

Supporting Information

S1 Examples of European studies reporting saproxylic species richness

Table S1 Examples of European studies reporting the richness of the saproxylic insect fauna. Empirical species richness is based on number of saproxylic species recorded in a specific area without reference to inventory completeness.

Region	Forest type	Reference	Observations
Germany	Temperate mixed forest with beech and pine dominating	Köhler (2000)	20% of beetle species in Germany and 56% of forest-dwelling beetle species in North-Rhineland depend on deadwood
Great Britain	Temperate forest with pine or oak as dominating species	Alexander (2002)	1800 saproxylic invertebrate species, including 700 beetle species
Central Europe		Geiser (1994)	Approximately 8000 beetle species in Central Europe of which 25% are considered saproxylic
Finland	Boreal forest with pine, spruce and birch dominating	Siitonen (2001)	20-25% of forest insects are saproxylic
Norway	Boreal forest with spruce and pine dominating	Økland et al. (1996)	700 (obligate) saproxylic beetle species
Scandinavia	Boreal and hemi-boreal forest with pine, spruce and birch dominating	Stokland et al. (2004); Stokland and Meyke (2008)	6400 – 7000 wood-inhabiting species, accounting for 25% of forest species, including 1400 beetle species
Sweden	Deciduous, coniferous forests and taiga with beech and spruce, pine and birch dominating, respectively	Dahlberg and Stokland (2004)	77% of the 1,278 saproxylic beetle species are obligate and 23% are facultative saproxylic

S2 Sample size of saproxylic beetles in stem emergence traps per year

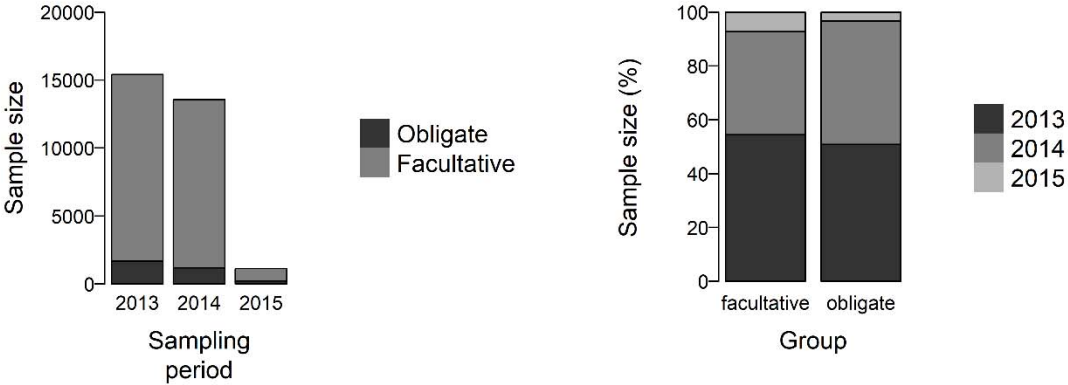


Figure S2 Light panel: Absolute sample sizes (i.e. number of individuals) of obligate and facultative saproxylic beetles captured per year. Right panel: Annual proportions of the total sample size of facultative and obligate saproxylic beetles. The number of captured individuals from 2013 plus 2014 accounts for more than 90% of the total sample size.

S3 Species list

Table S3.1 List of captured obligate and facultative saproxylic beetle species and individuals

Obligate saproxylics	No. of individuals	Facultative saproxylics	No. of individuals
Aderidae	16	Anthribidae	15
<i>Anidorus nigrinus</i>	13	<i>Brachytarsus nebulosus</i>	15
<i>Euglenes oculatus</i>	1	Apionidae	5
<i>Euglenes pygmaeus</i>	2	<i>Ischnopterapion virens</i>	1
Anobiidae	381	<i>Perapion marchicum</i>	1
<i>Anobium costatum</i>	224	<i>Protapion fulvipes</i>	3
<i>Anobium emarginatum</i>	12	Byrrhidae	213
<i>Anobium pertinax</i>	82	<i>Byrrhus arietinus</i>	105
<i>Hedobia imperialis</i>	54	<i>Cytilus sericeus</i>	108
<i>Xestobium plumbeum</i>	9	Byturidae	472
Anthribidae	162	<i>Byturus tomentosus</i>	472
<i>Anthribus albinus</i>	157	Cantharidae	395
<i>Dissoleucas niveirostris</i>	3	<i>Absidia prolixa</i>	42
<i>Enedreutes sepicola</i>	1	<i>Absidia rufotestacea</i>	70
<i>Rhaphitropis marchicus</i>	1	<i>Absidia schoenherri</i>	54
Biphyllidae	4	<i>Cantharis pellucida</i>	6
<i>Diplocoelus fagi</i>	4	<i>Podabrus alpinus</i>	122
Buprestidae	317	<i>Rhagonycha lignosa</i>	53
<i>Agrilus viridis</i>	1	<i>Rhagonycha translucida</i>	48
<i>Anthaxia helvetica</i>	196	Carabidae	7364
<i>Anthaxia quadripunctata</i>	109	<i>Abax parallelepipedus</i>	1156
<i>Anthaxia similis</i>	1	<i>Abax parallelus</i>	120

