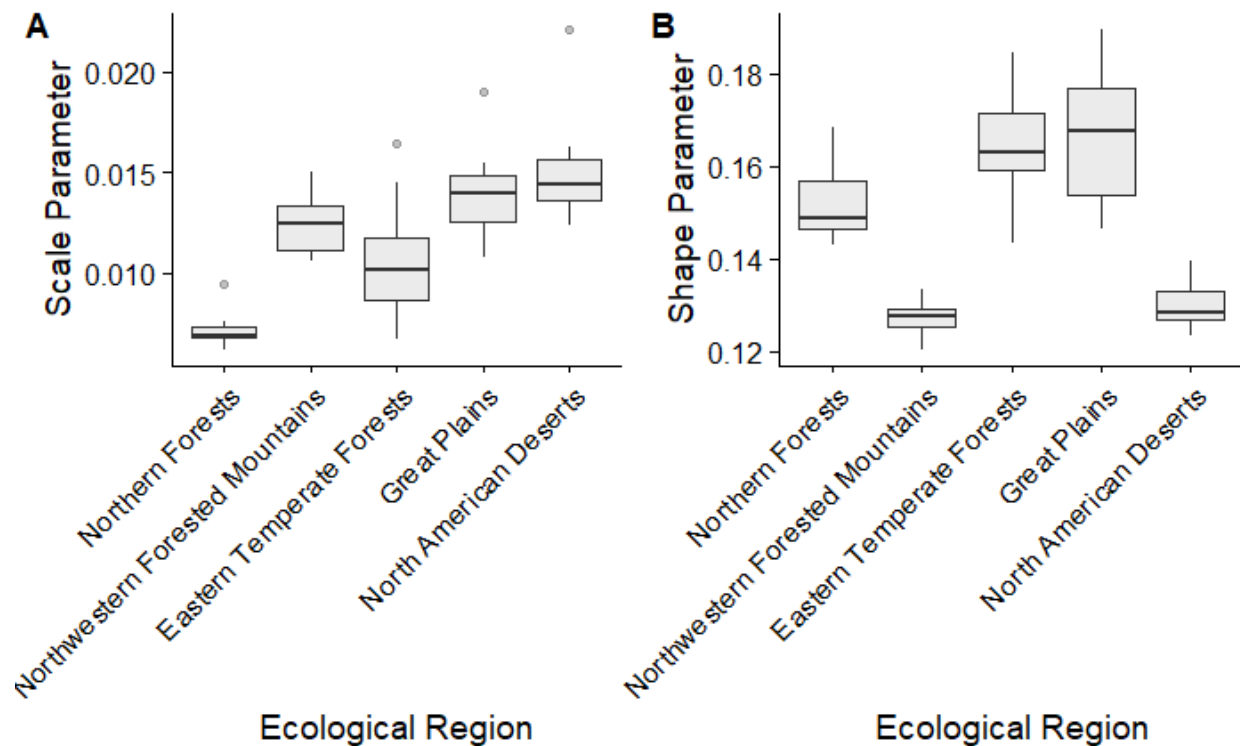
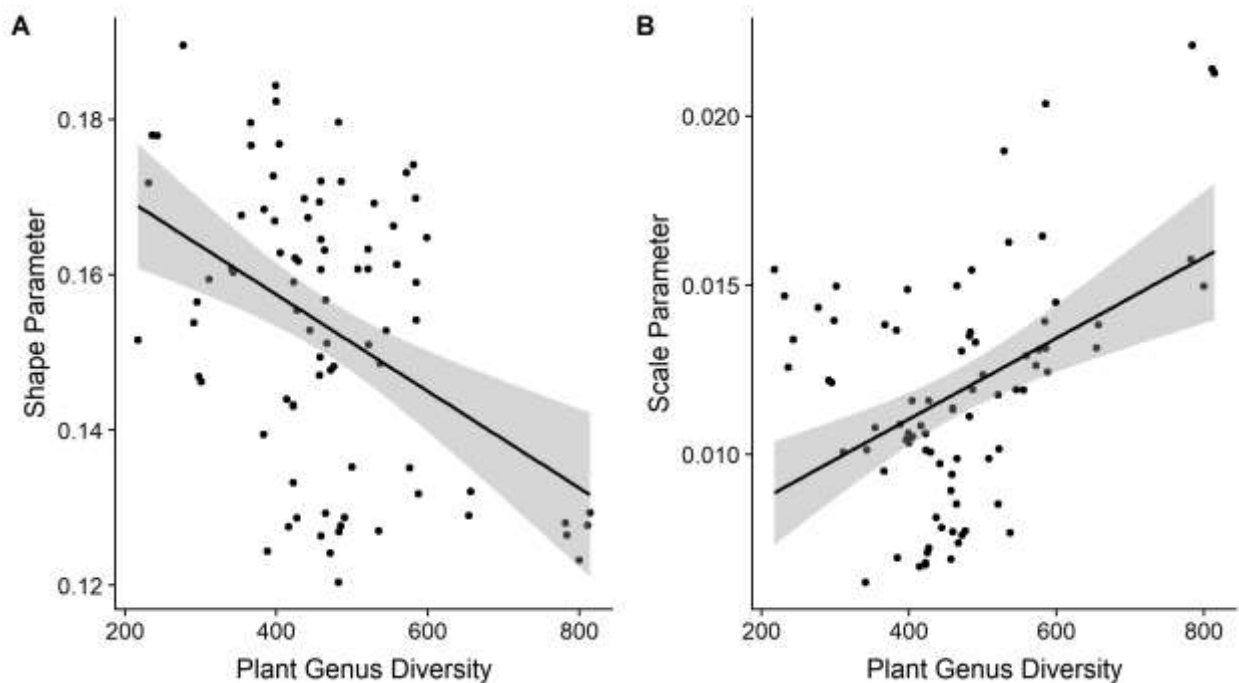


