richness`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 35.89476

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  1.028413569  -0.141983328  -0.201329427  -0.045879104   0.008625761
       b.leg
  0.007658880

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.03134643
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2123401

$`Invader species richness`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.06248

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.76983833    0.15946999    0.08906809    0.51380812   -0.21841989
       c.leg
  -0.24089121

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.4059511
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2851758

$`Invader species richness`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 35.75659

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
```

```
  -0.53589463    0.12921000   -0.03662687    0.32848914   -0.19235283
       c.leg
  -0.14004891

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03082321
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2117449

$`Invader species richness`$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.80514

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.80200830    0.03207266   -0.16386580    0.22911335   -0.16930646
       c.leg
  -0.20922018

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3747754
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2665524

$`Invader species richness`$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.35203

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.72666925    0.06202786   -0.14544917    0.34145225   -0.20801137
       c.leg
  -0.23748846

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03058375
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2072384
```

```
$`Invader species richness`$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 21.66257

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.1232385    -0.1275926    -0.3697904

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5943065
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4574061

$`Invader species richness`$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 4.724891

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.2237150    -0.1351649    -0.4787033

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0413064
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3317768

$`Invader species richness`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.86236

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 0.0216840901 -0.0156838964  0.2950118254  0.0002271900  0.0027256163
      b.grass
-0.0147833010

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.3577454
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2534586

$`Invader species richness`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.4102

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.052867267  -0.019880909   0.286728538  -0.002336005   0.003215359
      b.grass
 -0.014258973

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02989376
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1984726

$`Invader species richness`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.91245

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -1.02251732    0.04848752    0.30477802    0.04695039   -0.02056472
      c.grass
  -0.10413558

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3516781
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2510325

$`Invader species richness`$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.27449
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -1.00611097    0.05489282    0.28236358    0.03219615   -0.02436188
      c.grass
  -0.08479484

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02969641
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1984648

$`Invader species richness`$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.60673

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  -0.15357013    0.14499167    0.31840022   -0.23256545   -0.10073780
      c.grass
   0.01854377

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3365072
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2463586

$`Invader species richness`$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.02634

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  -0.13642706    0.17217708    0.28489160   -0.26222868   -0.12813774
      c.grass
   0.06373016

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02888577
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1976857

$`Invader species richness`$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 20.80111

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -1.19832277    0.04239401    0.28550308

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5807103
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4530002

$`Invader species richness`$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 4.610106

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.5120005     0.0805158     0.3962009

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04112049
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3317117

$`Invader species richness`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 43.17197

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
-0.0602757517  0.3241895920  0.0004919155  0.0201846284 -0.0195088148
       b.leg
-0.0045281774

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3639944
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2548568

$`Invader species richness`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.43608

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 -0.051643557   0.320972804   0.006663600   0.021493251  -0.019924581
        b.leg
 -0.005575996

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02990988
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1984375

$`Invader species richness`$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.00296

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.64673095    0.25161842   -0.13056007   -0.10328940   -0.08858918
        c.leg
   0.05405993

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3619205
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2515116

$`Invader species richness`$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
```

```
  Log-likelihood: 40.83264

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.63772965    0.21995538   -0.11218681   -0.12471634   -0.05889420
       c.leg
   0.04572847

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.02972233
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1971624

$`Invader species richness`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 42.00789

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.56710471    0.15769048   -0.15088913   -0.67074397    0.14296676
       c.leg
   0.03451621

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.3331444
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2469285

$`Invader species richness`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 38.21659

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.57166068    0.14032134   -0.14546260   -0.83014736    0.21995668
       c.leg
   0.06170711

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
      expon
-0.02706913
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1989696

$`Invader species richness`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 22.13663

Coefficients:
c.(Intercept)       c.grass         c.leg
   -0.8066883     0.2339641    -0.1631919

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5823131
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4467438

$`Invader species richness`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 5.287322

Coefficients:
c.(Intercept)       c.grass         c.leg
   -0.8314496     0.2877868    -0.2493132

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04104642
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3287743

$`Invader species richness`$Ps3621
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 50.29523

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  -1.93245484    0.46808645    0.66797466    0.71820200    1.89919696
     b.funcgr       b.grass         b.leg c.(Intercept)      c.funcgr
  -0.43400756   -0.37339881   -0.71112282    0.36881258   -0.05554374
```

```
      c.grass         c.leg
   0.02980064   -0.09457733

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3973175
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.2558069

$`Invader species richness`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 43.72664

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.247874044  -0.043994698   0.252801742  -0.071385823  -0.002507854
     b.funcgr       b.grass         b.leg
  0.003031539  -0.014188951   0.000927611

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3613453
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2555298

$`Invader species richness`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.0468

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 0.2509668132 -0.0447050217  0.2512739250 -0.0637999771 -0.0032650952
     b.funcgr       b.grass         b.leg
 0.0033036923 -0.0141289557  0.0004530692

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02982247
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1994592
```

```
$`Invader species richness`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.52694

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
   -1.4206838     0.2359320     0.2350012     0.1785560     0.7868325
     c.funcgr       c.grass         c.leg
   -0.2416403    -0.1205433    -0.2613907

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3713957
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2631937

$`Invader species richness`$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.02693

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.797182802   0.028202889   0.247579123  -0.069327702   0.031423223
     c.funcgr       c.grass         c.leg
 -0.024083720  -0.087149929   0.002907419

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02962511
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1991698

$`Invader species richness`$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 44.98124

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  -0.04234246    0.12645110    0.29868719   -0.03496212    0.42487645
     c.funcgr       c.grass         c.leg
  -0.18819367   -0.09951096   -0.19959094
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3494143
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2472318

$`Invader species richness`$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.81318

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
 -0.003032876   0.146549743   0.264252712  -0.041997471   0.406415523
     c.funcgr       c.grass         c.leg
 -0.214042602  -0.063073641  -0.197580226

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02895602
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1961393

$`Invader species richness`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 22.55772

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.40630104   -0.06072173    0.15047459   -0.25805065

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5910483
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4531339

$`Invader species richness`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 5.328999
```

```
Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.59909992   -0.03260645    0.23542643   -0.30395859

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04111847
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3309116

$`Invader species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
    Asym       R0      lrc
 0.09845  0.58229 -1.94556
 residual sum-of-squares: 2.865

Number of iterations to convergence: 10
Achieved convergence tolerance: 5.436e-06

$`Invader species richness`$BIEXP
Nonlinear regression model
  model:  response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
   data:  DF
     A1    lrc1      A2    lrc2
 0.3523 -1.2446  0.2747 -3.5169
 residual sum-of-squares: 2.829

Number of iterations to convergence: 14
Achieved convergence tolerance: 7.195e-06


$`Pathogen species richness`
$`Pathogen species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.224259        0.114006        0.025244        0.027118
0.055516
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.101548        0.177569       -0.053095       -0.010251
0.001817
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
```

```
     -0.013620       -0.084607        0.059833       -0.069480


$`Pathogen species richness`$L01
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 25.79086

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.195712422    0.110276383    0.017650003    0.025469852
0.054185791
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.109607530    0.193109544   -0.027974670   -0.009994719
0.001547305
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.013094391   -0.084367639    0.052372703   -0.080035890

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
     power
-0.2091725
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1533704

$`Pathogen species richness`$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 25.78197

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.183702193    0.109027386    0.016928353    0.023977400
0.053623966
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.112771926    0.199238813   -0.022587638   -0.009925503
0.001536858
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.012821702   -0.085125766    0.051023361   -0.082313634

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
     expon
-0.4080875
```

```
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2192983

$`Pathogen species richness`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 26.26706

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  0.1507478581   0.0928332638   0.0058362452   0.0116110166
0.0544964140
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  0.1200501041   0.2153571331   0.0050773122  -0.0098785536
0.0006030371
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
 -0.0128101203  -0.0824406715   0.0422156139  -0.0904535104

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.09880364
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2033989

$`Pathogen species richness`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 25.96710

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.234501006    0.094153237    0.012429609    0.005426761
0.054255056
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
   0.100839744    0.173745379   -0.047992274   -0.009938857
0.001101670
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.012799493   -0.078541763    0.054459014   -0.068391197

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.006230011
```

```
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1859786

$`Pathogen species richness`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.530198     0.004257     0.046881    -0.092814


$`Pathogen species richness`$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 18.34620

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.536849843  0.003927728  0.045721903 -0.093260869

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
    power
-0.255895
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1634570

$`Pathogen species richness`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 18.32808

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.536678756  0.003881564  0.045954940 -0.093528411

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
     expon
-0.4537556
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2460587

$`Pathogen species richness`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
```

```
  Data: DF
  Log-likelihood: 19.13973

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.569649550  0.003767531  0.037279288 -0.095455025

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1200674
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2289847

$`Pathogen species richness`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 18.72840

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.541165282  0.003540669  0.045253681 -0.093020815

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007423418
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2052347

$`Pathogen species richness`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.7295 1.2863
 residual sum-of-squares: 2.919

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.176e-08

$`Pathogen species richness`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.7295 1.2863
 residual sum-of-squares: 2.919
```

```
Number of iterations to convergence: 3
Achieved convergence tolerance: 8e-08

$`Pathogen species richness`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.7583  1.1735 -0.0324
 residual sum-of-squares: 2.918

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.997e-06

$`Pathogen species richness`$M211
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.01517

Coefficients:
         a          b          d
0.69046934 1.54479976 0.05044647

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.08482043
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2163923

$`Pathogen species richness`$M222
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.87344

Coefficients:
         a          b          d
0.67766109 1.74522509 0.07557819

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006247317
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2016500

$`Pathogen species richness`$M3
Generalized nonlinear least squares fit
```

```
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.45475

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.88239609   -0.12900952    0.91679567    0.08326084

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1863801

$`Pathogen species richness`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.29779

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.89597525   -0.13590317    1.02211041    0.02907177

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.09821594
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2134317

$`Pathogen species richness`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.04015

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.908120436  -0.141493054   1.075816216   0.005721646

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006630205
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1958937

$`Pathogen species richness`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.46183
```

```
Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.75004538   -0.01800059    1.22508376    0.01495586

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1933085

$`Pathogen species richness`$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.07146

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.76638844   -0.02643300    1.36367286   -0.05583744

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.08403693
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2173725

$`Pathogen species richness`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.94024

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.78756795   -0.03704391    1.49567459   -0.12173999

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006189834
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2026733

$`Pathogen species richness`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.60615

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
```

```
   0.60835854    0.03419589    1.10892203   -0.07956287

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1906296

$`Pathogen species richness`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.32114

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.60365617    0.03849863    1.05304035   -0.03068223

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.09127604
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2163981

$`Pathogen species richness`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.18767

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.596166074   0.043341204   1.008864699   0.001562636

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00684901
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2007463

$`Pathogen species richness`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.49014

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.855541643   0.003707222  -0.120743168   0.964522202  -0.042244691
       b.leg
  0.070577857
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1887351

$`Pathogen species richness`$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.31743

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.862485187   0.005912456  -0.125068509   0.959152055  -0.002954550
       b.leg
  0.052232132

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.09770039
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2160046

$`Pathogen species richness`$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.07894

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.84469792    0.01197955   -0.12034963    0.84290563    0.03750713
       b.leg
   0.08709348

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.00676429
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1985891

$`Pathogen species richness`$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.78471

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
```

```
   0.48550314    0.04852315    0.06425281    0.65431728   -0.02983060
      b.grass
   0.24163392

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1927015

$`Pathogen species richness`$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.50904

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.48991730    0.05181520    0.05957531    0.65509828    0.01362889
      b.grass
   0.21182957

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.09163546
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2188419

$`Pathogen species richness`$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.35262

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.48314400    0.05655999    0.05914080    0.61611042    0.04489032
      b.grass
   0.20895339

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006774529
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2028321

$`Pathogen species richness`$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.84253
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.88047550   -0.01380403   -0.12358318    0.22706274    0.26690270
        b.leg
   0.19935848

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1879258

$`Pathogen species richness`$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.61323

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.90934636   -0.02143111   -0.13268221    0.51115374    0.18673598
        b.leg
   0.11388326

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.09438728
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2141708

$`Pathogen species richness`$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.38021

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.93081363   -0.02926342   -0.13811841    0.61481982    0.14632621
        b.leg
   0.09093443

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006473901
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1973682

$`Pathogen species richness`$M91
Generalized nonlinear least squares fit
```

```
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.91061

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.98132531   -0.01338071   -0.03529884   -0.14669233    0.23333440
     b.funcgr       b.grass         b.leg
   0.02960461    0.25945375    0.19976449

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1902904

$`Pathogen species richness`$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.71568

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   1.01336346   -0.01362123   -0.04335969   -0.15665873    0.38789203
     b.funcgr       b.grass         b.leg
   0.05556948    0.20694381    0.14449543

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.09665698
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2175064

$`Pathogen species richness`$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.47693

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.997733637  -0.008018508  -0.043294519  -0.152740026   0.292929816
     b.funcgr       b.grass         b.leg
  0.090844005   0.207175242   0.171292854

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006653257
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2000896
```

```
$`Pathogen species richness`$M1021
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 19.87921

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg d.(Intercept)
  1.094338819  -0.534239919  10.415251287  -8.348091799   0.003771448
       d.leg
  0.216517625

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1246653
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2373311

$`Pathogen species richness`$M111
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.47412

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
    1.0203204    -0.1530536     0.5301123     0.3620318    -0.2888120
      d.grass
    0.1443049

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1958062

$`Pathogen species richness`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.63869

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  0.626448150  -0.053486837   1.408719896   0.076505336   0.005106643
     d.funcgr
  0.082652882

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1930450

$`Pathogen species richness`$M131
Generalized nonlinear least squares fit
```

```
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.31191

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
    2.3363524    -0.2685684    -0.7611738    -1.0023039     0.3948092
        b.leg d.(Intercept)      d.funcgr         d.leg
    1.0163507    -1.3982048     0.2629219     0.5991636

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1906539

$`Pathogen species richness`$M1421
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.4803

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -1.38103407    0.12034958    1.15460746 -100.68603647   21.55792892
      b.grass d.(Intercept)      d.funcgr       d.grass
  54.57477040    0.41674560    0.07354225   -0.07493489

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1045497
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2333173

$`Pathogen species richness`$M151
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.92760

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.24095993    0.03275615    0.25526709    2.49866161    0.08271573
        b.leg d.(Intercept)       d.grass         d.leg
  -1.01288219    0.70111101   -0.05246082   -0.41280498

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1915496

$`Pathogen species richness`$M1521
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.74933
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.33283959    0.01398456    0.16317931    3.00339090    0.19059826
       b.leg d.(Intercept)       d.grass         d.leg
  -1.23425023    0.62109081   -0.02955820   -0.32520518

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.09809096
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2193678

$`Pathogen species richness`$M1532
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.55367

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.19317628    0.01569938    0.29268537    3.77581777    0.08263089
       b.leg d.(Intercept)       d.grass         d.leg
  -1.64999426    0.79489516   -0.03942170   -0.46985645

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.006944733
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2017713

$`Pathogen species richness`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
5.154e-01 2.492e-27
 residual sum-of-squares: 4.042

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.424e-08

$`Pathogen species richness`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
```

```
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Pathogen species richness`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
7.005e-27
 residual sum-of-squares: 24.76

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.608e-08

$`Pathogen species richness`$E21
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 9.633678

Coefficients:
           a            b
5.573077e-01 2.125137e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1958362
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2913176

$`Pathogen species richness`$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 8.328561

Coefficients:
           a            b
5.268271e-01 2.392041e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01058015
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2423613
```

```
$`Pathogen species richness`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 13.18944

Coefficients:
           a            c
-0.490281292  0.004784538

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1722209
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2693448

$`Pathogen species richness`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 12.13004

Coefficients:
           a            c
-0.513583117  0.005033258

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.009660512
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2295624

$`Pathogen species richness`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1755.331

Coefficients:
        a
-2.405782

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.94752
```

```
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1111193

$`Pathogen species richness`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.847

Coefficients:
        a
-3.036074

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014895
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6979394

$`Pathogen species richness`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -66.11416

Coefficients:
           b
7.005209e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1312471
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4487092

$`Pathogen species richness`$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -66.86429

Coefficients:
           b
7.005209e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
       expon
-0.009902272
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.5990737

$`Pathogen species richness`$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -53.489

Coefficients:
         c
-0.5083214

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2842085
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3065331

$`Pathogen species richness`$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -49.20415

Coefficients:
          c
-0.08780405

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.007136297
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4172705

$`Pathogen species richness`$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
   -2963125.8      911705.8
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Pathogen species richness`$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -40.97958

Coefficients:
c.(Intercept)         c.leg
    0.5243027    -0.5449271

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4037977

$`Pathogen species richness`$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.31377

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.189825083  -0.222785548  -0.007606337   0.011075620

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1505718
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2421674

$`Pathogen species richness`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 19.51059

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.20376717   -0.22220757   -0.00828691    0.01191123

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00892863
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2111447
```

```
$`Pathogen species richness`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1753.602

Coefficients:
a.(Intercept)         a.leg
   -2.2016152    -0.1166667

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.95561
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1081715

$`Pathogen species richness`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.7748

Coefficients:
a.(Intercept)         a.leg
   -3.7064321     0.3864636

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014938
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7014101

$`Pathogen species richness`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -39.14428

Coefficients:
c.(Intercept)         c.leg
   0.04918354   -0.05577394

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3321321
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6465237

$`Pathogen species richness`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -39.15422

Coefficients:
c.(Intercept)         c.leg
    0.4953196    -0.5472460

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01249611
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3547346

$`Pathogen species richness`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508713       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Pathogen species richness`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -46.15873

Coefficients:
c.(Intercept)       c.grass
    0.3543401    -0.3886778

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4301244

$`Pathogen species richness`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.56897
```

```
Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.314801191  -0.143565186  -0.008628612   0.012724463

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1466571
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2520143

$`Pathogen species richness`$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 15.95644

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.32409668   -0.14695480   -0.00961705    0.01383765

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.009345214
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2212876

$`Pathogen species richness`$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1755.297

Coefficients:
a.(Intercept)       a.grass
  -2.43494852    0.01666667

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.94768
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1117385

$`Pathogen species richness`$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -800.7262

Coefficients:
a.(Intercept)       a.grass
   -3.9029772     0.4998053

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014988
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7006931

$`Pathogen species richness`$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -43.07596

Coefficients:
c.(Intercept)       c.grass
   0.03895951   -0.04672897

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3021551
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6487541

$`Pathogen species richness`$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -46.3727

Coefficients:
c.(Intercept)       c.grass
   0.07661238   -0.08151570

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02278001
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.524402
```

```
$`Pathogen species richness`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252095.9     -912137.5

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Pathogen species richness`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -38.38607

Coefficients:
c.(Intercept)      c.funcgr
   -0.3524317     0.0863926

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3912262

$`Pathogen species richness`$Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2913.733

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.792377200  -0.505595531   0.005303375  -0.001325841   0.999668707
     c.funcgr
  1.000082823

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.808426
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.0008009555

$`Pathogen species richness`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1755.331

Coefficients:
```

```
a.(Intercept)      a.funcgr
     2.127493     -4.533275

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.94752
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1118116

$`Pathogen species richness`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2422

Coefficients:
a.(Intercept)      a.funcgr
     3.527754     -6.181283

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022297
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6080454

$`Pathogen species richness`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -33.39247

Coefficients:
c.(Intercept)      c.funcgr
  -0.09825549    0.02333046

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3459823
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6152492

$`Pathogen species richness`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: -36.9849

Coefficients:
c.(Intercept)      c.funcgr
  -0.17948952    0.04382155

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01953315
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4548182

$`Pathogen species richness`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.4     -990730.5     -307654.8

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Pathogen species richness`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1753.601

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    2.3608261    -4.5624412    -0.1166667

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.95561
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1088539

$`Pathogen species richness`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2353

Coefficients:
```

```
a.(Intercept)      a.funcgr         a.leg
    3.7379349    -6.2074764    -0.1051328

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022310
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6117605

$`Pathogen species richness`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -35.57012

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   0.23922085    0.03518679   -0.38509444

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00935685
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4122238

$`Pathogen species richness`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.5     -839615.4      296563.3

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Pathogen species richness`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1755.297

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   2.09415938   -4.52910788    0.01666667
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.94768
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1124435

$`Pathogen species richness`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2421

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.50619785   -6.17858764    0.01077768

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022297
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6118804

$`Pathogen species richness`$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251825       1394676       1054749

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Pathogen species richness`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2748.242

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.5632294806 -0.0207623679 -0.1235830839  0.0003110381 -0.0001113385
       b.leg c.(Intercept)       c.grass         c.leg
-0.0000425028  0.9999801140  1.0000071064  1.0000028133

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.509548
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.001413366

$`Pathogen species richness`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 22.44404

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.03852644   -0.13689759   -0.20227265   -0.01533502    0.01002089
       c.leg
   0.00810498

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.008068937
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2048702

$`Pathogen species richness`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1753.528

Coefficients:
a.(Intercept)       a.grass         a.leg
  -2.14328188   -0.02499999   -0.12499999

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.95595
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1087018

$`Pathogen species richness`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.5485
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.4261349     0.7307499     0.6471738

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.015104
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7028916

$`Pathogen species richness`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -37.20266

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.8058854    -0.3024206    -0.5318166

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2285446
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2764003

$`Pathogen species richness`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -37.58315

Coefficients:
c.(Intercept)       c.grass         c.leg
   0.54148502   -0.07913541   -0.49187409

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01153550
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3530985

$`Pathogen species richness`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292092.1     -918391.4      183181.2     -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Pathogen species richness`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1753.528

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     2.427493     -4.570775     -0.025000     -0.125000

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.95595
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1093964

$`Pathogen species richness`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2347

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   3.83383575   -6.21945730   -0.03465759   -0.11842922

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022311
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6156587

$`Pathogen species richness`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.464978 0.007488
```

```
 residual sum-of-squares: 3.604

Number of iterations to convergence: 1
Achieved convergence tolerance: 9.597e-10

$`Pathogen species richness`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.63085  0.09613
 residual sum-of-squares: 2.996

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.634e-07

$`Pathogen species richness`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.3867 0.1964
 residual sum-of-squares: 3.046

Number of iterations to convergence: 8
Achieved convergence tolerance: 3.015e-06

$`Pathogen species richness`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.2495
 residual sum-of-squares: 14.27

Number of iterations to convergence: 11
Achieved convergence tolerance: 6.026e-06

$`Pathogen species richness`$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 11.75931

Coefficients:
         a          b
0.46497755 0.00748841

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2122483

$`Pathogen species richness`$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
```

```
  Data: DF
  Log-likelihood: 19.33647

Coefficients:
         a          c
-0.6308510  0.0961363

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1935145

$`Pathogen species richness`$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 18.65379

