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Habitat development and species arrival drive succession of the benthic invertebrate community in restored urban streams

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Appendix S5:

Table S1. Spearman's Rank coefficients of indicator species and major environmental variables (for explanations of the species abbreviations refer to Appendix S4: Table S1)

Species	agabsp	cloedipt	agabdiad	halispad	lausspad	pyrrnyp	aselaqua	radibalt	hydrangu	ephedani	athrbili	dicransp
agabsp	1.000	0.500	0.406	0.040	0.087	-0.007	-0.076	-0.003	0.208	-0.058	-0.046	-0.088
cloedipt	0.500	1.000	0.496	0.070	0.206	0.019	-0.039	0.138	0.074	-0.057	-0.045	-0.087
agabdiad	0.406	0.496	1.000	0.410	0.166	0.180	0.043	0.007	0.068	-0.067	-0.053	-0.101
halispad	0.040	0.070	0.410	1.000	0.174	0.124	0.185	0.202	-0.031	-0.063	-0.050	-0.095
lausspad	0.087	0.206	0.166	0.174	1.000	0.050	-0.077	-0.006	0.073	-0.077	-0.061	-0.116
pyrrnyp	-0.007	0.019	0.180	0.124	0.050	1.000	0.095	0.111	0.096	-0.075	-0.015	-0.131
aselaqua	-0.076	-0.039	0.043	0.185	-0.077	0.095	1.000	0.185	-0.057	-0.123	-0.095	-0.053
radibalt	-0.003	0.138	0.007	0.202	-0.006	0.111	0.185	1.000	-0.071	-0.062	-0.047	-0.086
hydrangu	0.208	0.074	0.068	-0.031	0.073	0.096	-0.057	-0.071	1.000	-0.079	-0.014	-0.109
ephedani	-0.058	-0.057	-0.067	-0.063	-0.077	-0.075	-0.123	-0.062	-0.079	1.000	0.679	-0.009
athrbili	-0.046	-0.045	-0.053	-0.050	-0.061	-0.015	-0.095	-0.047	-0.014	0.679	1.000	0.023
dicransp	-0.088	-0.087	-0.101	-0.095	-0.116	-0.131	-0.053	-0.086	-0.109	-0.009	0.023	1.000
pleccons	-0.057	-0.080	-0.093	-0.088	-0.056	-0.111	-0.082	-0.060	-0.032	-0.094	-0.074	-0.092
eisetetr	-0.039	-0.059	-0.068	-0.064	-0.079	-0.091	-0.151	-0.055	-0.065	-0.068	-0.054	-0.096
glypell	-0.041	-0.079	0.107	0.460	0.055	-0.108	0.141	0.125	-0.074	-0.064	-0.023	-0.067