# Supplementary Materials for

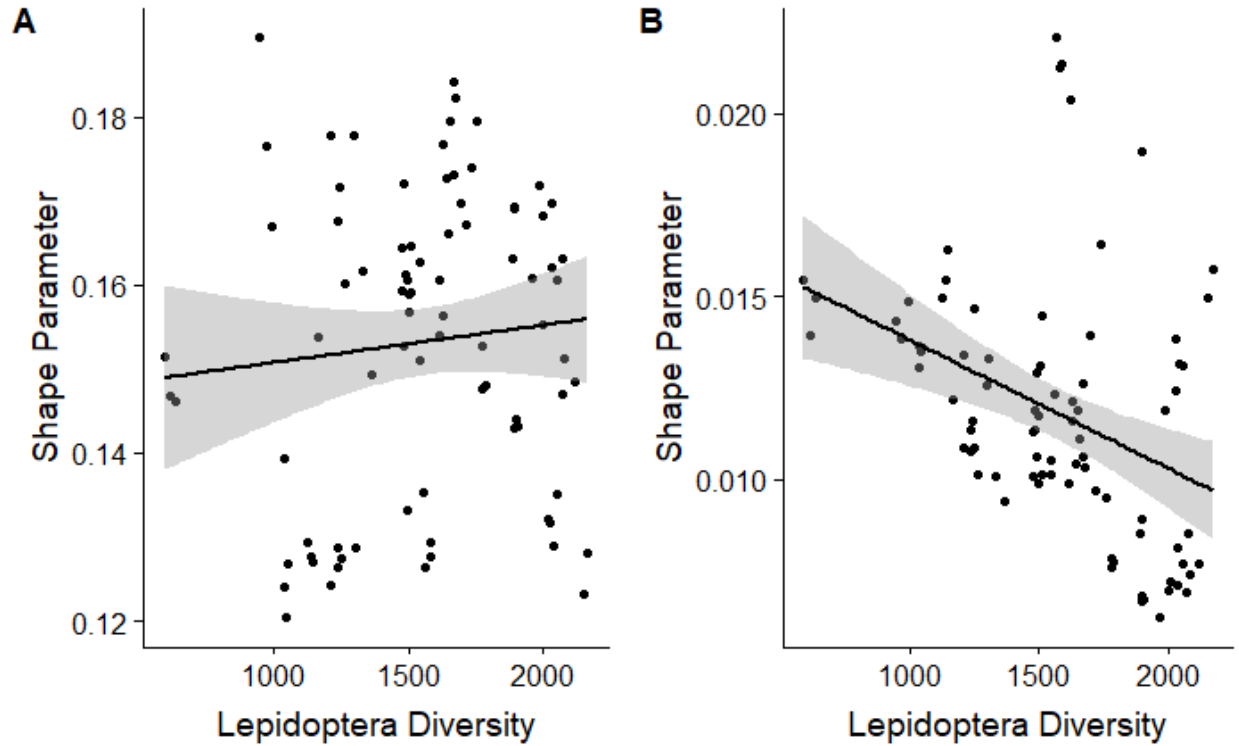
## FEW KEYSTONE PLANT GENERA SUPPORT THE MAJORITY OF LEPIDOPTERA SPECIES



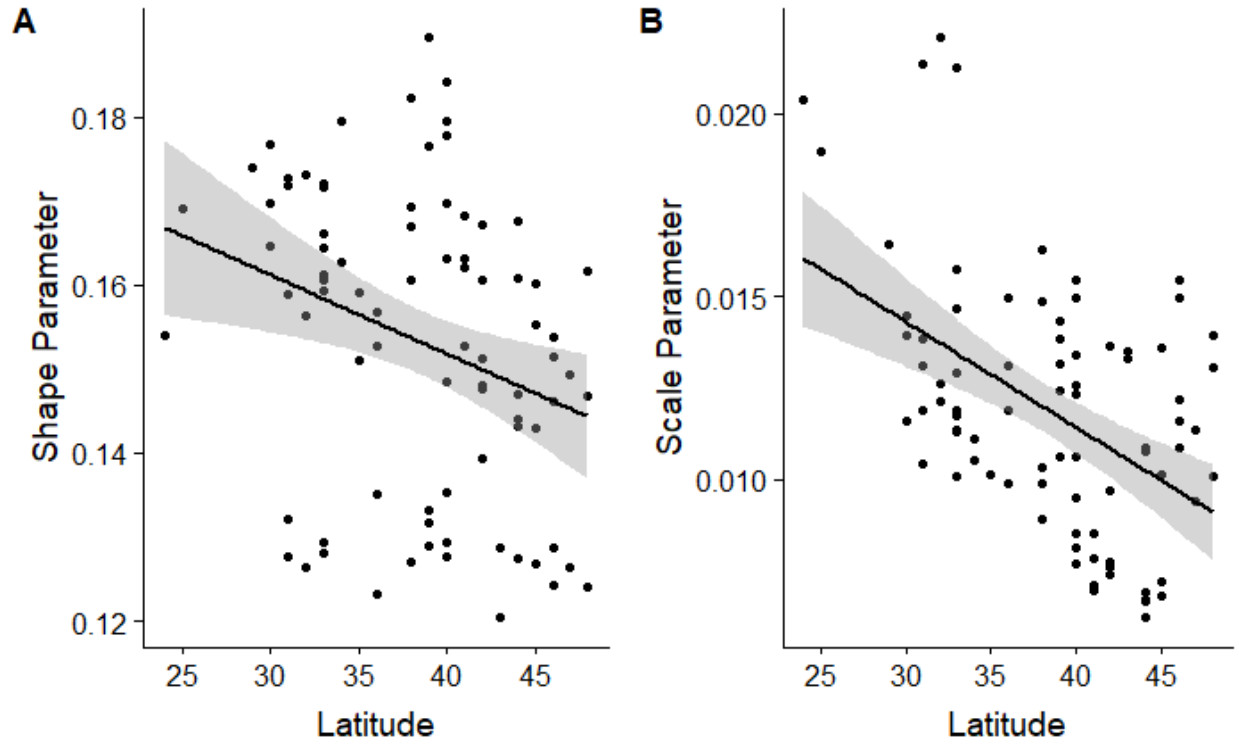
**Supplementary Fig. 1. Scale ( $\Theta$ ) parameter (A) and shape ( $\alpha$ ) parameter (B) of a gamma distribution in the five main bioregions.** Scale is a measure of the distribution slope and shape is a measure of its skew. Box plot shows the median (center line), first and third quartile (upper and lower hinges) and 1.5 \* interquartile range (IQR) (whiskers). Outliers are values beyond 1.5 \* IQR. Data from n=78 counties (5 counties were not included because the ecoregion was only represented by 2 or fewer counties).



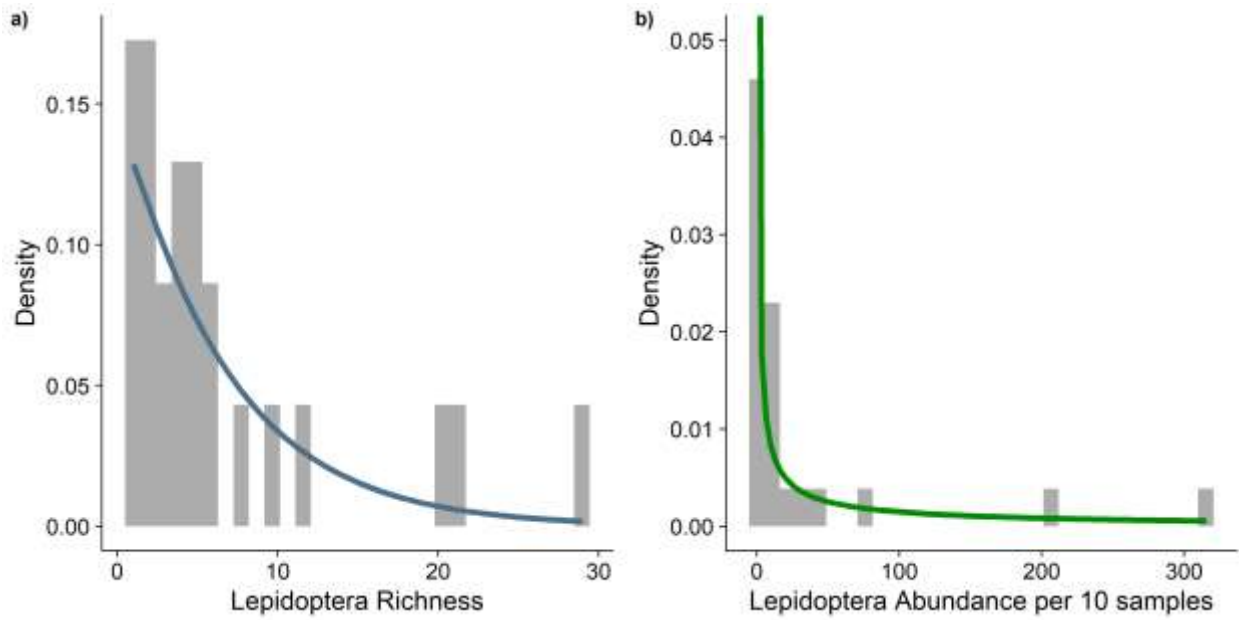
**Supplementary Fig. 2. Linear relationship between Shape ( $\alpha$ ) parameter (A) and Scale ( $\Theta$ ) parameter (B) over plant genus richness at the county level.** Although relationships were significant ( $p < 0.05$ ), effect sizes were negligible (Table S1) suggesting no meaningful effect of plant diversity on parameters of the distribution. Line represents the mean predicted relationship and gray ribbon is the 95% confidence interval. Data from  $n=83$  counties.



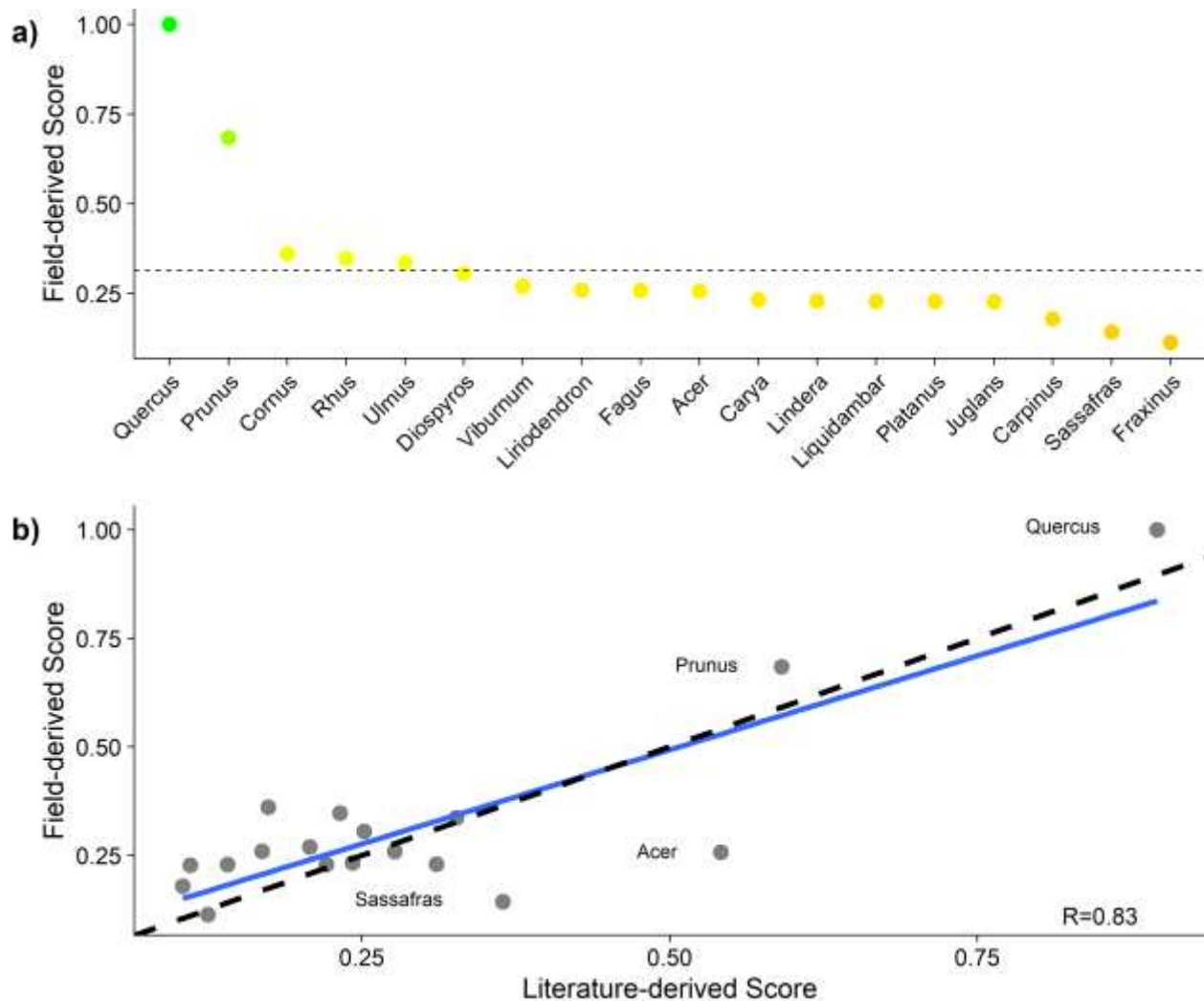
**Supplementary Fig. 3. Linear relationship between Shape ( $\alpha$ ) parameter (A) and Scale ( $\Theta$ ) parameter (B) over Lepidoptera Richness at the county level.** Although relationships were significant ( $p < 0.05$ ), effect sizes were negligible (Table S1) suggesting no meaningful effect of Lepidoptera diversity on parameters of the distribution. Line represents the mean predicted relationship and gray ribbon is the 95% confidence interval. Data from  $n=83$  counties.