Coefficients:
        b         c
0.3866424 0.1963963

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1951323

$`Pathogen species richness`$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -44.66585

Coefficients:
         c
-0.2495131

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4197491

$`Pathogen species richness`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 13.63299

Coefficients:
          a           b
0.500708927 0.005850212

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1655913
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2652681
```

```
$`Pathogen species richness`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 12.62874

Coefficients:
          a           b
0.478541496 0.006170491

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00925748
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2273823

$`Pathogen species richness`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 20.37152

Coefficients:
          a           c
-0.61908527  0.09082243

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1143123
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.22643

$`Pathogen species richness`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 20.15986

Coefficients:
         a          c
-0.6244992  0.0917245

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
```

```
-0.008089045
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2053588

$`Pathogen species richness`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 19.80060

Coefficients:
        b         c
0.4000319 0.1805042

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1208100
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2302221

$`Pathogen species richness`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 19.48105

Coefficients:
        b         c
0.3937832 0.1840941

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008199287
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2072619

$`Pathogen species richness`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -32.73787

Coefficients:
         c
-0.1432924

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3391029
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6004145

$`Pathogen species richness`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.4501

Coefficients:
         c
-0.1749613

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01130970
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4557429

$`Pathogen species richness`$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 20.60097

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.243512311   0.098292577   0.028200002  -0.006403276

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1929808

$`Pathogen species richness`$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 21.78697

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.74744301    0.07702308    0.11940968   -0.01830123

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1902097

$`Pathogen species richness`$Pd91
Generalized nonlinear least squares fit
```

```
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 21.62022

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.26682915    0.07180866    0.28220673   -0.05059161

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1905969

$`Pathogen species richness`$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -41.20251

Coefficients:
c.(Intercept)      c.funcgr
   -0.5818001     0.1149157

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.404897

$`Pathogen species richness`$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 21.64085

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.258945643   0.093657643   0.026236255  -0.005884313

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1114984
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2248509

$`Pathogen species richness`$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 21.44076

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.24781149    0.09682293    0.02732203   -0.00615804

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007994556
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2045854

$`Pathogen species richness`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 22.68746

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.73866524    0.07201327    0.11475309   -0.01613350

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1028757
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2191756

$`Pathogen species richness`$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 22.53589

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.74103892    0.07220831    0.11565137   -0.01600030

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007579509
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2011532

$`Pathogen species richness`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 22.53932

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
```

```
   0.27685956    0.06680434    0.26905410   -0.04540945

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1042404
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2200172

$`Pathogen species richness`$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 22.37990

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.27285381    0.06757339    0.27429822   -0.04619372

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007642383
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2016450

$`Pathogen species richness`$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.24738

Coefficients:
c.(Intercept)      c.funcgr
  -0.38500563    0.07633384

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4136888
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6085128

$`Pathogen species richness`$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -35.01724
```

```
Coefficients:
c.(Intercept)      c.funcgr
   -0.5167479     0.1127950

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02403517
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4615329

$`Pathogen species richness`$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 15.30452

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.66068590   -0.14697510   -0.01181845    0.01740935

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2058569

$`Pathogen species richness`$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 19.81005

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.53389419   -0.06277416    0.05738116    0.02745136

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1948512

$`Pathogen species richness`$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 19.37311

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.48860400   -0.06840381    0.07542139    0.08904610

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1958922

$`Pathogen species richness`$Pf151
```

```
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.66343

Coefficients:
c.(Intercept)       c.grass
   -0.0405096    -0.1637491

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4172326

$`Pathogen species richness`$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 18.73599

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.779965167  -0.218929666  -0.009271733   0.014032259

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1974202

$`Pathogen species richness`$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 22.67043

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.39936553   -0.14068020    0.05899806    0.01805985

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1881714

$`Pathogen species richness`$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 22.33023

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.61637328   -0.14398644    0.04580425    0.09291403

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1889537

$`Pathogen species richness`$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: -42.25859

Coefficients:
c.(Intercept)         c.leg
   0.07689255   -0.25621767

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4101454

$`Pathogen species richness`$Ph211
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 23.94078

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  1.923713702   0.175860151  -2.225569784  -1.517163430  -0.114263591
       b.leg c.(Intercept)      c.funcgr         c.leg
  2.144840116   0.390376490  -0.007518942  -0.171668267

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1915188

$`Pathogen species richness`$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 22.66458

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.395556589   0.079071850  -0.077198357   0.038725144  -0.007886741
       b.leg
 -0.004570772

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1906449

$`Pathogen species richness`$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 23.83331

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.60038951    0.05859186   -0.07448230    0.15861140   -0.02374895
       c.leg
  -0.01752368

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1879469
```

```
$`Pathogen species richness`$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 23.681

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.421686027   0.051749617  -0.077922974   0.297138718  -0.053539599
       c.leg
 -0.002087413

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1882963

$`Pathogen species richness`$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.93934

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.35842406    0.08722085   -0.11319435

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.406146

$`Pathogen species richness`$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 20.76347

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.223370509   0.100733672   0.009652048   0.023207573  -0.005838984
      b.grass
  0.002742565

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1951165

$`Pathogen species richness`$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 21.96824

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
-0.7502517233  0.0774127372  0.0009903833  0.0909939879 -0.0149844042
      c.grass
```

```
 0.0150262992

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1922707

$`Pathogen species richness`$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 21.78175

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.24835575    0.07382829    0.00920391    0.25053121   -0.04688314
      c.grass
   0.01725350

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1927085

$`Pathogen species richness`$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -41.19395

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -0.62061763    0.11972168    0.01954748

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4074091

$`Pathogen species richness`$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 21.80094

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.95821336   -0.14149523   -0.20146063   -0.01905200    0.01275162
        b.leg
   0.00954489

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1926634

$`Pathogen species richness`$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 23.73427
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.225213867  -0.098260087  -0.150811503   0.009063626   0.032842230
        c.leg
  0.016617211

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1881741

$`Pathogen species richness`$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 23.60564

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.76671183   -0.09301816   -0.14686510   -0.06543814    0.08868413
        c.leg
   0.07700663

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1884695

$`Pathogen species richness`$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -41.13042

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.2729075    -0.1597437    -0.2509907

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4070935

$`Pathogen species richness`$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.02157

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.531986397   0.062042380  -0.045227797  -0.100052881   0.043569249
     b.funcgr       b.grass         b.leg
 -0.008473337  -0.001080386  -0.005990417

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1923647

$`Pathogen species richness`$Pk381
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.21713

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
-0.4478245570  0.0395853429 -0.0517423744 -0.0989938814  0.1680800497
     c.funcgr       c.grass         c.leg
-0.0249049008 -0.0004575856 -0.0219810793

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1895804

$`Pathogen species richness`$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.04800

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.556366210   0.034812552  -0.045192385  -0.099758396   0.285047263
     c.funcgr       c.grass         c.leg
 -0.051674891   0.009029686  -0.006294483

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1899718

$`Pathogen species richness`$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.87884

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.16025817    0.06235398   -0.06222112   -0.15004957

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4084398

$`Pathogen species richness`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 16.91892

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.68378394   -0.14835424   -0.01071535    0.01551977

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.1431583
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.249641

$`Pathogen species richness`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 16.34223

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.67475105   -0.15161983   -0.01206148    0.01701441

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.009182033
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2199406

$`Pathogen species richness`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 20.85456

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.51990201   -0.06674961    0.05379627    0.02726427

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1126906
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2274195

$`Pathogen species richness`$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 20.69289

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.52697969   -0.06537211    0.05443562    0.02801695
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.008221298
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2068621

$`Pathogen species richness`$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 20.49511

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.50128975   -0.07095973    0.06904435    0.08556216

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1168382
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2298294

$`Pathogen species richness`$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 20.27960

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.49615980   -0.07118850    0.06784997    0.09022740

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.008345465
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2081291

$`Pathogen species richness`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -30.15572

Coefficients:
```

```
c.(Intercept)       c.grass
  0.009537851  -0.125350101

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3678333
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6109374

$`Pathogen species richness`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.49644

Coefficients:
c.(Intercept)       c.grass
    0.1207450    -0.2127570

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    expon
-0.021524
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4829019

$`Pathogen species richness`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 20.51815

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.80822694   -0.22530631   -0.00896895    0.01294805

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1482535
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2407346

$`Pathogen species richness`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
```

```
  Log-likelihood: 19.7451

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.794428635  -0.224724612  -0.009875853   0.014043234

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008819365
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2103443

$`Pathogen species richness`$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 23.84013

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.37944063   -0.14806114    0.05259461    0.01958317

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1183815
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2211488

$`Pathogen species richness`$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 23.49372

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.38699008   -0.14640751    0.05263465    0.02072561

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007827403
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1992408

$`Pathogen species richness`$Pn1921
```

```
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 23.57285

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.63558683   -0.15064039    0.03437547    0.09315904

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1219306
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2230429

$`Pathogen species richness`$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 23.17555

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.62844890   -0.14950216    0.03275276    0.09792241

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0079389
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2002070

$`Pathogen species richness`$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -26.60531

Coefficients:
c.(Intercept)         c.leg
   0.08151517   -0.18166086

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3976587
Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 0.6115368

$`Pathogen species richness`$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -38.00165

Coefficients:
c.(Intercept)         c.leg
    0.1914038    -0.2731625

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02290016
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4739984

$`Pathogen species richness`$Pp2131
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 24.69409

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  2.911153337   0.134978707  -2.994464126  -2.489667113  -0.076142721
       b.leg c.(Intercept)      c.funcgr         c.leg
  2.907905425   0.531982913  -0.006271179  -0.246666810

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007469758
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2023360

$`Pathogen species richness`$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.84471

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.415424534   0.073700247  -0.079164053   0.035916145  -0.007252045
       b.leg
 -0.004173682
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1181768
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2239592

$`Pathogen species richness`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.49819

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.402011296   0.077294214  -0.078334722   0.037360396  -0.007582780
       b.leg
 -0.004309504

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007837042
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2018511

$`Pathogen species richness`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.8643

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.59565695    0.05378397   -0.07249625    0.15607929   -0.02178120
       c.leg
  -0.01844238

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1095003
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2183608

$`Pathogen species richness`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
```

```
  Data: DF
  Log-likelihood: 24.57357

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.59328763    0.05356422   -0.07484361    0.15425560   -0.02134551
        c.leg
  -0.01713421

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007418785
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1985071

$`Pathogen species richness`$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.72657

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.431718284   0.046365696  -0.077747861   0.286008445  -0.048398378
        c.leg
 -0.003028066

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1106363
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2190971

$`Pathogen species richness`$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.42907

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.428487256   0.047321053  -0.078310195   0.287884537  -0.048945480
        c.leg
 -0.001199277

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
       expon
-0.007469359
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1989436

$`Pathogen species richness`$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.67079

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.23434472    0.05717198   -0.07402966

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4168835
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.610952

$`Pathogen species richness`$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -34.7495

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.34435451    0.09134704   -0.08669321

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02401639
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4628562

$`Pathogen species richness`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 21.82353

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.225311930   0.097764069   0.016452094   0.022995958  -0.005531206
      b.grass
```

```
  0.001837900

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1125134
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2276261

$`Pathogen species richness`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 21.59771

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.222742378   0.099870736   0.012133610   0.023251806  -0.005704842
      b.grass
  0.002267485

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007963175
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2068078

$`Pathogen species richness`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 22.88712

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.747904478   0.073172332   0.004142437   0.090388221  -0.013307892
      c.grass
  0.013029990

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1036532
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2217566

$`Pathogen species richness`$Pq2831
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 22.70966

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.747180672   0.072949871   0.002683592   0.090239337  -0.013026387
      c.grass
  0.013508718

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007536848
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2032769

$`Pathogen species richness`$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 22.72223

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.24814219    0.07006605    0.01430295    0.25090567   -0.04337737
      c.grass
   0.01057901

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1053221
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2227542

$`Pathogen species richness`$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 22.5366

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.24974534    0.07015689    0.01150877    0.25069549   -0.04348149
      c.grass
   0.01325797

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007613373
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2038403

$`Pathogen species richness`$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.23716

Coefficients:
c.(Intercept)      c.funcgr       c.grass
 -0.403228137   0.078536436   0.009379263

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4136301
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6122223

$`Pathogen species richness`$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -35.01414

Coefficients:
c.(Intercept)      c.funcgr       c.grass
 -0.534321939   0.114955176   0.008922596

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02403034
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.464408

$`Pathogen species richness`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.07893

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
```

```
  0.959836265  -0.135826207  -0.201599022  -0.017342719   0.011396992
       b.leg
  0.008990877

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1223437
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2274632

$`Pathogen species richness`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 22.66166

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.961432419  -0.140484471  -0.202755566  -0.018515614   0.012194775
       b.leg
  0.009427421

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007994929
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2041974

$`Pathogen species richness`$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.78332

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.221823765  -0.097703056  -0.151333716   0.009744305   0.031594924
       c.leg
  0.016057809

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1101088
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2187741
```

```
$`Pathogen species richness`$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.50963

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.22749739   -0.09674731   -0.15057322    0.01092501    0.03152455
       c.leg
   0.01631359

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007531185
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1988538

$`Pathogen species richness`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.67462

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.76605400   -0.09032890   -0.14646842   -0.05672544    0.08232533
       c.leg
   0.07322950

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.1111540
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2194045

$`Pathogen species richness`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.38091

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.76285639   -0.09082022   -0.14620159   -0.05843747    0.08443434
       c.leg
   0.07535850
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00754006
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1991813

$`Pathogen species richness`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.95861

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.1933754    -0.1075205    -0.1696864

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4170285
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6132322

$`Pathogen species richness`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -35.27774

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.3441158    -0.1710008    -0.2421337

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02395940
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4656196

$`Pathogen species richness`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 24.20909
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.536115692   0.058627451  -0.039836277  -0.099438706   0.042896663
     b.funcgr       b.grass         b.leg
 -0.008100150  -0.001787386  -0.005977685

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1188682
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2261912

$`Pathogen species richness`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.85676

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.532045935   0.061074636  -0.043171837  -0.100033823   0.043444694
     b.funcgr       b.grass         b.leg
 -0.008322576  -0.001466992  -0.005971621

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007828433
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.203653

$`Pathogen species richness`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 25.24807

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.448810840   0.035484430  -0.049579537  -0.096262238   0.169794815
     c.funcgr       c.grass         c.leg
 -0.023450119  -0.002002733  -0.023539529

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1096477
```

```
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2203069

$`Pathogen species richness`$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.95524

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.444584920   0.035053834  -0.050461845  -0.098698032   0.167544274
     c.funcgr       c.grass         c.leg
 -0.022974222  -0.001696072  -0.022292383

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007393924
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2001948

$`Pathogen species richness`$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 25.09594

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.554962758   0.030914077  -0.041204109  -0.097852295   0.291005259
     c.funcgr       c.grass         c.leg
 -0.048687945   0.003190964  -0.010032247

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1109782
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2211524

$`Pathogen species richness`$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.79494

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.557165920   0.031201158  -0.043223567  -0.099150193   0.286985772
```

```
     c.funcgr       c.grass         c.leg
 -0.048517180   0.005478609  -0.007495777

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007449337
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2006820

$`Pathogen species richness`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.48429

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.07816457    0.03772632   -0.04820031   -0.10414684

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4187356
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6151482

$`Pathogen species richness`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -34.66539

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.16867769    0.06943602   -0.05535610   -0.11938329

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02404346
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4654444

$`Pathogen species richness`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
```

```
   Asym      R0     lrc
 0.6624  0.1440 -0.8723
 residual sum-of-squares: 2.974

Number of iterations to convergence: 12
Achieved convergence tolerance: 9.016e-06

$`Pathogen species richness`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.6624 -0.8722 -0.5862
 residual sum-of-squares: 2.974

Number of iterations to convergence: 13
Achieved convergence tolerance: 4.293e-06

$`Pathogen species richness`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.6461 -0.4989
 residual sum-of-squares: 2.994

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.483e-06


$`Community herbivory`
$`Community herbivory`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      1.707295        0.053400        0.026608        0.012223
0.026316
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.371195       -0.592373       -0.735237       -0.002452       -
0.008053
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.005442        0.128445        0.125588        0.239208


$`Community herbivory`$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
```

```
  Log-likelihood: 44.42416

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.529022935    0.095631017    0.014249563    0.000878727
0.032917390
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.337828514   -0.460683973   -0.671494719   -0.004159035   -
0.003213781
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.010344917    0.089148643    0.140937198    0.181844044

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
3.142826
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.06717656

$`Community herbivory`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 43.69942

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  2.1406243693   0.0557134665   0.0103356521  -0.0233052588
0.0127451549
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
 -0.4228726020  -0.7935588869  -0.9288876785  -0.0008375057  -
0.0055791680
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
 -0.0009714835   0.1456591476   0.1316819773   0.3346879577

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2567483
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2079008

$`Community herbivory`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
```

```
  Log-likelihood: 45.89971

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
  2.0802339105   0.2034015011  -0.0080696883  -0.0698676252  -
0.0064468166
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
 -0.3349905540  -0.7626311671  -0.8816057350   0.0005511879
0.0055541897
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  0.0010967992   0.0804440708   0.1093007491   0.3192579320

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0878895
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2940141

$`Community herbivory`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.492976     0.002186    -0.030361    -0.147185


$`Community herbivory`$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 41.04868

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.467340153  0.002000944 -0.025138209 -0.136499788

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   power
0.799472
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4905231

$`Community herbivory`$L22
Generalized least squares fit by maximum likelihood
```

```
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 41.19621

Coefficients:
(Intercept)     sowndiv      funcgr         leg
 0.47253638  0.00211395 -0.02691415 -0.13839871

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
3.564324
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06464674

$`Community herbivory`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.52574

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.503320858  0.002167146 -0.032472874 -0.150127834

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1788520
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1948668

$`Community herbivory`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 38.64863

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.493901574  0.002125242 -0.030377156 -0.147341866

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01133809
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1664731
```

```
$`Community herbivory`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.2660 0.4597
 residual sum-of-squares: 2.252

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.332e-06

$`Community herbivory`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.2660 0.4597
 residual sum-of-squares: 2.252

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.847e-06

$`Community herbivory`$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 35.67832

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.40798389   -0.11235936   -0.01576761    0.11552540

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1605685

$`Community herbivory`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 37.48318

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.423812157  -0.123163222   0.128556619   0.009921196

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1507633
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1964741
```

```
$`Community herbivory`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.96639

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.43534852   -0.12645275    0.17891703    0.01479444

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.009994028
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1722272

$`Community herbivory`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.08760

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.26847873    0.01119497    2.26448453   -0.92060431

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1677559

$`Community herbivory`$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.54138

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.35831562   -0.04086852    4.85298952   -2.27449711

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1480779
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2053292

$`Community herbivory`$M422
Generalized nonlinear least squares fit
```

```
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.29031

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.36980972   -0.04227543    4.85269703   -2.23244057

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01074023
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1812816

$`Community herbivory`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.17932

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.23420545    0.01494393    0.13610164    0.21163230

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1696244

$`Community herbivory`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.00655

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.20152956    0.03104567   -0.31278764    0.52840937

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1609547
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2106617

$`Community herbivory`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.71080
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.21029343    0.03097349   -0.21790606    0.51989671

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01154836
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1838383

$`Community herbivory`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.04815

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   -0.3215992     0.1455476     0.1669361   -11.3711356     2.9577010
        b.leg
    4.2543625

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1944403

$`Community herbivory`$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.90167

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.55486753   -0.01602631   -0.16931819   -0.28340425    0.48349130
        b.leg
   0.05247415

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1594142
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1981576

$`Community herbivory`$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
```

```
  Log-likelihood: 23.29787

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   -0.2783098     0.1300841     0.1519496   -10.6673201     2.7112912
        b.leg
    4.0170880

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01403334
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2134005

$`Community herbivory`$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.57422

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.18691510    0.01735268    0.03119138    2.65521104   -0.18575155
      b.grass
  -1.08001275

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1689433

$`Community herbivory`$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.52731

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.35535464    0.01208676   -0.06238859    9.52120555   -0.59562385
      b.grass
  -4.36463941

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1695360
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.21218

$`Community herbivory`$M722
```

```
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.05936

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.35902448    0.01045258   -0.05843968    8.74370009   -0.57019786
      b.grass
  -3.95042405

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.01148532
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1831046

$`Community herbivory`$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.16760

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.419077580   0.002328941  -0.111821634   1.369836292  -0.676001701
        b.leg
  0.104942205

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1616998

$`Community herbivory`$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.31961

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.49792668   -0.03674970   -0.12215103    3.40789809   -1.73119598
        b.leg
   0.07873039

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.1724931
Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.203482

$`Community herbivory`$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 37.66966

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.48705962   -0.02700000   -0.12224847    2.73300853   -1.34238099
        b.leg
   0.05922125

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01097729
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1744551

$`Community herbivory`$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 18.94589

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   -0.7329514     0.2179924     0.1820374     0.1594840   -30.5215377
     b.funcgr       b.grass         b.leg
    6.6137105     4.4908260     7.5530635

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2021675

$`Community herbivory`$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 39.55760

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.90984885   -0.06010962   -0.12080646   -0.22367502    4.35693008
     b.funcgr       b.grass         b.leg
  -0.08533397   -1.82326352   -0.31889144

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
     power
-0.1688381
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2020243

$`Community herbivory`$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.09238

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   1.29145147   -0.07477941   -0.23529392   -0.36938880   24.56424665
     b.funcgr       b.grass         b.leg
  -0.85564540   -7.73156922   -7.75222146

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01245610
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1893351

$`Community herbivory`$M1121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.37840

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
   0.60338263   -0.28817616   75.66175963  -38.56635785    0.09834601
      d.grass
   0.05955957

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1451536
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2000692

$`Community herbivory`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.21738

Coefficients:
```

```
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
   -0.1792284     0.1912136    -3.2516883     1.4059593     0.2849784
     d.funcgr
   -0.1271348

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1616017

$`Community herbivory`$M1232
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 37.58779

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
   -0.1825913     0.1948220    -3.2687431     1.4267513     0.2876855
     d.funcgr
   -0.1292708

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01042976
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1738105

$`Community herbivory`$M1321
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 42.08544

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  -0.13681713    0.09856717    0.02481958  -20.66729274    7.09022532
       b.leg d.(Intercept)      d.funcgr         d.leg
   6.18916962    0.52212461   -0.06657456   -0.13749447

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1736904
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1986545

$`Community herbivory`$M1632
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
```

```
  Log-likelihood: 42.96161

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  1.203738639  -0.025481101  -0.381167208  -0.379593572 -29.563822008
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
  6.455939641   1.529633806  10.059164330  -0.452597746   0.006328389
      d.grass         d.leg
  0.302534020   0.157421705