<i>Buprestis rustica</i>	5	<i>Agonum afrum</i>	1
<i>Chrysobothris affinis</i>	4	<i>Bembidion mannerheimii</i>	55
<i>Chrysobothris chrysostigma</i>	1	<i>Carabus auronitens</i>	590
Cantharidae	108	<i>Carabus silvestris</i>	182
<i>Malthinus biguttatus</i>	3	<i>Carabus violaceus</i>	484
<i>Malthinus bilineatus</i>	1	<i>Dromius agilis</i>	9
<i>Malthinus punctatus</i>	12	<i>Dromius fenestratus</i>	9
<i>Malthodes alpicola</i>	7	<i>Pterostichus aethiops</i>	139
<i>Malthodes brevicollis</i>	26	<i>Pterostichus burmeisteri</i>	2155
<i>Malthodes fuscus</i>	27	<i>Pterostichus niger</i>	78
<i>Malthodes guttifer</i>	3	<i>Pterostichus nigrita</i>	134
<i>Malthodes hexacanthus</i>	16	<i>Pterostichus</i>	
<i>Malthodes mysticus</i>	10	<i>oblongopunctatus</i>	2252
<i>Malthodes pumilus</i>	3	Chrysomelidae	160
Carabidae	39	<i>Aphthona euphorbiae</i>	1
<i>Tachyta nana</i>	39	<i>Batophila rubi</i>	41
Cerambycidae	2290	<i>Chaetocnema hortensis</i>	31
<i>Alosterna tabacicolor</i>	6	<i>Chrysomela populi</i>	3
<i>Anastrangalia dubia</i>	46	<i>Gastrophysa polygoni</i>	1
<i>Anastrangalia sanguinolenta</i>	93	<i>Gonioctena intermedia</i>	12
<i>Arhopalus rusticus</i>	3	<i>Lochmaea capreae</i>	42
<i>Aromia moschata</i>	1	<i>Longitarsus longiseta</i>	2
<i>Callidium coriaceum</i>	1	<i>Longitarsus luridus</i>	3
<i>Callidium violaceum</i>	1	<i>Longitarsus melanocephalus</i>	7
<i>Clytus arietis</i>	13	<i>Longitarsus pratensis</i>	2
		<i>Minota obesa</i>	10

<i>Clytus lama</i>	7	<i>Phyllotreta cruciferae</i>	2
<i>Corymbia maculicornis</i>	26	<i>Phyllotreta vittula</i>	3
<i>Corymbia rubra</i>	236	Cleridae	1
<i>Evodinus clathratus</i>	53	<i>Necrobia rufipes</i>	1
<i>Gaurotes virginea</i>	70	Coccinellidae	20
<i>Judolia sexmaculata</i>	98	<i>Aphidecta oblitterata</i>	4
<i>Leiopus nebulosus</i>	12	<i>Calvia quatuordecimguttata</i>	1
<i>Leptura maculata</i>	2	<i>Myzia oblongoguttata</i>	1
<i>Leptura quadrifasciata</i>	7	<i>Nephus bipunctatus</i>	2
<i>Lepturobosca virens</i>	17	<i>Propylea quatuordecimpunctata</i>	12
<i>Molorchus minor</i>	31	Corylophidae	9
<i>Monochamus sutor</i>	13	<i>Sericoderus lateralis</i>	9
<i>Oxymirus cursor</i>	64	Cryptophagidae	188
<i>Pachytodes cerambyciformis</i>	3	<i>Atomaria apicalis</i>	6
<i>Phymatodes testaceus</i>	2	<i>Atomaria atricapilla</i>	5
<i>Pidonia lurida</i>	1	<i>Atomaria gutta</i>	1
<i>Pogonocherus fasciculatus</i>	8	<i>Atomaria lewisi</i>	55
<i>Pogonocherus hispidus</i>	1	<i>Atomaria pusilla</i>	3
<i>Pyrrhidium sanguineum</i>	1	<i>Cryptophagus dentatus</i>	58
<i>Rhagium bifasciatum</i>	427	<i>Cryptophagus deubeli</i>	49
<i>Rhagium inquisitor</i>	118	<i>Cryptophagus scanicus</i>	11
<i>Rhagium mordax</i>	325	Curculionidae	2134
<i>Stenurella melanura</i>	546	<i>Barypeithes araneiformis</i>	114
<i>Tetropium castaneum</i>	57	<i>Crypturgus subcribrosus</i>	324
<i>Tetropium fuscum</i>	1	<i>Otiorhynchus fuscipes</i>	31