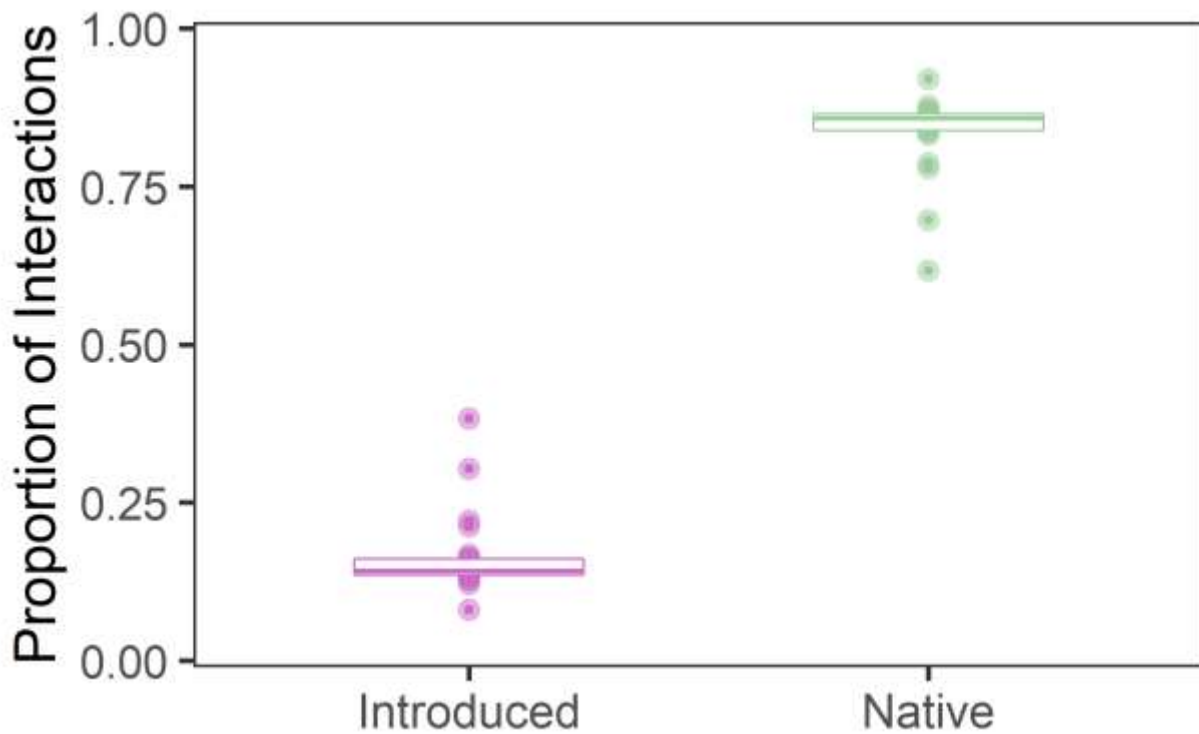
**Supplementary Fig. 4. Linear relationship between Shape ( $\alpha$ ) parameter (A) and scale ( $\Theta$ ) parameter (B) over latitude.** Although relationships were significant ( $p < 0.05$ ), effect sizes were negligible (Table S1) suggesting no meaningful effect of latitude on parameters of the distribution. Line represents the mean predicted relationship and gray ribbon is the 95% confidence interval. Data from  $n=83$  counties.



**Supplementary Fig. 5. Distribution of a) richness and b) abundance per 10 samples for a field-collected dataset of Lepidoptera on 18 plant genera using standardized methods in hedgerows within New Castle County, DE and Cecil County, MD. See Richard et al.<sup>1</sup> for more details on field methods. Colored lines are fitted gamma distributions to the data.**



**Supplementary Fig. 6. Literature-derived scores and field-derived scores are highly correlated.** a) Scores derived from the three-part network analysis using field-derived interaction data systematically collected from woody plants in hedgerows of Northern Delaware. Field data are from Richard et al.<sup>1</sup>. Dashed line is the mean score for the dataset. b) A correlation plot of field-derived scores (x-axis) and literature-derived scores (y-axis). Literature-derived scores are based on host plant data from Sussex, County, Delaware. Blue line is the mean linear slope, and dashed line is a hypothetical slope of 1. Notable tree species are labeled. *Acer* and *Sassafras* trees had lower scores derived from field data than those from the literature. *Prunus* and *Quercus* had the highest scores in either analysis and were identified as keystone species in the county-wide analysis.



**Supplementary Fig. 7. The majority of host plant-Lepidoptera interactions involve native plant genera.** Proportions of interactions and species supported by introduced (in purple) and native (in green) plants. Introduced plant genera –Lepidoptera interactions were used to derive the probability of host plant switching by Lepidoptera in simulation models, however, all responses in the models and simulations are based on native plant genera-Lepidoptera interactions. Data from n=83 counties. Box plot shows the median (center line), first and third quartile (upper and lower hinges) and 1.5 \* interquartile range (IQR) (whiskers). Outliers are values beyond 1.5 \* IQR.

**Supplementary Table 1. Statistics for the relationship between the two distribution parameters (shape and scale) and fixed effects that vary by county.** Comparisons with ecoregion were made with an analysis of variance test and relationships with plant diversity, Lepidoptera diversity and latitude were made with a linear regression.

†Plant diversity and Lepidoptera diversity models were rescaled such that the  $\beta$  coefficient represents the change with each addition of 100 species. Latitude was rescaled to represent a change in 10 degrees. County land area was rescaled to represent an addition of 1000 km<sup>2</sup>.

| Response | Fixed Effect                        | $\beta \pm SE$     | Rescaled<br>$\beta \pm SE^\dagger$ | $F_{4,73}$ | t-value | P-value |
|----------|-------------------------------------|--------------------|------------------------------------|------------|---------|---------|
| Shape    | Ecoregion                           |                    |                                    | 49.38      |         | <0.0001 |
|          | Plant Diversity                     | 0.000 $\pm$ 0.000  | -0.006 $\pm$ 0.001                 |            | -4.330  | <0.0001 |
|          | Lepidoptera Diversity               | 0.000 $\pm$ 0.000  | 0.000 $\pm$ 0.001                  |            | 0.835   | 0.410   |
|          | Latitude                            | -0.001 $\pm$ 0.000 | -0.009 $\pm$ 0.003                 |            | -2.872  | 0.005   |
|          | County Land Area (km <sup>2</sup> ) | -0.000 $\pm$ 0.000 | -0.001 $\pm$ 0.000                 |            | -1.814  | 0.074   |
| Scale    | Ecoregion                           |                    |                                    | 22.99      |         | <0.0001 |
|          | Plant Diversity                     | 0.000 $\pm$ 0.000  | 0.001 $\pm$ 0.000                  |            | 4.335   | <0.0001 |
|          | Lepidoptera Diversity               | -0.000 $\pm$ 0.000 | -0.000 $\pm$ 0.000                 |            | -3.743  | 0.0003  |
|          | Latitude                            | -0.000 $\pm$ 0.000 | -0.003 $\pm$ 0.001                 |            | -4.833  | <0.001  |
|          | County Land Area (km <sup>2</sup> ) | -0.000 $\pm$ 0.000 | -0.000 $\pm$ 0.000                 |            | -0.520  | 0.604   |

**Supplementary Table 2. Pairwise comparisons from the analysis of variance test for the difference of means among the 5 ecotypes.** Mean difference, 95% confidence intervals and adjusted p-values were calculated using a Tukey's Post-hoc test.

| Response | Comparison | Mean Difference | 95% Confidence Interval | Adjusted <i>P</i> -value |
|----------|------------|-----------------|-------------------------|--------------------------|
| Shape    | 6-5        | -0.025          | -0.037, -0.012          | <0.0001                  |
|          | 8-5        | 0.012           | 0.002, 0.023            | 0.014                    |
|          | 9-5        | 0.014           | 0.002, 0.026            | 0.018                    |
|          | 10-5       | -0.022          | -0.035, -0.009          | 0.0001                   |
|          | 8-6        | 0.037           | 0.028, 0.046            | <0.0001                  |
|          | 9-6        | 0.038           | 0.027, 0.049            | <0.0001                  |
|          | 10-6       | 0.003           | -0.010, 0.015           | 0.978                    |
|          | 9-8        | 0.001           | -0.007, 0.010           | 0.990                    |
|          | 10-8       | -0.034          | -0.045, -0.024          | <0.0001                  |
|          | 10-9       | -0.036          | -0.048, -0.024          | <0.0001                  |
| Scale    | 6-5        | 0.005           | 0.002, 0.008            | <0.0001                  |
|          | 8-5        | 0.003           | 0.001, 0.005            | 0.002                    |
|          | 9-5        | 0.007           | 0.004, 0.009            | <0.0001                  |
|          | 10-5       | 0.008           | 0.005, 0.011            | <0.0001                  |
|          | 8-6        | -0.002          | -0.004, -0.000          | 0.050                    |
|          | 9-6        | 0.002           | -0.001, 0.004           | 0.308                    |
|          | 10-6       | 0.003           | 0.000, 0.006            | 0.031                    |
|          | 9-8        | 0.004           | 0.002, 0.006            | <0.0001                  |
|          | 10-8       | 0.005           | 0.003, 0.007            | <0.0001                  |
|          | 10-9       | 0.001           | -0.001, 0.004           | 0.678                    |

**Supplementary Table 3. Location, plant richness, Lepidoptera richness and summary information for each county included in this analysis.**

| County & state    | Latitude | Longitude | Ecoregion | Native Plants | Native Lepidoptera | Native Lepidoptera that use county plants | Plants for >90% Lepidoptera species | % plants for >90% Lepidoptera species |
|-------------------|----------|-----------|-----------|---------------|--------------------|-------------------------------------------|-------------------------------------|---------------------------------------|
| Barnstable Co. MA | 41.7     | -70.3     | 8.5       | 444           | 2167               | 1775                                      | 54                                  | 12.16                                 |
| Barrow Co. GA     | 33.992   | -83.72    | 8.3       | 311           | 2365               | 1475                                      | 52                                  | 16.72                                 |
| Beaufort Co. SC   | 32.431   | -80.67    | 8.5       | 572           | 2158               | 1670                                      | 80                                  | 13.99                                 |
| Benson Co. ND     | 48.071   | -99.252   | 9.2       | 298           | 837                | 618                                       | 42                                  | 14.09                                 |
| Berkshire Co. MA  | 42.45    | -73.245   | 5.3       | 472           | 2167               | 1775                                      | 52                                  | 11.02                                 |
| Billings Co. ND   | 46.914   | -103.524  | 9.3       | 301           | 837                | 637                                       | 40                                  | 13.29                                 |
| Blount Co. AL     | 33.948   | -86.273   | 8.4       | 559           | 2095               | 1488                                      | 81                                  | 14.46                                 |
| Boise Co. ID      | 43.828   | -115.834  | 6.2       | 482           | 1565               | 1046                                      | 53                                  | 11                                    |
| Bonner Co. ID     | 48.276   | -116.553  | 6.2       | 471           | 1565               | 1038                                      | 51                                  | 11.04                                 |
| Bradford Co. PA   | 41.767   | -76.443   | 8.1       | 425           | 2588               | 2030                                      | 60                                  | 14.12                                 |
| Brown Co. KS      | 39.852   | -95.536   | 9.2       | 367           | 1346               | 972                                       | 58                                  | 15.8                                  |
| Brown Co. MN      | 44.314   | -94.459   | 9.2       | 354           | 1648               | 1236                                      | 52                                  | 14.69                                 |
| Calhoun Co. MI    | 42.272   | -84.963   | 8.1       | 459           | 2601               | 2049                                      | 69                                  | 15.03                                 |
| Cameron Co. PA    | 41.511   | -78.235   | 5.3       | 384           | 2588               | 1998                                      | 58                                  | 15.1                                  |
| Cameron Co. TX    | 25.902   | -97.497   | 9.5       | 529           | 4378               | 1895                                      | 100                                 | 18.9                                  |
| Cassia Co. ID     | 42.536   | -113.793  | 10.1      | 383           | 1565               | 1037                                      | 47                                  | 12.27                                 |
| Cayuga Co. NY     | 42.932   | -76.566   | 8.1       | 467           | 2635               | 2078                                      | 61                                  | 13.07                                 |
| Charleston Co. GA | 30.83    | -82.01    | 8.5       | 404           | 2365               | 1626                                      | 69                                  | 17.08                                 |
| Chase Co. KS      | 38.372   | -96.543   | 9.4       | 398           | 1346               | 993                                       | 62                                  | 15.58                                 |
| Clatsop Co. OR    | 46.188   | -123.831  | 7.1       | 388           | 2053               | 1208                                      | 50                                  | 12.89                                 |
| Cleveland Co. AR  | 33.958   | -92.19    | 8.3       | 459           | 2011               | 1473                                      | 68                                  | 14.81                                 |
| Cochise Co. AZ    | 31.448   | -109.928  | 12.1      | 811           | 3715               | 1585                                      | 102                                 | 12.58                                 |
| Colquitt Co. GA   | 31.18    | -83.789   | 8.3       | 396           | 2365               | 1643                                      | 70                                  | 17.68                                 |
| Conecuh Co. AL    | 31.434   | -86.954   | 8.3       | 585           | 2095               | 1501                                      | 86                                  | 14.68                                 |
| Cumberland Co. TN | 35.9     | -85.023   | 8.4       | 522           | 1981               | 1544                                      | 67                                  | 13.03                                 |

