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Appendix 1

**Table A1.** The 256 species included in the analysis, with their specialization indices for each of the 5 categories and their overall specialization. Data are reproduced from Morelli et al. 2019. Their urban score was calculated as the median distributional response to VIIRS night-time lights, and the number of observations is the number of observations used to calculate each species-specific urban score. The urbanness of in-range sampling is the median of all checklists submitted from within a species' minimum convex polygon. Relative urbanness is the log-transformed urban score minus the in-range sampling urbanness.

Scientific name	Family	Diet	Foraging behaviour	Foraging substrate	Habitat	Nesting site	Overall specialization	Urban score	Urbanness of in-range sampling	Relative urbanness	Number obs
<i>Accipiter brevipes</i>	Accipitridae	0.50	1.00	1.00	0.50	0.50	0.61	2.91	1.26	-0.19	201
<i>Accipiter gentilis</i>	Accipitridae	1.00	0.50	0.20	1.00	0.33	0.49	1.15	1.53	-1.39	711
<i>Accipiter nisus</i>	Accipitridae	1.00	0.50	0.20	0.33	0.33	0.31	1.76	1.69	-1.12	3985
<i>Acrocephalus arundinaceus</i>	Sylviidae	0.50	0.25	0.20	0.33	0.50	0.16	0.84	1.59	-1.77	5542
<i>Acrocephalus dumetorum</i>	Sylviidae	0.50	0.33	0.20	0.33	0.25	0.12	2.64	1.37	-0.40	215
<i>Acrocephalus melanopogon</i>	Sylviidae	0.50	0.50	0.20	0.50	0.33	0.23	1.25	1.48	-1.26	120
<i>Acrocephalus palustris</i>	Sylviidae	0.50	1.00	0.33	0.50	0.33	0.39	0.79	1.17	-1.41	1335
<i>Acrocephalus schoenobaenus</i>	Sylviidae	1.00	0.50	0.33	0.25	0.33	0.32	0.77	1.65	-1.91	4697
<i>Acrocephalus scirpaceus</i>	Sylviidae	0.50	0.25	0.25	0.50	0.33	0.17	1.25	1.62	-1.40	7819
<i>Aegithalos caudatus</i>	Aegithalidae	0.50	0.33	0.25	0.33	0.20	0.12	1.79	1.60	-1.02	7009
<i>Aegypius monachus</i>	Accipitridae	1.00	0.00	1.00	0.20	0.25	0.33	0.23	1.24	-2.71	1743
<i>Alauda arvensis</i>	Alaudidae	0.33	0.33	0.50	0.50	0.33	0.22	0.52	1.61	-2.27	8966
<i>Alcedo atthis</i>	Alcedinidae	1.00	1.00	0.33	1.00	0.33	0.65	1.52	1.57	-1.16	4460
<i>Alectoris chukar</i>	Phasianidae	0.50	1.00	1.00	0.33	0.25	0.50	0.50	1.22	-1.91	437
<i>Alectoris rufa</i>	Phasianidae	0.50	0.50	0.50	0.33	0.25	0.24	0.48	1.46	-2.19	3443
<i>Anas acuta</i>	Anatidae	0.20	0.33	0.20	0.33	0.33	0.06	0.98	1.70	-1.72	1152
<i>Anas crecca</i>	Anatidae	0.20	0.50	0.25	0.33	0.14	0.07	0.99	1.68	-1.69	6977
<i>Anas platyrhynchos</i>	Anatidae	0.20	0.33	0.20	1.00	0.14	0.18	1.93	1.71	-1.06	46195
<i>Anser anser</i>	Anatidae	1.00	0.33	0.33	0.25	0.20	0.25	0.98	1.68	-1.70	13519
<i>Anser brachyrhynchus</i>	Anatidae	1.00	0.33	1.00	0.50	0.33	0.52	0.97	1.30	-1.33	768
<i>Anser fabalis</i>	Anatidae	0.50	0.33	1.00	0.33	0.20	0.31	0.79	1.27	-1.50	184
<i>Anthus campestris</i>	Motacillidae	1.00	0.50	1.00	1.00	0.33	0.70	0.38	1.58	-2.55	1444
<i>Anthus cervinus</i>	Motacillidae	1.00	0.50	0.50	1.00	0.20	0.53	5.52	1.10	0.61	402
<i>Anthus pratensis</i>	Motacillidae	0.50	1.00	1.00	0.33	0.33	0.52	0.96	1.69	-1.73	9450
<i>Anthus spinoletta</i>	Motacillidae	0.50	0.33	0.50	1.00	0.33	0.39	0.28	1.09	-2.36	578
<i>Anthus trivialis</i>	Motacillidae	1.00	0.33	0.25	0.25	0.17	0.22	0.54	1.65	-2.26	3095
<i>Apus apus</i>	Apodidae	1.00	1.00	1.00	0.50	0.33	0.70	5.58	1.75	-0.03	43024