Cerylonidae	152	<i>Otiorhynchus singularis</i>	22
<i>Cerylon fagi</i>	5	<i>Otiorhynchus subdentatus</i>	19
<i>Cerylon ferrugineum</i>	114	<i>Phyllobius arborator</i>	11
<i>Cerylon histeroides</i>	33	<i>Phyllobius argentatus</i>	186
Ciidae	1118	<i>Phyllobius viridicollis</i>	2
<i>Cis bidentatus</i>	7	<i>Polydrusus impar</i>	3
<i>Cis boleti</i>	101	<i>Polydrusus undatus</i>	148
<i>Cis castaneus</i>	6	<i>Rhynchaenus fagi</i>	539
<i>Cis dentatus</i>	46	<i>Sitona suturalis</i>	1
<i>Cis fagi</i>	2	<i>Strophosoma melanogrammum</i>	733
<i>Cis glabratus</i>	38	<i>Trachyphloeus aristatus</i>	1
<i>Cis hispidus</i>	181	Dermestidae	10
<i>Cis jacquemartii</i>	9	<i>Anthrenus fuscus</i>	10
<i>Cis lineatocribratus</i>	2	Elateridae	13816
<i>Cis micans</i>	3	<i>Athous subfuscus</i>	7032
<i>Cis nitidus</i>	3	<i>Athous zebei</i>	2322
<i>Cis punctulatus</i>	36	<i>Ctenicera cuprea</i>	1294
<i>Cis quadridens</i>	2	<i>Dalopius marginatus</i>	781
<i>Cis setiger</i>	60	<i>Limonius aeneoniger</i>	2387
<i>Ennearthron cornutum</i>	24	Geotrupidae	940
<i>Hadreule elongatulum</i>	469	<i>Anoplotrupes stercorosus</i>	940
<i>Octotemnus glabriculus</i>	19	Histeridae	29
<i>Orthocis alni</i>	22	<i>Gnathoncus buyssoni</i>	27
<i>Orthocis festivus</i>	10	<i>Gnathoncus nannetensis</i>	1
<i>Orthocis vestitus</i>	5	<i>Margarinotus distinctus</i>	1

<i>Sulcacis affinis</i>	72	Hydrophilidae	400
<i>Sulcacis fronticornis</i>	1	<i>Anacaena lutescens</i>	63
Clambidae	18	<i>Megasternum obscurum</i>	337
<i>Calyptomerus alpestris</i>	18	Kateretidae	12
Cleridae	249	<i>Brachypterus urticae</i>	12
<i>Thanasimus formicarius</i>	215	Laemophloeidae	9
<i>Thanasimus pectoralis</i>	16	<i>Cryptolestes ferrugineus</i>	8
<i>Tillus elongatus</i>	18	<i>Cryptolestes pusillus</i>	1
Corylophidae	31	Latridiidae	1661
<i>Orthoperus atomus</i>	10	<i>Cartodere constricta</i>	39
<i>Orthoperus mundus</i>	21	<i>Cartodere nodifer</i>	896
Cryptophagidae	418	<i>Corticaria elongata</i>	9
<i>Atomaria abietina</i>	28	<i>Corticarina fuscula</i>	127
<i>Atomaria atrata</i>	3	<i>Corticarina similata</i>	26
<i>Atomaria bella</i>	1	<i>Corticarina gibbosa</i>	322
<i>Atomaria diluta</i>	28	<i>Dienerella elongata</i>	13
<i>Atomaria elongatula</i>	1	<i>Enicmus histrio</i>	4
<i>Atomaria ornata</i>	5	<i>Enicmus rugosus</i>	197
<i>Atomaria procerula</i>	2	<i>Enicmus transversus</i>	10
<i>Atomaria pulchra</i>	7	<i>Latridius anthracinus</i>	3
<i>Atomaria turgida</i>	54	<i>Latridius minutus</i>	15
<i>Atomaria umbrina</i>	11	Leiodidae	4973
<i>Caenoscelis sibirica</i>	2	<i>Agaricophagus cephalotes</i>	7
<i>Cryptophagus cylindrus</i>	4	<i>Agathidium seminulum</i>	108
<i>Cryptophagus dorsalis</i>	1	<i>Colenis immunda</i>	1
<i>Cryptophagus ruficornis</i>	1	<i>Leiodes lucens</i>	3