|                   |        |          |      |     |      |      |     |       |
|-------------------|--------|----------|------|-----|------|------|-----|-------|
| Custer Co. MT     | 46.339 | -105.761 | 9.3  | 291 | 1866 | 1167 | 48  | 16.49 |
| Delta Co. MI      | 45.745 | -87.064  | 5.2  | 427 | 2601 | 2001 | 61  | 14.29 |
| Desha Co. AR      | 33.608 | -91.207  | 8.5  | 459 | 2011 | 1480 | 68  | 14.75 |
| El Paso Co. TX    | 31.761 | -106.485 | 10.2 | 657 | 4378 | 2022 | 94  | 14.31 |
| Essex Co. MA      | 42.519 | -70.897  | 8.1  | 476 | 2167 | 1787 | 54  | 11.34 |
| Essex Co. NY      | 44.216 | -73.59   | 5.3  | 457 | 2635 | 2069 | 60  | 13.13 |
| Franklin Co. ME   | 44.67  | -70.151  | 5.3  | 414 | 2467 | 1897 | 54  | 13.04 |
| Fulton Co. AR     | 36.371 | -91.823  | 8.4  | 545 | 2011 | 1486 | 74  | 13.58 |
| Gallia Co. OH     | 38.81  | -82.202  | 8.4  | 457 | 2426 | 1892 | 70  | 15.32 |
| Gila Co. AZ       | 33.394 | -110.786 | 13.1 | 814 | 3715 | 1581 | 102 | 12.53 |
| Grand Co. UT      | 38.57  | -109.55  | 10.1 | 535 | 1955 | 1144 | 63  | 11.78 |
| Grant Co. MN      | 45.999 | -96.073  | 8.1  | 343 | 1648 | 1265 | 51  | 14.87 |
| Idaho Co. ID      | 45.926 | -116.122 | 6.2  | 483 | 1566 | 1054 | 54  | 11.18 |
| Inyo Co. CA       | 36.803 | -118.2   | 10.2 | 800 | 3870 | 2150 | 104 | 13    |
| Jackson Co. FL    | 30.774 | -85.227  | 8.3  | 584 | 2883 | 1694 | 101 | 17.29 |
| Jefferson Co. MT  | 46.236 | -112.121 | 6.2  | 427 | 1866 | 1240 | 56  | 13.11 |
| Jewel Co. KS      | 39.787 | -98.21   | 9.4  | 277 | 1346 | 949  | 54  | 19.49 |
| Jo Daviess Co. IL | 42.417 | -90.429  | 8.1  | 442 | 2235 | 1713 | 67  | 15.16 |
| Jones Co. TX      | 32.756 | -99.896  | 9.4  | 295 | 4378 | 1626 | 60  | 20.4  |
| Knox Co. ME       | 44.103 | -69.109  | 8.1  | 422 | 2467 | 1904 | 55  | 13.03 |
| Lake Co. MN       | 47.023 | -91.671  | 5.2  | 458 | 1648 | 1363 | 54  | 11.79 |
| Lamb Co. TX       | 33.917 | -102.325 | 9.4  | 231 | 4378 | 1247 | 51  | 22.08 |
| Lancaster Co. PA  | 40.038 | -76.305  | 8.3  | 521 | 2588 | 2070 | 70  | 13.44 |
| Laurens Co. SC    | 34.499 | -82.014  | 8.3  | 482 | 2158 | 1652 | 76  | 15.77 |
| Lincoln Co. OR    | 44.637 | -124.053 | 7.1  | 416 | 2053 | 1253 | 53  | 12.74 |
| Logan Co. CO      | 40.625 | -103.208 | 9.4  | 236 | 2716 | 1300 | 44  | 18.64 |
| Malheur Co. OR    | 43.982 | -117.238 | 10.1 | 490 | 2053 | 1306 | 61  | 12.45 |
| Marion Co. IL     | 38.627 | -88.945  | 8.3  | 400 | 2235 | 1678 | 67  | 16.75 |
| McIntosh Co. ND   | 46.034 | -99.371  | 9.3  | 217 | 837  | 594  | 38  | 17.51 |
| McNairy Co. TN    | 35.17  | -88.592  | 8.3  | 423 | 1981 | 1509 | 63  | 14.89 |
| Miami Co. OH      | 40.039 | -84.203  | 8.2  | 366 | 2426 | 1756 | 65  | 17.76 |

|                    |        |          |      |              |                |                |              |              |
|--------------------|--------|----------|------|--------------|----------------|----------------|--------------|--------------|
| Miller Co. AR      | 33.442 | -94.0377 | 8.3  | 521          | 2011           | 1499           | 74           | 14.2         |
| Mobile Co. AL      | 30.695 | -88.04   | 8.3  | 599          | 2095           | 1509           | 85           | 14.19        |
| Monroe Co. FL      | 24.555 | -81.78   | 15.4 | 585          | 2883           | 1618           | 105          | 17.95        |
| Monterey Co. CA    | 36.678 | -121.655 | 11.1 | 576          | 3870           | 2054           | 90           | 15.63        |
| Nacogdoches Co. TX | 31.603 | -94.655  | 8.3  | 486          | 4378           | 1984           | 92           | 18.93        |
| Nevada Co. CA      | 39.261 | -121.016 | 6.2  | 588          | 3870           | 2024           | 86           | 14.63        |
| Oscoda Co. MI      | 44.652 | -84.13   | 5.2  | 341          | 2601           | 1961           | 55           | 16.13        |
| Piatt Co. IL       | 40.027 | -88.573  | 8.2  | 399          | 2235           | 1671           | 70           | 17.54        |
| Piscataquis Co. ME | 45.183 | -69.227  | 5.3  | 422          | 2467           | 1895           | 53           | 12.56        |
| Plumas Co. CA      | 39.937 | -120.947 | 6.2  | 654          | 3870           | 2037           | 88           | 13.61        |
| Rio Blanco Co. CO  | 40.037 | -107.913 | 10.1 | 500          | 2716           | 1558           | 64           | 12.77        |
| Riverside Co. CA   | 33.953 | -117.396 | 11.1 | 782          | 3870           | 2167           | 107          | 13.68        |
| Sanders Co. MT     | 47.595 | -115.337 | 6.2  | 459          | 1866           | 1238           | 55           | 11.98        |
| Suffolk Co. NY     | 40.917 | -72.662  | 8.5  | 537          | 2635           | 2116           | 65           | 12.1         |
| Summit Co. CO      | 39.481 | -106.038 | 6.2  | 422          | 2716           | 1493           | 58           | 13.71        |
| Summit Co. UT      | 40.918 | -111.399 | 6.2  | 465          | 1955           | 1126           | 58           | 12.47        |
| Sumter Co. SC      | 33.92  | -80.341  | 8.3  | 555          | 2158           | 1649           | 81           | 14.59        |
| Sussex Co. DE      | 38.69  | -75.385  | 8.5  | 508          | 1982           | 1613           | 51           | 11.61        |
| Tooele Co. UT      | 40.531 | -112.298 | 10.1 | 485          | 1955           | 1141           | 62           | 12.78        |
| Trumbull Co. OH    | 41.237 | -80.818  | 8.1  | 464          | 2426           | 1887           | 69           | 14.87        |
| Unicoi Co. TN      | 36.073 | -82.518  | 8.4  | 465          | 1981           | 1500           | 60           | 12.9         |
| Union Co. GA       | 34.876 | -83.958  | 8.4  | 405          | 2365           | 1542           | 59           | 15.8         |
| Volusia Co. FL     | 29.028 | -81.303  | 8.5  | 581          | 2883           | 1735           | 109          | 18.76        |
| Washington Co. PA  | 40.174 | -80.246  | 8.4  | 437          | 2588           | 2033           | 66           | 15.1         |
| Wright Co. MN      | 48.172 | -93.875  | 8.1  | 429          | 1648           | 1333           | 56           | 13.05        |
| Yuma Co. AZ        | 32.693 | -114.628 | 10.2 | 784          | 3715           | 1564           | 102          | 13.01        |
| Yuma Co. CO        | 40.076 | -102.223 | 9.4  | 243          | 2716           | 1212           | 43           | 17.7         |
| <b>AVERAGE</b>     |        |          |      | <b>467.2</b> | <b>2422.35</b> | <b>1559.01</b> | <b>66.73</b> | <b>14.57</b> |

**Supplementary Table 4. Attributes for each county included in the distribution analysis.** Latitude and longitude were obtained by the location of the county seat. Ecoregion was defined by the Commission for Environmental Cooperation's Ecological Regions of North America map. The shape parameter and scale parameter were obtained using Maximum-likelihood fitting of a Gamma distribution to the data. The *P*-value is from a test of fit for the Gamma distribution. *P*-values > 0.05 indicate a failure to reject the null hypothesis that the data fits a Gamma distribution. Of the 83 counties sampled, 93% (77 counties) failed to reject the null that the data came from a Gamma distribution ( $p > 0.05$ ). Visual inspection of the distributions for the other six counties showed that the overall distribution was similar to Gamma-distributed data (and simulated data with the estimated parameters for the county were also visually similar); therefore, these counties were retained for subsequent analyses. For the Pareto, exponential and log-normal distributions, all counties rejected the null that the data came from these distributions ( $p < 0.05$ ), therefore results are not presented here.