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01027852
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1693981

$`Community herbivory`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.240e-01 1.105e-27
 residual sum-of-squares: 2.265

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.094e-08

$`Community herbivory`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Community herbivory`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
3.066e-27
 residual sum-of-squares: 6.178

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.119e-08

$`Community herbivory`$E21
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 33.04149

Coefficients:
           a            b
2.296581e-01 1.055292e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1689875
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2104175

$`Community herbivory`$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 32.62928

Coefficients:
           a            b
2.261522e-01 1.085991e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01206485
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1825139

$`Community herbivory`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.41654

Coefficients:
           a            c
-0.787576396  0.002191456

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1708962
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2100517
```

```
$`Community herbivory`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.01485

Coefficients:
           a            c
-0.789189108  0.002208505

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01214825
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1817878

$`Community herbivory`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.905

Coefficients:
        a
-2.575062

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.06634
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.06831513

$`Community herbivory`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.8545

Coefficients:
        a
-3.203410

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
```

```
1.014933
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.697776

$`Community herbivory`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -10.13008

Coefficients:
           b
3.066295e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.0541683
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2985408

$`Community herbivory`$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -8.65095

Coefficients:
           b
3.066296e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01510904
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3080209

$`Community herbivory`$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -7.970382

Coefficients:
        c
-1.339667

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
0.09166336
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2341752

$`Community herbivory`$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -8.1251

Coefficients:
        c
-1.253483

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.006287412
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2546929

$`Community herbivory`$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
   -2963126.3      911705.9

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Community herbivory`$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -3.938943

Coefficients:
c.(Intercept)         c.leg
    0.7674007    -1.2209265

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2570316

$`Community herbivory`$Ea911
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.15056

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
-0.6179784308 -0.1113739359  0.0011357340  0.0001120074

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1729848
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2014178

$`Community herbivory`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 37.55482

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
-0.6138353463 -0.1133283722  0.0010625205  0.0001541776

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01143209
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.17312

$`Community herbivory`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1727.462

Coefficients:
a.(Intercept)         a.leg
  -2.42689506   -0.08466704

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07776
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06560148
```

```
$`Community herbivory`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.7796

Coefficients:
a.(Intercept)         a.leg
   -3.8862204     0.3936446

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014980
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7011978

$`Community herbivory`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -3.435027

Coefficients:
c.(Intercept)         c.leg
    0.6906132    -1.2050090

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.07122608
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2298237

$`Community herbivory`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -3.010201

Coefficients:
c.(Intercept)         c.leg
    0.7393013    -1.2106198

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
```

```
0.007609589
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2380645

$`Community herbivory`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508713       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Community herbivory`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -8.737071

Coefficients:
c.(Intercept)       c.grass
  -1.19745985   -0.02462364

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2725202

$`Community herbivory`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 34.10187

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.864011520   0.054345671   0.004685732  -0.002089984

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1687454
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2102846

$`Community herbivory`$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.62145
```

```
Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.859927402   0.047863805   0.003728919  -0.001144567

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01185265
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1822836

$`Community herbivory`$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.199

Coefficients:
a.(Intercept)       a.grass
  -2.69973776    0.07124307

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07431
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06653335

$`Community herbivory`$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.7048

Coefficients:
a.(Intercept)       a.grass
   -4.1678143     0.5560354

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.015057
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7000986

$`Community herbivory`$Eb1811
Generalized nonlinear least squares fit
```

```
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -7.963783

Coefficients:
c.(Intercept)       c.grass
  -1.48362335    0.07911665

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.09269988
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2352531

$`Community herbivory`$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -8.124949

Coefficients:
c.(Intercept)       c.grass
  -1.23208548   -0.01182290

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.006285309
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.256284

$`Community herbivory`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252095.7     -912137.5

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Community herbivory`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -5.092373
```

```
Coefficients:
c.(Intercept)      c.funcgr
   -1.5334221     0.3106515

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2606726

$`Community herbivory`$Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2878.481

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.761574112  -0.650123714   0.006551118  -0.001637776   0.999590753
     c.funcgr
  1.000102312

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.815731
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.000489398

$`Community herbivory`$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.11837

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-8.045578e-01  8.316245e-03  1.981765e-03 -1.404252e-05

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01216325
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1838951

$`Community herbivory`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.905
```

```
Coefficients:
a.(Intercept)      a.funcgr
     1.951450     -4.526512

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.06634
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06874075

$`Community herbivory`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2275

Coefficients:
a.(Intercept)      a.funcgr
     3.368203     -6.188628

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022389
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6074585

$`Community herbivory`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -4.148691

Coefficients:
c.(Intercept)      c.funcgr
   -1.6452381     0.3357799

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.09893362
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2224899

$`Community herbivory`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
```

```
  Data: DF
  Log-likelihood: -4.202869

Coefficients:
c.(Intercept)      c.funcgr
   -1.5493827     0.3131131

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.007533377
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2417105

$`Community herbivory`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.3     -990730.6     -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Community herbivory`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1727.462

Coefficients:
a.(Intercept)      a.funcgr         a.leg
   2.12078408   -4.54767912   -0.08466705

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07776
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06601536

$`Community herbivory`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2215
```

```
Coefficients:
a.(Intercept)      a.funcgr         a.leg
   3.56430330   -6.21307473   -0.09808544

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022400
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6111886

$`Community herbivory`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -1.164351

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.2087367     0.1225190    -0.9842630

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.008427115
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2325958

$`Community herbivory`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.8     -839615.5      296563.3

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Community herbivory`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.199

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   1.80896385   -4.50870159    0.07124306
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.07431
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.0669531

$`Community herbivory`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2247

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.23308310   -6.17170553    0.06754253

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022394
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6112412

$`Community herbivory`$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Community herbivory`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2688.523

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.1575874825  0.0533438816 -0.0631350170  0.0005186644 -0.0001238038
       b.leg c.(Intercept)       c.grass         c.leg
-0.0001348722  0.9999674578  1.0000077862  1.0000084759
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.481151
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0008706527

$`Community herbivory`$Ef3911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.702

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.678692570   0.051864523  -0.119082988   0.003884775  -0.003747483
        c.leg
  0.001446025

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1755138
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2034456

$`Community herbivory`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 37.96413

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.669205726   0.043351635  -0.118207283   0.003130986  -0.002947766
        c.leg
  0.001342380

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01136017
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1744021

$`Community herbivory`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -1726.707

Coefficients:
a.(Intercept)       a.grass         a.leg
  -2.53982446    0.04839831   -0.06853427

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.08128
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06506907

$`Community herbivory`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.5092

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.7642379     0.7980731     0.6783306

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.015192
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.702019

$`Community herbivory`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2.224896

Coefficients:
c.(Intercept)       c.grass         c.leg
    1.1827902    -0.3213236    -1.1738978

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.08164156
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2243891
```

```
$`Community herbivory`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -1.908851

Coefficients:
c.(Intercept)       c.grass         c.leg
    1.1311043    -0.2779977    -1.1577644

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.007861737
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2358592

$`Community herbivory`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292091.9     -918391.5      183181.3     -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Community herbivory`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1726.707

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   1.99172194   -4.53154635    0.04839830   -0.06853428

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.08128
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06548483

$`Community herbivory`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -794.2209

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   3.46723113   -6.20093251    0.03507529   -0.08462904

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022401
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6150818

$`Community herbivory`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
0.194975 0.009702 0.668423
 residual sum-of-squares: 2.244

Number of iterations to convergence: 12
Achieved convergence tolerance: 6.157e-06

$`Community herbivory`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.209147 0.002444
 residual sum-of-squares: 2.246

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.393e-09

$`Community herbivory`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.81001  0.02622
 residual sum-of-squares: 2.249

Number of iterations to convergence: 8
Achieved convergence tolerance: 6.616e-08

$`Community herbivory`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
```

```
0.1916 0.1175
 residual sum-of-squares: 2.248

Number of iterations to convergence: 7
Achieved convergence tolerance: 5.555e-07

$`Community herbivory`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-1.128
 residual sum-of-squares: 15.50

Number of iterations to convergence: 17
Achieved convergence tolerance: 5.237e-06

$`Community herbivory`$Pb11
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 31.18064

Coefficients:
          a           b           c
0.195026079 0.009669404 0.669212743

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1685447

$`Community herbivory`$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.14897

Coefficients:
          a           b
0.209147242 0.002444324

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1675526

$`Community herbivory`$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 31.08971

Coefficients:
          a           c
-0.81001263  0.02622533

Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 0.1676738

$`Community herbivory`$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 31.10556

Coefficients:
        b         c
0.1916094 0.1174617

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1676414

$`Community herbivory`$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -48.0445

Coefficients:
        c
-1.127994

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4374054

$`Community herbivory`$Pc121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 33.42531

Coefficients:
          a           b           c
0.208134229 0.003462153 0.909074345

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1707239
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2113003

$`Community herbivory`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.42154

Coefficients:
```

```
          a           b
0.211460390 0.002352177

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1709220
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2100469

$`Community herbivory`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.02255

Coefficients:
          a           b
0.209920888 0.002373976

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01215167
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1817761

$`Community herbivory`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.88777

Coefficients:
          a           c
-0.81523050  0.02899385

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1536319
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2060609

$`Community herbivory`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
```

```
  Log-likelihood: 32.67162

Coefficients:
          a           c
-0.81788104  0.03214639

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01143901
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1814421

$`Community herbivory`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.99557

Coefficients:
        b         c
0.1857586 0.1325125

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1583759
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2072447

$`Community herbivory`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.77999

Coefficients:
        b         c
0.1844735 0.1422440

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01173997
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1816713

$`Community herbivory`$Pc521
```

```
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -31.12288

Coefficients:
        c
-0.652685

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3578569
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.605326

$`Community herbivory`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -45.61966

Coefficients:
         c
-0.9733747

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01149586
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4687105

$`Community herbivory`$Pd61
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 32.01368

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
   0.16325703    0.01130353    0.04486658   -0.01108138   -0.64537515
     c.funcgr
   0.50199477

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1701021

$`Community herbivory`$Pd71
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.23818

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 1.967712e-01  7.498399e-03  1.832365e-03  6.673067e-05

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1695026

$`Community herbivory`$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 31.22049

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.794881064  -0.007584368   0.009992519   0.006230645

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1695392

$`Community herbivory`$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 31.26438

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
  0.210049578  -0.009087971   0.033360542   0.032806066

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1694485

$`Community herbivory`$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -47.17952

Coefficients:
c.(Intercept)      c.funcgr
   -1.6883061     0.2551688

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4355123

$`Community herbivory`$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
```

```
  Log-likelihood: 33.51607

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 0.2029382649  0.0057849916  0.0011988858  0.0002282628

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1715717
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2126828

$`Community herbivory`$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.12032

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 1.959196e-01  7.932772e-03  1.943102e-03  2.901683e-05

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01216433
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1838924

$`Community herbivory`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.43232

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.776180259  -0.016349455  -0.003103451   0.011093498

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.17187
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2129944

$`Community herbivory`$Pe831
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.0607

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.788494125  -0.012314946   0.005159086   0.008875600

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01211806
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1839531

$`Community herbivory`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.54211

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.23020126   -0.01751314   -0.02950140    0.05526225

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1735878
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2132526

$`Community herbivory`$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.13544

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.21407016   -0.01155920    0.01765159    0.04014175

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01215335
Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.1838412

$`Community herbivory`$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.80446

Coefficients:
c.(Intercept)      c.funcgr
   -1.2473381     0.2248952

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4731535
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6610944

$`Community herbivory`$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -39.04267

Coefficients:
c.(Intercept)      c.funcgr
   -1.7364361     0.3634469

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03123122
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5156482

$`Community herbivory`$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.87912

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.130358174   0.051972912   0.004378836  -0.001304980

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1681829

$`Community herbivory`$Pf131
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.20555

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.94546389    0.08218282    0.06129685   -0.01951820

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1675147

$`Community herbivory`$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.25798

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.06720449    0.07727986    0.33257429   -0.12457324

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1674077

$`Community herbivory`$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -48.03464

Coefficients:
c.(Intercept)       c.grass
  -1.00777700   -0.07902687

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4400777

$`Community herbivory`$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 35.81823

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
 3.874848e-01 -1.133089e-01  1.210668e-03 -5.045723e-05

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1602947

$`Community herbivory`$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
```

```
  Data: DF
  Log-likelihood: 35.63302

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.619834848  -0.110833641   0.012916792  -0.002917135

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1606572

$`Community herbivory`$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 35.63579

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
  0.378809678  -0.109921238   0.033013541   0.003742843

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1606518

$`Community herbivory`$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -46.20505

Coefficients:
c.(Intercept)         c.leg
    0.3009427    -1.0524024

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4303674

$`Community herbivory`$Ph211
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 37.91941

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.40965848   -0.01994444   -0.12072185    0.06232529   -0.01271718
        b.leg c.(Intercept)      c.funcgr         c.leg
  -0.01097843   -0.64063754    0.50276663    0.02134754

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1615016

$`Community herbivory`$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
```

```
  Data: DF
  Log-likelihood: 36.92233

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 0.4831846445 -0.0285236815 -0.1444113981  0.0044437229 -0.0004315691
       b.leg
-0.0005971516

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1602183

$`Community herbivory`$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 36.96259

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.531404698  -0.041131861  -0.132195407   0.038966881   0.002129778
       c.leg
 -0.012093799

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1601397

$`Community herbivory`$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.07779

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.48080810   -0.04490106   -0.13389504   -0.00252009    0.03901684
       c.leg
   0.02359415

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1599149

$`Community herbivory`$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -46.1194

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  0.002772294   0.070065300  -0.951714511

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4326306
```

```
$`Community herbivory`$Pi261
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 33.73037

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.031667064   0.027355120   0.081243859   0.022630306  -0.004514414
      b.grass c.(Intercept)      c.funcgr       c.grass
 -0.004569579  -3.588619529   1.325748196   0.884974509

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1699664

$`Community herbivory`$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.70084

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.003591316   0.031609123   0.096389018   0.010907605  -0.001096340
      b.grass
 -0.004419455

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1686826

$`Community herbivory`$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.57852

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.964981440   0.013462141   0.084858051   0.031107186   0.003422497
      c.grass
 -0.009704097

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1689344

$`Community herbivory`$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.60171

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
```

```
   0.05129921    0.01104363    0.07891310    0.18245694    0.01188881
      c.grass
  -0.06653944

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1688867

$`Community herbivory`$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -46.95529

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -2.4979057     0.3559130     0.3930719

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4370633

$`Community herbivory`$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 36.24167

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.327606399   0.043329224  -0.116296685   0.003414923  -0.002879766
        b.leg
  0.001111030

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1615538

$`Community herbivory`$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 36.00159

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.714686784   0.046639297  -0.100283255   0.037584649  -0.011484961
        c.leg
 -0.004685047

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1620275

$`Community herbivory`$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
```

```
  Log-likelihood: 35.99771

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
 0.2872415907  0.0425930666 -0.0968085726  0.1291530062 -0.0461180037
       c.leg
 0.0006948042

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1620351

$`Community herbivory`$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -46.0492

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.6076117    -0.2068888    -1.0582865

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4322604

$`Community herbivory`$Pk361
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 39.59341

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 5.176573e-01 -3.193907e-02  1.074526e-03 -1.578515e-01  7.314251e-05
     b.funcgr       b.grass         b.leg c.(Intercept)      c.funcgr
 2.920057e-07 -3.805649e-05  2.357451e-06  7.755240e+00 -1.116355e+00
      c.grass         c.leg
 1.067631e+00 -2.404173e+00

Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1615932

$`Community herbivory`$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 37.36964

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.396974676  -0.017698369   0.026514121  -0.127552343   0.033178661
     b.funcgr       b.grass         b.leg
 -0.003985171  -0.008635486  -0.006486873

Degrees of freedom: 82 total; 74 residual
```

```
Residual standard error: 0.1614857

$`Community herbivory`$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 37.3273

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.60899400   -0.03174576    0.02532620   -0.11819087    0.15798428
     c.funcgr       c.grass         c.leg
  -0.01244693   -0.03682973   -0.03561520

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1615691

$`Community herbivory`$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.53798

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.41244893   -0.03764404    0.02143111   -0.11970821    0.58293172
     c.funcgr       c.grass         c.leg
  -0.03030396   -0.17515424   -0.10206602

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1611545

$`Community herbivory`$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -46.03722

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   0.99402698   -0.05368502   -0.31236416   -1.14149131

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4349589

$`Community herbivory`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.1336

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.131938894   0.056370832   0.005196032  -0.002343910
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1689157
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2102564

$`Community herbivory`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.64984

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.136555251   0.049567808   0.004191784  -0.001359770

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0118539
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1822224

$`Community herbivory`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.21271

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.97942124    0.10534271    0.08034195   -0.03409685

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1643353
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2086301

$`Community herbivory`$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.89796
```

```
Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.96498743    0.09300394    0.07407273   -0.02742314

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01169514
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1814244

$`Community herbivory`$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.36048

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.04572846    0.09359140    0.39837588   -0.17648440

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1667527
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2090032

$`Community herbivory`$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.01334

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.05899808    0.08221970    0.36564553   -0.14640942

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01180601
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1813419

$`Community herbivory`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: -30.06568

Coefficients:
c.(Intercept)       c.grass
   -0.2551586    -0.2817844

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3871548
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6280255

$`Community herbivory`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -45.41921

Coefficients:
c.(Intercept)       c.grass
   -0.4611317    -0.3220803

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01279797
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4757684

$`Community herbivory`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.14756

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
 3.813549e-01 -1.109906e-01  1.237919e-03  5.840574e-05

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1729774
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.201423
```

```
$`Community herbivory`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 37.55201

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
 0.3856544683 -0.1130511261  0.0011534745  0.0001093700

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01143179
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1731255

$`Community herbivory`$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 37.75088

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.65081195   -0.09403555    0.02812687   -0.01160515

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1664630
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2004517

$`Community herbivory`$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 37.21407

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.64377487   -0.09905300    0.02760291   -0.01011214

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01113719
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1734013

$`Community herbivory`$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.77519

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.34752800   -0.09314748    0.09458514   -0.03268483

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1675627
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2007197

$`Community herbivory`$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.23646

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.35534578   -0.09840721    0.08450787   -0.02085787

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01119835
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1734450

$`Community herbivory`$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.53753

Coefficients:
c.(Intercept)         c.leg
    0.4054071    -0.8442322

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.4234126
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6195492

$`Community herbivory`$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.53212

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 5.070306e-01 -3.247299e-02 -1.535703e-01  1.766967e-03 -2.118745e-05
        b.leg
 4.631735e-04

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1791154
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2024762

$`Community herbivory`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.66769

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 0.4854158865 -0.0285819681 -0.1459587046  0.0040462121 -0.0004058639
        b.leg
-0.0003253645

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01135543
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1729051

$`Community herbivory`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.41778
```

```
Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.493951975  -0.052495638  -0.141780336   0.012594018   0.008635340
        c.leg
 -0.005059316

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1769790
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2021166

$`Community herbivory`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 38.63558

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.521745984  -0.046276812  -0.133991350   0.030439144   0.005145438
        c.leg
 -0.009905252

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01123359
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.172792

$`Community herbivory`$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 39.79904

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.52596285   -0.05669338   -0.14531992   -0.13089563    0.06916151
        c.leg
   0.05797702

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1862746
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2039746

$`Community herbivory`$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 38.83692

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.49161276   -0.04776077   -0.13766226   -0.04856581    0.04807140
        c.leg
   0.04300763

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01140479
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1726218

$`Community herbivory`$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -21.66270

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   -0.3435000     0.1347464    -0.5422597

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4757632
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6506302

$`Community herbivory`$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.8878

Coefficients:
c.(Intercept)      c.funcgr         c.leg
   -0.3476097     0.2224018    -0.8252297

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03118281
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.511432

$`Community herbivory`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 35.01325

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.017486588   0.033313939   0.110052522   0.013247791  -0.001296043
      b.grass
 -0.005948199

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1716561
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2115913

$`Community herbivory`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.50069

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.004039675   0.032876458   0.099831079   0.012122522  -0.001265548
      b.grass
 -0.004995392

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01183749
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1826732

$`Community herbivory`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
```

```
  Log-likelihood: 34.72888

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.978299430   0.008704722   0.100735687   0.039735068   0.005594306
      c.grass
 -0.020630994

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1689960
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2114895

$`Community herbivory`$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.30393

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.967656283   0.009872894   0.089368869   0.035362037   0.004931140
      c.grass
 -0.014269277

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01172940
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1829422

$`Community herbivory`$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.78510

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  0.045818912   0.006991451   0.090038715   0.211661287   0.019974039
      c.grass
 -0.106305713

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
     power
-0.1690702
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2113678

$`Community herbivory`$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.35377

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
  0.047469248   0.009869286   0.082415768   0.213469837   0.012470611
      c.grass
 -0.087568006

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01175943
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1828782

$`Community herbivory`$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.67203

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.4556547     0.2513051     0.1015088

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.471243
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6623107

$`Community herbivory`$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -38.94309

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -2.0807583     0.4076852     0.1669846
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03115831
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5179474

$`Community herbivory`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.71288

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.320033109   0.053028687  -0.119632590   0.004012594  -0.003898086
       b.leg
  0.001557830

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.175876
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2035281

$`Community herbivory`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 37.96947

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.329647408   0.044195553  -0.118439591   0.003278737  -0.003085959
       b.leg
  0.001413392

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01136700
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.174401

$`Community herbivory`$Pr3321
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 38.37933

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.771952837   0.072909247  -0.089525576   0.066337850  -0.027125550
       c.leg
 -0.009511568

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.1772813
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2047844

$`Community herbivory`$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 37.67438

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.743848039   0.057041817  -0.093734079   0.054950826  -0.018897502
       c.leg
 -0.008137404

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.01134172
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1749918

$`Community herbivory`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 38.44825

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
  0.239603131   0.065742239  -0.088495743   0.233288621  -0.109276467
       c.leg
 -0.009883932

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1802022
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2055016

$`Community herbivory`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.71363

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
  0.264703178   0.051495789  -0.092475027   0.183846791  -0.076385853
       c.leg
 -0.002290281

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01144533
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1750637

$`Community herbivory`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -21.59119

Coefficients:
c.(Intercept)       c.grass         c.leg
    0.6825006    -0.2904494    -0.7495879

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4750247
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6493507

$`Community herbivory`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -38.35568

Coefficients:
```

```
c.(Intercept)       c.grass         c.leg
    1.3926140    -0.4662971    -1.2169714

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03086126
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5129405

$`Community herbivory`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.3574

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.388427729  -0.017592664   0.036271000  -0.130110799   0.034287756
     b.funcgr       b.grass         b.leg
 -0.004042476  -0.009746458  -0.006235750