<i>Apus caffer</i>	Apodidae	1.00	1.00	1.00	0.50	0.33	0.70	0.22	1.25	-2.76	240
<i>Apus pallidus</i>	Apodidae	1.00	1.00	0.33	0.33	0.33	0.48	12.38	1.22	1.29	6646
<i>Aquila chrysaetos</i>	Accipitridae	0.50	0.50	1.00	0.33	0.50	0.43	0.29	1.36	-2.59	787

Ardea cinerea	Ardeidae	0.33	1.00	0.25	1.00	0.20	0.42	1.44	1.72	-1.36	26888
Ardea purpurea	Ardeidae	0.50	1.00	0.33	0.50	0.33	0.39	1.00	1.57	-1.58	4223
Ardeola ralloides	Ardeidae	0.50	1.00	0.33	1.00	0.20	0.49	2.45	1.58	-0.68	2923
Asio flammeus	Strigidae	1.00	1.00	1.00	0.33	0.33	0.65	0.92	1.40	-1.49	378
Asio otus	Strigidae	1.00	1.00	1.00	0.50	0.09	0.63	2.02	1.75	-1.05	618
Athene noctua	Strigidae	0.33	0.33	0.17	0.50	0.33	0.13	1.11	1.40	-1.30	2376
Aythya ferina	Anatidae	0.20	0.33	0.20	1.00	0.33	0.23	1.44	1.70	-1.34	5348
Aythya fuligula	Anatidae	0.20	0.50	0.33	1.00	0.25	0.29	1.14	1.65	-1.51	10705
Aythya marila	Anatidae	0.25	0.50	0.33	0.33	0.25	0.13	1.07	1.53	-1.46	1426
Aythya nyroca	Anatidae	1.00	0.50	0.33	1.00	0.25	0.50	1.44	1.57	-1.21	1153
Bombycilla garrulus	Bombycillidae	0.50	0.50	0.33	1.00	0.33	0.39	1.01	1.58	-1.57	190
Botaurus stellaris	Ardeidae	0.50	1.00	0.25	0.33	0.33	0.32	0.47	1.40	-2.15	679
Branta bernicla	Anatidae	1.00	0.50	0.20	0.50	0.33	0.36	1.12	1.51	-1.40	490
Branta leucopsis	Anatidae	0.50	1.00	1.00	0.33	0.25	0.50	0.95	1.46	-1.51	2109
Bubo bubo	Strigidae	1.00	0.50	0.20	0.33	0.50	0.36	0.99	1.58	-1.59	306
Bubulcus ibis	Ardeidae	1.00	1.00	1.00	0.33	0.25	0.63	2.22	1.56	-0.76	7508
Bucephala clangula	Anatidae	1.00	0.50	0.50	0.33	0.20	0.36	0.94	1.37	-1.43	2857
Buteo buteo	Accipitridae	0.33	1.00	1.00	0.33	0.14	0.43	0.85	1.75	-1.91	17542
Buteo lagopus	Accipitridae	1.00	1.00	1.00	1.00	0.25	0.80	1.09	1.24	-1.15	201
Buteo rufinus	Accipitridae	0.50	1.00	1.00	0.50	0.33	0.57	0.35	1.59	-2.63	956
Calandrella brachydactyla	Alaudidae	0.50	0.50	0.33	1.00	0.33	0.39	0.32	1.61	-2.75	1234
Calcarius lapponicus	Emberizidae	0.33	0.25	0.25	1.00	0.50	0.30	1.09	1.36	-1.28	113
Caprimulgus europaeus	Caprimulgidae	1.00	1.00	1.00	0.33	0.25	0.63	0.92	1.58	-1.66	1127
Caprimulgus ruficollis	Caprimulgidae	1.00	0.50	0.50	0.33	0.17	0.35	1.26	1.45	-1.22	593
Carduelis carduelis	Fringillidae	1.00	0.33	0.33	0.33	0.14	0.25	2.20	1.77	-0.98	39003
Carpodacus erythrinus	Fringillidae	0.50	1.00	0.25	0.50	0.17	0.32	0.60	1.64	-2.16	1241
Cercotrichas galactotes	Muscicapidae	0.50	0.25	0.33	0.50	0.20	0.16	0.90	1.18	-1.28	839
Certhia brachydactyla	Certhiidae	0.50	0.50	0.33	0.33	0.14	0.17	1.60	1.42	-0.95	7888
Certhia familiaris	Certhiidae	0.33	0.50	0.33	0.50	0.20	0.18	0.83	1.47	-1.66	1640
Cettia cetti	Sylviidae	0.50	0.50	0.20	0.33	0.25	0.16	1.51	1.36	-0.95	9833
Chloris chloris	Fringillidae	1.00	1.00	0.25	0.20	0.25	0.40	3.18	1.77	-0.62	30004
Ciconia ciconia	Ciconiidae	0.25	1.00	1.00	0.25	0.20	0.40	0.98	1.61	-1.63	13385
Ciconia nigra	Ciconiidae	1.00	1.00	0.33	0.50	0.14	0.47	0.35	1.50	-2.56	1655
Cinclus cinclus	Cinclidae	0.50	0.33	0.50	1.00	0.14	0.34	0.96	1.60	-1.64	1089
Circaetus gallicus	Accipitridae	1.00	1.00	1.00	0.14	0.33	0.60	0.46	1.55	-2.32	3630
Circus aeruginosus	Accipitridae	0.50	0.50	0.33	0.50	0.33	0.26	0.61	1.70	-2.19	9765
Circus cyaneus	Accipitridae	1.00	0.50	0.50	0.33	0.25	0.37	0.45	1.71	-2.51	461
Circus pygargus	Accipitridae	1.00	0.50	0.50	0.33	0.33	0.39	0.36	1.60	-2.61	1942
Cisticola juncidis	Cisticolidae	1.00	1.00	0.33	0.33	0.25	0.46	2.06	1.33	-0.61	11025