† Key for Ecoregion categories: 5—Northern Forest; 6—Northwestern Forested Mountains; 7—Marine West Coast Forest; 8—Eastern Temperate Forest; 9—Great Plains, 10—North American Deserts; 11—Mediterranean California; 12—Southern Semi-arid Highlands; 15—Tropical Wet Forest. For this analysis, ecoregion 7 was grouped with 6, ecoregion 11 & 12 were grouped with 10 and ecoregion 15 was removed because only one county existed in the dataset.

| County            | Latitude | Longitude | Ecoregion† | Plant richness | Lepidoptera Richness | Land Area (km <sup>2</sup> ) | <i>Gamma Distribution</i> |       |                 |
|-------------------|----------|-----------|------------|----------------|----------------------|------------------------------|---------------------------|-------|-----------------|
|                   |          |           |            |                |                      |                              | Shape                     | Scale | <i>P</i> -value |
| Barnstable Co. MA | 41.700   | -70.300   | 8          | 444            | 2167                 | 1019.735                     | 0.153                     | 0.008 | 0.343           |
| Barrow Co. GA     | 33.992   | -83.720   | 8          | 311            | 2365                 | 415.2029                     | 0.159                     | 0.010 | 0.669           |
| Beaufort Co. SC   | 32.431   | -80.670   | 8          | 572            | 2158                 | 1492.565                     | 0.173                     | 0.013 | 0.045           |
| Benson Co. ND     | 48.071   | -99.252   | 9          | 298            | 837                  | 3596.759                     | 0.147                     | 0.014 | 0.355           |
| Berkshire Co. MA  | 42.450   | -73.245   | 5          | 472            | 2167                 | 2400.464                     | 0.148                     | 0.008 | 0.526           |
| Billings Co. ND   | 46.914   | -103.524  | 9          | 301            | 837                  | 2975.522                     | 0.146                     | 0.015 | 0.542           |
| Blount Co. AL     | 33.948   | -86.273   | 8          | 559            | 2095                 | 1669.98                      | 0.161                     | 0.013 | 0.400           |
| Boise Co. ID      | 43.828   | -115.834  | 6          | 482            | 1565                 | 4919.032                     | 0.120                     | 0.014 | 0.526           |
| Bonner Co. ID     | 48.276   | -116.553  | 6          | 471            | 1565                 | 4492.536                     | 0.124                     | 0.013 | 0.760           |
| Bradford Co. PA   | 41.767   | -76.443   | 8          | 425            | 2588                 | 2971.766                     | 0.162                     | 0.007 | 0.709           |
| Brown Co. KS      | 39.852   | -95.536   | 9          | 367            | 1346                 | 1478.553                     | 0.177                     | 0.014 | 0.926           |
| Brown Co. MN      | 44.314   | -94.459   | 9          | 354            | 1648                 | 1478.553                     | 0.168                     | 0.011 | 0.156           |
| Calhoun Co. MI    | 42.272   | -84.963   | 8          | 459            | 2601                 | 1829.136                     | 0.161                     | 0.008 | 0.327           |
| Cameron Co. PA    | 41.511   | -78.235   | 5          | 384            | 2588                 | 1026.236                     | 0.168                     | 0.007 | 0.697           |

|                   |        |          |    |     |      |          |       |       |       |
|-------------------|--------|----------|----|-----|------|----------|-------|-------|-------|
| Cameron Co. TX    | 25.902 | -97.497  | 9  | 529 | 4378 | 1026.236 | 0.169 | 0.019 | 0.000 |
| Cassia Co. ID     | 42.536 | -113.793 | 10 | 383 | 1565 | 6643.557 | 0.139 | 0.014 | 0.669 |
| Cayuga Co. NY     | 42.932 | -76.566  | 8  | 467 | 2635 | 1791.192 | 0.151 | 0.007 | 0.325 |
| Charleston Co. GA | 30.830 | -82.010  | 8  | 404 | 2365 | 2003.572 | 0.177 | 0.012 | 0.065 |
| Chase Co. KS      | 38.372 | -96.543  | 9  | 398 | 1346 | 2002.225 | 0.167 | 0.015 | 0.744 |
| Clatsop Co. OR    | 46.188 | -123.831 | 7  | 388 | 2053 | 2147.24  | 0.124 | 0.011 | 0.786 |
| Cleveland Co. AR  | 33.958 | -92.190  | 8  | 459 | 2011 | 1548.25  | 0.165 | 0.011 | 0.339 |
| Cochise Co. AZ    | 31.448 | -109.928 | 12 | 811 | 3715 | 15969.14 | 0.128 | 0.021 | 0.898 |
| Colquitt Co. GA   | 31.180 | -83.789  | 8  | 396 | 2365 | 1409.349 | 0.173 | 0.010 | 0.348 |
| Conecuh Co. AL    | 31.434 | -86.954  | 8  | 585 | 2095 | 2201.914 | 0.159 | 0.013 | 0.357 |
| Cumberland Co. TN | 35.900 | -85.023  | 8  | 522 | 1981 | 1763.868 | 0.151 | 0.010 | 0.397 |
| Custer Co. MT     | 46.339 | -105.761 | 9  | 291 | 1866 | 9798.902 | 0.154 | 0.012 | 0.734 |
| Delta Co. MI      | 45.745 | -87.064  | 5  | 427 | 2601 | 3033.149 | 0.155 | 0.007 | 0.474 |
| Desha Co. AR      | 33.608 | -91.207  | 8  | 459 | 2011 | 1989.509 | 0.172 | 0.011 | 0.311 |
| El Paso Co. TX    | 31.761 | -106.485 | 10 | 657 | 4378 | 2622.867 | 0.132 | 0.014 | 0.008 |
| Essex Co. MA      | 42.519 | -70.897  | 8  | 476 | 2167 | 1275.73  | 0.148 | 0.008 | 0.452 |
| Essex Co. NY      | 44.216 | -73.590  | 5  | 457 | 2635 | 1275.73  | 0.147 | 0.007 | 0.599 |
| Franklin Co. ME   | 44.670 | -70.151  | 5  | 414 | 2467 | 4394.22  | 0.144 | 0.007 | 0.801 |
| Fulton Co. AR     | 36.371 | -91.823  | 8  | 545 | 2011 | 1601.112 | 0.153 | 0.012 | 0.161 |
| Gallia Co. OH     | 38.810 | -82.202  | 8  | 457 | 2426 | 1208.313 | 0.169 | 0.009 | 0.258 |
| Gila Co. AZ       | 33.394 | -110.786 | 12 | 814 | 3715 | 12323.04 | 0.129 | 0.021 | 0.885 |
| Grand Co. UT      | 38.570 | -109.550 | 10 | 535 | 1955 | 9509.289 | 0.127 | 0.016 | 0.917 |
| Grant Co. MN      | 45.999 | -96.073  | 8  | 343 | 1648 | 1419.734 | 0.160 | 0.010 | 0.145 |
| Idaho Co. ID      | 45.926 | -116.122 | 6  | 483 | 1566 | 21956.34 | 0.127 | 0.014 | 0.609 |
| Inyo Co. CA       | 36.803 | -118.200 | 10 | 800 | 3870 | 26368.48 | 0.123 | 0.015 | 0.052 |
| Jackson Co. FL    | 30.774 | -85.227  | 8  | 584 | 2883 | 2376.998 | 0.170 | 0.014 | 0.319 |
| Jefferson Co. MT  | 46.236 | -112.121 | 6  | 427 | 1866 | 4289.713 | 0.129 | 0.012 | 0.636 |
| Jewel Co. KS      | 39.787 | -98.210  | 9  | 277 | 1346 | 2356.33  | 0.190 | 0.014 | 0.750 |
| Jo Daviess Co. IL | 42.417 | -90.429  | 8  | 442 | 2235 | 1556.823 | 0.167 | 0.010 | 0.179 |
| Jones Co. TX      | 32.756 | -99.896  | 9  | 295 | 4378 | 2404.945 | 0.156 | 0.012 | 0.025 |
| Knox Co. ME       | 44.103 | -69.109  | 8  | 422 | 2467 | 945.6867 | 0.143 | 0.007 | 0.786 |