<i>Micrambe abietis</i>	128	<i>Sciodrepoides fumatus</i>	10
<i>Pteryngium crenatum</i>	142	<i>Sciodrepoides watsoni</i>	4844
Curculionidae	32262	Monotomidae	443
<i>Acalles camelus</i>	112	<i>Monotoma brevicollis</i>	6
<i>Acalles commutatus</i>	12	<i>Monotoma longicollis</i>	423
<i>Cryphalus abietis</i>	13	<i>Monotoma picipes</i>	14
<i>Cryphalus piceae</i>	16	Mycetophagidae	2
<i>Crypturgus hispidulus</i>	212	<i>Typhaea stercorea</i>	2
<i>Crypturgus pusillus</i>	18	Nitidulidae	351
<i>Dryocoetes alni</i>	1	<i>Carpophilus hemipterus</i>	13
<i>Dryocoetes autographus</i>	1348	<i>Epuraea unicolor</i>	60
<i>Dryocoetes hectographus</i>	87	<i>Meligethes aeneus</i>	278
<i>Ernoporicus fagi</i>	26	Pselaphidae	15
<i>Gnathotrichus materiarius</i>	22	<i>Bythinus burrelli</i>	15
<i>Hylastes attenuatus</i>	3	Ptiliidae	248
<i>Hylastes cunicularius</i>	1330	<i>Acrotrichis dispar</i>	12
<i>Hylobius abietis</i>	159	<i>Acrotrichis grandicollis</i>	2
<i>Hylobius piceus</i>	6	<i>Acrotrichis insularis</i>	13
<i>Hylurgops glabratus</i>	7	<i>Acrotrichis intermedia</i>	221
<i>Hylurgops palliatus</i>	72	Ptinidae	7
<i>Ips typographus</i>	242	<i>Ptinus fur</i>	1
<i>Magdalis nitida</i>	1	<i>Ptinus subpilosus</i>	6
<i>Magdalis punctulata</i>	1	Staphylinidae	8096
<i>Magdalis violacea</i>	3	<i>Aleochara albobiliosa</i>	9
<i>Onyxacalles pyrenaeus</i>	8	<i>Aleochara bilineata</i>	174
<i>Orthotomicus laricis</i>	9	<i>Aleochara bipustulata</i>	26

<i>Pissodes piceae</i>	47	<i>Aleochara sanguinea</i>	1
<i>Pissodes pini</i>	3	<i>Aleochara stichai</i>	1
<i>Pityogenes bidentatus</i>	1	<i>Aleuonota gracilenta</i>	1
<i>Pityogenes bistridentatus</i>	1	<i>Amischa analis</i>	227
<i>Pityogenes chalcographus</i>	974	<i>Amphichroum canaliculatum</i>	1662
<i>Pityogenes conjunctus</i>	1	<i>Anotylus tetracarinatus</i>	51
<i>Pityokteines curvidens</i>	114	<i>Anthobium atrocephalum</i>	3
<i>Pityokteines vorontzowi</i>	21	<i>Anthobium melanocephalum</i>	20
<i>Pityophthorus pityographus</i>	105	<i>Anthophagus alpestris</i>	239
<i>Polygraphus poligraphus</i>	121	<i>Anthophagus angusticollis</i>	61
<i>Rhyncolus ater</i>	27	<i>Anthophagus omalinus</i>	78
<i>Ruteria hypocrita</i>	8	<i>Atheta aeneipennis</i>	9
<i>Scolytus mali</i>	1	<i>Atheta allocera</i>	3
<i>Taphrorychus bicolor</i>	106	<i>Atheta britanniae</i>	129
<i>Trachodes hispidus</i>	37	<i>Atheta corvina</i>	3
<i>Xyleborus alni</i>	19	<i>Atheta crassicornis</i>	307
<i>Xyleborus dispar</i>	1028	<i>Atheta crassicornis-Gruppe</i>	28
<i>Xyleborus saxeseni</i>	11446	<i>Atheta elongatula</i>	3
<i>Xylechinus pilosus</i>	55	<i>Atheta excellens</i>	1
<i>Xylocleptes bispinus</i>	1	<i>Atheta gagatina</i>	30
<i>Xyloterus domesticus</i>	5089	<i>Atheta harwoodi</i>	5
Xyloterus Larvae	25	<i>Atheta marcida</i>	2
<i>Xyloterus lineatus</i>	9256	<i>Atheta nidicola</i>	1
<i>Xyloterus signatus</i>	68	<i>Atheta nigricornis</i>	628
Dasytidae	3753	<i>Atheta pallidicornis</i>	6
<i>Aplocnemus nigricornis</i>	1	<i>Atheta paracrassicornis</i>	52