cordbolt	-0.033	-0.046	-0.053	-0.050	-0.061	-0.071	-0.102	-0.045	-0.006	-0.053	-0.042	-0.081
baetrhod	-0.050	-0.066	-0.071	-0.072	-0.088	-0.097	-0.155	-0.071	0.000	0.160	0.092	-0.089
lypesp	-0.078	-0.078	-0.090	-0.085	-0.104	-0.120	-0.174	-0.085	0.030	0.015	0.128	-0.069
ptycsp	-0.044	-0.053	-0.061	-0.057	-0.068	-0.080	-0.104	-0.054	-0.044	-0.053	-0.039	-0.077
psydidge	-0.037	-0.081	-0.094	-0.089	-0.108	-0.093	-0.070	-0.080	-0.054	-0.094	-0.068	-0.095
potaanti	-0.080	-0.079	-0.092	-0.086	-0.103	-0.104	-0.140	-0.074	-0.083	0.040	-0.018	0.433
casesp	-0.053	-0.096	-0.111	-0.104	-0.127	-0.134	-0.157	-0.094	-0.124	-0.056	-0.060	0.334
elomgrlv	-0.063	-0.086	-0.086	-0.061	0.064	-0.082	0.113	-0.054	-0.089	-0.067	-0.042	-0.027
eleosp	-0.089	-0.094	-0.109	-0.102	-0.121	-0.145	-0.180	-0.100	-0.110	0.025	0.027	0.137
hemesp	0.013	-0.066	-0.076	-0.072	-0.088	-0.088	-0.131	-0.074	0.185	-0.027	0.015	-0.068
gammpute	-0.100	-0.128	-0.142	-0.125	-0.167	-0.155	-0.051	-0.122	-0.100	-0.008	0.011	0.068
taninige	-0.060	-0.106	-0.157	-0.135	-0.168	0.293	-0.116	0.030	0.026	0.020	0.041	0.428
prodoliv	-0.090	-0.134	0.043	-0.066	-0.135	-0.071	-0.032	-0.145	-0.092	-0.128	-0.103	0.173
conductivity	0.250	0.489	0.340	0.121	0.143	0.064	0.133	0.141	0.010	-0.111	-0.085	-0.126
pH	0.059	0.311	0.261	0.165	0.082	0.138	-0.121	0.210	0.097	0.108	0.096	-0.087
loam	-0.023	-0.037	-0.037	0.333	0.128	0.050	0.112	0.295	-0.113	-0.097	-0.077	-0.055
POM	-0.105	0.064	0.067	0.075	-0.012	-0.050	0.065	0.004	-0.159	-0.152	-0.160	0.039
sand/sludge	-0.159	-0.071	-0.121	-0.131	-0.117	-0.024	-0.301	-0.146	-0.044	0.031	0.006	0.267
gravel/stones	0.439	0.139	0.179	0.112	-0.014	-0.083	-0.071	0.026	0.482	-0.166	-0.127	-0.205
shade	-0.193	-0.080	-0.065	-0.006	-0.156	0.189	-0.181	-0.268	-0.200	-0.030	0.035	0.067