|                    |        |          |    |     |      |          |       |       |       |
|--------------------|--------|----------|----|-----|------|----------|-------|-------|-------|
| Lake Co. MN        | 47.023 | -91.671  | 5  | 458 | 1648 | 5463.061 | 0.149 | 0.009 | 0.365 |
| Lamb Co. TX        | 33.917 | -102.325 | 9  | 231 | 4378 | 2631.906 | 0.172 | 0.015 | 0.938 |
| Lancaster Co. PA   | 40.038 | -76.305  | 8  | 521 | 2588 | 2444.468 | 0.163 | 0.009 | 0.113 |
| Laurens Co. SC     | 34.499 | -82.014  | 8  | 482 | 2158 | 1848.742 | 0.180 | 0.011 | 0.353 |
| Lincoln Co. OR     | 44.637 | -124.053 | 7  | 416 | 2053 | 2537.423 | 0.128 | 0.011 | 0.887 |
| Logan Co. CO       | 40.625 | -103.208 | 9  | 236 | 2716 | 4761.845 | 0.178 | 0.013 | 0.328 |
| Malheur Co. OR     | 43.982 | -117.238 | 10 | 490 | 2053 | 25608.7  | 0.129 | 0.013 | 0.290 |
| Marion Co. IL      | 38.627 | -88.945  | 8  | 400 | 2235 | 1482.257 | 0.182 | 0.010 | 0.076 |
| McIntosh Co. ND    | 46.034 | -99.371  | 9  | 217 | 837  | 2524.551 | 0.152 | 0.015 | 0.629 |
| McNairy Co. TN     | 35.170 | -88.592  | 8  | 423 | 1981 | 1457.807 | 0.159 | 0.010 | 0.353 |
| Miami Co. OH       | 40.039 | -84.203  | 8  | 366 | 2426 | 1053.042 | 0.180 | 0.010 | 0.112 |
| Miller Co. AR      | 33.442 | -94.038  | 8  | 521 | 2011 | 1620.252 | 0.161 | 0.012 | 0.220 |
| Mobile Co. AL      | 30.695 | -88.040  | 8  | 599 | 2095 | 3184.25  | 0.165 | 0.014 | 0.096 |
| Monroe Co. FL      | 24.555 | -81.780  | 15 | 585 | 2883 | 2546.695 | 0.154 | 0.020 | 0.000 |
| Monterey Co. CA    | 36.678 | -121.655 | 11 | 576 | 3870 | 8496.754 | 0.135 | 0.013 | 0.396 |
| Nacogdoches Co. TX | 31.603 | -94.655  | 8  | 486 | 4378 | 2451.539 | 0.172 | 0.012 | 0.381 |
| Nevada Co. CA      | 39.261 | -121.016 | 6  | 588 | 3870 | 2480.624 | 0.132 | 0.012 | 0.523 |
| Oscoda Co. MI      | 44.652 | -84.130  | 5  | 341 | 2601 | 1465.241 | 0.161 | 0.006 | 0.913 |
| Piatt Co. IL       | 40.027 | -88.573  | 8  | 399 | 2235 | 1137.528 | 0.184 | 0.011 | 0.096 |
| Piscataquis Co. ME | 45.183 | -69.227  | 5  | 422 | 2467 | 10258.63 | 0.143 | 0.007 | 0.714 |
| Plumas Co. CA      | 39.937 | -120.947 | 6  | 654 | 3870 | 6612.374 | 0.129 | 0.013 | 0.344 |
| Rio Blanco Co. CO  | 40.037 | -107.913 | 10 | 500 | 2716 | 8342.209 | 0.135 | 0.012 | 0.409 |
| Riverside Co. CA   | 33.953 | -117.396 | 11 | 782 | 3870 | 18664.78 | 0.128 | 0.016 | 0.033 |
| Sanders Co. MT     | 47.595 | -115.337 | 6  | 459 | 1866 | 7149.747 | 0.126 | 0.011 | 0.850 |
| Suffolk Co. NY     | 40.917 | -72.662  | 8  | 537 | 2635 | 2362.21  | 0.149 | 0.008 | 0.214 |
| Summit Co. CO      | 39.481 | -106.038 | 6  | 422 | 2716 | 1575.652 | 0.133 | 0.011 | 0.694 |
| Summit Co. UT      | 40.918 | -111.399 | 6  | 465 | 1955 | 1575.652 | 0.129 | 0.015 | 0.686 |
| Sumter Co. SC      | 33.920 | -80.341  | 8  | 555 | 2158 | 1722.531 | 0.166 | 0.012 | 0.117 |
| Sussex Co. DE      | 38.690 | -75.385  | 8  | 508 | 1982 | 2424.447 | 0.161 | 0.010 | 0.162 |
| Tooele Co. UT      | 40.531 | -112.298 | 10 | 485 | 1955 | 17978.1  | 0.128 | 0.015 | 0.814 |
| Trumbull Co. OH    | 41.237 | -80.818  | 8  | 464 | 2426 | 1601.397 | 0.163 | 0.009 | 0.472 |

|                   |        |          |    |     |      |          |       |       |       |
|-------------------|--------|----------|----|-----|------|----------|-------|-------|-------|
| Unicoi Co. TN     | 36.073 | -82.518  | 8  | 465 | 1981 | 482.1803 | 0.157 | 0.010 | 0.538 |
| Union Co. GA      | 34.876 | -83.958  | 8  | 405 | 2365 | 833.7987 | 0.163 | 0.011 | 0.243 |
| Volusia Co. FL    | 29.028 | -81.303  | 8  | 581 | 2883 | 2851.668 | 0.174 | 0.016 | 0.052 |
| Washington Co. PA | 40.174 | -80.246  | 8  | 437 | 2588 | 2219.604 | 0.170 | 0.008 | 0.315 |
| Wright Co. MN     | 48.172 | -93.875  | 8  | 429 | 1648 | 1713.181 | 0.162 | 0.010 | 0.095 |
| Yuma Co. AZ       | 32.693 | -114.628 | 10 | 784 | 3715 | 14281.23 | 0.126 | 0.022 | 0.562 |
| Yuma Co. CO       | 40.076 | -102.223 | 9  | 243 | 2716 | 14281.23 | 0.178 | 0.013 | 0.222 |

**Supplementary Table 5. Mean importance score for 288 woody plant genera across 25 counties in the United States in descending order from largest to smallest.** Herbaceous plants were not included in this analysis.

| Rank | Plant Genus           | Mean Importance Score | # counties in dataset |
|------|-----------------------|-----------------------|-----------------------|
| 1    | <i>Quercus</i>        | 0.788 ± 0.132         | 23                    |
| 2    | <i>Salix</i>          | 0.552 ± 0.157         | 25                    |
| 3    | <i>Prunus</i>         | 0.51 ± 0.11           | 25                    |
| 4    | <i>Pinus</i>          | 0.464 ± 0.113         | 22                    |
| 5    | <i>Populus</i>        | 0.438 ± 0.154         | 23                    |
| 6    | <i>Betula</i>         | 0.389 ± 0.124         | 20                    |
| 7    | <i>Vaccinium</i>      | 0.373 ± 0.159         | 21                    |
| 8    | <i>Acer</i>           | 0.369 ± 0.131         | 25                    |
| 9    | <i>Carya</i>          | 0.367 ± 0.101         | 17                    |
| 10   | <i>Malus</i>          | 0.336 ± 0.082         | 12                    |
| 11   | <i>Ulmus</i>          | 0.323 ± 0.084         | 18                    |
| 12   | <i>Alnus</i>          | 0.305 ± 0.12          | 23                    |
| 13   | <i>Sequoia</i>        | 0.294 ± NA            | 1                     |
| 14   | <i>Tilia</i>          | 0.288 ± 0.083         | 19                    |
| 15   | <i>Prosopis</i>       | 0.284 ± NA            | 1                     |
| 16   | <i>Crataegus</i>      | 0.282 ± 0.102         | 23                    |
| 17   | <i>Rubus</i>          | 0.28 ± 0.099          | 24                    |
| 18   | <i>Menziesia</i>      | 0.279 ± 0.018         | 2                     |
| 19   | <i>Castanea</i>       | 0.278 ± 0.068         | 15                    |
| 20   | <i>Picea</i>          | 0.276 ± 0.133         | 7                     |
| 21   | <i>Pseudotsuga</i>    | 0.274 ± 0.17          | 6                     |
| 22   | <i>Fraxinus</i>       | 0.274 ± 0.128         | 22                    |
| 23   | <i>Adenostoma</i>     | 0.271 ± 0.029         | 2                     |
| 24   | <i>Chrysolepis</i>    | 0.265 ± 0.042         | 2                     |
| 25   | <i>Viburnum</i>       | 0.263 ± 0.11          | 20                    |
| 26   | <i>Ribes</i>          | 0.26 ± 0.137          | 19                    |
| 27   | <i>Corylus</i>        | 0.259 ± 0.106         | 18                    |
| 28   | <i>Myrica</i>         | 0.258 ± 0.056         | 6                     |
| 29   | <i>Vitis</i>          | 0.255 ± 0.12          | 21                    |
| 30   | <i>Elaeagnus</i>      | 0.251 ± NA            | 1                     |
| 31   | <i>Rosa</i>           | 0.248 ± 0.083         | 24                    |
| 32   | <i>Ceanothus</i>      | 0.243 ± 0.14          | 24                    |
| 33   | <i>Callicarpa</i>     | 0.242 ± 0.092         | 7                     |
| 34   | <i>Arctostaphylos</i> | 0.24 ± 0.11           | 12                    |
| 35   | <i>Parkinsonia</i>    | 0.238 ± NA            | 1                     |
| 36   | <i>Cylindropuntia</i> | 0.238 ± NA            | 1                     |
| 37   | <i>Hamamelis</i>      | 0.237 ± 0.077         | 16                    |
| 38   | <i>Arbutus</i>        | 0.237 ± 0.065         | 2                     |

|    |                       |                       |    |
|----|-----------------------|-----------------------|----|
| 39 | <i>Fagus</i>          | $0.237 \pm 0.106$     | 15 |
| 40 | <i>Calocedrus</i>     | $0.237 \pm 0.001$     | 2  |
| 41 | <i>Spiraea</i>        | $0.236 \pm 0.078$     | 12 |
| 42 | <i>Robinia</i>        | $0.235 \pm 0.092$     | 8  |
| 43 | <i>Encelia</i>        | $0.235 \pm \text{NA}$ | 1  |
| 44 | <i>Tsuga</i>          | $0.234 \pm 0.073$     | 13 |
| 45 | <i>Lycium</i>         | $0.232 \pm \text{NA}$ | 1  |
| 46 | <i>Sabal</i>          | $0.231 \pm 0.047$     | 6  |
| 47 | <i>Dodonaea</i>       | $0.23 \pm \text{NA}$  | 1  |
| 48 | <i>Juniperus</i>      | $0.23 \pm 0.111$      | 25 |
| 49 | <i>Hydrangea</i>      | $0.23 \pm 0.033$      | 5  |
| 50 | <i>Fouquieria</i>     | $0.229 \pm \text{NA}$ | 1  |
| 51 | <i>Juglans</i>        | $0.229 \pm 0.102$     | 17 |
| 52 | <i>Ostrya</i>         | $0.228 \pm 0.114$     | 16 |
| 53 | <i>Simmondsia</i>     | $0.228 \pm \text{NA}$ | 1  |
| 54 | <i>Abies</i>          | $0.228 \pm 0.097$     | 10 |
| 55 | <i>Frangula</i>       | $0.227 \pm 0.061$     | 9  |
| 56 | <i>Sebastiania</i>    | $0.222 \pm \text{NA}$ | 1  |
| 57 | <i>Zanthoxylum</i>    | $0.222 \pm 0.071$     | 10 |
| 58 | <i>Pinckneya</i>      | $0.222 \pm 0.131$     | 2  |
| 59 | <i>Rhus</i>           | $0.222 \pm 0.083$     | 23 |
| 60 | <i>Cornus</i>         | $0.221 \pm 0.085$     | 25 |
| 61 | <i>Comptonia</i>      | $0.221 \pm 0.119$     | 8  |
| 62 | <i>Heteromeles</i>    | $0.219 \pm \text{NA}$ | 1  |
| 63 | <i>Symphoricarpos</i> | $0.218 \pm 0.09$      | 20 |
| 64 | <i>Amelanchier</i>    | $0.217 \pm 0.101$     | 24 |
| 65 | <i>Nolina</i>         | $0.217 \pm \text{NA}$ | 1  |
| 66 | <i>Smilax</i>         | $0.217 \pm 0.073$     | 20 |
| 67 | <i>Gymnocladus</i>    | $0.217 \pm 0.052$     | 5  |
| 68 | <i>Taxodium</i>       | $0.217 \pm 0.089$     | 8  |
| 69 | <i>Sapindus</i>       | $0.217 \pm 0.133$     | 2  |
| 70 | <i>Illicium</i>       | $0.216 \pm 0.042$     | 2  |
| 71 | <i>Rhamnus</i>        | $0.216 \pm 0.052$     | 10 |
| 72 | <i>Liquidambar</i>    | $0.216 \pm 0.046$     | 11 |
| 73 | <i>Malosma</i>        | $0.213 \pm \text{NA}$ | 1  |
| 74 | <i>Larix</i>          | $0.209 \pm 0.076$     | 6  |
| 75 | <i>Ampelopsis</i>     | $0.209 \pm 0.105$     | 6  |
| 76 | <i>Eriodictyon</i>    | $0.208 \pm 0.032$     | 2  |
| 77 | <i>Umbellularia</i>   | $0.208 \pm 0.019$     | 2  |
| 78 | <i>Celtis</i>         | $0.206 \pm 0.084$     | 20 |
| 79 | <i>Condalia</i>       | $0.204 \pm \text{NA}$ | 1  |
| 80 | <i>Sophora</i>        | $0.204 \pm \text{NA}$ | 1  |
| 81 | <i>Chamaedaphne</i>   | $0.203 \pm 0.068$     | 8  |