<i>Aplocnemus tarsalis</i>	1	<i>Atheta putrida</i>	13
<i>Dasytes aeratus</i>	5	<i>Atheta ravilla</i>	4
<i>Dasytes niger</i>	3126	<i>Atheta sodalis</i>	12
<i>Dasytes obscurus</i>	419	<i>Atheta subtilis</i>	6
<i>Dasytes plumbeus</i>	201	<i>Atheta triangulum</i>	8
Dermestidae	5	<i>Atheta trinotata</i>	1
<i>Megatoma undata</i>	5	<i>Atheta xanthopus</i>	3
Elateridae	5281	<i>Bryaxis nodicornis</i>	86
<i>Ampedus aethiops</i>	455	<i>Bythinus macropalpus</i>	10
<i>Ampedus auripes</i>	78	<i>Carpelimus corticinus</i>	38
<i>Ampedus balteatus</i>	347	<i>Cephennium carnicum</i>	18
<i>Ampedus cinnabarinus</i>	1	<i>Cephennium thoracicum</i>	1
<i>Ampedus elongatulus</i>	1	<i>Dinaraea angustula</i>	3
<i>Ampedus erythrogonus</i>	88	<i>Domene scabricollis</i>	113
<i>Ampedus nigrinus</i>	2151	<i>Eusphalerum abdominale</i>	21
<i>Ampedus pomorum</i>	70	<i>Eusphalerum limbatum</i>	953
<i>Ampedus praeustus</i>	1	<i>Eusphalerum longipenne</i>	154
<i>Ampedus sanguineus</i>	1	<i>Eusphalerum primulae</i>	16
<i>Anostirus castaneus</i>	65	<i>Eusphalerum rectangulum</i>	131
<i>Anostirus purpureus</i>	19	<i>Eusphalerum signatum</i>	23
<i>Anostirus sulphuripennis</i>	1	<i>Eusphalerum sorbi</i>	69
<i>Cardiophorus ruficollis</i>	88	<i>Eusphalerum stramineum</i>	12
<i>Danosoma fasciatus</i>	8	<i>Gabrius astutus</i>	9
<i>Denticollis linearis</i>	88	<i>Gabrius trossulus</i>	93
<i>Denticollis rubens</i>	45	<i>Lathrobium pallidum</i>	22
<i>Diacanthous undulatus</i>	93	<i>Leptacinus intermedius</i>	3