Table S1. Spearman's Rank coefficients of indicator species and major environmental variables (for explanations of the species abbreviations refer to Appendix S4: Table S1)
(continued)

Species	plecons	eisetetr	glyppell	cordbolt	baetrhod	lypesp	ptycsp	psydidge	potaanti	casesp	elomgrlv	eleosp
agabsp	-0.057	-0.039	-0.041	-0.033	-0.050	-0.078	-0.044	-0.037	-0.080	-0.053	-0.063	-0.089
cloedipt	-0.080	-0.059	-0.079	-0.046	-0.066	-0.078	-0.053	-0.081	-0.079	-0.096	-0.086	-0.094
agabdiad	-0.093	-0.068	0.107	-0.053	-0.071	-0.090	-0.061	-0.094	-0.092	-0.111	-0.086	-0.109
halispad	-0.088	-0.064	0.460	-0.050	-0.072	-0.085	-0.057	-0.089	-0.086	-0.104	-0.061	-0.102
lausspad	-0.056	-0.079	0.055	-0.061	-0.088	-0.104	-0.068	-0.108	-0.103	-0.127	0.064	-0.121
pyrrnyp	-0.111	-0.091	-0.108	-0.071	-0.097	-0.120	-0.080	-0.093	-0.104	-0.134	-0.082	-0.145
aselaqua	-0.082	-0.151	0.141	-0.102	-0.155	-0.174	-0.104	-0.070	-0.140	-0.157	0.113	-0.180
radibalt	-0.060	-0.055	0.125	-0.045	-0.071	-0.085	-0.054	-0.080	-0.074	-0.094	-0.054	-0.100
hydrangu	-0.032	-0.065	-0.074	-0.006	0.000	0.030	-0.044	-0.054	-0.083	-0.124	-0.089	-0.110
ephedani	-0.094	-0.068	-0.064	-0.053	0.160	0.015	-0.053	-0.094	0.040	-0.056	-0.067	0.025
athrbili	-0.074	-0.054	-0.023	-0.042	0.092	0.128	-0.039	-0.068	-0.018	-0.060	-0.042	0.027
dicransp	-0.092	-0.096	-0.067	-0.081	-0.089	-0.069	-0.077	-0.095	0.433	0.334	-0.027	0.137
plecons	1.000	0.473	0.217	0.644	-0.080	0.096	0.533	0.200	0.229	0.022	0.133	0.240
eisetetr	0.473	1.000	0.187	0.285	-0.071	-0.023	0.130	0.395	0.081	0.236	-0.031	0.473
glyppell	0.217	0.187	1.000	0.103	-0.052	0.041	-0.002	0.164	0.010	0.010	0.129	0.224
cordbolt	0.644	0.285	0.103	1.000	-0.053	0.128	0.573	0.452	0.504	0.072	0.082	-0.058
baetrhod	-0.080	-0.071	-0.052	-0.053	1.000	0.633	-0.002	-0.038	-0.052	0.024	-0.089	0.217
lypesp	0.096	-0.023	0.041	0.128	0.633	1.000	-0.015	-0.020	0.004	0.134	0.056	0.086
ptycsp	0.533	0.130	-0.002	0.573	-0.002	-0.015	1.000	0.316	0.280	0.010	0.320	-0.029
psydidge	0.200	0.395	0.164	0.452	-0.038	-0.020	0.316	1.000	0.195	0.089	0.236	0.089
potaanti	0.229	0.081	0.010	0.504	-0.052	0.004	0.280	0.195	1.000	0.480	0.159	-0.025
casesp	0.022	0.236	0.010	0.072	0.024	0.134	0.010	0.089	0.480	1.000	-0.052	0.157
elomgrlv	0.133	-0.031	0.129	0.082	-0.089	0.056	0.320	0.236	0.159	-0.052	1.000	-0.101
eleosp	0.240	0.473	0.224	-0.058	0.217	0.086	-0.029	0.089	-0.025	0.157	-0.101	1.000
hemesp	-0.080	-0.040	-0.044	-0.022	0.232	0.477	-0.051	-0.057	-0.091	0.278	-0.086	0.036
gammupule	0.313	0.427	0.026	-0.025	0.042	0.091	0.056	-0.080	-0.014	0.262	0.080	0.118
taninige	0.134	0.098	0.057	0.050	-0.091	0.050	-0.020	-0.027	0.332	0.252	-0.001	0.219
prodoliv	-0.017	0.124	-0.009	-0.028	0.250	0.206	-0.093	0.098	0.047	0.280	-0.174	0.161
conductivity	-0.053	-0.067	-0.072	-0.014	-0.164	-0.161	-0.011	-0.009	-0.019	-0.154	0.091	-0.152
pH	-0.169	-0.156	0.037	-0.042	0.054	-0.105	0.110	-0.088	0.035	-0.044	0.016	-0.263
loam	-0.118	-0.100	-0.067	-0.078	0.072	-0.131	-0.088	-0.045	-0.133	-0.110	-0.139	0.117
POM	0.260	0.058	0.167	0.170	-0.195	-0.059	0.160	-0.010	-0.045	-0.121	-0.049	0.103
sand/sludge	-0.131	0.068	-0.111	-0.096	0.121	0.100	-0.024	0.146	0.123	0.383	-0.171	0.190
gravel/stones	0.089	-0.072	0.184	0.098	0.286	0.275	-0.012	-0.047	-0.143	-0.075	-0.155	-0.054
shade	0.191	0.235	0.011	0.036	0.194	0.041	0.092	0.160	0.039	0.234	-0.065	0.169

Table S1. Spearman's Rank coefficients of indicator species and major environmental variables (for explanations of the species abbreviations refer to Appendix S4: Table S1)
(continued)