|     |                       |                       |    |
|-----|-----------------------|-----------------------|----|
| 82  | <i>Taxus</i>          | $0.203 \pm 0.034$     | 8  |
| 83  | <i>Sassafras</i>      | $0.202 \pm 0.066$     | 13 |
| 84  | <i>Peniocereus</i>    | $0.202 \pm \text{NA}$ | 1  |
| 85  | <i>Diospyros</i>      | $0.201 \pm 0.088$     | 12 |
| 86  | <i>Lonicera</i>       | $0.201 \pm 0.079$     | 21 |
| 87  | <i>Gleditsia</i>      | $0.201 \pm 0.067$     | 12 |
| 88  | <i>Thuja</i>          | $0.201 \pm 0.101$     | 10 |
| 89  | <i>Andromeda</i>      | $0.2 \pm 0.03$        | 5  |
| 90  | <i>Decodon</i>        | $0.199 \pm 0.098$     | 9  |
| 91  | <i>Chilopsis</i>      | $0.198 \pm \text{NA}$ | 1  |
| 92  | <i>Toxicodendron</i>  | $0.198 \pm 0.073$     | 23 |
| 93  | <i>Parthenocissus</i> | $0.197 \pm 0.088$     | 20 |
| 94  | <i>Wisteria</i>       | $0.196 \pm 0.121$     | 4  |
| 95  | <i>Chamaecyparis</i>  | $0.196 \pm 0.098$     | 7  |
| 96  | <i>Choisya</i>        | $0.196 \pm \text{NA}$ | 1  |
| 97  | <i>Larrea</i>         | $0.196 \pm \text{NA}$ | 1  |
| 98  | <i>Cephalanthus</i>   | $0.195 \pm 0.082$     | 18 |
| 99  | <i>Celastrus</i>      | $0.195 \pm 0.037$     | 9  |
| 100 | <i>Dirca</i>          | $0.195 \pm 0.032$     | 12 |
| 101 | <i>Magnolia</i>       | $0.194 \pm 0.108$     | 12 |
| 102 | <i>Ferocactus</i>     | $0.194 \pm \text{NA}$ | 1  |
| 103 | <i>Lyonia</i>         | $0.194 \pm 0.073$     | 14 |
| 104 | <i>Berberis</i>       | $0.193 \pm 0.014$     | 3  |
| 105 | <i>Leucophyllum</i>   | $0.193 \pm \text{NA}$ | 1  |
| 106 | <i>Cotinus</i>        | $0.193 \pm 0.003$     | 2  |
| 107 | <i>Sorbus</i>         | $0.193 \pm 0.067$     | 5  |
| 108 | <i>Cercis</i>         | $0.192 \pm 0.057$     | 13 |
| 109 | <i>Lantana</i>        | $0.192 \pm \text{NA}$ | 1  |
| 110 | <i>Staphylea</i>      | $0.191 \pm 0.054$     | 11 |
| 111 | <i>Tecoma</i>         | $0.191 \pm \text{NA}$ | 1  |
| 112 | <i>Nemopanthus</i>    | $0.19 \pm 0.113$      | 6  |
| 113 | <i>Muhlenbergia</i>   | $0.19 \pm 0.08$       | 24 |
| 114 | <i>Erythrina</i>      | $0.189 \pm 0.011$     | 3  |
| 115 | <i>Ilex</i>           | $0.188 \pm 0.059$     | 16 |
| 116 | <i>Nyssa</i>          | $0.187 \pm 0.072$     | 13 |
| 117 | <i>Platanus</i>       | $0.186 \pm 0.069$     | 17 |
| 118 | <i>Vauquelinia</i>    | $0.186 \pm \text{NA}$ | 1  |
| 119 | <i>Sambucus</i>       | $0.185 \pm 0.097$     | 25 |
| 120 | <i>Malacothamnus</i>  | $0.184 \pm \text{NA}$ | 1  |
| 121 | <i>Campsis</i>        | $0.182 \pm 0.055$     | 12 |
| 122 | <i>Lindera</i>        | $0.182 \pm 0.055$     | 14 |
| 123 | <i>Oemleria</i>       | $0.18 \pm 0.056$      | 2  |
| 124 | <i>Morus</i>          | $0.179 \pm 0.06$      | 13 |

|     |                        |                       |    |
|-----|------------------------|-----------------------|----|
| 125 | <i>Symplocos</i>       | $0.178 \pm 0.054$     | 8  |
| 126 | <i>Diervilla</i>       | $0.178 \pm 0.054$     | 9  |
| 127 | <i>Kalmia</i>          | $0.176 \pm 0.072$     | 16 |
| 128 | <i>Holodiscus</i>      | $0.176 \pm 0.168$     | 6  |
| 129 | <i>Hazardia</i>        | $0.176 \pm \text{NA}$ | 1  |
| 130 | <i>Liriodendron</i>    | $0.175 \pm 0.055$     | 12 |
| 131 | <i>Catalpa</i>         | $0.172 \pm 0.062$     | 5  |
| 132 | <i>Lepechinia</i>      | $0.172 \pm \text{NA}$ | 1  |
| 133 | <i>Chionanthus</i>     | $0.171 \pm 0.043$     | 10 |
| 134 | <i>Persea</i>          | $0.171 \pm 0.085$     | 6  |
| 135 | <i>Physocarpus</i>     | $0.171 \pm 0.063$     | 13 |
| 136 | <i>Carpinus</i>        | $0.17 \pm 0.091$      | 16 |
| 137 | <i>Stewartia</i>       | $0.169 \pm 0.057$     | 5  |
| 138 | <i>Asimina</i>         | $0.167 \pm 0.094$     | 13 |
| 139 | <i>Litsea</i>          | $0.164 \pm 0.143$     | 3  |
| 140 | <i>Porophyllum</i>     | $0.164 \pm 0.006$     | 2  |
| 141 | <i>Aesculus</i>        | $0.162 \pm 0.076$     | 10 |
| 142 | <i>Aronia</i>          | $0.162 \pm 0.069$     | 16 |
| 143 | <i>Fremontodendron</i> | $0.161 \pm 0.02$      | 2  |
| 144 | <i>Eysenhardtia</i>    | $0.161 \pm \text{NA}$ | 1  |
| 145 | <i>Olneya</i>          | $0.161 \pm \text{NA}$ | 1  |
| 146 | <i>Ptelea</i>          | $0.16 \pm 0.075$      | 11 |
| 147 | <i>Lysiloma</i>        | $0.16 \pm \text{NA}$  | 1  |
| 148 | <i>Purshia</i>         | $0.159 \pm 0.069$     | 5  |
| 149 | <i>Gaylussacia</i>     | $0.158 \pm 0.062$     | 14 |
| 150 | <i>Keckiella</i>       | $0.158 \pm 0.063$     | 2  |
| 151 | <i>Halesia</i>         | $0.158 \pm 0.057$     | 5  |
| 152 | <i>Morella</i>         | $0.158 \pm 0.072$     | 14 |
| 153 | <i>Leucothoe</i>       | $0.157 \pm 0.111$     | 5  |
| 154 | <i>Bebbia</i>          | $0.157 \pm \text{NA}$ | 1  |
| 155 | <i>Clethra</i>         | $0.156 \pm 0.081$     | 9  |
| 156 | <i>Euonymus</i>        | $0.155 \pm 0.072$     | 14 |
| 157 | <i>Pieris</i>          | $0.154 \pm 0.01$      | 2  |
| 158 | <i>Chamaebatiaria</i>  | $0.152 \pm 0.077$     | 3  |
| 159 | <i>Oxydendrum</i>      | $0.151 \pm 0.076$     | 8  |
| 160 | <i>Carnegiea</i>       | $0.15 \pm \text{NA}$  | 1  |
| 161 | <i>Gordonia</i>        | $0.149 \pm 0.015$     | 2  |
| 162 | <i>Philadelphus</i>    | $0.148 \pm 0.075$     | 9  |
| 163 | <i>Ziziphus</i>        | $0.147 \pm \text{NA}$ | 1  |
| 164 | <i>Cercocarpus</i>     | $0.144 \pm 0.084$     | 5  |
| 165 | <i>Fallugia</i>        | $0.144 \pm \text{NA}$ | 1  |
| 166 | <i>Shepherdia</i>      | $0.144 \pm 0.105$     | 9  |
| 167 | <i>Rhododendron</i>    | $0.143 \pm 0.066$     | 19 |