Clamator glandarius	Cuculidae	0.50	1.00	0.50	0.33	0.25	0.37	0.55	1.51	-2.12	384
Clangula hyemalis	Anatidae	1.00	1.00	0.50	0.33	0.33	0.52	0.99	1.65	-1.66	1479

<i>Coccothraustes coccothraustes</i>	Fringillidae	0.25	0.50	0.25	1.00	0.20	0.27	0.61	1.65	-2.14	1883
<i>Columba livia</i>	Columbidae	1.00	1.00	1.00	0.25	0.33	0.63	18.84	1.71	1.22	43974
<i>Columba oenas</i>	Columbidae	0.50	1.00	0.25	0.33	0.25	0.30	1.40	1.60	-1.26	4316
<i>Columba palumbus</i>	Columbidae	0.33	1.00	0.33	0.25	0.17	0.24	3.52	1.74	-0.48	58623
<i>Coracias garrulus</i>	Coraciidae	1.00	0.33	0.33	0.33	0.20	0.27	0.47	1.49	-2.24	1561
<i>Corvus corax</i>	Corvidae	0.14	1.00	1.00	0.33	0.17	0.38	0.59	1.68	-2.20	10113
<i>Corvus corone</i>	Corvidae	0.17	0.20	0.25	0.50	0.09	0.01	2.26	1.53	-0.72	32623
<i>Corvus frugilegus</i>	Corvidae	0.17	0.25	1.00	0.25	0.20	0.18	6.19	1.53	0.29	10878
<i>Corvus monedula</i>	Corvidae	0.17	0.20	0.50	0.50	0.17	0.09	5.84	1.61	0.16	26434
<i>Coturnix coturnix</i>	Phasianidae	0.33	1.00	1.00	1.00	0.33	0.65	0.40	1.73	-2.65	3098
<i>Crex crex</i>	Rallidae	0.20	1.00	0.50	0.50	0.33	0.36	0.45	1.55	-2.35	413
<i>Cuculus canorus</i>	Cuculidae	0.50	0.50	0.25	0.14	0.14	0.09	0.48	1.64	-2.38	12233
<i>Cyanistes caeruleus</i>	Paridae	0.33	0.33	0.33	0.33	0.14	0.08	2.30	1.61	-0.77	32445
<i>Cygnus cygnus</i>	Anatidae	1.00	0.50	0.25	0.50	0.33	0.37	1.02	1.16	-1.14	4694
<i>Cygnus olor</i>	Anatidae	1.00	0.50	0.25	1.00	0.33	0.50	1.44	1.62	-1.25	13597
<i>Delichon urbicum</i>	Hirundinidae	1.00	1.00	0.50	0.50	0.33	0.57	2.99	1.75	-0.65	37592
<i>Dendrocopos major</i>	Picidae	0.50	0.25	0.50	0.33	0.20	0.16	1.36	1.65	-1.35	12969
<i>Dryocopus martius</i>	Picidae	0.50	0.50	0.50	0.50	0.25	0.28	0.49	1.37	-2.08	990
<i>Egretta garzetta</i>	Ardeidae	0.33	1.00	0.25	0.25	0.17	0.22	2.06	1.76	-1.03	15243
<i>Elanus caeruleus</i>	Accipitridae	0.50	0.50	0.50	0.20	0.33	0.23	1.98	1.58	-0.90	592
<i>Emberiza caesia</i>	Emberizidae	0.33	1.00	1.00	0.50	0.50	0.57	0.42	1.55	-2.43	131
<i>Emberiza calandra</i>	Emberizidae	0.33	1.00	1.00	1.00	0.50	0.70	0.39	1.53	-2.47	11496
<i>Emberiza cia</i>	Emberizidae	0.33	1.00	0.33	0.50	0.25	0.32	0.33	1.27	-2.39	2602
<i>Emberiza cirulus</i>	Emberizidae	0.33	1.00	1.00	0.50	0.50	0.57	0.74	1.33	-1.62	4347
<i>Emberiza citrinella</i>	Emberizidae	0.33	0.50	0.50	0.33	0.17	0.17	0.57	1.53	-2.08	6493
<i>Emberiza hortulana</i>	Emberizidae	0.33	0.50	0.25	0.33	0.14	0.10	0.33	1.35	-2.46	1420
<i>Emberiza melanocephala</i>	Emberizidae	0.33	0.50	0.33	1.00	0.20	0.31	0.37	1.53	-2.53	1720
<i>Emberiza schoeniclus</i>	Emberizidae	0.33	0.25	0.25	0.33	0.20	0.05	0.71	1.59	-1.94	5675
<i>Eremophila alpestris</i>	Alaudidae	0.50	1.00	0.50	1.00	0.50	0.61	0.26	1.36	-2.72	231
<i>Erithacus rubecula</i>	Muscicapidae	0.25	0.33	0.20	0.25	0.14	0.00	1.94	1.76	-1.09	28022
<i>Falco columbarius</i>	Falconidae	1.00	0.50	0.50	1.00	0.33	0.57	0.89	1.52	-1.63	299
<i>Falco eleonora</i>	Falconidae	0.50	0.50	0.25	0.50	0.33	0.24	0.95	1.13	-1.18	324
<i>Falco naumanni</i>	Falconidae	1.00	0.50	0.50	0.50	0.25	0.41	0.68	1.29	-1.67	1723
<i>Falco peregrinus</i>	Falconidae	1.00	0.50	0.50	0.33	0.50	0.43	1.06	1.70	-1.64	2133
<i>Falco subbuteo</i>	Falconidae	0.50	0.50	0.50	0.33	0.20	0.23	0.97	1.60	-1.63	2909
<i>Falco tinnunculus</i>	Falconidae	0.50	0.50	0.20	0.33	0.17	0.14	1.35	1.75	-1.45	17077