<i>Melanotus castanipes</i>	1648	<i>Liogluta granigera</i>	16
<i>Melanotus rufipes</i>	33	<i>Megarthus sinuatocollis</i>	5
Endomychidae	132	<i>Mycetoporus ambiguus</i>	1
<i>Endomychus coccineus</i>	15	<i>Mycetoporus lepidus</i>	226
<i>Mycetina cruciata</i>	117	<i>Mycetoporus mulsanti</i>	26
Erotylidae	214	<i>Mycetoporus nigricollis</i>	2
<i>Dacne bipustulata</i>	38	<i>Myrmecocephalus concinna</i>	8
<i>Triplax aenea</i>	62	<i>Neuraphes elongatulus</i>	104
<i>Triplax rufipes</i>	12	<i>Ocalea picata</i>	21
<i>Triplax russica</i>	33	<i>Omalius caesum</i>	94
<i>Triplax scutellaris</i>	2	<i>Omalius rivulare</i>	69
<i>Tritoma bipustulata</i>	67	<i>Oxypoda alternans</i>	73
Eucnemidae	25	<i>Philonthus fimetarius</i>	21
<i>Hylis foveicollis</i>	12	<i>Philonthus politus</i>	41
<i>Hylis olexai</i>	2	<i>Philonthus succicola</i>	72
<i>Hylis procerulus</i>	7	<i>Phyllocladepa floralis</i>	12
<i>Melasis buprestoides</i>	4	<i>Proteinus crenulatus</i>	83
Histeridae	57	<i>Proteinus laevigatus</i>	1
<i>Eblisia minor</i>	2	<i>Pselaphus heisei</i>	121
<i>Platysoma compressum</i>	1	<i>Quedius cinctus</i>	33
<i>Plegaderus vulneratus</i>	54	<i>Quedius cruentus</i>	25
Laemophloeidae	1	<i>Quedius fuliginosus</i>	98
<i>Cryptolestes duplicatus</i>	1	<i>Quedius mesomelinus</i>	353
Latridiidae	375	<i>Quedius paradisianus</i>	110
<i>Corticaria abietorum</i>	47	<i>Rugilus rufipes</i>	84
<i>Corticaria alleni</i>	1	<i>Schistoglossa curtipennis</i>	679

<i>Corticaria foveola</i>	1	<i>Sepedophilus littoreus</i>	12
<i>Corticaria interstitialis</i>	2	<i>Staphylinus fossor</i>	2
<i>Corticaria lateritia</i>	1	<i>Stenichnus collaris</i>	6
<i>Corticaria linearis</i>	15	<i>Stenus impressus</i>	10
<i>Corticaria longicollis</i>	8	<i>Tachinus fimetarius</i>	43
<i>Corticaria pineti</i>	2	<i>Tachinus pallipes</i>	52
<i>Corticaria polypori</i>	6	<i>Tinotus morion</i>	1
<i>Corticarina lambiana</i>	33	<i>Xylodromus testaceus</i>	10
<i>Corticarina obfuscata</i>	3	Tenebrionidae	396
<i>Enicmus brevicornis</i>	9	<i>Lagria hirta</i>	396
<i>Enicmus fungicola</i>	14	Throscidae	92
<i>Latridius consimilis</i>	4	<i>Trixagus dermestoides</i>	92
<i>Latridius hirtus</i>	7	Total	42476
<i>Latridius pseudominutus</i>	23		
<i>Stephostethus alternans</i>	112		
<i>Stephostethus pandellei</i>	1		
<i>Stephostethus rugicollis</i>	86		
Leiodidae	51		
<i>Agathidium nigripenne</i>	28		
<i>Anisotoma castanea</i>	5		
<i>Anisotoma humeralis</i>	10		
<i>Anisotoma orbicularis</i>	8		
Lissomidae	81		
<i>Drapetes cinctus</i>	81		
Lucanidae	729		
<i>Platycerus caprea</i>	683		

<i>Platycerus caraboides</i>	19
<i>Sinodendron cylindricum</i>	27
Lycidae	58
<i>Dictyopterus aurora</i>	18
<i>Lygisterus sanguineus</i>	18
<i>Platycis minutus</i>	11
<i>Pyropterus nigroruber</i>	11
Lymexylonidae	1454
<i>Hylecoetus dermestoides</i>	1454
Melandryidae	756
<i>Abdera flexuosa</i>	15
<i>Melandrya barbata</i>	1
<i>Melandrya caraboides</i>	72
<i>Orchesia fasciata</i>	4
<i>Orchesia micans</i>	68
<i>Orchesia minor</i>	11
<i>Orchesia undulata</i>	95
<i>Serropalpus barbatus</i>	29
<i>Xylita livida</i>	461
Melyridae	24
<i>Dasytes cyaneus</i>	24
Monotomidae	2811
<i>Cyanostolus aeneus</i>	1
<i>Rhizophagus bipustulatus</i>	12
<i>Rhizophagus cribratus</i>	10
<i>Rhizophagus depressus</i>	221