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1928125
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2073123

$`Community herbivory`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.25093

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.389429111  -0.016505939   0.029416388  -0.127103909   0.034525942
     b.funcgr       b.grass         b.leg
 -0.004175936  -0.009138107  -0.006595659

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01164804
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1744218
```

```
$`Community herbivory`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.1031

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.625535707  -0.036972473   0.042035385  -0.116331586   0.165507745
     c.funcgr       c.grass         c.leg
 -0.009874154  -0.047253490  -0.035949996

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1903130
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.207186

$`Community herbivory`$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.12697

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.61511869   -0.03493537    0.03014212   -0.11677424    0.16389265
     c.funcgr       c.grass         c.leg
  -0.01120816   -0.04113454   -0.03653152

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01152889
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1745071

$`Community herbivory`$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.76203

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.41309378   -0.04433125    0.03703875   -0.12348835    0.63637756
     c.funcgr       c.grass         c.leg
  -0.02181063   -0.23195476   -0.10517477
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2047530
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2099813

$`Community herbivory`$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 39.47652

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.40647891   -0.03817920    0.02646162   -0.12027324    0.62661112
     c.funcgr       c.grass         c.leg
  -0.03289239   -0.20030682   -0.10297327

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01179900
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1741682

$`Community herbivory`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -21.34536

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   0.19303542    0.06686784   -0.17126203   -0.63549883

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.480029
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6564023

$`Community herbivory`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.79615
```

```
Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    0.1634056     0.1592159    -0.1617899    -0.9217684

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03121767
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5142789

$`Community herbivory`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.5364  0.2060 -4.6435
 residual sum-of-squares: 2.245

Number of iterations to convergence: 2
Achieved convergence tolerance: 9.686e-06

$`Community herbivory`$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.5364  -4.6434 -50.3356
 residual sum-of-squares: 2.245

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.048e-06

$`Community herbivory`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.2485 0.2501
 residual sum-of-squares: 2.233

Number of iterations to convergence: 12
Achieved convergence tolerance: 5.642e-06

$`Community herbivory`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.4115 -0.1689 34.2745
 residual sum-of-squares: 2.245
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 3.114e-06


$Parasitism
$Parasitism$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.295994       -0.018157        0.002647       -0.131154
0.030594
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
      0.175185        0.013751       -0.215317       -0.004322       -
0.012852
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.002185       -0.092400       -0.059584        0.161299


$Parasitism$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.426109     0.004086    -0.031926    -0.066197


$Parasitism$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.3362 0.3985
 residual sum-of-squares: 4.091

Number of iterations to convergence: 5
Achieved convergence tolerance: 4.469e-06

$Parasitism$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.3362 0.3985
 residual sum-of-squares: 4.091
```

```
Number of iterations to convergence: 6
Achieved convergence tolerance: 2.293e-06

$Parasitism$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
 0.4540 78.7102  0.2573
 residual sum-of-squares: 4.005

Number of iterations to convergence: 8
Achieved convergence tolerance: 4.62e-06

$Parasitism$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
2.878e-01 1.502e-27
 residual sum-of-squares: 4.046

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.914e-09

$Parasitism$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.334e-20

$Parasitism$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
4.022e-27
 residual sum-of-squares: 10.17

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.55e-09

$Parasitism$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
0.24676 0.01368 0.66379
 residual sum-of-squares: 4.004
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 1.21e-06

$Parasitism$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
      a       b
0.26705 0.00335
 residual sum-of-squares: 4.009

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.424e-09

$Parasitism$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.75660  0.03406
 residual sum-of-squares: 4.031

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.985e-06

$Parasitism$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
     b      c
0.2435 0.1243
 residual sum-of-squares: 4.024

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.161e-06

$Parasitism$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.9072
 residual sum-of-squares: 15.19

Number of iterations to convergence: 20
Achieved convergence tolerance: 6.788e-06

$Parasitism$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.5548  0.2584 -4.0091
```

```
 residual sum-of-squares: 4.006

Number of iterations to convergence: 3
Achieved convergence tolerance: 4.406e-06

$Parasitism$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
    Asym      lrc       c0
  0.5548  -4.0091 -34.5433
 residual sum-of-squares: 4.006

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.554e-06

$Parasitism$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.3079 0.5821
 residual sum-of-squares: 4.142

Number of iterations to convergence: 13
Achieved convergence tolerance: 5.682e-06

$Parasitism$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.5008 -2.1699 26.8442
 residual sum-of-squares: 4.007

Number of iterations to convergence: 2
Achieved convergence tolerance: 9.962e-06


$Pollination
$Pollination$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
     1.9021830      -0.0529588       0.0408958       0.0005415
0.0106349
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
```

```
    -0.3370700      -0.8064455      -0.9614541      -0.0012289
0.0025477
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
    -0.0046002       0.1079479       0.1338933       0.3779492


$Pollination$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.259298     0.003546     0.003957    -0.126254


$Pollination$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.3627 11.3639
 residual sum-of-squares: 1.594

Number of iterations to convergence: 9
Achieved convergence tolerance: 3.705e-06

$Pollination$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.3628 11.3643
 residual sum-of-squares: 1.594

Number of iterations to convergence: 5
Achieved convergence tolerance: 1.959e-06

$Pollination$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a        b        d
 0.38230 17.50585  0.02366
 residual sum-of-squares: 1.589

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.34e-06

$Pollination$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
```

```
1.105e-01 1.924e-27
 residual sum-of-squares: 1.794

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.059e-09

$Pollination$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.091e-20

$Pollination$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
2.892e-27
 residual sum-of-squares: 2.637

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.16e-08

$Pollination$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
-0.1078  0.1441  0.2707
 residual sum-of-squares: 1.586

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.950e-06

$Pollination$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.077167 0.004959
 residual sum-of-squares: 1.660

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.034e-09

$Pollination$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
```

```
       a        c
-0.97683  0.05923
 residual sum-of-squares: 1.594

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.48e-07

$Pollination$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.05315 0.45675
 residual sum-of-squares: 1.593

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.007e-06

$Pollination$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-3.509
 residual sum-of-squares: 14.09

Number of iterations to convergence: 17
Achieved convergence tolerance: 5.126e-06

$Pollination$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
    Asym       R0      lrc
 0.33277  0.03301 -2.90449
 residual sum-of-squares: 1.592

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.285e-06

$Pollination$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
 0.3328 -2.9045 -1.9071
 residual sum-of-squares: 1.592

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.286e-06

$Pollination$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
```

```
   data:  DF
   Asym     lrc
 0.3002 -2.4785
 residual sum-of-squares: 1.608

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.618e-06

$Pollination$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.3196 11.1852  7.5379
 residual sum-of-squares: 1.612

Number of iterations to convergence: 5
Achieved convergence tolerance: 7.504e-06


$Decomposition
$Decomposition$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.698513        0.077314        0.262365        0.048947
0.035103
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.170241       -0.065910       -0.451922       -0.001485       -
0.019453
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.001682        0.027121        0.150350        0.168624


$Decomposition$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
  0.5297420    0.0070731    0.0001013    0.0003643


$Decomposition$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
```

```
     a      b
0.6300 0.2212
 residual sum-of-squares: 1.577

Number of iterations to convergence: 3
Achieved convergence tolerance: 3.250e-06

$Decomposition$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.6300 0.2212
 residual sum-of-squares: 1.577

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.275e-06

$Decomposition$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
     a      b      d
0.1966 4.6211 0.4864
 residual sum-of-squares: 1.567

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.865e-10

$Decomposition$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
5.505e-01 9.965e-09
 residual sum-of-squares: 1.591

Number of iterations to convergence: 2
Achieved convergence tolerance: 8.29e-09

$Decomposition$E3
Nonlinear regression model
  model:  response ~ a + exp(c * sowndiv)
   data:  DF
        a         c
-0.468458  0.006627
 residual sum-of-squares: 1.577

Number of iterations to convergence: 20
Achieved convergence tolerance: 1.289e-07

$Decomposition$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
```

```
   data:  DF
       a
-2625462
 residual sum-of-squares: 7.232e+14

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.086e-08

$Decomposition$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
7.191e-08
 residual sum-of-squares: 10.98

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.518e-10

$Decomposition$E6
Nonlinear regression model
  model:  response ~ exp(c * sowndiv)
   data:  DF
       c
-0.05171
 residual sum-of-squares: 5.734

Number of iterations to convergence: 26
Achieved convergence tolerance: 5.82e-06

$Decomposition$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
      a       b       c
-0.1011  0.6225  0.0624
 residual sum-of-squares: 1.567

Number of iterations to convergence: 18
Achieved convergence tolerance: 1.923e-07

$Decomposition$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.530483 0.007074
 residual sum-of-squares: 1.577

Number of iterations to convergence: 1
Achieved convergence tolerance: 3.662e-09

$Decomposition$Pa3
Nonlinear regression model
```

```
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.47890  0.04009
 residual sum-of-squares: 1.567

Number of iterations to convergence: 6
Achieved convergence tolerance: 4.718e-06

$Decomposition$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.52160 0.07332
 residual sum-of-squares: 1.567

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.496e-08

$Decomposition$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.2375
 residual sum-of-squares: 5.516

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.044e-06

$Decomposition$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
  Asym    lrc
0.6054 0.6786
 residual sum-of-squares: 1.594

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.265e-06


$`Seed predation`
$`Seed predation`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
```

```
      2.666190        0.080418        0.107597        0.088453       -
0.060141
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.503360       -0.788904       -1.020570        0.011867
0.016931
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.000714        0.101580        0.238586        0.355816


$`Seed predation`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.850759    -0.008135     0.010276    -0.091914


$`Seed predation`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.6436 -0.1135
 residual sum-of-squares: 1.668

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.026e-06

$`Seed predation`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.6436 -0.1135
 residual sum-of-squares: 1.668

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.475e-07

$`Seed predation`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
-0.1510  4.1923  0.7523
 residual sum-of-squares: 1.661

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.011e-08

$`Seed predation`$E2
```

```
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 7.009e-01 -7.679e-09
 residual sum-of-squares: 1.676

Number of iterations to convergence: 2
Achieved convergence tolerance: 6.374e-09

$`Seed predation`$E3
Nonlinear regression model
  model:  response ~ a + exp(c * sowndiv)
   data:  DF
        a         c
-0.283208 -0.005752
 residual sum-of-squares: 1.667

Number of iterations to convergence: 20
Achieved convergence tolerance: 2.764e-06

$`Seed predation`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
       a
-2704488
 residual sum-of-squares: 7.69e+14

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.063e-08

$`Seed predation`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
7.12e-08
 residual sum-of-squares: 17.40

Number of iterations to convergence: 2
Achieved convergence tolerance: 4.464e-13

$`Seed predation`$E6
Nonlinear regression model
  model:  response ~ exp(c * sowndiv)
   data:  DF
       c
-0.04066
 residual sum-of-squares: 3.201

Number of iterations to convergence: 23
Achieved convergence tolerance: 6.528e-06
```

```
$`Seed predation`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
 2.28571 -1.56250  0.02032
 residual sum-of-squares: 1.661

Number of iterations to convergence: 45
Achieved convergence tolerance: 7.753e-09

$`Seed predation`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.716061 -0.005438
 residual sum-of-squares: 1.667

Number of iterations to convergence: 1
Achieved convergence tolerance: 9.875e-15

$`Seed predation`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.27626 -0.03418
 residual sum-of-squares: 1.661

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.223e-09

$`Seed predation`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
       b        c
 0.72387 -0.04809
 residual sum-of-squares: 1.661

Number of iterations to convergence: 6
Achieved convergence tolerance: 4.912e-07

$`Seed predation`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.2006
 residual sum-of-squares: 3.034

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.217e-06
```

```
$`Pathogen infection`
$`Pathogen infection`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      1.102971        0.033740       -0.037188       -0.062730       -
0.068664
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.153352        0.278805       -0.334250        0.012060
0.006800
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.009389       -0.127558        0.124327       -0.108286


$`Pathogen infection`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 44.57221

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.896730536    0.021292658    0.012025342   -0.022596434   -
0.069415459
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.096897633    0.244997307   -0.203951715    0.011998217
0.003549326
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
   0.015083434   -0.086614758    0.031646421   -0.094323519

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7437424
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.4238586

$`Pathogen infection`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 75.28316
```

```
Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.545749102    0.009856514    0.038419681   -0.011553805   -
0.081191776
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.236771617   -0.093730840   -0.477253990    0.013780221
0.003729401
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
   0.020399792   -0.015648728    0.042045714    0.046842079

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.1857012
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.4758213

$`Pathogen infection`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.889072    -0.006513    -0.086534    -0.215888


$`Pathogen infection`$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 16.89656

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.656639822 -0.003907434 -0.055308674 -0.130281660

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   power
1.542182
Degrees of freedom: 82 total; 78 residual
Residual standard error: 1.284036

$`Pathogen infection`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
```

```
  Data: DF
  Log-likelihood: 15.92461

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.556582294 -0.003828855 -0.041020824 -0.095882640

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
7.817952
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.01982425

$`Pathogen infection`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 23.01397

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.488385141 -0.003137442 -0.032178552 -0.108575324

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6429561
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4746985

$`Pathogen infection`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 19.64292

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.716208400 -0.003237871 -0.070818202 -0.167350761

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0479371
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2873861
```

```
$`Pathogen infection`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.2554 -0.5006
 residual sum-of-squares: 4.771

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.111e-06

$`Pathogen infection`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.2554 -0.5006
 residual sum-of-squares: 4.771

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.658e-06

$`Pathogen infection`$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
-0.6051  7.0685  0.5750
 residual sum-of-squares: 4.079

Number of iterations to convergence: 12
Achieved convergence tolerance: 6.525e-06

$`Pathogen infection`$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 8.072823

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.28711065   -0.02348914   -1.01977773    0.32042976

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2248364

$`Pathogen infection`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 16.05026

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
```

```
  0.185247605   0.002120233  -1.053995554   0.260920205

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3622465
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3492793

$`Pathogen infection`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 9.853601

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.19932325    0.01373029   -1.10100184    0.34267870

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01402654
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2481613

$`Pathogen infection`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 1.344883

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.14028600    0.08392556   -0.62936226    0.10841971

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2440617

$`Pathogen infection`$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 15.83237

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.04682286    0.09378464   -0.88542047    0.15321032

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4905169
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4236709

$`Pathogen infection`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 10.73674

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   -0.0900203     0.1695955    -1.1126953     0.2902504

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05069827
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.336349

$`Pathogen infection`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 4.745254

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.32312360   -0.04867924    0.25063361   -0.68990069

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2341479

$`Pathogen infection`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 25.25129

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.25144508   -0.03938687    0.21272838   -0.79106694

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
     power
-0.5794491
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4310048

$`Pathogen infection`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.67777

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.29034034   -0.05462995    0.33685002   -0.84642996

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0498852
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2922886

$`Pathogen infection`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 12.41141

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.42876938   -0.05623745   -0.05362281   -0.41847915   -0.49649051
        b.leg
   0.29557715

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2160373

$`Pathogen infection`$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.75609

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.38395383   -0.05529414   -0.06331711   -0.06607989   -0.70909197
        b.leg
   0.11898052

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.5429979
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.3963314

$`Pathogen infection`$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 26.47167

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
    0.3840137    -0.0667193    -0.0435958    -0.1785743    -0.7134030
        b.leg
    0.2318944

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04797379
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2747487

$`Pathogen infection`$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 5.081408

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.24910811   -0.03885417    0.03730490    0.19731222   -0.67220445
      b.grass
   0.02073095

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2362384

$`Pathogen infection`$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 25.70577

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.18761396   -0.03169204    0.03309608    0.09743451   -0.77610007
      b.grass
   0.05962879
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5798649
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4344939

$`Pathogen infection`$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.93480

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.23096686   -0.04747342    0.03081502    0.26451867   -0.83533164
      b.grass
   0.03672329

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0498179
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2950123

$`Pathogen infection`$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 10.01789

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.098925437   0.101531748   0.009025709  -2.351995946   0.532222527
       b.leg
  0.643522441

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2224362

$`Pathogen infection`$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.5384

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  -0.07669542    0.13151616    0.05104610   -7.19642980    2.13544872
```

```
        b.leg
   2.18378864

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
-0.53344
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4215282

$`Pathogen infection`$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.33727

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   -0.2263303     0.1909072     0.1084571    -8.2401081     2.4852494
        b.leg
    2.5679252

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.04815979
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2965642

$`Pathogen infection`$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: -30.72924

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  -0.20346459    0.07648041    0.01745988    0.04114572   -8.26905948
     b.funcgr       b.grass         b.leg
   0.73453285    0.49320408    2.24886640

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.3705138

$`Pathogen infection`$M921
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.65802
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.45532940   -0.06550872   -0.01862946   -0.07761899   -0.65218575
     b.funcgr       b.grass         b.leg
  -0.67215733    0.20398034    0.25616851

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5382397
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.3944616

$`Pathogen infection`$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.69777

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.45850322   -0.07697651   -0.01825330   -0.05959983   -0.81909361
     b.funcgr       b.grass         b.leg
  -0.69808154    0.24445621    0.37799471

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04769536
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2736495

$`Pathogen infection`$M101
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 15.63085

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg d.(Intercept)
   -1.8769758     0.6127942   -12.6950174    14.1764627     2.2144567
        d.leg
   -0.8912429

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2077197

$`Pathogen infection`$M111
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
```

```
  Data: DF
  Log-likelihood: 7.242137

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
  0.335216061  -0.873690391 -24.019345060  30.702949523   0.525171326
      d.grass
  0.007916547

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2300947

$`Pathogen infection`$M1121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.55366

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
    1.8736911    -2.5342207  -104.4572393   107.5495609     0.8819469
      d.grass
   -0.1823112

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7442117
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4741324

$`Pathogen infection`$M1132
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.98844

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass d.(Intercept)
   0.62113535   -1.16310539  -39.71052367   44.19381445    0.61716159
      d.grass
  -0.04033186

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05041029
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2754147
```

```
$`Pathogen infection`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 7.241623

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.7622345269 -0.0009909639 14.1195856009 -2.8999972467  0.4596863801
     d.funcgr
 0.0875688521

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2300961

$`Pathogen infection`$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 37.74945

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.98200730    0.09631328   19.15189671   -3.72527626    0.52605448
     d.funcgr
   0.02587024

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7352549
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4724807

$`Pathogen infection`$M1232
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.93144

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.86925803    0.04442597   16.82837956   -3.42021192    0.48272004
     d.funcgr
   0.06178171

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0503925
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2755642

$`Pathogen infection`$M1421
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 40.39215

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   0.53160313    0.01436848   -1.43263123  -74.74320566    0.62001038
      b.grass d.(Intercept)      d.funcgr       d.grass
  75.15550100    1.35695488   -0.01919253   -0.40342630

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7558632
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.4813047

$`Pathogen infection`$M1432
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.02421

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -0.35095492    0.01186935   -0.67827550  -50.59864626    0.63583728
      b.grass d.(Intercept)      d.funcgr       d.grass
  50.51429990    1.68084481   -0.02715952   -0.55652955

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0502669
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2771482

$`Pathogen infection`$M151
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 16.37626

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 -2.542670174   0.182135418   0.859436137  -6.846966892  -0.005541167
```

```
       b.leg d.(Intercept)       d.grass         d.leg
  7.969688072   2.712112531  -0.113230780  -1.042069802

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.210027

$`Pathogen infection`$M161
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 20.15388

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   -3.0959747     0.2528777     0.7215863     0.4626971   -13.7837611
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
    1.3098456    10.2926627     1.2790994     3.4745556    -0.2931023
      d.grass         d.leg
   -0.8871969    -0.5031307

Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.2048237

$`Pathogen infection`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 3.442e-01 -2.377e-27
 residual sum-of-squares: 5.343

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.217e-09

$`Pathogen infection`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Pathogen infection`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
6.374e-28
 residual sum-of-squares: 14.58

Number of iterations to convergence: 4
```

```
Achieved convergence tolerance: 1.328e-09

$`Pathogen infection`$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 10.27396

Coefficients:
            a             b
 2.659267e-01 -1.691235e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05116319
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3353335

$`Pathogen infection`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.33815

Coefficients:
           a            c
-0.739578883 -0.003686748

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.668375
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5156326

$`Pathogen infection`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 15.63486

Coefficients:
           a            c
-0.671375834 -0.004962035

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
      expon
-0.05003396
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3110812

$`Pathogen infection`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1784.916

Coefficients:
        a
-2.237326

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.80928
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1957100

$`Pathogen infection`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.5788

Coefficients:
        a
-2.887314

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014097
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7090351

$`Pathogen infection`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -26.12111

Coefficients:
           b
6.373547e-28

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5857162
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7987482

$`Pathogen infection`$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -23.22938

Coefficients:
           b
6.373546e-28

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.06014282
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.5416311

$`Pathogen infection`$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 10.46526

Coefficients:
         c
-0.1926283

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5336081
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.473197

$`Pathogen infection`$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -0.3309196

Coefficients:
         c
```

```
-0.2976321

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02824344
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3115213

$`Pathogen infection`$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
     -2963126        911706

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Pathogen infection`$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 2.366908

Coefficients:
c.(Intercept)         c.leg
    0.2235841    -0.4160421

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2380066

$`Pathogen infection`$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 37.10579

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
    0.7955720    -0.7161086    -0.4041537     0.1927873

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7028233
Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.4479634

$`Pathogen infection`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 31.59849

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
    0.7504362    -0.6764945    -0.4530437     0.2154851

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04860523
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2561513

$`Pathogen infection`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1772.911

Coefficients:
a.(Intercept)         a.leg
   -1.3750303    -0.4927403

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.86538
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1565160

$`Pathogen infection`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.5766

Coefficients:
a.(Intercept)         a.leg
  -3.00682052    0.06888411

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
   expon
1.014091
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7134715

$`Pathogen infection`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 17.24413

Coefficients:
c.(Intercept)         c.leg
   0.05738158   -0.21642256

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4689588
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3982487

$`Pathogen infection`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 9.960481

Coefficients:
c.(Intercept)         c.leg
    0.2254390    -0.4046875

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02608192
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2714062

$`Pathogen infection`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508713       1286426

Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 2.553606e+25

$`Pathogen infection`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -8.31271

Coefficients:
c.(Intercept)       c.grass
  -0.21886155   -0.07792917

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2711135

$`Pathogen infection`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 30.92529

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -1.07592822    0.30407815    0.02790709   -0.03079686

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7235179
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4981026

$`Pathogen infection`$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 23.33727

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.98327578    0.25923446    0.02652600   -0.03032510

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05047716
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2878922

$`Pathogen infection`$Eb1611
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1784.570