<i>Falco vespertinus</i>	Falconidae	1.00	1.00	0.50	0.50	0.25	0.54	0.42	1.61	-2.48	403
<i>Ficedula albicollis</i>	Muscicapidae	0.50	0.33	0.20	1.00	0.25	0.29	0.75	1.14	-1.43	326
<i>Ficedula hypoleuca</i>	Muscicapidae	0.33	0.33	0.20	0.33	0.14	0.04	1.48	1.65	-1.26	4043
<i>Ficedula parva</i>	Muscicapidae	0.50	0.33	0.20	0.50	0.20	0.15	0.50	1.65	-2.35	248
<i>Francolinus francolinus</i>	Phasianidae	0.33	1.00	0.33	0.50	0.50	0.39	1.05	1.75	-1.70	131

<i>Fringilla coelebs</i>	Fringillidae	0.33	0.33	0.25	0.33	0.11	0.05	0.88	1.76	-1.89	40284
<i>Fringilla montifringilla</i>	Fringillidae	0.25	1.00	0.25	0.50	0.20	0.27	0.98	1.60	-1.62	860
<i>Fulica atra</i>	Rallidae	0.20	1.00	0.20	1.00	0.33	0.41	1.66	1.76	-1.25	20892
<i>Galerida cristata</i>	Alaudidae	0.33	0.25	1.00	0.50	0.33	0.32	0.81	1.59	-1.80	11573
<i>Galerida theklae</i>	Alaudidae	0.50	0.33	0.50	0.50	0.25	0.24	0.28	1.33	-2.62	2537
<i>Gallinula chloropus</i>	Rallidae	0.17	0.50	0.25	0.50	0.33	0.15	2.91	1.63	-0.56	16074
<i>Garrulus glandarius</i>	Corvidae	0.25	0.25	0.25	0.50	0.14	0.06	1.42	1.60	-1.26	12292
<i>Gavia arctica</i>	Gaviidae	1.00	1.00	0.50	1.00	0.50	0.74	0.85	1.51	-1.68	997
<i>Gavia immer</i>	Gaviidae	0.50	1.00	0.50	1.00	0.50	0.61	1.51	1.56	-1.15	1556
<i>Gavia stellata</i>	Gaviidae	1.00	1.00	0.50	1.00	0.50	0.74	0.97	1.27	-1.31	2112
<i>Grus grus</i>	Gruidae	0.20	0.33	0.20	0.33	0.20	0.02	0.47	1.55	-2.31	2331
<i>Gypaetus barbatus</i>	Accipitridae	1.00	1.00	1.00	1.00	0.50	0.87	0.24	1.45	-2.88	350
<i>Gyps fulvus</i>	Accipitridae	1.00	1.00	1.00	0.50	0.50	0.74	0.36	1.53	-2.56	8775
<i>Haliaeetus albicilla</i>	Accipitridae	0.33	1.00	0.25	0.20	0.20	0.21	0.62	1.66	-2.14	1854
<i>Hieraaetus pennatus</i>	Accipitridae	1.00	0.50	0.25	0.50	0.20	0.33	0.86	1.57	-1.73	5983
<i>Hippolais icterina</i>	Sylviidae	1.00	0.33	0.20	0.33	0.13	0.21	0.71	1.27	-1.62	1051
<i>Hippolais olivetorum</i>	Sylviidae	0.50	0.50	0.25	0.33	0.25	0.17	0.74	1.38	-1.67	129
<i>Hippolais polyglotta</i>	Sylviidae	1.00	0.25	0.25	0.33	0.20	0.23	0.83	1.40	-1.59	4886
<i>Hirundo rustica</i>	Hirundinidae	1.00	1.00	1.00	0.50	0.50	0.74	1.81	1.72	-1.13	61384
<i>Histrionicus histrionicus</i>	Anatidae	0.50	0.00	0.50	1.00	0.25	0.28	0.97	1.26	-1.29	603
<i>Ixobrychus minutus</i>	Ardeidae	0.50	1.00	0.33	0.33	0.25	0.32	2.40	1.51	-0.63	2028
<i>Jynx torquilla</i>	Picidae	1.00	1.00	0.20	0.50	0.25	0.46	0.79	1.59	-1.83	1242
<i>Lagopus lagopus</i>	Phasianidae	0.33	1.00	0.33	0.50	0.33	0.35	0.43	1.27	-2.12	225
<i>Lanius collurio</i>	Laniidae	1.00	0.33	0.25	1.00	0.33	0.46	0.55	1.53	-2.13	5724
<i>Lanius excubitor</i>	Laniidae	0.50	0.33	0.25	0.50	0.20	0.16	0.58	1.65	-2.20	480
<i>Lanius minor</i>	Laniidae	1.00	0.33	0.25	0.50	0.33	0.32	0.59	1.45	-1.98	971
<i>Lanius nubicus</i>	Laniidae	0.50	0.33	0.25	0.33	0.17	0.11	1.43	1.28	-0.93	724
<i>Lanius senator</i>	Laniidae	1.00	0.33	0.25	0.50	0.20	0.29	0.37	1.61	-2.60	4105
<i>Locustella fluviatilis</i>	Sylviidae	0.50	0.50	0.33	0.25	0.25	0.17	0.42	1.45	-2.33	265
<i>Locustella luscinioides</i>	Sylviidae	0.50	0.50	0.20	0.33	0.33	0.18	0.55	1.57	-2.17	1120
<i>Locustella naevia</i>	Sylviidae	1.00	0.33	0.33	0.33	0.25	0.28	0.71	1.61	-1.96	860
<i>Loxia curvirostra</i>	Fringillidae	1.00	1.00	0.33	1.00	0.50	0.70	0.56	1.73	-2.31	1537