<i>Rhizophagus dispar</i>	1214
<i>Rhizophagus ferrugineus</i>	198
<i>Rhizophagus grandis</i>	1
<i>Rhizophagus nitidulus</i>	1066
<i>Rhizophagus parallellocollis</i>	31
<i>Rhizophagus parvulus</i>	15
<i>Rhizophagus perforatus</i>	42
Mordellidae	790
<i>Curtimorda maculosa</i>	129
<i>Mordella holomelaena</i>	224
<i>Mordella huetheri</i>	2
<i>Mordellistena variegata</i>	1
<i>Mordellochroa abdominalis</i>	1
<i>Tomoxia bucephala</i>	433
Mycetophagidae	233
<i>Litargus balteatus</i>	3
<i>Litargus connexus</i>	215
<i>Mycetophagus atomarius</i>	11
<i>Mycetophagus multipunctatus</i>	3
<i>Triphyllus bicolor</i>	1
Nitidulidae	2083
<i>Cychramus variegatus</i>	2
<i>Epuraea angustula</i>	117
<i>Epuraea biguttata</i>	3
<i>Epuraea binotata</i>	123

<i>Epuraea boreella</i>	5
<i>Epuraea deubeli</i>	6
<i>Epuraea distincta</i>	1
<i>Epuraea laeviuscula</i>	36
<i>Epuraea limbata</i>	1
<i>Epuraea longula</i>	13
<i>Epuraea marseuli</i>	300
<i>Epuraea muehli</i>	6
<i>Epuraea neglecta</i>	28
<i>Epuraea oblonga</i>	1
<i>Epuraea pallescens</i>	4
<i>Epuraea pygmaea</i>	515
<i>Epuraea rufomarginata</i>	7
<i>Epuraea silacea</i>	1
<i>Epuraea terminalis</i>	19
<i>Epuraea thoracica</i>	22
<i>Epuraea variegata</i>	29
<i>Glischrochilus hortensis</i>	8
<i>Glischrochilus quadriguttatus</i>	8
<i>Glischrochilus quadripunctatus</i>	228
<i>Ipidia binotata</i>	356
<i>Pityophagus ferrugineus</i>	244
Oedemeridae	170
<i>Calopus serraticornis</i>	3
<i>Chrysanthia nigricornis</i>	1

<i>Chrysanthia viridissima</i>	166
Peltidae	118
<i>Ostoma ferruginea</i>	118
Phloiophilidae	1
<i>Phloiophilus edwardsii</i>	1
Pselaphidae	32
<i>Euplectus fauveli</i>	4
<i>Euplectus punctatus</i>	28
Ptiliidae	56
<i>Baeocrara variolosa</i>	8
<i>Micridium halidaii</i>	3
<i>Ptenidium gressneri</i>	3
<i>Pteryx suturalis</i>	16
<i>Ptiliolum caledonicum</i>	18
<i>Ptinella limbata</i>	8
Ptinidae	258
<i>Dorcatoma punctulata</i>	5
<i>Dorcatoma robusta</i>	1
<i>Dryophilus pusillus</i>	8
<i>Ernobius abietinus</i>	11
<i>Ernobius abietis</i>	28
<i>Ernobius angusticollis</i>	1
<i>Ernobius mollis</i>	16
<i>Ptilinus pectinicornis</i>	187
<i>Xestobium austriacum</i>	1
Pyrochroidae	27

<i>Schizotus pectinicornis</i>	27
Pythidae	2
<i>Pytho depressus</i>	2
Salpingidae	159
<i>Rabocerus foveolatus</i>	22
<i>Rabocerus gabrieli</i>	3
<i>Salpingus planirostris</i>	12
<i>Salpingus ruficollis</i>	108
<i>Sphaeriestes aeratus</i>	1
<i>Sphaeriestes castaneus</i>	2
<i>Vincenzellus ruficollis</i>	11
Scarabaeidae	101
<i>Trichius fasciatus</i>	101
Scirtidae	1
<i>Prionocyphon serricornis</i>	1
Scolytidae	6
<i>Leperisinus fraxini</i>	6
Scraptiidae	555
<i>Anaspis frontalis</i>	11
<i>Anaspis kiesenwetteri</i>	1
<i>Anaspis marginicollis</i>	5
<i>Anaspis ruficollis</i>	25
<i>Anaspis rufilabris</i>	512
<i>Anaspis thoracica</i>	1
Silvanidae	12
<i>Silvanoprus fagi</i>	1