Coefficients:
a.(Intercept)       a.grass
  -2.40045636    0.09321746

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.81090
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1956272

$`Pathogen infection`$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.4177

Coefficients:
a.(Intercept)       a.grass
   -3.9026850     0.5854318

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014227
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7112604

$`Pathogen infection`$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 10.46792

Coefficients:
c.(Intercept)       c.grass
 -0.188712702  -0.002865015

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.533238
Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 0.4758683

$`Pathogen infection`$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 0.004373489

Coefficients:
c.(Intercept)       c.grass
   -0.1874735    -0.0760091

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02819225
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3120460

$`Pathogen infection`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252096.0     -912137.6

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Pathogen infection`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -4.515243

Coefficients:
c.(Intercept)      c.funcgr
  -0.52792613    0.08859517

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2588444

$`Pathogen infection`$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 25.88963

Coefficients:
```

```
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.38673349   -0.08330820   -0.04683816    0.01074062

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.05052097
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2791742

$`Pathogen infection`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1784.916

Coefficients:
a.(Intercept)      a.funcgr
     2.410351     -4.647677

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.80928
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1969297

$`Pathogen infection`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.9174

Coefficients:
a.(Intercept)      a.funcgr
     3.803231     -6.300221

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021196
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6188969

$`Pathogen infection`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
```

```
  Log-likelihood: 12.01444

Coefficients:
c.(Intercept)      c.funcgr
  -0.27574825    0.02990515

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5101623
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4512508

$`Pathogen infection`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 3.569997

Coefficients:
c.(Intercept)      c.funcgr
  -0.49172921    0.08228715

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02744894
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2968674

$`Pathogen infection`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.7     -990730.7     -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Pathogen infection`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1772.911

Coefficients:
```

```
a.(Intercept)      a.funcgr         a.leg
    3.3958313    -4.7708616    -0.4927403

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.86538
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1575035

$`Pathogen infection`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.8008

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     4.681659     -6.408737     -0.439901

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021411
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6207676

$`Pathogen infection`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 10.00241

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  0.262913852  -0.007659155  -0.420433155

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02606521
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2729398

$`Pathogen infection`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
```

```
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335850.5     -839615.5      296563.3

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Pathogen infection`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1784.570

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   2.22391583   -4.62437217    0.09321745

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.81090
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1968614

$`Pathogen infection`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.9127

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.62722844   -6.27817043    0.08797433

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021204
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6227213

$`Pathogen infection`$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
```

```
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Pathogen infection`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2734.132

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 1.5462587026 -0.0791169040 -0.5285599169 -0.0003920776 -0.0000232667
       b.leg c.(Intercept)       c.grass         c.leg
 0.0002201421  1.0000242034  1.0000015328  0.9999863539

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.438892
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.002182565

$`Pathogen infection`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 31.63233

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 0.7542599397 -0.0096190568 -0.6707113944 -0.4413984107 -0.0004566373
       c.leg
 0.2097583393

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.04858349
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2593443

$`Pathogen infection`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1772.553
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg
  -1.18857840   -0.07990796   -0.51937627

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.86705
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1564264

$`Pathogen infection`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.376

Coefficients:
a.(Intercept)       a.grass         a.leg
   -4.6522264     0.6991411     0.3183637

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014223
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7154107

$`Pathogen infection`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 17.24931

Coefficients:
c.(Intercept)       c.grass         c.leg
  0.061493432  -0.003270806  -0.215969163

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4686998
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.400582

$`Pathogen infection`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
```

```
  Data: DF
  Log-likelihood: 10.07287

Coefficients:
c.(Intercept)       c.grass         c.leg
   0.25230736   -0.02450144   -0.39705377

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02604326
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2726540

$`Pathogen infection`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292092.6     -918391.6      183181.2     -199834.4

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Pathogen infection`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1772.553

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   3.60891924   -4.79749760   -0.07990798   -0.51937628

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.86705
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1574259

$`Pathogen infection`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.7962
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   4.94391878   -6.44147104   -0.09478368   -0.47627302

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021419
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6246552

$`Pathogen infection`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.400395 -0.008086
 residual sum-of-squares: 4.753

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.597e-09

$`Pathogen infection`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
      a       c
-0.4791 -0.1512
 residual sum-of-squares: 4.15

Number of iterations to convergence: 9
Achieved convergence tolerance: 6.922e-07

$`Pathogen infection`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
 0.5268 -0.3581
 residual sum-of-squares: 4.221

Number of iterations to convergence: 9
Achieved convergence tolerance: 8.406e-06

$`Pathogen infection`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.7926
 residual sum-of-squares: 8.646
```

```
Number of iterations to convergence: 11
Achieved convergence tolerance: 1.359e-06

$`Pathogen infection`$Pb11
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 6.155177

Coefficients:
            a             b             c
 17.389084042 -16.878929226   0.007091838

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.228695

$`Pathogen infection`$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 0.4103512

Coefficients:
           a            b
 0.400395226 -0.008086146

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2437538

$`Pathogen infection`$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 5.973103

Coefficients:
          a          c
-0.4791161 -0.1511808

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2277664

$`Pathogen infection`$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 5.277567

Coefficients:
          b          c
 0.5268355 -0.3580622

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2297065
```

```
$`Pathogen infection`$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.11859

Coefficients:
         c
-0.7925799

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3267126

$`Pathogen infection`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 19.84966

Coefficients:
           a            b
 0.252266257 -0.003136881

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6777543
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5259867

$`Pathogen infection`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 15.02697

Coefficients:
           a            b
 0.318745681 -0.004120877

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05025831
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3140001

$`Pathogen infection`$Pc321
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.80125

Coefficients:
         a          c
-0.4941662 -0.1456434

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.652355
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4325173

$`Pathogen infection`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 25.68335

Coefficients:
         a          c
-0.4946555 -0.1390135

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05008193
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.275317

$`Pathogen infection`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.70441

Coefficients:
         b          c
 0.6557468 -0.5273297

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7281074
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4786975
```

```
$`Pathogen infection`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.56124

Coefficients:
         b          c
 0.5687183 -0.4933223

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0508083
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2808564

$`Pathogen infection`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 26.03236

Coefficients:
        c
-0.685694

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.8465402
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6228107

$`Pathogen infection`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 1.50058

Coefficients:
         c
-0.6508648

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
```

```
-0.05733502
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.3910730

$`Pathogen infection`$Pd61
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 6.362197

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
   0.64277785    0.04052562   -0.13180153   -0.05181246    0.47003111
     c.funcgr
  -0.06680323

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2325771

$`Pathogen infection`$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 5.596674

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.580708967  -0.065761705  -0.037535882   0.008233629

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2317293

$`Pathogen infection`$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 6.645464

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.63376839    0.13208947   -0.01274415   -0.11602548

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2287843

$`Pathogen infection`$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 6.652229

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
    0.3038077     0.1925425    -0.1882545    -0.1428979
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2287654

$`Pathogen infection`$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.76424

Coefficients:
c.(Intercept)      c.funcgr
   -0.9801819     0.0774386

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3273307

$`Pathogen infection`$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.78239

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.591491661  -0.088132108  -0.034202349   0.007851525

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7217787
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4798059

$`Pathogen infection`$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 25.64964

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.597345064  -0.082917648  -0.035951344   0.008183271

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05056455
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2800972
```

```
$`Pathogen infection`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 35.41856

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.54256793    0.12916547   -0.08619778   -0.12242958

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.718809
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.468258

$`Pathogen infection`$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 26.79289

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.64216670    0.15337936   -0.01394444   -0.13654842

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.05034638
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2757023

$`Pathogen infection`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.78714

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.47926579    0.10651744   -0.45781397   -0.04303702

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
```

```
-0.7111895
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4665699

$`Pathogen infection`$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 26.50037

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.38463530    0.13011088   -0.34486447   -0.06839052

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05030885
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2765984

$`Pathogen infection`$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 27.52781

Coefficients:
c.(Intercept)      c.funcgr
  -0.80367373    0.03760853

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.8715216
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6386162

$`Pathogen infection`$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 2.939418

Coefficients:
c.(Intercept)      c.funcgr
  -0.91068411    0.06736651

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05736787
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.386774

$`Pathogen infection`$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 4.472134

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.15180571    0.18472544    0.01484520   -0.02055777

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2349291

$`Pathogen infection`$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 6.267973

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.558976228   0.045968384  -0.133341616  -0.004543258

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2298400

$`Pathogen infection`$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 5.673176

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.46823359    0.03248395   -0.43786763    0.06766446

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2315132

$`Pathogen infection`$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.11854

Coefficients:
c.(Intercept)       c.grass
```

```
 -0.795653224   0.002169931

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.328748

$`Pathogen infection`$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 3.781036

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.520987791  -0.062058141   0.002374644  -0.010972918

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2369174

$`Pathogen infection`$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 15.18665

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
    0.2342888    -0.4135707    -0.6574593     0.2755329

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2061531

$`Pathogen infection`$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 14.89550

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    1.2751201    -0.4349334    -0.8062905     0.2530300

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2068863

$`Pathogen infection`$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.79454

Coefficients:
c.(Intercept)         c.leg
   -0.2942345    -0.3697108
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3234826

$`Pathogen infection`$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 13.25366

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   1.21395171   -0.14488472   -0.31644469   -0.08012208    0.01358211
        b.leg
   0.02118918

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2138297

$`Pathogen infection`$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 15.30070

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  0.215325995   0.002685901  -0.405829998  -0.577760481  -0.015821105
        c.leg
  0.248547542

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2085577

$`Pathogen infection`$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 16.30459

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
    1.0770606     0.1327776    -0.4110494    -0.3526272    -0.1526833
        c.leg
    0.1170629

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.20602

$`Pathogen infection`$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.74608
```

```
Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.13917163   -0.03415626   -0.42420852

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3253312

$`Pathogen infection`$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 6.179161

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.402359211  -0.043471204   0.089157290  -0.026651518   0.006870574
      b.grass
 -0.005431838

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2330969

$`Pathogen infection`$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 7.224315

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -0.757526600   0.149440983   0.060270485  -0.015814983  -0.118601866
      c.grass
  0.004972221

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2301447

$`Pathogen infection`$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 7.348475

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
 0.0886962570  0.2221097543  0.1049454183 -0.1711261166 -0.1494640959
      c.grass
-0.0007277157

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2297965

$`Pathogen infection`$Pi301
Generalized nonlinear least squares fit
```

```
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.64254

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -1.2267265     0.1061809     0.1261345

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3289073

$`Pathogen infection`$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 7.22208

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.345746486   0.162805803  -0.095474300   0.018086212  -0.020452025
       b.leg
 -0.004610679

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.230151

$`Pathogen infection`$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 15.62466

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
   0.41366306   -0.07830015   -0.44085594   -0.85201888    0.07244390
       c.leg
   0.31778889

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2077354

$`Pathogen infection`$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 15.80527

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
    1.5484336    -0.1248992    -0.4715035    -1.0605645     0.1480564
       c.leg
    0.2629894

Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.2072783

$`Pathogen infection`$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.79102

Coefficients:
c.(Intercept)       c.grass         c.leg
  -0.27050929   -0.01666012   -0.36984159

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3255095

$`Pathogen infection`$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 14.05393

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  1.566257199  -0.188929890  -0.114559777  -0.378075810  -0.101988825
     b.funcgr       b.grass         b.leg
  0.016310012   0.007284333   0.024860662

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2145954

$`Pathogen infection`$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 16.00184

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  0.545966595  -0.041897838  -0.114185682  -0.455705651  -0.739975860
     c.funcgr       c.grass         c.leg
  0.007694655   0.063767101   0.265957784

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2095578

$`Pathogen infection`$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 16.81188

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   1.27131908    0.10651982   -0.06995057   -0.43632790   -0.09012089
```

```
     c.funcgr       c.grass         c.leg
  -0.18101740   -0.06498643    0.04010283

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2074978

$`Pathogen infection`$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.60385

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    0.4455496    -0.1075155    -0.1704884    -0.5495846

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3268426

$`Pathogen infection`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.72892

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  -0.05470556    0.27850068    0.01922535   -0.02179708

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7264104
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5014456

$`Pathogen infection`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.10365

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.02235393    0.24732462    0.01893354   -0.02222426

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05054528
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2888824

$`Pathogen infection`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.36998

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
-0.7443924824  0.1816348284  0.0009382821 -0.1143512467

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7035424
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4636558

$`Pathogen infection`$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 26.19698

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.63145194    0.09005373   -0.06625075   -0.05310468

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05029657
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2775944

$`Pathogen infection`$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.97974

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
  0.648218293  -0.003367885  -0.576349547   0.046013278

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.7195395
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4770639

$`Pathogen infection`$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 25.26296

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.56285166   -0.00599163   -0.60279791    0.11015190

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05054672
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2813781

$`Pathogen infection`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 26.07841

Coefficients:
c.(Intercept)       c.grass
  -0.66399455   -0.01765004

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.8499086
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6294793

$`Pathogen infection`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 1.864626

Coefficients:
c.(Intercept)       c.grass
   -0.5491821    -0.0980320
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05741988
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.392052

$`Pathogen infection`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 24.87227

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.200617953   0.075031609   0.008294706  -0.011774644

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6829825
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5049429

$`Pathogen infection`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 18.97063

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
   0.31356687    0.03641362    0.00859263   -0.01322794

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04991894
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3021867

$`Pathogen infection`$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.70109

Coefficients:
```

```
a.(Intercept)         a.leg c.(Intercept)         c.leg
    0.5369887    -0.5404474    -1.1358277     0.4933570

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
-0.70344
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4291394

$`Pathogen infection`$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.52407

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
    0.1581660    -0.3712603    -0.4958903     0.1874014

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04781907
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2515725

$`Pathogen infection`$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.36177

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    1.3755319    -0.4478205    -0.7724605     0.1494138

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6996985
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.428532

$`Pathogen infection`$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
```

```
  Log-likelihood: 33.54727

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    1.3237939    -0.4535601    -0.8355527     0.2319202

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04852583
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.249965

$`Pathogen infection`$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 30.35833

Coefficients:
c.(Intercept)         c.leg
   -0.4760070    -0.1749738

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.872265
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6176294

$`Pathogen infection`$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 3.932815

Coefficients:
c.(Intercept)         c.leg
   -0.3498407    -0.2919234

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05713115
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3813409

$`Pathogen infection`$Pp2221
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.56058

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   1.16383517   -0.15972421   -0.28629123   -0.06942929    0.01224794
        b.leg
   0.01764681

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7243738
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4492416

$`Pathogen infection`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.30315

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   1.21196911   -0.15928435   -0.30749313   -0.07519254    0.01309549
        b.leg
   0.01956398

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04891789
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2579709

$`Pathogen infection`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.74666

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  0.585725478  -0.005558248  -0.561473704  -1.187933317   0.001736407
       c.leg
  0.518784488

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7051416
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4356068

$`Pathogen infection`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.67642

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
   0.26877151    0.03795901   -0.44707876   -0.76119675   -0.03739801
        c.leg
   0.34432540

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04842482
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.252615

$`Pathogen infection`$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.32051

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   1.18765444    0.03751063   -0.38199167   -0.47885211   -0.05681594
        c.leg
   0.04867709

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6745853
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4133846

$`Pathogen infection`$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
```

```
  Log-likelihood: 34.30758

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   1.16393456    0.04260682   -0.39874233   -0.50456970   -0.05722525
        c.leg
   0.10445539

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.04812667
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2500372

$`Pathogen infection`$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 30.49712

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.39432817   -0.01486023   -0.20392405

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.8675753
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6161702

$`Pathogen infection`$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 3.933912

Coefficients:
c.(Intercept)      c.funcgr         c.leg
 -0.332818339  -0.002669313  -0.298454797

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.05712641
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3837261
```

```
$`Pathogen infection`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 35.04252

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.326832204  -0.055235717   0.132509077  -0.016585617   0.005661481
      b.grass
 -0.008845867

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7327585
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4865318

$`Pathogen infection`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 26.27065

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.399638947  -0.058154417   0.098906818  -0.022833494   0.006552094
      b.grass
 -0.006597396

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05047323
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2813972

$`Pathogen infection`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 36.32609

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.43180274    0.11824861   -0.05721805   -0.24830740   -0.10987822
      c.grass
   0.08840723
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7255503
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.473877

$`Pathogen infection`$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 27.26533

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.71477256    0.16356831    0.03472733   -0.03337152   -0.13698572
      c.grass
   0.01418161

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05018408
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2773151

$`Pathogen infection`$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 35.86733

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.01988272    0.16978224    0.21844623   -0.27004661   -0.07210098
      c.grass
  -0.07763660

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7160409
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4698553

$`Pathogen infection`$Pq2931
Generalized nonlinear least squares fit
```

```
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 27.13800

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.14942529    0.15949966    0.11626134   -0.29051521   -0.07687286
      c.grass
  -0.02033653

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05016477
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2777

$`Pathogen infection`$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 27.83864

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -0.91075435    0.05012470    0.05598724

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.8698623
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6386388

$`Pathogen infection`$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 3.039909

Coefficients:
c.(Intercept)      c.funcgr       c.grass
  -1.06680637    0.08651391    0.07939970

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.05733312
```

```
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3886216

$`Pathogen infection`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.90717

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.005943660   0.251988098  -0.003016704   0.022109167  -0.020285560
       b.leg
 -0.004901915

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
-0.73504
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4949887

$`Pathogen infection`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 25.26129

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.132661671   0.220561411  -0.035468580   0.022185991  -0.020880026
       b.leg
 -0.005397104

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.04999286
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2837099

$`Pathogen infection`$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.94132

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
   0.53508004   -0.03420016   -0.51387104   -1.09222031    0.03070465
```

```
        c.leg
   0.44980572

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6998773
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4311908

$`Pathogen infection`$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.18246

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
   0.55171887   -0.09450098   -0.49298051   -1.00335738    0.07473468
        c.leg
   0.38415896

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0483615
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2509244

$`Pathogen infection`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.72115

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   1.52253176   -0.09664305   -0.44735268   -0.85865553    0.07285594
        c.leg
   0.13685559

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6824517
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4213088
```

```
$`Pathogen infection`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.28993

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   1.51875259   -0.11150486   -0.46170712   -0.91856767    0.09387145
        c.leg
   0.19608061

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0481987
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2502457

$`Pathogen infection`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 30.37014

Coefficients:
c.(Intercept)       c.grass         c.leg
  -0.46729575   -0.00809387   -0.17412478

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.8734558
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6225362

$`Pathogen infection`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 3.963421

Coefficients:
c.(Intercept)       c.grass         c.leg
  -0.32953259   -0.02866563   -0.28276448

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
      expon
-0.05714741
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3836572

$`Pathogen infection`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.94776

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  1.368405236  -0.185235982  -0.064442841  -0.323974657  -0.078223373
     b.funcgr       b.grass         b.leg
  0.013356484   0.002846580   0.019153217

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7212753
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.4510478

$`Pathogen infection`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.93724

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   1.53499500   -0.19960288   -0.10413913   -0.36487010   -0.09254169
     b.funcgr       b.grass         b.leg
   0.01526722    0.00571484    0.02250734

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04872914
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2589999

$`Pathogen infection`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.67135

Coefficients:
```

```
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
   0.90955164   -0.04578968   -0.09438064   -0.62776474   -1.41806644
     c.funcgr       c.grass         c.leg
   0.02860772    0.06524672    0.56852317

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.7138855
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.4422071

$`Pathogen infection`$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.28005

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 0.5659448474 -0.0001477096 -0.1039111648 -0.4921089754 -0.9276336453
     c.funcgr       c.grass         c.leg
-0.0144836619  0.0667682806  0.3623464274

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04829322
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2538414

$`Pathogen infection`$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.76924

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   1.25223567    0.03031320   -0.02607755   -0.38810759   -0.24231910
     c.funcgr       c.grass         c.leg
  -0.08572935   -0.06258484   -0.01128599

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.6743579
Degrees of freedom: 82 total; 74 residual
```

```
Residual standard error: 0.4165067

$`Pathogen infection`$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.76142

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   1.38510116    0.01422292   -0.07927894   -0.42890830   -0.35397278
     c.funcgr       c.grass         c.leg
  -0.07429969   -0.03085131    0.05353984

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0480017
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2517247

$`Pathogen infection`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 30.96249

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
  -0.10508617   -0.05065033   -0.08249203   -0.26801339

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.869056
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.617955

$`Pathogen infection`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 4.084734

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   0.07405364   -0.05287018   -0.11761492   -0.38705343

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0571068
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3854035

$`Pathogen infection`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
    Asym       R0      lrc
 0.06345  0.54735 -2.14483
 residual sum-of-squares: 4.06

Number of iterations to convergence: 3
Achieved convergence tolerance: 3.048e-06


$Invasion
$Invasion$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.307063       -0.010065        0.020042        0.067829       -
0.044326
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.039788       -0.053540        0.087993        0.008202       -
0.002328
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.012370        0.067425       -0.089575       -0.029469


$Invasion$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.310237    -0.002566    -0.040160    -0.064401


$Invasion$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
       a        b
```

```
 0.06933 -0.69849
 residual sum-of-squares: 2.098

Number of iterations to convergence: 14
Achieved convergence tolerance: 2.804e-06

$Invasion$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
      Vm        k
 0.06933 -0.69849
 residual sum-of-squares: 2.098

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.848e-06

$Invasion$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
      a       b       d
-0.4052  1.8313  0.3768
 residual sum-of-squares: 1.914

Number of iterations to convergence: 11
Achieved convergence tolerance: 9.98e-06

$Invasion$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 1.127e-01 -9.306e-28
 residual sum-of-squares: 2.400

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.839e-08

$Invasion$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20

$Invasion$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
```

```
        b
5.613e-29
 residual sum-of-squares: 3.365

Number of iterations to convergence: 4
Achieved convergence tolerance: 9.231e-09

$Invasion$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.139360 -0.003725
 residual sum-of-squares: 2.260

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.968e-09

$Invasion$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.78071 -0.08258
 residual sum-of-squares: 1.951

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.029e-06

$Invasion$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
 0.2413 -0.7030
 residual sum-of-squares: 1.942

Number of iterations to convergence: 11
Achieved convergence tolerance: 2.792e-06

$Invasion$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-2.211
 residual sum-of-squares: 11.03

Number of iterations to convergence: 12
Achieved convergence tolerance: 1.480e-06

$Invasion$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
```

```
   data:  DF
    Asym       R0      lrc
 0.01214  0.31703 -1.13375
 residual sum-of-squares: 1.904

Number of iterations to convergence: 3
Achieved convergence tolerance: 3.384e-06

$Invasion$BIEXP
Nonlinear regression model
  model:  response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
   data:  DF
      A1     lrc1       A2     lrc2
 0.30291 -1.11141  0.01553 -4.54329
 residual sum-of-squares: 1.904