<i>Lullula arborea</i>	Alaudidae	0.33	1.00	0.33	0.33	0.17	0.26	0.31	1.58	-2.76	3298
<i>Luscinia luscinia</i>	Muscicapidae	0.33	1.00	0.33	0.50	0.25	0.32	0.65	1.40	-1.83	1463
<i>Luscinia megarhynchos</i>	Muscicapidae	0.33	0.50	0.33	0.50	0.17	0.17	0.86	1.58	-1.73	14288
<i>Mareca penelope</i>	Anatidae	1.00	0.50	0.25	0.33	0.17	0.28	1.13	1.67	-1.55	4718
<i>Mareca strepera</i>	Anatidae	1.00	0.50	0.33	0.50	0.33	0.39	1.00	1.70	-1.70	8731
<i>Marmaronetta angustirostris</i>	Anatidae	0.20	1.00	0.33	1.00	0.33	0.44	0.97	1.52	-1.55	190
<i>Melanitta fusca</i>	Anatidae	1.00	1.00	0.50	0.50	0.25	0.54	0.95	1.33	-1.38	546
<i>Melanitta nigra</i>	Anatidae	1.00	1.00	0.50	0.50	0.33	0.57	1.12	1.64	-1.52	1787
<i>Melanocorypha calandra</i>	Alaudidae	0.50	1.00	0.50	1.00	0.25	0.54	0.26	1.21	-2.56	1803

<i>Mergellus albellus</i>	Anatidae	0.50	0.50	0.50	0.20	0.33	0.23	1.03	1.47	-1.43	311
<i>Mergus merganser</i>	Anatidae	1.00	1.00	0.50	0.50	0.25	0.54	1.11	1.45	-1.35	2588
<i>Mergus serrator</i>	Anatidae	1.00	1.00	0.50	0.20	0.20	0.45	1.29	1.48	-1.22	4521
<i>Merops apiaster</i>	Meropidae	1.00	0.50	1.00	0.33	0.50	0.57	0.78	1.60	-1.84	12987
<i>Milvus migrans</i>	Accipitridae	0.25	0.50	0.33	0.17	0.25	0.09	0.88	1.60	-1.73	12226
<i>Milvus milvus</i>	Accipitridae	0.25	0.50	1.00	0.25	0.50	0.35	0.80	1.52	-1.75	4931
<i>Monticola saxatilis</i>	Muscicapidae	1.00	0.33	1.00	0.50	0.50	0.57	0.28	1.13	-2.40	457
<i>Monticola solitarius</i>	Muscicapidae	0.33	0.50	1.00	0.50	0.50	0.43	0.40	1.19	-2.10	2137
<i>Montifringilla nivalis</i>	Passeridae	0.33	0.50	0.50	0.50	0.50	0.30	0.29	1.45	-2.70	140
<i>Motacilla alba</i>	Motacillidae	0.50	0.50	0.25	0.33	0.13	0.14	1.53	1.69	-1.27	38338
<i>Motacilla cinerea</i>	Motacillidae	1.00	0.25	0.25	0.50	0.25	0.28	1.40	1.76	-1.42	5814
<i>Motacilla citreola</i>	Motacillidae	0.50	0.50	0.25	0.50	0.33	0.24	0.47	1.13	-1.88	186
<i>Motacilla flava</i>	Motacillidae	0.50	0.50	0.25	0.33	0.33	0.19	0.98	1.74	-1.77	11061
<i>Muscicapa striata</i>	Muscicapidae	0.50	1.00	0.33	0.25	0.14	0.28	1.89	1.65	-1.01	6892
<i>Neophron percnopterus</i>	Accipitridae	0.50	1.00	1.00	0.25	0.50	0.54	0.33	1.13	-2.22	2382
<i>Netta rufina</i>	Anatidae	1.00	1.00	0.33	1.00	0.33	0.65	1.51	1.56	-1.14	2955
<i>Nucifraga caryocactes</i>	Corvidae	0.25	0.50	0.25	1.00	0.50	0.35	0.62	1.40	-1.88	364
<i>Nycticorax nycticorax</i>	Ardeidae	0.50	1.00	0.25	0.50	0.33	0.37	1.96	1.65	-0.98	3743
<i>Oenanthe hispanica</i>	Muscicapidae	1.00	0.50	0.50	0.33	0.50	0.43	0.36	1.19	-2.21	1492
<i>Oenanthe isabellina</i>	Muscicapidae	0.50	0.50	1.00	1.00	0.50	0.61	0.35	1.30	-2.34	783
<i>Oenanthe leucura</i>	Muscicapidae	1.00	0.33	0.50	1.00	0.50	0.57	0.94	1.45	-1.51	467
<i>Oenanthe oenanthe</i>	Muscicapidae	0.50	0.33	0.25	0.25	0.33	0.13	0.58	1.65	-2.20	6086
<i>Oenanthe pleschanka</i>	Muscicapidae	1.00	0.50	0.33	1.00	0.33	0.52	0.46	1.31	-2.08	121
<i>Oriolus oriolus</i>	Oriolidae	0.50	0.25	0.25	0.50	0.20	0.14	0.74	1.64	-1.94	10050
<i>Otis tarda</i>	Otididae	0.33	0.50	0.50	1.00	0.50	0.43	0.27	1.37	-2.70	406
<i>Otus scops</i>	Strigidae	0.50	0.33	0.50	0.33	0.20	0.18	2.36	1.23	-0.37	1216
<i>Oxyura leucocephala</i>	Anatidae	0.20	0.00	0.50	1.00	0.33	0.23	1.81	1.48	-0.89	704
<i>Pandion haliaetus</i>	Accipitridae	1.00	1.00	0.33	0.50	0.20	0.49	0.80	1.64	-1.86	2013
<i>Panurus biarmicus</i>	Timaliidae	0.33	0.20	0.17	0.33	0.50	0.09	0.54	1.49	-2.10	689