Species	hemesp	gammupule	taninige	prodoliv	conductivity	pH	loam	POM	sand/sludge	gravel/stones	shade
agabsp	0.013	-0.100	-0.060	-0.090	0.250	0.059	-0.023	-0.105	-0.159	0.439	-0.193
cloedipt	-0.066	-0.128	-0.106	-0.134	0.489	0.311	-0.037	0.064	-0.071	0.139	-0.080
agabdiad	-0.076	-0.142	-0.157	0.043	0.340	0.261	-0.037	0.067	-0.121	0.179	-0.065
halispad	-0.072	-0.125	-0.135	-0.066	0.121	0.165	0.333	0.075	-0.131	0.112	-0.006
lausspad	-0.088	-0.167	-0.168	-0.135	0.143	0.082	0.128	-0.012	-0.117	-0.014	-0.156
pyrrnyp	-0.088	-0.155	0.293	-0.071	0.064	0.138	0.050	-0.050	-0.024	-0.083	0.189
aselaqua	-0.131	-0.051	-0.116	-0.032	0.133	-0.121	0.112	0.065	-0.301	-0.071	-0.181
radibalt	-0.074	-0.122	0.030	-0.145	0.141	0.210	0.295	0.004	-0.146	0.026	-0.268
hydrangu	0.185	-0.100	0.026	-0.092	0.010	0.097	-0.113	-0.159	-0.044	0.482	-0.200
ephedani	-0.027	-0.008	0.020	-0.128	-0.111	0.108	-0.097	-0.152	0.031	-0.166	-0.030
athrbili	0.015	0.011	0.041	-0.103	-0.085	0.096	-0.077	-0.160	0.006	-0.127	0.035
dicransp	-0.068	0.068	0.428	0.173	-0.126	-0.087	-0.055	0.039	0.267	-0.205	0.067
plecons	-0.080	0.313	0.134	-0.017	-0.053	-0.169	-0.118	0.260	-0.131	0.089	0.191
eisetetr	-0.040	0.427	0.098	0.124	-0.067	-0.156	-0.100	0.058	0.068	-0.072	0.235
glyppell	-0.044	0.026	0.057	-0.009	-0.072	0.037	-0.067	0.167	-0.111	0.184	0.011
cordbolt	-0.022	-0.025	0.050	-0.028	-0.014	-0.042	-0.078	0.170	-0.096	0.098	0.036
baetrhod	0.232	0.042	-0.091	0.250	-0.164	0.054	0.072	-0.195	0.121	0.286	0.194
lypesp	0.477	0.091	0.050	0.206	-0.161	-0.105	-0.131	-0.059	0.100	0.275	0.041
ptycsp	-0.051	0.056	-0.020	-0.093	-0.011	0.110	-0.088	0.160	-0.024	-0.012	0.092
psydidge	-0.057	-0.080	-0.027	0.098	-0.009	-0.088	-0.045	-0.010	0.146	-0.047	0.160
potaanti	-0.091	-0.014	0.332	0.047	-0.019	0.035	-0.133	-0.045	0.123	-0.143	0.039
casesp	0.278	0.262	0.252	0.280	-0.154	-0.044	-0.110	-0.121	0.383	-0.075	0.234
elomgrlv	-0.086	0.080	-0.001	-0.174	0.091	0.016	-0.139	-0.049	-0.171	-0.155	-0.065
eleosp	0.036	0.118	0.219	0.161	-0.152	-0.263	0.117	0.103	0.190	-0.054	0.169
hemesp	1.000	0.043	0.014	0.035	-0.157	0.002	-0.101	-0.150	0.132	0.361	0.043
gammupule	0.043	1.000	0.027	0.025	-0.190	-0.168	-0.156	-0.090	0.059	-0.103	0.341
taninige	0.014	0.027	1.000	0.141	-0.046	-0.097	-0.154	0.059	0.175	-0.014	0.123
prodoliv	0.035	0.025	0.141	1.000	0.223	-0.098	0.016	0.009	0.407	-0.084	0.368
conductivity	-0.157	-0.190	-0.046	0.223	1.000	0.163	0.220	0.086	-0.054	-0.002	0.006
pH	0.002	-0.168	-0.097	-0.098	0.163	1.000	-0.030	0.067	-0.057	0.063	-0.059
loam	-0.101	-0.156	-0.154	0.016	0.220	-0.030	1.000	-0.057	0.008	0.018	0.013
POM	-0.150	-0.090	0.059	0.009	0.086	0.067	-0.057	1.000	-0.129	-0.166	0.051
sand/sludge	0.132	0.059	0.175	0.407	-0.054	-0.057	0.008	-0.129	1.000	-0.098	0.268
gravel/stones	0.361	-0.103	-0.014	-0.084	-0.002	0.063	0.018	-0.166	-0.098	1.000	-0.221
shade	0.043	0.341	0.123	0.368	0.006	-0.059	0.013	0.051	0.268	-0.221	1.000