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.934e-06


$Bioturbation
$Bioturbation$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.939685       -0.122863       -0.173566       -0.133465
0.014722
        funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
     -0.025605       -0.225735       -0.356849       -0.002209
0.004379
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     -0.009272       -0.015221        0.018932        0.094472


$Bioturbation$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 43.91721

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   0.742155563   -0.134158757   -0.172586132   -0.129674857
0.010753177
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
```

```
   0.030415536   -0.090909158   -0.287848871   -0.001553369
0.004761870
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.007974406   -0.054381154    0.010477109    0.053746029

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1361320
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1157163

$Bioturbation$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 43.03142

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.069665907   -0.104227676   -0.170014302   -0.130936916
0.015708100
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.058696115   -0.299784756   -0.414645863   -0.002523603
0.004693034
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
  -0.009789191    0.000832551    0.030207881    0.119718590

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.009508292
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1553492

$Bioturbation$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.348149     0.001355     0.014130    -0.162175


$Bioturbation$L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
```

```
  Data: DF
  Log-likelihood: 51.24852

Coefficients:
  (Intercept)       sowndiv        funcgr           leg
 0.3453936054  0.0004288869  0.0188291929 -0.1617153986

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
    power
0.6301896
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5123178

$Bioturbation$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 51.39079

Coefficients:
  (Intercept)       sowndiv        funcgr           leg
 0.3547843965  0.0004500239  0.0158132682 -0.1644044363

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
5.367966
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.05791745

$Bioturbation$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 33.49418

Coefficients:
(Intercept)     sowndiv      funcgr         leg
 0.34899051  0.00157920  0.01169825 -0.16065109

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06728227
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1455421
```

```
$Bioturbation$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 33.55628

Coefficients:
  (Intercept)       sowndiv        funcgr           leg
 0.3544782684  0.0007802275  0.0165363208 -0.1661246254

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008501686
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1728776

$Bioturbation$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.2871 4.1803
 residual sum-of-squares: 2.71

Number of iterations to convergence: 13
Achieved convergence tolerance: 5.113e-06

$Bioturbation$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.2871 4.1808
 residual sum-of-squares: 2.71

Number of iterations to convergence: 8
Achieved convergence tolerance: 4.668e-06

$Bioturbation$M2
Nonlinear regression model
  model:  response ~ d + a * sowndiv/(b + sowndiv)
   data:  DF
       a        b        d
 0.31275 17.74720  0.07374
 residual sum-of-squares: 2.656

Number of iterations to convergence: 17
Achieved convergence tolerance: 7.513e-06

$Bioturbation$M211
Generalized nonlinear least squares fit
```

```
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.64247

Coefficients:
          a           b           d
 0.32431482 20.03155883  0.07691525

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.0671265
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1652203

$Bioturbation$M222
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 24.49748

Coefficients:
          a           b           d
 0.28653389 14.47177598  0.07072373

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006697846
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1936798

$Bioturbation$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.90006

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
    0.5541098    -0.2505078     2.5021192    -1.1931605

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.01571449
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1622717
```

```
$Bioturbation$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.64752

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
    0.4289151    -0.1264902     8.7289961    -3.9222587

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1859425

$Bioturbation$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 23.87064

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.40143641   -0.09754347    8.15533856   -3.28576836

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00708299
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1970636

$Bioturbation$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.55336

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  -0.02603163    0.09617381   -1.53596020    1.23768316

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1772933

$Bioturbation$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.66535

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
```

```
  -0.02671433    0.09678689   -1.56736239    1.26587898

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03694585
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1676017

$Bioturbation$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.88576

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  -0.01518126    0.08702784   -1.21398056    0.94363987

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007720393
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1886765

$Bioturbation$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 35.50639

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.31027217    0.06294473   -0.17187777   -2.17669471    1.77695252
        b.leg
   0.07244900

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1630089

$Bioturbation$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.17238

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.26527518    0.07358406   -0.15378081   -2.57961594    1.98117606
```

```
        b.leg
   0.20326822

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1015376
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1390651

$Bioturbation$M622
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 35.59414

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.31944992    0.05565844   -0.17251619   -1.93111160    1.54661207
        b.leg
   0.06606451

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00409521
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1686615

$Bioturbation$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.97385

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   -0.2151597     0.1187088     0.0965719    -5.5950727     1.8310602
      b.grass
    1.7680605

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1765263

$Bioturbation$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.10370
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   -0.2140510     0.1195090     0.0943110    -5.6241783     1.8639799
      b.grass
    1.7524778

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04073174
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1659053

$Bioturbation$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 29.35075

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   -0.2101225     0.1099884     0.1015824    -5.2978240     1.5558792
      b.grass
    1.7920335

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008194379
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1885240

$Bioturbation$M81
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.34542

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
    0.5646320    -0.0671946    -0.2056116     2.1323027    -0.7826511
        b.leg
   -0.4690916

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1673619

$Bioturbation$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
```

```
  Data: DF
  Log-likelihood: 33.92761

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.57984693   -0.04420419   -0.23295275    2.29658918   -0.40430943
        b.leg
  -0.86995521

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01006584
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1811775

$Bioturbation$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.35256

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.23574086    0.06231327    0.03300789   -0.14675267  -19.18522971
     b.funcgr       b.grass         b.leg
   3.08922815    5.15865452    5.50224685

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1635011

$Bioturbation$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.47370

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
   0.24751758    0.05484814    0.03364624   -0.14906852  -18.01221774
     b.funcgr       b.grass         b.leg
   2.79301174    4.88419441    5.18981073

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004752046
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1700582
```

```
$Bioturbation$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.33993

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.19442137    0.17373657    5.46986504   -1.17232284    0.19444129
     d.funcgr
  -0.08975697

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1778963

$Bioturbation$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.49348

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  -0.18798742    0.16615799    6.13880172   -1.33266112    0.18659237
     d.funcgr
  -0.08178482

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04303777
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1665733

$Bioturbation$M1232
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.62024

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
   -0.1994389     0.1833977     4.2538311    -0.9363812     0.2102266
     d.funcgr
   -0.1061460

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00711942
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1884637

$Bioturbation$M1321
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.17853

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
   0.66997800   -0.01625768   -0.31048317   58.77468031   -9.08573990
       b.leg d.(Intercept)      d.funcgr         d.leg
 -21.18018131    0.36180386   -0.04782457   -0.13442095

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06807649
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1491093

$Bioturbation$M1432
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 30.41767

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -2.41670451    0.81372146    0.80777882   -0.45988788    0.01829668
      b.grass d.(Intercept)      d.funcgr       d.grass
   0.51768074    2.14713253   -0.70461381   -0.66367097

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008350164
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1901263

$Bioturbation$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
        a         b
1.439e-01 1.170e-27
 residual sum-of-squares: 2.871

Number of iterations to convergence: 4
```

```
Achieved convergence tolerance: 4.662e-08

$Bioturbation$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$Bioturbation$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
       b
2.43e-27
 residual sum-of-squares: 4.487

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.04e-08

$Bioturbation$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 21.15609

Coefficients:
           a            b
1.464626e-01 1.147535e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.004039713
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1959470

$Bioturbation$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 23.46193

Coefficients:
           a            c
-0.885548703  0.003653482

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.08739955
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1616268

$Bioturbation$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 22.87766

Coefficients:
           a            c
-0.877117952  0.003109013

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003097963
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1903309

$Bioturbation$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1746.568

Coefficients:
        a
-2.616607

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.98847
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.09396732

$Bioturbation$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.2417

Coefficients:
        a
```

```
-3.263914

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014480
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7038134

$Bioturbation$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: 4.582206

Coefficients:
           b
2.430036e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.1443433
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1858206

$Bioturbation$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: 2.81848

Coefficients:
           b
2.430036e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.003316847
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2286297

$Bioturbation$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 6.736101
```

```
Coefficients:
        c
-2.143234

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2256813
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1604146

$Bioturbation$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.096374

Coefficients:
        c
-2.092924

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01624483
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2014474

$Bioturbation$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
   -2963126.2      911705.8

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$Bioturbation$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.91415

Coefficients:
c.(Intercept)         c.leg
```

```
     1.374812     -2.348107

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2307268

$Bioturbation$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.42807

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.625548077  -0.160907125   0.004697923  -0.002630952

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.07500636
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1476448

$Bioturbation$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 32.7739

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
     1.439809     -1.193793     -6.042223      3.020886

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007434664
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1773224

$Bioturbation$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1726.313

Coefficients:
a.(Intercept)         a.leg
   -2.1156104    -0.2862839

Variance function:
```

```
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.08313
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06417506

$Bioturbation$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.2105

Coefficients:
a.(Intercept)         a.leg
   -3.7086881     0.2563954

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014485
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7078932

$Bioturbation$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 13.91363

Coefficients:
c.(Intercept)         c.leg
     1.232690     -2.312641

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3349592
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1257392

$Bioturbation$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 8.354766

Coefficients:
c.(Intercept)         c.leg
```

```
     1.333594     -2.331699

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.02174387
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1835701

$Bioturbation$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508713       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$Bioturbation$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 2.171385

Coefficients:
c.(Intercept)       c.grass
    -5.799670      1.951380

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2385748

$Bioturbation$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 23.94108

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.835820596  -0.038401915  -0.003052411   0.006162009

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06736577
Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.1676448

$Bioturbation$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 23.78207

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -0.803597842  -0.057815009  -0.005233268   0.007742796

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006475795
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1962509

$Bioturbation$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1744.127

Coefficients:
a.(Intercept)       a.grass
   -2.8203552     0.1164274

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.99988
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.09023714

$Bioturbation$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.0719

Coefficients:
a.(Intercept)       a.grass
   -4.2990828     0.5968514

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
   expon
1.014622
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7058685

$Bioturbation$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 7.51318

Coefficients:
c.(Intercept)       c.grass
    -6.013761      2.038840

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2386021
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1568538

$Bioturbation$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.545051

Coefficients:
c.(Intercept)       c.grass
    -5.826237      1.962299

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.01683463
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2005782

$Bioturbation$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr
     252095.6     -912137.5

Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 2.553606e+25

$Bioturbation$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 7.66888

Coefficients:
c.(Intercept)      c.funcgr
   -2.5935390     0.5919952

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2231045

$Bioturbation$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 27.30375

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-0.9877393684  0.0614971579  0.0019556117 -0.0003330070

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008661683
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1915623

$Bioturbation$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1746.568

Coefficients:
a.(Intercept)      a.funcgr
     2.053868     -4.670476

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.98847
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.09455278

$Bioturbation$Ec2221
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.4478

Coefficients:
a.(Intercept)      a.funcgr
     3.434836     -6.307975

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021975
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6112592

$Bioturbation$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 13.13934

Coefficients:
c.(Intercept)      c.funcgr
    -2.694993      0.611774

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.2254497
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1493404

$Bioturbation$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 11.04788

Coefficients:
c.(Intercept)      c.funcgr
   -2.6096511     0.5914553

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.02027195
Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 0.1798981

$Bioturbation$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.2     -990730.5     -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$Bioturbation$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1726.313

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    2.6264361    -4.7420465    -0.2862839

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.08313
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06457993

$Bioturbation$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.4097

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    3.9320377    -6.3696884    -0.2488338

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022049
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6144413

$Bioturbation$Ed3021
```

```
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 15.00419

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.5083306     0.3186349    -2.0340878

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.02611714
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1640628

$Bioturbation$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335851.0     -839615.4      296563.4

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$Bioturbation$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1744.127

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    1.8210135    -4.6413687     0.1164274

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
14.99988
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.09080645

$Bioturbation$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
```

```
  Log-likelihood: -794.4417

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.23598882   -6.28304893    0.09938625

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.021987
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.615008

$Bioturbation$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$Bioturbation$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2690.078

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.5548137983  0.0260987202 -0.2846109987 -0.0001674899 -0.0000636444
       b.leg c.(Intercept)       c.grass         c.leg
 0.0001480782  1.0000102418  1.0000040363  0.9999908333

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.485142
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0008574329

$Bioturbation$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 34.28635
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  1.524922249  -0.069509092  -1.183004918  -4.925669312   0.002784789
       c.leg
  2.460050374

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007472562
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1764148

$Bioturbation$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1726.127

Coefficients:
a.(Intercept)       a.grass         a.leg
  -2.17073403    0.02362441   -0.27840908

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.08399
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06435071

$Bioturbation$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.951

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.5649812     0.7888307     0.5377992

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
  expon
1.01468
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7089252
```

```
$Bioturbation$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 21.1568

Coefficients:
c.(Intercept)       c.grass         c.leg
    3.4788405    -0.8482737    -2.9116410

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.3272253
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1171728

$Bioturbation$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.33443

Coefficients:
c.(Intercept)       c.grass         c.leg
    3.3963682    -0.8468143    -2.8206565

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.02704742
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1601387

$Bioturbation$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292091.9     -918391.4      183181.3     -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$Bioturbation$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -1726.127

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
    2.5634377    -4.7341717     0.0236244    -0.2784091

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.08399
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06476188

$Bioturbation$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.4097

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
  3.919326225  -6.368099261   0.004593295  -0.247071469

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022049
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6183672

$Bioturbation$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
-0.01253  0.10004  0.29191
 residual sum-of-squares: 2.674

Number of iterations to convergence: 13
Achieved convergence tolerance: 9.707e-06

$Bioturbation$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.117396 0.003851
 residual sum-of-squares: 2.741
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 1.288e-09

$Bioturbation$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.92247  0.04651
 residual sum-of-squares: 2.684

Number of iterations to convergence: 8
Achieved convergence tolerance: 6.969e-07

$Bioturbation$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.08883 0.31290
 residual sum-of-squares: 2.674

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.015e-06

$Bioturbation$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
     c
-2.762
 residual sum-of-squares: 17.30

Number of iterations to convergence: 19
Achieved convergence tolerance: 3.873e-06

$Bioturbation$Pb11
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 24.00040

Coefficients:
          a           b           c
-0.01241529  0.09993389  0.29209681

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1839685

$Bioturbation$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 22.97626
```

```
Coefficients:
          a           b
0.117395702 0.003850672

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1851127

$Bioturbation$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 23.84666

Coefficients:
          a           c
-0.92248622  0.04651519

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1831582

$Bioturbation$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 23.99912

Coefficients:
         b          c
0.08882811 0.31289910

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1828180

$Bioturbation$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -52.56294

Coefficients:
        c
-2.761908

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4621841

$Bioturbation$Pc121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 24.40538

Coefficients:
```

```
         a          b          c
0.01628969 0.07388651 0.34899243

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.07070471
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1648208

$Bioturbation$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.59869

Coefficients:
          a           b
0.111430210 0.004262715

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.08713694
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1614204

$Bioturbation$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.00438

Coefficients:
          a           b
0.119800789 0.003584724

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002697487
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1893848

$Bioturbation$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
```

```
  Log-likelihood: 24.20479

Coefficients:
          a           c
-0.91947688  0.04465388

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06698336
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1650982

$Bioturbation$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.11075

Coefficients:
          a           c
-0.92258973  0.04679888

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007176073
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1941709

$Bioturbation$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.40240

Coefficients:
        b         c
0.0884446 0.3148123

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06989742
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1639898

$Bioturbation$Pc431
```

```
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.1683

Coefficients:
         b          c
0.09161767 0.29669160

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00582621
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1917990

$Bioturbation$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.05222

Coefficients:
        c
-1.911287

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.2864076
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6070366

$Bioturbation$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.41452

Coefficients:
        c
-2.685284

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01415142
Degrees of freedom: 82 total; 81 residual
```

```
Residual standard error: 0.5022324

$Bioturbation$Pd61
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 27.66071

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.090422745   0.006870324  -0.033541577   0.024344864   0.826115563
     c.funcgr
 -0.130010635

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1793760

$Bioturbation$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 26.93754

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 2.047334e-02  5.620433e-02  1.280412e-03 -1.063256e-05

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1786298

$Bioturbation$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 27.49939

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.93532670    0.02576123   -0.02233440    0.01576871

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1774100

$Bioturbation$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 27.28719

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.04203848    0.03847577    0.02546373    0.02667007

Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.1778697

$Bioturbation$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.17306

Coefficients:
c.(Intercept)      c.funcgr
   -4.4580807     0.9698987

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4517052

$Bioturbation$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 27.10298

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 0.0260562595  0.0534350924  0.0007781034  0.0001644070

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04570946
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1665738

$Bioturbation$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 27.30641

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 0.0124213469  0.0613230994  0.0019820244 -0.0003323379

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008631376
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1915062

$Bioturbation$Pe821
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 27.68336

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.93005092    0.02255344   -0.02575398    0.01736256

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04729445
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1650102

$Bioturbation$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 27.71025

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.94654717    0.03451148   -0.01568649    0.01146816

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006667932
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1873800

$Bioturbation$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 27.46146

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.04893414    0.03558083   -0.01527418    0.03942979

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04695037
Degrees of freedom: 82 total; 78 residual
```

```
Residual standard error: 0.1655419

$Bioturbation$Pe931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 27.57543

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
  0.030621412   0.045334214   0.076371574   0.004510836

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00775824
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1894535

$Bioturbation$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -28.74399

Coefficients:
c.(Intercept)      c.funcgr
   -2.4400868     0.5167844

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4552348
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6837095

$Bioturbation$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -38.04807

Coefficients:
c.(Intercept)      c.funcgr
   -3.5532481     0.8078551

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
```

```
      expon
-0.03938309
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5463622

$Bioturbation$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.61129

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.177986911  -0.047795803  -0.003986296   0.007206700

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1860247

$Bioturbation$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.03977

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.97454636    0.03440398    0.07595446   -0.02172944

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1850552

$Bioturbation$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.00855

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.09788187   -0.00698996    0.26321239    0.04151768

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1851256

$Bioturbation$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -52.40454

Coefficients:
c.(Intercept)       c.grass
   -0.4183022    -1.3940567
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4641662

$Bioturbation$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.07242

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.381032096  -0.164168934   0.004614275  -0.002580315

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1657532

$Bioturbation$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.68927

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.71136186   -0.11810263    0.07484050   -0.03850862

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1645110

$Bioturbation$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.74637

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    0.2995776    -0.1236926     0.3610934    -0.1998566

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1643964

$Bioturbation$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -52.12373

Coefficients:
c.(Intercept)         c.leg
    0.7240597    -1.9993387

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4625795
```

```
$Bioturbation$Ph221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.79861

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.240117748   0.028364952  -0.111920141   0.023275004  -0.003059289
       b.leg
 -0.009763383

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1664394

$Bioturbation$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.87082

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.664039405  -0.009220624  -0.136118062   0.024308912   0.009441823
       c.leg
 -0.020329905

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1662929

$Bioturbation$Ph241
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.79754

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
  0.306084247   0.002209656  -0.128182974   0.260905678   0.013563389
       c.leg
 -0.166701571

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1664416

$Bioturbation$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.10325

Coefficients:
c.(Intercept)      c.funcgr         c.leg
```

```
   -2.8356150     0.7626864    -0.7879023

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4541682

$Bioturbation$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 28.42850

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  0.001918873   0.058290644   0.008003733  -0.016566622   0.002038545
      b.grass
  0.009672533

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1777043

$Bioturbation$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 28.60465

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.96974921    0.02889816    0.01750170   -0.08688764    0.02384061
      c.grass
   0.03346103

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1773229

$Bioturbation$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 29.352

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.10606916    0.02547831   -0.02889878   -1.08829102    0.18256216
      c.grass
   0.51668509

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1757141

$Bioturbation$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
```

```
  Log-likelihood: -50.16532

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -3.7790109     0.8970458    -0.3885011

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4545122

$Bioturbation$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.31503

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.4784603489 -0.0766578880 -0.1550877624 -0.0005561406  0.0067421916
       b.leg
-0.0049769486

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1653945

$Bioturbation$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.07762

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.648312837  -0.024220764  -0.130033650   0.073556770  -0.007021413
       c.leg
 -0.035390603

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1658741

$Bioturbation$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.12622

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.37245440   -0.04085719   -0.12815813    0.31918751    0.05430574
       c.leg
  -0.25259056

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1657758
```

```
$Bioturbation$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.66763

Coefficients:
c.(Intercept)       c.grass         c.leg
     4.064480    -2.268931    -2.410857

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4517619

$Bioturbation$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.36648

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 0.4725605157 -0.0006957403 -0.0755600610 -0.1526106880  0.0084821953
     b.funcgr       b.grass         b.leg
-0.0012143573  0.0049131891 -0.0072629798

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1675096

$Bioturbation$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.32068

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.476801490  -0.032846402  -0.063298530  -0.166216802  -0.005282417
     c.funcgr       c.grass         c.leg
  0.013269903   0.012216920  -0.018003920

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1676031

$Bioturbation$Pk391
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.23534

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.46763535   -0.01691296   -0.05867698   -0.15220321   -0.04461337
     c.funcgr       c.grass         c.leg
   0.05033639    0.12769118   -0.13942377
```

```
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1677777

$Bioturbation$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.65182

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    3.4426091     0.0805594    -2.1217066    -2.2345531

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4545609

$Bioturbation$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.97687

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.157518163  -0.035039921  -0.002498814   0.006073544

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06873129
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1672323

$Bioturbation$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 23.79105

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
  0.191730882  -0.055614764  -0.005252438   0.008047494

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006311827
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1959533
```

```
$Bioturbation$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.55167

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.98932774    0.04531749    0.08643845   -0.03039373

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.08173598
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1628888

$Bioturbation$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 24.21951

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
  -0.96314922    0.02740374    0.06774067   -0.01597323

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006130352
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1946287

$Bioturbation$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.41109

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
  0.080762625   0.005975706   0.364261044  -0.041348578

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
```

```
0.07299947
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1652983

$Bioturbation$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.21807

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
   0.11082719   -0.01534247    0.18461061    0.09678874

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006659658
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1955185

$Bioturbation$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.62511

Coefficients:
c.(Intercept)       c.grass
     1.587913     -2.304960

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.3486845
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.650445

$Bioturbation$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.11184

Coefficients:
c.(Intercept)       c.grass
    0.7071402    -1.9471625

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01487552
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5066395

$Bioturbation$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.47118

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.370839580  -0.159109495   0.005187234  -0.002872769

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.07493689
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1475824

$Bioturbation$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.32823

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.399144944  -0.173468453   0.003275591  -0.001861383

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007369728
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1760296

$Bioturbation$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.80667

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.70464511   -0.12177065    0.07123015   -0.03640052
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04057679
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1546719

$Bioturbation$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.11719

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.69208397   -0.12778602    0.06437164   -0.03325332

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008265646
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1756902

$Bioturbation$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 33.89558

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    0.3015308    -0.1249988     0.3445728    -0.1850122