<i>Parus major</i>	Paridae	0.33	0.50	0.33	0.25	0.14	0.10	2.46	1.62	-0.72	40663
<i>Passer domesticus</i>	Passeridae	0.50	0.50	0.25	0.33	0.20	0.16	6.99	1.71	0.23	65731
<i>Passer hispaniolensis</i>	Passeridae	0.33	0.50	0.33	0.33	0.20	0.14	0.41	1.22	-2.13	3130
<i>Passer montanus</i>	Passeridae	0.33	0.50	1.00	0.33	0.25	0.32	2.44	1.65	-0.75	10328
<i>Pelecanus crispus</i>	Pelecanidae	1.00	1.00	0.50	1.00	0.50	0.74	0.44	1.38	-2.21	310
<i>Perdix perdix</i>	Phasianidae	0.50	1.00	1.00	1.00	0.33	0.70	0.60	1.53	-2.05	449
<i>Periparus ater</i>	Paridae	0.33	0.33	0.33	1.00	0.20	0.27	1.67	1.61	-1.09	9262
<i>Pernis apivorus</i>	Accipitridae	0.50	0.33	1.00	0.33	0.25	0.32	0.73	1.60	-1.91	2774
<i>Petronia petronia</i>	Passeridae	0.33	0.50	0.50	0.25	0.20	0.16	0.40	1.21	-2.12	2329
<i>Phalacrocorax carbo</i>	Phalacrocoracidae	1.00	1.00	0.50	0.50	0.20	0.53	1.44	1.70	-1.33	18059
<i>Phasianus colchicus</i>	Phasianidae	0.17	0.50	1.00	0.50	0.33	0.35	0.98	1.53	-1.55	6421
<i>Phoenicurus ochruros</i>	Muscicapidae	0.33	0.50	0.25	0.50	0.33	0.19	3.70	1.61	-0.30	15042

<i>Phoenicurus phoenicurus</i>	Muscicapidae	0.50	0.33	0.25	0.50	0.13	0.14	1.13	1.65	-1.53	3874
<i>Phylloscopus bonelli</i>	Sylviidae	1.00	0.33	0.33	0.50	0.14	0.30	0.41	1.14	-2.03	2953
<i>Phylloscopus collybita</i>	Sylviidae	1.00	0.50	0.50	0.50	0.14	0.38	1.08	1.73	-1.66	14908
<i>Phylloscopus sibilatrix</i>	Sylviidae	0.50	0.33	0.33	0.50	0.17	0.17	0.89	1.60	-1.72	1202
<i>Phylloscopus trochiloides</i>	Sylviidae	0.50	0.33	0.20	0.33	0.17	0.09	1.30	1.45	-1.18	125
<i>Phylloscopus trochilus</i>	Sylviidae	0.50	0.33	0.20	0.20	0.20	0.07	0.94	1.73	-1.79	12714
<i>Pica pica</i>	Corvidae	0.17	0.33	0.50	0.25	0.14	0.06	5.14	1.62	0.02	38871
<i>Picus canus</i>	Picidae	1.00	0.50	0.33	0.50	0.20	0.36	0.54	1.45	-2.07	236
<i>Picus viridis</i>	Picidae	1.00	0.50	0.33	0.50	0.17	0.35	1.31	1.53	-1.25	8575
<i>Platalea leucorodia</i>	Threskiornithidae	0.33	1.00	0.33	1.00	0.25	0.46	1.18	1.56	-1.40	4571
<i>Plectrophenax nivalis</i>	Emberizidae	0.50	0.50	0.50	0.50	0.33	0.30	0.86	1.37	-1.52	523
<i>Plegadis falcinellus</i>	Threskiornithidae	1.00	1.00	0.25	0.33	0.33	0.46	1.40	1.51	-1.17	3319
<i>Poecile montanus</i>	Paridae	0.33	0.50	0.33	0.33	0.20	0.14	0.67	1.13	-1.53	1015
<i>Porphyrio porphyrio</i>	Rallidae	0.20	0.50	0.17	0.33	0.33	0.09	1.81	1.46	-0.86	1391
<i>Porzana porzana</i>	Rallidae	0.20	1.00	0.20	0.33	0.33	0.23	2.29	1.45	-0.62	215
<i>Prunella collaris</i>	Prunellidae	0.50	1.00	1.00	0.50	0.33	0.57	0.29	1.20	-2.42	134
<i>Prunella modularis</i>	Prunellidae	0.50	1.00	0.33	0.25	0.13	0.27	2.70	1.50	-0.51	11023
<i>Pterocles alchata</i>	Pteroclididae	0.50	1.00	1.00	0.50	0.33	0.57	0.26	1.45	-2.79	279
<i>Pterocles orientalis</i>	Pteroclididae	1.00	1.00	0.50	0.50	0.33	0.57	0.25	1.13	-2.54	320
<i>Ptyonoprogne rupestris</i>	Hirundinidae	1.00	1.00	1.00	1.00	0.50	0.87	0.50	1.41	-2.10	5843
<i>Pyrrhocorax graculus</i>	Corvidae	0.50	1.00	1.00	0.33	0.50	0.57	0.31	1.10	-2.26	497
<i>Pyrrhocorax pyrrhocorax</i>	Corvidae	0.25	0.25	1.00	0.33	0.50	0.30	0.31	1.49	-2.65	1745
<i>Pyrrhula pyrrhula</i>	Fringillidae	0.33	1.00	0.33	0.50	0.14	0.30	1.15	1.48	-1.34	2931
<i>Rallus aquaticus</i>	Rallidae	0.11	1.00	0.17	0.33	0.33	0.20	0.84	1.60	-1.77	2299
<i>Regulus ignicapilla</i>	Reguliidae	0.50	0.50	0.33	0.33	0.25	0.19	1.42	1.53	-1.18	3866