|     |                          |                       |    |
|-----|--------------------------|-----------------------|----|
| 168 | <i>Gaultheria</i>        | $0.143 \pm 0.09$      | 15 |
| 169 | <i>Eubotrys</i>          | $0.142 \pm 0.072$     | 9  |
| 170 | <i>Aloysia</i>           | $0.142 \pm \text{NA}$ | 1  |
| 171 | <i>Maclura</i>           | $0.14 \pm 0.134$      | 2  |
| 172 | <i>Dasyllirion</i>       | $0.138 \pm \text{NA}$ | 1  |
| 173 | <i>Bignonia</i>          | $0.138 \pm 0.084$     | 9  |
| 174 | <i>Sarcobatus</i>        | $0.137 \pm 0.11$      | 5  |
| 175 | <i>Cordia</i>            | $0.134 \pm \text{NA}$ | 1  |
| 176 | <i>Calycanthus</i>       | $0.131 \pm 0.019$     | 5  |
| 177 | <i>Coryphantha</i>       | $0.128 \pm \text{NA}$ | 1  |
| 178 | <i>Sideroxylon</i>       | $0.127 \pm 0.082$     | 9  |
| 179 | <i>Serenoa</i>           | $0.127 \pm 0.172$     | 2  |
| 180 | <i>Berchemia</i>         | $0.123 \pm 0.092$     | 7  |
| 181 | <i>Empetrum</i>          | $0.12 \pm 0.169$      | 2  |
| 182 | <i>Cissus</i>            | $0.117 \pm 0.086$     | 4  |
| 183 | <i>Calliandra</i>        | $0.106 \pm \text{NA}$ | 1  |
| 184 | <i>Phoradendron</i>      | $0.1 \pm 0.101$       | 14 |
| 185 | <i>Buddleja</i>          | $0.099 \pm \text{NA}$ | 1  |
| 186 | <i>Echinocactus</i>      | $0.099 \pm \text{NA}$ | 1  |
| 187 | <i>Ephedra</i>           | $0.095 \pm 0.1$       | 2  |
| 188 | <i>Nemophila</i>         | $0.085 \pm 0.103$     | 9  |
| 189 | <i>Krameria</i>          | $0.078 \pm 0.11$      | 2  |
| 190 | <i>Forestiera</i>        | $0.07 \pm 0.097$      | 5  |
| 191 | <i>Arceuthobium</i>      | $0.068 \pm 0.097$     | 9  |
| 192 | <i>Echinocereus</i>      | $0.059 \pm 0.102$     | 3  |
| 193 | <i>Garrya</i>            | $0.042 \pm 0.072$     | 3  |
| 194 | <i>Lorandersonia</i>     | $0.026 \pm \text{NA}$ | 1  |
| 195 | <i>Dryas</i>             | $0.026 \pm \text{NA}$ | 1  |
| 196 | <i>Grayia</i>            | $0.022 \pm 0.004$     | 2  |
| 197 | <i>Piptochaetium</i>     | $0.015 \pm 0.047$     | 13 |
| 198 | <i>Krascheninnikovia</i> | $0.007 \pm 0.014$     | 4  |
| 199 | <i>Acaciella</i>         | $0 \pm 0$             | 2  |
| 200 | <i>Adlumia</i>           | $0 \pm 0$             | 6  |
| 201 | <i>Allenrolfea</i>       | $0 \pm 0$             | 3  |
| 202 | <i>Arctous</i>           | $0 \pm \text{NA}$     | 1  |
| 203 | <i>Aspicarpa</i>         | $0 \pm \text{NA}$     | 1  |
| 204 | <i>Atamisquea</i>        | $0 \pm \text{NA}$     | 1  |
| 205 | <i>Ayenia</i>            | $0 \pm \text{NA}$     | 1  |
| 206 | <i>Barkleyanthus</i>     | $0 \pm \text{NA}$     | 1  |
| 207 | <i>Bernardia</i>         | $0 \pm \text{NA}$     | 1  |
| 208 | <i>Borrichia</i>         | $0 \pm 0$             | 2  |
| 209 | <i>Bouvardia</i>         | $0 \pm \text{NA}$     | 1  |
| 210 | <i>Bursera</i>           | $0 \pm \text{NA}$     | 1  |

|     |                       |        |    |
|-----|-----------------------|--------|----|
| 211 | <i>Callaeum</i>       | 0 ± NA | 1  |
| 212 | <i>Calycocarpum</i>   | 0 ± 0  | 3  |
| 213 | <i>Canotia</i>        | 0 ± NA | 1  |
| 214 | <i>Cartrema</i>       | 0 ± 0  | 2  |
| 215 | <i>Cassiope</i>       | 0 ± NA | 1  |
| 216 | <i>Castela</i>        | 0 ± NA | 1  |
| 217 | <i>Chamaebatia</i>    | 0 ± NA | 1  |
| 218 | <i>Chrysoma</i>       | 0 ± NA | 1  |
| 219 | <i>Cladrastis</i>     | 0 ± 0  | 2  |
| 220 | <i>Cliftonia</i>      | 0 ± 0  | 2  |
| 221 | <i>Cocculus</i>       | 0 ± 0  | 7  |
| 222 | <i>Colubrina</i>      | 0 ± NA | 1  |
| 223 | <i>Crocanthemum</i>   | 0 ± 0  | 18 |
| 224 | <i>Crossosoma</i>     | 0 ± NA | 1  |
| 225 | <i>Dendromecon</i>    | 0 ± NA | 1  |
| 226 | <i>Diphasiastrum</i>  | 0 ± 0  | 13 |
| 227 | <i>Diplacus</i>       | 0 ± 0  | 3  |
| 228 | <i>Ditrysinia</i>     | 0 ± 0  | 3  |
| 229 | <i>Echinomastus</i>   | 0 ± NA | 1  |
| 230 | <i>Elliottia</i>      | 0 ± NA | 1  |
| 231 | <i>Escobaria</i>      | 0 ± 0  | 3  |
| 232 | <i>Fagonia</i>        | 0 ± NA | 1  |
| 233 | <i>Fallopia</i>       | 0 ± 0  | 14 |
| 234 | <i>Fendlera</i>       | 0 ± NA | 1  |
| 235 | <i>Fendlerella</i>    | 0 ± NA | 1  |
| 236 | <i>Fothergilla</i>    | 0 ± 0  | 2  |
| 237 | <i>Glossopetalon</i>  | 0 ± NA | 1  |
| 238 | <i>Grusonia</i>       | 0 ± 0  | 2  |
| 239 | <i>Haplophyton</i>    | 0 ± NA | 1  |
| 240 | <i>Hedyotis</i>       | 0 ± NA | 1  |
| 241 | <i>Hesperocyparis</i> | 0 ± 0  | 2  |
| 242 | <i>Horsfordia</i>     | 0 ± NA | 1  |
| 243 | <i>Isotrema</i>       | 0 ± 0  | 6  |
| 244 | <i>Jamesia</i>        | 0 ± 0  | 3  |
| 245 | <i>Johnstonella</i>   | 0 ± 0  | 2  |
| 246 | <i>Koanophyllon</i>   | 0 ± NA | 1  |
| 247 | <i>Koeberlinia</i>    | 0 ± NA | 1  |
| 248 | <i>Leitneria</i>      | 0 ± NA | 1  |
| 249 | <i>Licania</i>        | 0 ± 0  | 2  |
| 250 | <i>Loeselia</i>       | 0 ± NA | 1  |
| 251 | <i>Loiseleuria</i>    | 0 ± NA | 1  |
| 252 | <i>Mammillaria</i>    | 0 ± NA | 1  |
| 253 | <i>Mariosousa</i>     | 0 ± NA | 1  |

|     |                         |        |    |
|-----|-------------------------|--------|----|
| 254 | <i>Menispermum</i>      | 0 ± 0  | 13 |
| 255 | <i>Mortonia</i>         | 0 ± NA | 1  |
| 256 | <i>Nestronia</i>        | 0 ± 0  | 2  |
| 257 | <i>Neviusia</i>         | 0 ± NA | 1  |
| 258 | <i>Nothochelone</i>     | 0 ± NA | 1  |
| 259 | <i>Notholithocarpus</i> | 0 ± NA | 1  |
| 260 | <i>Oplopanax</i>        | 0 ± NA | 1  |
| 261 | <i>Pediocactus</i>      | 0 ± 0  | 3  |
| 262 | <i>Peraphyllum</i>      | 0 ± 0  | 2  |
| 263 | <i>Petalonyx</i>        | 0 ± NA | 1  |
| 264 | <i>Petrophytum</i>      | 0 ± 0  | 2  |
| 265 | <i>Peucephyllum</i>     | 0 ± NA | 1  |
| 266 | <i>Phyllanthopsis</i>   | 0 ± NA | 1  |
| 267 | <i>Phyllodoce</i>       | 0 ± 0  | 2  |
| 268 | <i>Pickeringia</i>      | 0 ± NA | 1  |
| 269 | <i>Picrothamnus</i>     | 0 ± 0  | 2  |
| 270 | <i>Pisonia</i>          | 0 ± NA | 1  |
| 271 | <i>Planera</i>          | 0 ± 0  | 4  |
| 272 | <i>Pleurocoronis</i>    | 0 ± NA | 1  |
| 273 | <i>Psorothamnus</i>     | 0 ± NA | 1  |
| 274 | <i>Rhapidophyllum</i>   | 0 ± 0  | 2  |
| 275 | <i>Romneya</i>          | 0 ± NA | 1  |
| 276 | <i>Sageretia</i>        | 0 ± 0  | 2  |
| 277 | <i>Salazaria</i>        | 0 ± NA | 1  |
| 278 | <i>Schaefferia</i>      | 0 ± NA | 1  |
| 279 | <i>Schisandra</i>       | 0 ± 0  | 2  |
| 280 | <i>Sclerocactus</i>     | 0 ± NA | 1  |
| 281 | <i>Senegalia</i>        | 0 ± NA | 1  |
| 282 | <i>Sequoiadendron</i>   | 0 ± NA | 1  |
| 283 | <i>Tetracoccus</i>      | 0 ± NA | 1  |
| 284 | <i>Torreyia</i>         | 0 ± 0  | 2  |
| 285 | <i>Vachellia</i>        | 0 ± NA | 1  |
| 286 | <i>Washingtonia</i>     | 0 ± NA | 1  |
| 287 | <i>Whipplea</i>         | 0 ± NA | 1  |
| 288 | <i>Zapoteca</i>         | 0 ± NA | 1  |

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## REFERENCES

1. Richard, M., Tallamy, D.W. and Mitchell, A.B. Introduced plants reduce species interactions. *Biol. Invas.* 21(3), 983-992 (2019).