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04491114
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1535133

$Bioturbation$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.10345
```

```
Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    0.3205605    -0.1342101     0.3012658    -0.1700300

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007821472
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1750508

$Bioturbation$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -29.44721

Coefficients:
c.(Intercept)         c.leg
     2.357618     -2.785384

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.516523
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7552858

$Bioturbation$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.2218

Coefficients:
c.(Intercept)         c.leg
     2.595188     -2.928451

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04218271
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5961022

$Bioturbation$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
```

```
  Data: DF
  Log-likelihood: 33.94237

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.259520753   0.023843873  -0.118537958   0.020848350  -0.002624988
       b.leg
 -0.008878656

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04694129
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1549636

$Bioturbation$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.3744

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
  0.222725163   0.035199923  -0.108112317   0.025739242  -0.003650583
       b.leg
 -0.010498597

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01018459
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1803768

$Bioturbation$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.12793

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.631748888  -0.016364190  -0.148669746  -0.002038307   0.014328145
       c.leg
 -0.009882523

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
0.06342833
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1508749

$Bioturbation$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.16786

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
 -0.686642087   0.001772718  -0.131300015   0.044089480   0.002979477
       c.leg
 -0.026028774

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.007748569
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1770891

$Bioturbation$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.17012

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.27984895    0.01108098   -0.12012605    0.40888234   -0.01726270
       c.leg
  -0.23456085

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.008548835
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1783050

$Bioturbation$Pp2521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.89573
```

```
Coefficients:
c.(Intercept)      c.funcgr         c.leg
    1.2715910     0.1816573    -2.3540206

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5329723
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.736788

$Bioturbation$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.20437

Coefficients:
c.(Intercept)      c.funcgr         c.leg
  -0.02734227    0.39849374   -1.88714463

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04040393
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5489716

$Bioturbation$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 28.47831

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
-0.0005616369  0.0574229531  0.0109303811 -0.0161719470  0.0020582164
      b.grass
 0.0093075934

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02586895
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1709051

$Bioturbation$Pq2731
```

```
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 29.05050

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
-0.0007580935  0.0635892472  0.0042480145 -0.0169238973  0.0017927198
      b.grass
 0.0103410001

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01073567
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1933892

$Bioturbation$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 28.68171

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.97907198    0.02845559    0.02391696   -0.07976082    0.02372241
      c.grass
   0.02869500

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.03210338
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1689111

$Bioturbation$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 28.99412

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
  -0.96944056    0.03816405    0.01015874   -0.09194624    0.02000233
      c.grass
   0.04043881

Variance function:
```

```
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008876756
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1904583

$Bioturbation$Pq2921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 29.35581

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.11050423    0.02519128   -0.03165430   -1.10438967    0.18334537
      c.grass
   0.52813421

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       power
-0.007681667
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1777212

$Bioturbation$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.22263

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
   0.13016381    0.02991060   -0.04897648   -1.17168096    0.16929743
      c.grass
   0.59550747

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01255157
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1936400

$Bioturbation$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
```

```
  Log-likelihood: -26.58377

Coefficients:
c.(Intercept)      c.funcgr       c.grass
   -4.6872953     0.8517815     0.9116164

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4908771
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7065488

$Bioturbation$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.23556

Coefficients:
c.(Intercept)      c.funcgr       c.grass
    -7.369318      1.415558      1.385722

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04021953
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5483117

$Bioturbation$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.44572

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.4664508357 -0.0686581699 -0.1547717726  0.0003362215  0.0058888736
       b.leg
-0.0048624232

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04426243
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.154629
```

```
$Bioturbation$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.86083

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.507184515  -0.087926722  -0.161615324  -0.002641003   0.007917389
       b.leg
 -0.004653162

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.00990154
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1788748

$Bioturbation$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.25963

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
  -0.65109417   -0.01549335   -0.13581529    0.07732550   -0.01453568
       c.leg
  -0.03152467

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.0531182
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1529561

$Bioturbation$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.46845

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.611129650  -0.039475637  -0.136811612   0.051503885   0.004337563
       c.leg
 -0.032562667
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00840066
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1774316

$Bioturbation$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.25591

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
 0.3722089548 -0.0304760173 -0.1365701987  0.3245319330 -0.0003614163
        c.leg
-0.2040730172

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04734209
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1542804

$Bioturbation$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.5987

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.40039810   -0.05627665   -0.12960915    0.24286601    0.12028860
        c.leg
  -0.27349415

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.009261622
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1784643

$Bioturbation$Pr3521
Generalized nonlinear least squares fit
```

```
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -26.20735

Coefficients:
c.(Intercept)       c.grass         c.leg
    2.6739484    -0.3836014    -2.6697555

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5124061
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7261549

$Bioturbation$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.3807

Coefficients:
c.(Intercept)       c.grass         c.leg
     4.762819     -2.404348     -2.683563

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.03989264
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5477437

$Bioturbation$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.49875

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.475471300  -0.003060448  -0.070874397  -0.155795203   0.008101759
     b.funcgr       b.grass         b.leg
 -0.001040796   0.004350183  -0.006827840

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.04478591
```

```
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1564817

$Bioturbation$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.91548

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.467191034   0.004529247  -0.079051421  -0.151226095   0.008820779
     b.funcgr       b.grass         b.leg
 -0.001536411   0.005513315  -0.007538081

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.009953389
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1812358

$Bioturbation$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.56993

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
 -0.475680687  -0.035944710  -0.053255225  -0.173382097  -0.007653094
     c.funcgr       c.grass         c.leg
  0.015093637   0.004818793  -0.012037383

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.06261787
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1522613

$Bioturbation$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.59147

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
-0.4840353021 -0.0241089209 -0.0680978348 -0.1639842895 -0.0006995378
```

```
     c.funcgr       c.grass         c.leg
 0.0088575924  0.0167121841 -0.0207935876

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.007444694
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1780763

$Bioturbation$Ps3921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.42413

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
   0.48321727   -0.02096103   -0.05086292   -0.16416828   -0.04283231
     c.funcgr       c.grass         c.leg
   0.05306475    0.06647898   -0.08013323

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
0.0567199
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1538737

$Bioturbation$Ps3931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.62813

Coefficients:
b.(Intercept)      b.funcgr       b.grass         b.leg c.(Intercept)
  0.451092073  -0.008471912  -0.065189908  -0.143143459  -0.012369136
     c.funcgr       c.grass         c.leg
  0.034410303   0.173025733  -0.199523966

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.008853391
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1801625
```

```
$Bioturbation$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.70716

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    0.5115089     0.2788810     0.2216273    -2.2026888

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.5403363
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.7479248

$Bioturbation$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -37.20459

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   -1.7976692     0.6273966     0.4585626    -1.4909473

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.04052005
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.553032

$Bioturbation$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
   Asym      R0     lrc
 0.3108  0.0742 -2.7121
 residual sum-of-squares: 2.646

Number of iterations to convergence: 13
Achieved convergence tolerance: 8.964e-06

$Bioturbation$AS2
Nonlinear regression model
  model:  response ~ SSasympOff(sowndiv, Asym, lrc, c0)
   data:  DF
   Asym     lrc      c0
```

```
 0.3108 -2.7121 -4.1079
 residual sum-of-squares: 2.646

Number of iterations to convergence: 13
Achieved convergence tolerance: 8.592e-06

$Bioturbation$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
 0.2661 -1.8517
 residual sum-of-squares: 2.743

Number of iterations to convergence: 8
Achieved convergence tolerance: 7.667e-06

$Bioturbation$LG1
Nonlinear regression model
  model:  response ~ SSfpl(sowndiv, A, B, xmid, scal)
   data:  DF
      A       B    xmid    scal
 0.1146  0.2780 12.0984  0.9216
 residual sum-of-squares: 2.574

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.830e-06

$Bioturbation$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
  Asym   xmid   scal
0.3087 7.0248 6.8339
 residual sum-of-squares: 2.624

Number of iterations to convergence: 26
Achieved convergence tolerance: 7.795e-06


$`Ant activity`
$`Ant activity`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.564023        0.081826       -0.061935       -0.088584       -
0.017374
       funcgr           grass             leg  sowndiv:funcgr
sowndiv:grass
```

```
     -0.131640       -0.225043        0.045967        0.003315       -
0.001863
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
      0.001845        0.074815        0.058675        0.007398


$`Ant activity`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
  -0.094718    -0.005478     0.080125     0.205373


$`Ant activity`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
      a       b
 0.3108 -0.1547
 residual sum-of-squares: 4.208

Number of iterations to convergence: 8
Achieved convergence tolerance: 4.278e-06

$`Ant activity`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
     Vm       k
 0.3108 -0.1547
 residual sum-of-squares: 4.208

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.289e-06

$`Ant activity`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a          b
 3.405e-01 -1.766e-27
 residual sum-of-squares: 4.092

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.546e-08

$`Ant activity`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
```

```
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.21e-20

$`Ant activity`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
        b
1.216e-27
 residual sum-of-squares: 13.02

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.943e-09

$`Ant activity`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
       a        b        c
 0.38567 -0.01359  0.71096
 residual sum-of-squares: 4.021

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.700e-06

$`Ant activity`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
        a         b
 0.365884 -0.004067
 residual sum-of-squares: 4.027

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.376e-09

$`Ant activity`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.60866 -0.04243
 residual sum-of-squares: 4.085

Number of iterations to convergence: 8
Achieved convergence tolerance: 9.944e-07

$`Ant activity`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
```

```
      b       c
 0.3895 -0.1138
 residual sum-of-squares: 4.096

Number of iterations to convergence: 9
Achieved convergence tolerance: 6.772e-06

$`Ant activity`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
   data:  DF
      c
-0.7096
 residual sum-of-squares: 11.73

Number of iterations to convergence: 12
Achieved convergence tolerance: 7.087e-06

$`Ant activity`$AS1
Nonlinear regression model
  model:  response ~ SSasymp(sowndiv, Asym, R0, lrc)
   data:  DF
    Asym       R0      lrc
 0.04215  0.37798 -3.88109
 residual sum-of-squares: 4.019

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.179e-06

$`Ant activity`$BIEXP
Nonlinear regression model
  model:  response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
   data:  DF
      A1     lrc1       A2     lrc2
 0.01625 -2.07917  0.36335 -4.14229
 residual sum-of-squares: 4.019

Number of iterations to convergence: 27
Achieved convergence tolerance: 9.841e-06

$`Vole abundance`
$`Vole abundance`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
   (Intercept)         blockB2         blockB3         blockB4
sowndiv
      0.951945       -0.126667       -0.105571       -0.131574       -
0.035584
       funcgr          grass            leg  sowndiv:funcgr
sowndiv:grass
```

```
     -0.126848       -0.122096       -0.368441        0.005076
0.009514
   sowndiv:leg    funcgr:grass      funcgr:leg       grass:leg
     0.007487        0.008390        0.035045        0.042816


$`Vole abundance`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 49.8624

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.082787755   -0.124169956   -0.083019658   -0.129403829   -
0.033465757
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.179969156   -0.216867527   -0.423100484    0.004935913
0.008516873
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
   0.006985317    0.043618209    0.046672007    0.073332686

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1293169
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1596079

$`Vole abundance`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 49.26548

Coefficients:
   (Intercept)        blockB2        blockB3        blockB4
sowndiv
   1.000211772   -0.131146507   -0.094938178   -0.138135309   -
0.035157579
        funcgr          grass            leg sowndiv:funcgr
sowndiv:grass
  -0.146158411   -0.153345828   -0.392806048    0.005064543
0.009050814
   sowndiv:leg   funcgr:grass     funcgr:leg      grass:leg
   0.007551886    0.020779955    0.040223184    0.055107985

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
       expon
-0.006268122
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1400266

$`Vole abundance`$L2

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:
(Intercept)      sowndiv       funcgr          leg
   0.474582     0.001490    -0.046296    -0.202039


$`Vole abundance`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 88.62515

Coefficients:
  (Intercept)       sowndiv        funcgr           leg
 0.3370848477 -0.0002421946 -0.0080595177 -0.1561066777

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
   expon
12.57196
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.02731221

$`Vole abundance`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 42.49002

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.463158807  0.001440570 -0.043717213 -0.197935026

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1078284
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1691399
```

```
$`Vole abundance`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 41.63748

Coefficients:
 (Intercept)      sowndiv       funcgr          leg
 0.473656633  0.001477073 -0.045965634 -0.201809467

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003760035
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1504038

$`Vole abundance`$M1
Nonlinear regression model
  model:  response ~ a * sowndiv/(b + sowndiv)
   data:  DF
     a      b
0.1069 0.5273
 residual sum-of-squares: 2.322

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.976e-06

$`Vole abundance`$M1a
Nonlinear regression model
  model:  response ~ SSmicmen(sowndiv, Vm, k)
   data:  DF
    Vm      k
0.1069 0.5273
 residual sum-of-squares: 2.322

Number of iterations to convergence: 3
Achieved convergence tolerance: 2.833e-06

$`Vole abundance`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 40.60858

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
    0.2734926    -0.1317393    -0.6116736     0.1751649

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.1028333
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1761366

$`Vole abundance`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 39.8467

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
    0.2814202    -0.1401830     1.0394553    -1.4805730

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003535839
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1573139

$`Vole abundance`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.99636

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.24282267   -0.04440752   35.66012829  -17.54511460

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1679426

$`Vole abundance`$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.59695

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
    0.3285272    -0.0831872    56.7954349   -28.0350094

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1300518
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1997718

$`Vole abundance`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.49015

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
   0.30982553   -0.07619422   49.43846759  -24.40803505

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005508889
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1750193

$`Vole abundance`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.79669

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  -0.10616378    0.08533021   -9.53424185    5.00684641

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1767680

$`Vole abundance`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.25110

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.03588480    0.04172376   -2.89874994    2.79180948

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1294631
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2029002
```

```
$`Vole abundance`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.11355

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
   0.04394466    0.03990742   -2.86165741    2.84958771

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.005582173
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1780943

$`Vole abundance`$M7
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.13117

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -0.30841402    0.09831412    0.16717467   12.13116531    2.88631678
      b.grass
  -7.44818755

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1657658

$`Vole abundance`$M711
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.71778

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   -0.4778884     0.2353747     0.1685602   210.7752506     6.6285879
      b.grass
 -108.7890121

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1701222
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2067670
```

```
$`Vole abundance`$M722
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 34.74957

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
   -0.3125675     0.0961427     0.1693153    13.0870667     2.6141543
      b.grass
   -7.7978309

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005930703
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1731142

$`Vole abundance`$M821
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.94184

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.31960853    0.01797969   -0.16704653    8.25378266   -4.40647315
        b.leg
   0.34866034

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1218059
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1805766

$`Vole abundance`$M832
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 40.86461

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
   0.30455382    0.01833347   -0.15875106    6.19309208   -3.48501093
        b.leg
   0.52387201
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004108751
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1581804

$`Vole abundance`$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.25930

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
-3.171288e-01  3.215469e-01  4.624296e-03 -8.826355e-03  3.455697e+02
     b.funcgr       b.grass         b.leg
 9.516940e+00 -1.784428e+02 -1.821789e-01

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1597431

$`Vole abundance`$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.5492

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
   0.07767281    0.01668098   -9.82795683    9.79809650   -0.03980090
     d.funcgr
   0.03094714

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1249480
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2034385

$`Vole abundance`$M131
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 45.40044

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
```

```
   -1.4775906     1.2810159     0.1793172     1.1419537    -0.1753849
       b.leg d.(Intercept)       d.funcgr          d.leg
   -0.4141376     2.1054205    -1.3344369    -0.4506405

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1474196

$`Vole abundance`$M1321
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 47.19049

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 8.432449e-01 -8.605890e-02 -3.589947e-01 -1.061103e+01  1.090989e+01
       b.leg d.(Intercept)      d.funcgr         d.leg
-7.091420e-02 -5.552650e-02  3.647082e-02 -5.032918e-04

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.06942761
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1598960

$`Vole abundance`$M141
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.94516

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
  -0.44770532    0.41705771    0.03275953 -224.50033132  237.56505455
      b.grass d.(Intercept)      d.funcgr       d.grass
 -16.93938825   -0.15631705    0.02957062    0.11915057

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1695218

$`Vole abundance`$M1632
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 45.66862

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  -9.94477890    2.90179225    2.33078388    2.34358288    0.74125341
     b.funcgr       b.grass         b.leg d.(Intercept)      d.funcgr
  -0.10093264   -0.06497991   -0.24888993   10.47661201   -2.94270443
```

```
      d.grass         d.leg
  -2.29912889   -2.60001580

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002255671
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1529881

$`Vole abundance`$E2
Nonlinear regression model
  model:  response ~ a + b * exp(sowndiv)
   data:  DF
         a         b
8.668e-02 7.766e-28
 residual sum-of-squares: 2.304

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.076e-09

$`Vole abundance`$E4
Nonlinear regression model
  model:  response ~ a + exp(sowndiv)
   data:  DF
a
1
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

$`Vole abundance`$E5
Nonlinear regression model
  model:  response ~ b * exp(sowndiv)
   data:  DF
         b
1.536e-27
 residual sum-of-squares: 2.890

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.364e-09

$`Vole abundance`$E11
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: 31.78908

Coefficients:
           a            b            c
-0.816273255  0.893358489  0.001749862
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1267338
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2019313

$`Vole abundance`$E12
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: 30.71219

Coefficients:
           a           b           c
-0.448858136  0.526439423  0.002853185

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005592654
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1778479

$`Vole abundance`$E22
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(sowndiv)
  Data: DF
  Log-likelihood: 30.60478

Coefficients:
           a           b
8.719291e-02 7.721511e-28

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005548607
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1768976

$`Vole abundance`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 31.78908
```

```
Coefficients:
           a            c
-0.922963866  0.001572206

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1267367
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2006661

$`Vole abundance`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 30.71209

Coefficients:
           a            c
-0.922714163  0.001563299

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005593602
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1767345

$`Vole abundance`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1739.972

Coefficients:
        a
-2.650185

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.01930
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.0828256