<i>Regulus regulus</i>	Reguliidae	0.50	0.50	0.50	1.00	0.50	0.48	1.29	1.72	-1.47	3704
<i>Remiz pendulinus</i>	Remizidae	0.33	0.50	0.33	0.33	0.20	0.14	0.95	1.49	-1.54	1413
<i>Riparia riparia</i>	Hirundinidae	0.50	1.00	1.00	1.00	0.33	0.70	1.42	1.74	-1.39	9955
<i>Saxicola rubetra</i>	Muscicapidae	0.33	0.50	0.25	1.00	0.33	0.32	0.55	1.63	-2.23	2561
<i>Serinus serinus</i>	Fringillidae	1.00	1.00	0.33	0.33	0.25	0.46	3.19	1.53	-0.37	22021
<i>Sitta europaea</i>	Sittidae	0.33	0.50	0.33	0.50	0.25	0.19	0.94	1.60	-1.66	7770
<i>Sitta neumayer</i>	Sittidae	0.33	1.00	0.50	1.00	0.50	0.57	0.42	1.25	-2.12	579
<i>Somateria mollissima</i>	Anatidae	1.00	1.00	0.50	1.00	0.25	0.67	1.41	1.12	-0.77	7713
<i>Somateria spectabilis</i>	Anatidae	1.00	1.00	0.50	0.33	0.50	0.57	1.16	1.39	-1.24	134
<i>Streptopelia decaocto</i>	Columbidae	0.50	1.00	1.00	1.00	0.25	0.67	6.33	1.77	0.08	36220
<i>Streptopelia turtur</i>	Columbidae	0.50	1.00	1.00	1.00	0.33	0.70	0.80	1.62	-1.84	7255
<i>Strix aluco</i>	Strigidae	0.33	1.00	0.33	0.33	0.14	0.25	0.78	1.54	-1.79	1394
<i>Sturnus unicolor</i>	Sturnidae	0.25	0.50	0.33	0.33	0.25	0.13	3.55	1.15	0.12	20446
<i>Sturnus vulgaris</i>	Sturnidae	0.25	0.50	0.50	0.25	0.25	0.15	3.43	1.71	-0.47	30908
<i>Sylvia atricapilla</i>	Sylviidae	0.50	0.50	0.33	0.50	0.20	0.23	1.88	1.75	-1.12	30319
<i>Sylvia borin</i>	Sylviidae	0.50	0.50	0.33	0.33	0.25	0.19	0.93	1.63	-1.70	4498

<i>Sylvia cantillans</i>	Sylviidae	0.50	0.50	0.33	0.33	0.50	0.26	0.29	1.52	-2.75	2322
<i>Sylvia communis</i>	Sylviidae	0.50	0.50	0.50	0.50	0.25	0.28	0.88	1.66	-1.79	9894
<i>Sylvia conspicillata</i>	Sylviidae	0.50	0.50	0.33	1.00	0.50	0.43	0.51	1.16	-1.84	413
<i>Sylvia curruca</i>	Sylviidae	0.50	0.50	0.33	0.50	0.17	0.22	0.93	1.58	-1.65	3593
<i>Sylvia hortensis</i>	Sylviidae	0.50	0.50	0.33	0.33	0.14	0.17	0.23	1.20	-2.67	896
<i>Sylvia melanocephala</i>	Sylviidae	0.50	0.50	0.33	1.00	0.14	0.34	2.14	1.48	-0.72	13252
<i>Sylvia nisoria</i>	Sylviidae	0.33	0.50	0.50	1.00	0.20	0.36	0.62	1.45	-1.93	503
<i>Sylvia ruppeli</i>	Sylviidae	0.50	0.50	0.33	0.50	0.33	0.26	0.76	1.53	-1.79	116
<i>Sylvia undata</i>	Sylviidae	0.50	0.50	0.50	0.50	0.50	0.35	0.39	1.16	-2.09	1672
<i>Tadorna ferruginea</i>	Anatidae	0.25	0.33	0.17	1.00	0.25	0.22	0.53	1.71	-2.34	1035
<i>Tadorna tadorna</i>	Anatidae	0.50	0.50	0.25	0.50	0.25	0.22	0.87	1.69	-1.84	8003
<i>Tetrax tetrax</i>	Otididae	0.25	1.00	1.00	1.00	0.33	0.63	0.32	1.48	-2.62	403
<i>Troglodytes troglodytes</i>	Troglodytidae	1.00	0.50	0.33	0.33	0.17	0.30	1.73	1.72	-1.17	25953
<i>Turdus iliacus</i>	Turdidae	0.33	1.00	0.33	0.25	0.14	0.23	1.53	1.45	-1.02	6393
<i>Turdus merula</i>	Turdidae	0.33	1.00	0.33	0.20	0.13	0.21	3.50	1.71	-0.46	69502
<i>Turdus philomelos</i>	Turdidae	0.33	1.00	0.50	0.20	0.11	0.25	1.06	1.75	-1.69	11255
<i>Turdus pilaris</i>	Turdidae	0.33	0.50	0.33	0.33	0.13	0.12	1.77	1.46	-0.88	5607
<i>Turdus torquatus</i>	Turdidae	0.33	1.00	0.33	0.33	0.25	0.28	0.32	1.46	-2.61	288
<i>Turdus viscivorus</i>	Turdidae	0.33	0.50	0.25	0.50	0.25	0.17	0.45	1.61	-2.40	4695
<i>Tyto alba</i>	Tytonidae	1.00	1.00	1.00	0.50	0.50	0.74	1.23	1.48	-1.27	633
<i>Upupa epops</i>	Upupidae	0.50	0.33	0.50	0.50	0.33	0.26	0.71	1.54	-1.89	10183

**Table A2.** Model selection table based on averaging approach from all possible subsets of the full model with the ‘dredge’ function in the ‘MuMIn’ package (Bartoń 2013).

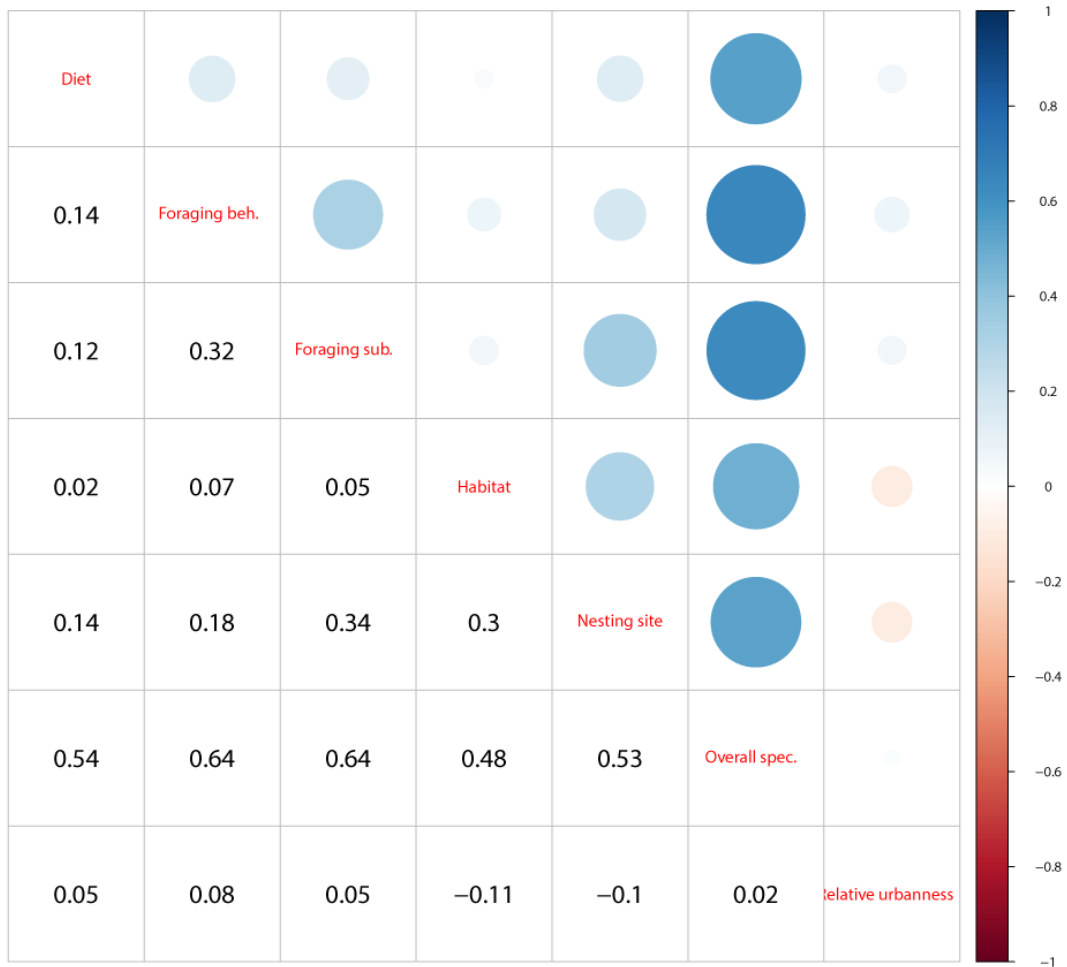
<b>(Int)</b>	<b>Diet</b>	<b>Foraging behaviour</b>	<b>Foraging substrate</b>	<b>Habitat</b>	<b>Nesting site</b>	<b>df</b>	<b>logLik</b>	<b>AICc</b>	<b>delta</b>	<b>weight</b>
-1.1679					-1.5044	3	-271.7022	549.4997	0	0.1995
-1.2384		0.1381			-1.5665	4	-271.2787	550.7167	1.217	0.1086
-1.1387			-0.1249		-1.3998	4	-271.4178	550.995	1.4952	0.0945
-1.2214	0.1099				-1.5431	4	-271.425	551.0093	1.5096	0.0938
-1.1316				-0.1131	-1.4235	4	-271.4754	551.1102	1.6104	0.0892
-1.2193		0.1835	-0.1809		-1.4353	5	-270.725	551.69	2.1903	0.0667
-1.2021		0.1401		-0.1162	-1.4844	5	-271.0386	552.3172	2.8175	0.0488
-1.2791	0.0954	0.1268			-1.5951	5	-271.0718	552.3837	2.884	0.0472
-1.1943	0.1187		-0.1347		-1.4334	5	-271.0951	552.4303	2.9305	0.0461
-1.0983			-0.1317	-0.1208	-1.3077	5	-271.1595	552.5589	3.0592	0.0432
-1.1849	0.1079			-0.1106	-1.4634	5	-271.2077	552.6555	3.1558	0.0412
-1.1784		0.1879	-0.1895	-0.1283	-1.3385	6	-270.4325	553.2023	3.7026	0.0313
-1.2625	0.1024	0.1727	-0.1861		-1.4623	6	-270.4862	553.3098	3.8101	0.0297
-1.2426	0.0931	0.1291		-0.1138	-1.514	6	-270.8414	554.0202	4.5205	0.0208
-1.1538	0.117		-0.1413	-0.1186	-1.3426	6	-270.8454	554.0282	4.5285	0.0207
-1.2213	0.1001	0.1773	-0.1944	-0.126	-1.3665	7	-270.2036	554.8589	5.3591	0.0137
-1.3046			-0.3091	-0.2788		4	-275.8801	559.9196	10.4199	0.0011

-1.4442			-0.3234		3	-277.3347	560.7646	11.2649	0.0007
-1.376	0.1581		-0.3612	-0.2882	5	-275.383	561.0061	11.5064	0.0006
-1.4418				-0.2957	3	-277.7714	561.6381	12.1383	0.0005
-1.3403	0.0685		-0.3174	-0.28	5	-275.7754	561.7908	12.2911	0.0004
-1.5125	0.1418		-0.3707		4	-276.9377	562.0348	12.535	0.0004
-1.4783	0.0644		-0.3313		4	-277.2432	562.6458	13.1461	0.0003
-1.597					2	-279.3871	562.8217	13.3219	0.0003
-1.401	0.0533	0.1521	-0.3657	-0.2888	6	-275.3202	562.9777	13.478	0.0002
-1.4718	0.0502			-0.2996	4	-277.7167	563.5928	14.0931	0.0002
-1.4615	0.0343			-0.2965	4	-277.7451	563.6496	14.1499	0.0002
-1.5365	0.0506	0.1361	-0.375		5	-276.8816	564.0032	14.5035	0.0001
-1.6164	0.0304				3	-279.3672	564.8297	15.33	0.0001
-1.6137	0.0284				3	-279.3694	564.834	15.3343	0.0001
-1.4856	0.0281	0.0463		-0.3	5	-277.6994	565.6389	16.1392	0.0001
-1.6288	0.0247	0.0269			4	-279.354	566.8675	17.3677	0

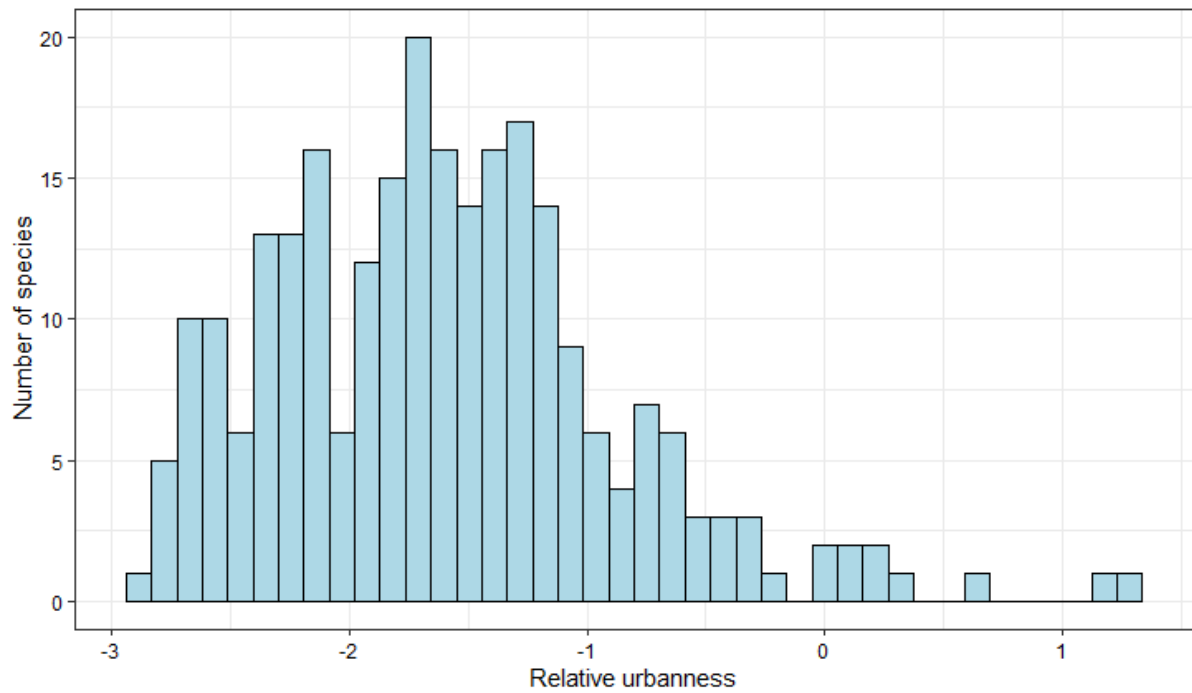
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**Figure A1.** A phylogenetic dendrogram for the 256 species in the analysis. We did not find a significant phylogenetic signal in the relative urbanness among species (Table 1), and thus used GLMs in our models throughout our manuscript.



**Figure A2.** There was minimal correlation among predictor variables, and the VIFs were  $< 2$  (see main text), and thus all predictor variables were included in models. But note that we split the ‘overall specialization’ with the five unique axes of specialization into different models.



**Figure A3.** A histogram showing the spread of relative urban scores among species. The urban scores followed a normal distribution with some species being highly urban tolerant (i.e. with high urban scores) and other being not urban tolerant (i.e. with low urban scores), but a general mix in between.