$`Vole abundance`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

```
  Data: DF
  Log-likelihood: -801.1801

Coefficients:
        a
-3.293645

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014558
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7028127

$`Vole abundance`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: 21.77960

Coefficients:
           b
1.535657e-27

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1019726
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.2171815

$`Vole abundance`$E52
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: 21.34804

Coefficients:
           b
1.535709e-27

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006176123
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1978747
```

```
$`Vole abundance`$E61
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.45969

Coefficients:
        c
-2.467515

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.02697761
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1974517

$`Vole abundance`$E62
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.40241

Coefficients:
        c
-2.476849

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.001092734
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1880599

$`Vole abundance`$Ea10
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)         a.leg
   -2963126.3      911705.8

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Vole abundance`$Ea12
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
```

```
  Data: DF
  Log-likelihood: 26.32071

Coefficients:
c.(Intercept)         c.leg
     2.837536     -3.767779

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1777146

$`Vole abundance`$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 39.94793

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.707468603  -0.137632468   0.001568491  -0.001305327

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1178584
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1815666

$`Vole abundance`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.95136

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.694924700  -0.144032404   0.001225303  -0.001120110

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00427486
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1600532

$`Vole abundance`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1722.982
```

```
Coefficients:
a.(Intercept)         a.leg
   -2.2344510    -0.2375622

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.09869
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06021289

$`Vole abundance`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.1458

Coefficients:
a.(Intercept)         a.leg
   -3.7595644     0.2685874

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014567
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7068375

$`Vole abundance`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 26.36015

Coefficients:
c.(Intercept)         c.leg
     2.816248     -3.757761

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.01962412
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1725288

$`Vole abundance`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
```

```
  Data: DF
  Log-likelihood: 26.53524

Coefficients:
c.(Intercept)         c.leg
     2.829921     -3.764135

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.003498243
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1720059

$`Vole abundance`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass
     -3508714       1286426

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Vole abundance`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.93076

Coefficients:
c.(Intercept)       c.grass
   -17.810731      7.839853

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1897884

$`Vole abundance`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 34.42448

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -1.013023893   0.051730191  -0.002319126   0.004423846

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1414914
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2011532

$`Vole abundance`$Eb1521
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.04809

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -1.020325836   0.057280218  -0.001823701   0.003973504

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005804109
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1742737

$`Vole abundance`$Eb1611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1738.08

Coefficients:
a.(Intercept)       a.grass
  -2.80907787    0.09079603

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.02814
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.08037925

$`Vole abundance`$Eb1621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.0112

Coefficients:
a.(Intercept)       a.grass
   -4.3247248     0.5944908
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014698
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.704887

$`Vole abundance`$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.98078

Coefficients:
c.(Intercept)       c.grass
   -19.510549      8.694368

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.02162383
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1958604

$`Vole abundance`$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 20.9619

Coefficients:
c.(Intercept)       c.grass
   -19.495897      8.682048

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.001322912
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1875738

$`Vole abundance`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516
```

```
Coefficients:
a.(Intercept)      a.funcgr
     252095.6     -912137.5

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

$`Vole abundance`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 22.11827

Coefficients:
c.(Intercept)      c.funcgr
   -3.1193576     0.6694901

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1870597

$`Vole abundance`$Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2892.173

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
 0.4790783847 -0.4272080730  0.0033461113 -0.0008365248  0.9997909708
     c.funcgr
 1.0000522573

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.812509
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.0005945556

$`Vole abundance`$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 30.85769

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-0.9221932781  0.0034840587 -0.0015671817  0.0007422668

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
       expon
-0.005608878
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1786919

$`Vole abundance`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1739.972

Coefficients:
a.(Intercept)      a.funcgr
     2.042045     -4.692230

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.01930
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.08334164

$`Vole abundance`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2974

Coefficients:
a.(Intercept)      a.funcgr
     3.433087     -6.334346

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022225
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.608831

$`Vole abundance`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 22.19316

Coefficients:
c.(Intercept)      c.funcgr
    -3.107804      0.666768
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      power
-0.02584390
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1941988

$`Vole abundance`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 22.16077

Coefficients:
c.(Intercept)      c.funcgr
   -3.1206664     0.6697517

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.001532718
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1845187

$`Vole abundance`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     872779.2     -990730.6     -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Vole abundance`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1722.982

Coefficients:
a.(Intercept)      a.funcgr         a.leg
    2.5171693    -4.7516203    -0.2375622

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
   power
15.09869
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06059276

$`Vole abundance`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2623

Coefficients:
a.(Intercept)      a.funcgr         a.leg
     3.908710     -6.393405     -0.238022

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022291
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6120607

$`Vole abundance`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 27.43937

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    2.3063235     0.2067950    -3.6031252

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.003707495
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1708858

$`Vole abundance`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass
    -335851.0     -839615.5      296563.4
```

```
Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Vole abundance`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1738.08

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   1.86045293   -4.66953078    0.09079602

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.02814
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.08088636

$`Vole abundance`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2918

Coefficients:
a.(Intercept)      a.funcgr       a.grass
   3.24387873   -6.31063313    0.09457138

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022235
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6125763

$`Vole abundance`$Ef40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)       a.grass         a.leg
     -5251826       1394676       1054750

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25
```

```
$`Vole abundance`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2672.509

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 4.543203e-01  1.327729e-02 -2.339733e-01 -1.662374e-05 -7.583310e-06
       b.leg c.(Intercept)       c.grass         c.leg
 1.637401e-05  1.000001e+00  1.000001e+00  9.999990e-01

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
4.464989
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0008228012

$`Vole abundance`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 40.37047

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.783111120   0.041861886  -0.133089755  -0.000903571   0.002870171
       c.leg
 -0.001270419

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.00464513
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1598710

$`Vole abundance`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1722.917

Coefficients:
a.(Intercept)       a.grass         a.leg
  -2.26492367    0.01305971   -0.23320894

Variance function:
 Structure: Power of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
   power
15.09899
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.0605182

$`Vole abundance`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.8841

Coefficients:
a.(Intercept)       a.grass         a.leg
   -5.6212139     0.7911002     0.5508086

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.014764
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7078377

$`Vole abundance`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 27.79898

Coefficients:
c.(Intercept)       c.grass         c.leg
    4.2421441    -0.5333544    -4.1849064

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.02257006
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.169853

$`Vole abundance`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 26.05006

Coefficients:
c.(Intercept)       c.grass         c.leg
    -17.99137      10.13706      -3.28580
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
0.003413014
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1742458

$`Vole abundance`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
     292092.0     -918391.5      183181.3     -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Vole abundance`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1722.917

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
   2.48234347   -4.74726710    0.01305970   -0.23320896

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
   power
15.09899
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06090489

$`Vole abundance`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2623

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg
  3.898153176  -6.392085011   0.003814884  -0.236558433

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
   expon
1.022291
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6159715

$`Vole abundance`$Pa1
Nonlinear regression model
  model:  response ~ a + b * sowndiv^c
   data:  DF
        a         b         c
0.0789408 0.0009802 1.1247634
 residual sum-of-squares: 2.298

Number of iterations to convergence: 5
Achieved convergence tolerance: 9.193e-06

$`Vole abundance`$Pa2
Nonlinear regression model
  model:  response ~ a + b * sowndiv
   data:  DF
       a        b
0.077016 0.001630
 residual sum-of-squares: 2.298

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.488e-11

$`Vole abundance`$Pa3
Nonlinear regression model
  model:  response ~ a + sowndiv^c
   data:  DF
       a        c
-0.93067  0.01436
 residual sum-of-squares: 2.312

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.148e-06

$`Vole abundance`$Pa4
Nonlinear regression model
  model:  response ~ b * sowndiv^c
   data:  DF
      b       c
0.06845 0.17678
 residual sum-of-squares: 2.309

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.599e-06

$`Vole abundance`$Pa5
Nonlinear regression model
  model:  response ~ sowndiv^c
```

```
   data:  DF
     c
-3.039
 residual sum-of-squares: 16.64

Number of iterations to convergence: 14
Achieved convergence tolerance: 8.808e-06

$`Vole abundance`$Pb11
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 30.20772

Coefficients:
           a            b           c
0.0789407874 0.0009802535 1.1247620868

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1705563

$`Vole abundance`$Pb21
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.20531

Coefficients:
          a           b
0.077015819 0.001629815

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1694920

$`Vole abundance`$Pb31
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 29.96347

Coefficients:
          a           c
-0.93066862  0.01435921

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1699926

$`Vole abundance`$Pb41
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.01754

Coefficients:
```

```
         b          c
0.06844269 0.17679967

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1698805

$`Vole abundance`$Pb51
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.95346

Coefficients:
       c
-3.03919

Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.4532009

$`Vole abundance`$Pc121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 31.79059

Coefficients:
          a           b           c
0.078384127 0.001126413 1.091312173

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1267101
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2019204

$`Vole abundance`$Pc131
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 30.71338

Coefficients:
          a           b           c
0.078604726 0.001090269 1.098087326

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005591308
```

```
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1778432

$`Vole abundance`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.78887

Coefficients:
          a           b
0.076613763 0.001649942

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1267606
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2006738

$`Vole abundance`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.7117

Coefficients:
          a           b
0.076930403 0.001638873

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005594652
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1767369

$`Vole abundance`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 31.40529

Coefficients:
          a           c
-0.93667327  0.01782072

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.1214991
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2000460

$`Vole abundance`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 30.38030

Coefficients:
          a           c
-0.93396730  0.01711384

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005142579
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1767652

$`Vole abundance`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 31.52889

Coefficients:
         b          c
0.06242188 0.21899122

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1248596
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2007436

$`Vole abundance`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.47989

Coefficients:
         b          c
0.06526755 0.20603574
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005417345
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1769677

$`Vole abundance`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -24.12052

Coefficients:
        c
-2.639352

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4137499
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6038647

$`Vole abundance`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -44.47803

Coefficients:
        c
-2.999267

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0195558
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.495348

$`Vole abundance`$Pd71
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.35339

Coefficients:
```

```
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 0.0798936945  0.0023909157 -0.0018755688  0.0008597466

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1713415

$`Vole abundance`$Pd81
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 30.46955

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.89895464   -0.01615720   -0.01888243    0.01289533

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1710990

$`Vole abundance`$Pd91
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.40186

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
  0.093230941  -0.009808833  -0.146829760   0.110422719

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1712403

$`Vole abundance`$Pd101
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.77987

Coefficients:
c.(Intercept)      c.funcgr
   -4.5152470     0.8127435

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4550602

$`Vole abundance`$Pe631
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 31.49123

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.095152522  -0.009078972  -0.004145131   0.002800389   1.808680157
```

```
     c.funcgr
 -0.278565001

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00587033
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1800382

$`Vole abundance`$Pe721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 31.99404

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 0.0759751150  0.0044370019 -0.0015719101  0.0007519266

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1288829
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2033621

$`Vole abundance`$Pe731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 30.86338

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
 0.0785083127  0.0031259622 -0.0016908823  0.0007931503

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005606957
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1786765

$`Vole abundance`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
```

```
  Log-likelihood: 32.11842

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.89966558   -0.01470493   -0.02004739    0.01278562

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1289414
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2030715

$`Vole abundance`$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 30.97963

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
  -0.89986251   -0.01546389   -0.01853382    0.01261290

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005598414
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1784103

$`Vole abundance`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.04834

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.09906529   -0.01214795   -0.18238953    0.12351020

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1291012
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2032933

$`Vole abundance`$Pe931
```

```
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 30.91448

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
   0.09373521   -0.01000327   -0.14671765    0.11015871

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005613898
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1785759

$`Vole abundance`$Pe1021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -22.02938

Coefficients:
c.(Intercept)      c.funcgr
   -3.7143127     0.7467815

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4502701
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6253284

$`Vole abundance`$Pe1031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.24639

Coefficients:
c.(Intercept)      c.funcgr
    -4.931776      1.089301

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02466727
Degrees of freedom: 82 total; 80 residual
```

```
Residual standard error: 0.5130306

$`Vole abundance`$Pf121
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.46372

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
 -0.023046861   0.059128725  -0.001492139   0.003793059

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1669882

$`Vole abundance`$Pf131
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.17638

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -1.090012521   0.094059781   0.038268965  -0.007618348

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1675743

$`Vole abundance`$Pf141
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.28669

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
  -0.05352398    0.07536039    0.77738208   -0.28692536

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1673491

$`Vole abundance`$Pf151
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.77963

Coefficients:
c.(Intercept)       c.grass
    -9.161434      3.312493

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4550589
```

```
$`Vole abundance`$Pg171
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.63271

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.307917361  -0.145449126   0.001007519  -0.001009557

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1548863

$`Vole abundance`$Pg181
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 38.92439

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
  -0.62936659   -0.17704150   -0.03009162    0.01301985

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1543363

$`Vole abundance`$Pg191
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 39.00287

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.39420850   -0.18929986   -0.02186961   -0.10960806

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1541887

$`Vole abundance`$Pg201
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.1793

Coefficients:
c.(Intercept)         c.leg
     1.964560     -3.581039

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4517395

$`Vole abundance`$Ph221
Generalized nonlinear least squares fit
```

```
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.42962

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 0.4959472982 -0.0498806776 -0.2094746796 -0.0032253563  0.0008218878
       b.leg
 0.0015264708

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1516493

$`Vole abundance`$Ph231
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.72677

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.43771992   -0.07433160   -0.23114121   -0.06196593    0.01775905
       c.leg
   0.02396972

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1511007

$`Vole abundance`$Ph251
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.46622

Coefficients:
c.(Intercept)      c.funcgr         c.leg
     6.044629     -2.862539     -3.980330

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4506536

$`Vole abundance`$Pi271
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.07151

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.054197929   0.018869247   0.065498296  -0.016591142   0.002478395
     b.grass
  0.008267967

Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.1658864

$`Vole abundance`$Pi281
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.02786

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -1.024173432  -0.001993515   0.063001522  -0.090342065   0.021769792
      c.grass
  0.037451023

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1659748

$`Vole abundance`$Pi291
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 35.13921

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
-0.0112032739  0.0006383142  0.0537368615 -1.3837995806  0.3044935216
      c.grass
 0.4969289846

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1637405

$`Vole abundance`$Pi301
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.53705

Coefficients:
c.(Intercept)      c.funcgr       c.grass
    -9.310887      1.511906      2.025215

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4565772

$`Vole abundance`$Pj321
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.96735

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.2208274872  0.0429144322 -0.1360146876 -0.0009587644  0.0025272729
```

```
        b.leg
-0.0009751508

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1543778

$`Vole abundance`$Pj331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.78445

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.737310260   0.044420199  -0.158682853  -0.015508749   0.003156306
        c.leg
  0.007169930

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1547225

$`Vole abundance`$Pj341
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.11465

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
   0.23047684    0.05463177   -0.15092247    0.98757059    0.06823424
        c.leg
  -1.07946390

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1541008

$`Vole abundance`$Pj351
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -50.06684

Coefficients:
c.(Intercept)       c.grass         c.leg
    3.3117007    -0.5966959    -3.9713695

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.4539666

$`Vole abundance`$Pk361
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 46.9446
```

```
Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
 7.847449e-01 -1.223023e-01 -4.801509e-04 -2.863335e-01 -4.552387e-01
     b.funcgr       b.grass         b.leg c.(Intercept)      c.funcgr
 9.413775e-02  2.277085e-02  1.275719e-01 -1.661144e+01  2.396583e+00
      c.grass         c.leg
 4.778142e+00  2.408685e+00

Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.147737

$`Vole abundance`$Pk371
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.40291

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.716424823  -0.077502805  -0.069830636  -0.250224079  -0.045582142
     b.funcgr       b.grass         b.leg
  0.006067793   0.012961395   0.009944191

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1518716

$`Vole abundance`$Pk381
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.34188

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.24460589   -0.09985782   -0.06553000   -0.26111208   -0.22974318
     c.funcgr       c.grass         c.leg
   0.03921618    0.05455568    0.05291474

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1519846

$`Vole abundance`$Pk401
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -49.37142

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
    21.111250     -2.590060     -4.725122     -9.875522

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4530092
```

```
$`Vole abundance`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.40372

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
 -0.014823201   0.052597787  -0.002269727   0.004520349

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1411505
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2011023

$`Vole abundance`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.03548

Coefficients:
a.(Intercept)       a.grass b.(Intercept)       b.grass
 -0.022083157   0.058125573  -0.001715965   0.004019599

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005796744
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1742894

$`Vole abundance`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.76109

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -1.098037903   0.095950827   0.040187954  -0.006847478

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
```

```
-0.1279833
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1987610

$`Vole abundance`$Pm1331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 32.62988

Coefficients:
a.(Intercept)       a.grass c.(Intercept)       c.grass
 -1.098887599   0.097994234   0.042785508  -0.009240569

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005256648
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1743434

$`Vole abundance`$Pm1421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.05113

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
  -0.05109205    0.07105312    0.79119688   -0.27304166

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1355715
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.200303

$`Vole abundance`$Pm1431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 32.81991

Coefficients:
b.(Intercept)       b.grass c.(Intercept)       c.grass
  -0.05477547    0.07533179    0.80910027   -0.29663420

Variance function:
 Structure: Exponential of variance covariate
```

```
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.005646374
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1745228

$`Vole abundance`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -23.95272

Coefficients:
c.(Intercept)       c.grass
    -8.354208      3.069212

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4131694
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6058627

$`Vole abundance`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -44.32019

Coefficients:
c.(Intercept)       c.grass
    -9.095510      3.296466

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01952035
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4973244

$`Vole abundance`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.94771

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.292586136  -0.137673126   0.001559042  -0.001295385
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1178497
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1815648

$`Vole abundance`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.95131

Coefficients:
a.(Intercept)         a.leg b.(Intercept)         b.leg
  0.305140670  -0.144074831   0.001213468  -0.001109618

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004274248
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1600525

$`Vole abundance`$Pn1821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.98889

Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.665653030  -0.158405210  -0.010831946   0.002962058

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1089451
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1790904

$`Vole abundance`$Pn1831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 39.13389
```

```
Coefficients:
a.(Intercept)         a.leg c.(Intercept)         c.leg
 -0.640863887  -0.171255891  -0.021836249   0.008835745

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003578656
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1587457

$`Vole abundance`$Pn1921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.00391

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
    0.3463813    -0.1649692     0.1911618    -0.2534415

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1068579
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1785036

$`Vole abundance`$Pn1931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 39.18293

Coefficients:
b.(Intercept)         b.leg c.(Intercept)         c.leg
   0.37794755   -0.18113704    0.05073633   -0.15188384

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003355335
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1583469

$`Vole abundance`$Pn2021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
```

```
  Data: DF
  Log-likelihood: -20.44487

Coefficients:
c.(Intercept)         c.leg
     3.452673     -4.315749

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4566172
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.619168

$`Vole abundance`$Pn2031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -43.55967

Coefficients:
c.(Intercept)         c.leg
     2.558113     -3.876942

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.01983887
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4940825

$`Vole abundance`$Pp2221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.50794

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 4.691199e-01 -4.528620e-02 -1.980373e-01  1.201864e-04  3.211153e-04
        b.leg
 8.883403e-05

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1071863
Degrees of freedom: 82 total; 76 residual
```

```
Residual standard error: 0.1754839

$`Vole abundance`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.67058

Coefficients:
a.(Intercept)      a.funcgr         a.leg b.(Intercept)      b.funcgr
 0.4913693942 -0.0489742282 -0.2076973444 -0.0023500675  0.0006768582
       b.leg
 0.0011819605

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.003684938
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1560643

$`Vole abundance`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.73913

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.45376943   -0.07135171   -0.22365382   -0.05082786    0.01607519
       c.leg
   0.01845584

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1030781
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1739258

$`Vole abundance`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.94920

Coefficients:
a.(Intercept)      a.funcgr         a.leg c.(Intercept)      c.funcgr
  -0.44100562   -0.07362988   -0.22980002   -0.05852121    0.01716541
       c.leg
```

```
   0.02250007

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.00353983
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1553413

$`Vole abundance`$Pp2421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.22236

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.58611893    0.03103045   -0.30095113    2.21424738   -2.13193742
        c.leg
  -0.02255772

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
0.07938477
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1471733

$`Vole abundance`$Pp2431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.38259

Coefficients:
b.(Intercept)      b.funcgr         b.leg c.(Intercept)      c.funcgr
   0.60168935    0.02819242   -0.30707189    2.16391561   -2.10688598
        c.leg
  -0.02525788

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
0.00700676
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1556102

$`Vole abundance`$Pp2521
```

```
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -19.80458

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    2.6896497     0.1706482    -4.0724945

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4691893
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6298753

$`Vole abundance`$Pp2531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.67968

Coefficients:
c.(Intercept)      c.funcgr         c.leg
    0.9808754     0.4869266    -3.5042830

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02470518
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5128787

$`Vole abundance`$Pq2621
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 39.7284

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -2.926480919  -0.013162358   1.526432276   2.894745708   0.005785932
      b.grass c.(Intercept)      c.funcgr       c.grass
 -1.451830976  -1.375646908   0.011621307   1.353889499

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
```

```
-0.1862281
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2082887

$`Vole abundance`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 36.6959

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.041194429   0.019160936   0.055787754  -0.018100948   0.002548047
      b.grass
  0.009364162

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1619676
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2043334

$`Vole abundance`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.73776

Coefficients:
a.(Intercept)      a.funcgr       a.grass b.(Intercept)      b.funcgr
 -0.053124092   0.019275022   0.064146751  -0.016811480   0.002453020
      b.grass
  0.008515193

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.006096945
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1733865

$`Vole abundance`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 36.66455

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
```

```
 -0.973401379  -0.007412538   0.037646072  -0.122444728   0.025585678
     c.grass
  0.052892517

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.1634284
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2048553

$`Vole abundance`$Pq2831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.69199

Coefficients:
a.(Intercept)      a.funcgr       a.grass c.(Intercept)      c.funcgr
 -1.018068479  -0.002219154   0.059485739  -0.095748771   0.022145704
     c.grass
  0.040490393

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.006095389
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1734809

$`Vole abundance`$Pq2931
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 35.95712

Coefficients:
b.(Intercept)      b.funcgr       b.grass c.(Intercept)      c.funcgr
-0.0060985319 -0.0004308258  0.0515797528 -1.4177682139  0.3114536174
     c.grass
 0.5103819231

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.006572376
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1715259
```

```
$`Vole abundance`$Pq3021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -19.31187

Coefficients:
c.(Intercept)      c.funcgr       c.grass
    -8.505518      1.499956      1.789284

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4691684
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6260825

$`Vole abundance`$Pq3031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.70443

Coefficients:
c.(Intercept)      c.funcgr       c.grass
    -9.268504      1.733189      1.765749

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02495763
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5141467

$`Vole abundance`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 41.72591

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
  0.206004348   0.037615057  -0.124395866  -0.001229467   0.003763056
        b.leg
 -0.001687273

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
```

```
 Parameter estimates:
     power
-0.1364971
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1850449

$`Vole abundance`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.35824

Coefficients:
a.(Intercept)       a.grass         a.leg b.(Intercept)       b.grass
 0.2171837221  0.0426571810 -0.1340403795 -0.0009207816  0.0027629874
        b.leg
-0.0011409440

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004630655
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1598749

$`Vole abundance`$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.19455

Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.790531874   0.049318148  -0.135201912   0.005313923   0.004732596
        c.leg
 -0.004538053

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1252558
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1831654

$`Vole abundance`$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 40.05149
```

```
Coefficients:
a.(Intercept)       a.grass         a.leg c.(Intercept)       c.grass
 -0.756805516   0.048389934  -0.152024633  -0.004721652   0.001704376
        c.leg
  0.002911354

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003970387
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1595670

$`Vole abundance`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 41.84573

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
  0.135078715   0.076818068  -0.123559096   2.357160041  -0.009710363
        c.leg
 -2.210164741

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1399466
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1857233

$`Vole abundance`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 40.42276

Coefficients:
b.(Intercept)       b.grass         b.leg c.(Intercept)       c.grass
  0.185071097   0.070375940  -0.143140942   1.890842563   0.008824552
        c.leg
 -1.840698625

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.004326799
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.159333

$`Vole abundance`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -20.31241

Coefficients:
c.(Intercept)       c.grass         c.leg
    3.7415652    -0.1782686    -4.3660832

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4574991
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6228837

$`Vole abundance`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.97099

Coefficients:
c.(Intercept)       c.grass         c.leg
     4.905948     -1.017078     -4.605116

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     expon
-0.0225535
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5052832

$`Vole abundance`$Ps3621
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 46.30401

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  -0.76039308    0.22436929    0.38262097   -0.08550191    1.57200865
     b.funcgr       b.grass         b.leg c.(Intercept)      c.funcgr
  -0.32676752   -0.48628540   -0.17034684    1.98433650   -0.23809136
      c.grass         c.leg
  -0.42052385   -0.69425026
```

```
Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1287107
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1802469

$`Vole abundance`$Ps3631
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv^c
  Data: DF
  Log-likelihood: 47.06927

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.794944514  -0.122995550  -0.006427293  -0.287810017  -0.449301456
     b.funcgr       b.grass         b.leg c.(Intercept)      c.funcgr
  0.091168810   0.025734382   0.124905843 -14.928440392   2.167524360
      c.grass         c.leg
  4.275294681   2.176129477

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.002647236
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1509035

$`Vole abundance`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 43.77621

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.714687880  -0.075905263  -0.077827992  -0.243687619  -0.044794336
     b.funcgr       b.grass         b.leg
  0.005873409   0.013761632   0.009032228

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.1194679
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1783321
```

```
$`Vole abundance`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 42.67946

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg b.(Intercept)
  0.713579451  -0.076804487  -0.070342344  -0.248832870  -0.044958020
     b.funcgr       b.grass         b.leg
  0.005952149   0.013032557   0.009661657

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003883419
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1564917

$`Vole abundance`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 43.77068

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.18399675   -0.10677176   -0.09199864   -0.26485977   -0.27231114
     c.funcgr       c.grass         c.leg
   0.04438086    0.07213438    0.05615780

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
    power
-0.123143
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1793198

$`Vole abundance`$Ps3831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 42.61936

Coefficients:
a.(Intercept)      a.funcgr       a.grass         a.leg c.(Intercept)
  -0.24068717   -0.09997592   -0.06809891   -0.26083185   -0.23380218
     c.funcgr       c.grass         c.leg
   0.03950142    0.05698643    0.05278702
```

```
Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
       expon
-0.003894833
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1566218

$`Vole abundance`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -18.88881

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   -0.6425910     0.5901654     0.8141783    -3.2245857

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
     power
-0.4789888
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6360464

$`Vole abundance`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.63452

Coefficients:
c.(Intercept)      c.funcgr       c.grass         c.leg
   -2.9446339     0.9812844     0.9134404    -2.4618169

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
      expon
-0.02496867
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.51704

$`Vole abundance`$AS3
Nonlinear regression model
  model:  response ~ SSasympOrig(sowndiv, Asym, lrc)
   data:  DF
   Asym     lrc
0.09731 0.30727
 residual sum-of-squares: 2.325
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 8.61e-06

$`Vole abundance`$LG2
Nonlinear regression model
  model:  response ~ SSlogis(sowndiv, Asym, xmid, scal)
   data:  DF
   Asym    xmid    scal
 0.2643 33.5784 38.3153
 residual sum-of-squares: 2.298

Number of iterations to convergence: 3
Achieved convergence tolerance: 8.755e-07
```