<i>Silvanus bidentatus</i>	6
<i>Uleiota planata</i>	5
Sphaeritidae	26
<i>Sphaerites glabratus</i>	26
Sphindidae	32
<i>Arpidiphorus orbiculatus</i>	28
<i>Sphindus dubius</i>	4
Staphylinidae	4556
<i>Acrulia inflata</i>	10
<i>Agaricochara latissima</i>	1
<i>Anomognathus cuspidatus</i>	22
<i>Atheta myrmecobia</i>	30
<i>Atheta oblita</i>	12
<i>Atheta picipes</i>	35
<i>Atheta pilicornis</i>	1
<i>Atrecus affinis</i>	20
<i>Atrecus pilicornis</i>	1
<i>Bibloporus bicolor</i>	131
<i>Bibloporus minutus</i>	1
<i>Bolitochara lucida</i>	1
<i>Bolitochara mulsanti</i>	2
<i>Bolitochara obliqua</i>	4
<i>Cypha pulicaria</i>	1
<i>Dadobia immersa</i>	29
<i>Dinaraea aequata</i>	18
<i>Dinaraea arcana</i>	6

<i>Dinaraea linearis</i>	2
<i>Euplectus brunneus</i>	1
<i>Euplectus decipiens</i>	2
<i>Euplectus karsteni</i>	15
<i>Euplectus nanus</i>	7
<i>Euplectus piceus</i>	8
<i>Euplectus punctatus</i>	28
<i>Euryusa castanoptera</i>	11
<i>Gyrophana angustata</i>	1
<i>Gyrophana boleti</i>	20
<i>Gyrophana congrua</i>	1
<i>Gyrophana joyioides</i>	4
<i>Gyrophana minima</i>	7
<i>Gyrophana polita</i>	17
<i>Gyrophana strictula</i>	2
<i>Hapalaraea pygmaea</i>	8
<i>Holobus apicatus</i>	3
<i>Homalota plana</i>	11
<i>Ischnoglossa obscura</i>	1
<i>Leptusa fumida</i>	2
<i>Leptusa norvegica</i>	1
<i>Leptusa pulchella</i>	131
<i>Microscydmus minimus</i>	4
<i>Neuraphes carinatus</i>	1
<i>Neuraphes plicicollis</i>	1
<i>Nudobius lentus</i>	128

<i>Oxyporus maxillosus</i>	4
<i>Phloeonomus punctipennis</i>	137
<i>Phloeonomus pusillus</i>	202
<i>Phloeopora corticalis</i>	56
<i>Phloeopora testacea</i>	1
<i>Phloeostiba lapponicus</i>	1
<i>Phloeostiba planus</i>	310
<i>Phyllodrepa linearis</i>	2
<i>Placusa atrata</i>	37
<i>Placusa complanata</i>	9
<i>Placusa depressa</i>	22
<i>Placusa incompleta</i>	140
<i>Placusa pumilio</i>	16
<i>Placusa tachyporoides</i>	2290
<i>Plectophloeus erichsoni</i>	7
<i>Plectophloeus fischeri</i>	266
<i>Plectophloeus fleischeri</i>	1
<i>Quedius maurus</i>	5
<i>Quedius plagiatus</i>	62
<i>Quedius xanthopus</i>	78
<i>Scaphidium</i> <i>quadrimaculatum</i>	24
<i>Scaphisoma agaricinum</i>	117
<i>Scaphisoma obenbergeri</i>	2
<i>Stenichnus bicolor</i>	11
<i>Tyrus mucronatus</i>	11

<i>Xylostiba monilicornis</i>	3
Tenebrionidae	243
<i>Bolitophagus reticulatus</i>	206
<i>Corticeus linearis</i>	11
<i>Corticeus unicolor</i>	25
<i>Scaphidema metallicum</i>	1
Tetratomidae	42
<i>Hallomenus axillaris</i>	1
<i>Hallomenus binotatus</i>	10
<i>Tetratoma ancora</i>	31
Trogossitidae	82
<i>Nemosoma elongatum</i>	17
<i>Thymalus limbatus</i>	65
Zopheridae	297
<i>Bitoma crenata</i>	282
<i>Syncchita humeralis</i>	15
Total	63254

Table S3.2 List of captured obligate and facultative saproxylic Heteroptera species

Obligate saproxylics	No. of ind.	Facultative saproxylics	No. of individuals
Anthocoridae	65	Acanthosomatidae	5
<i>Xylocoris cursitans</i>	65	<i>Elasmucha grisea</i>	5
Aradidae	243	Anthocoridae	114
<i>Aradus betulae</i>	6	<i>Acomporis alpinus</i>	2
<i>Aradus betulinus</i>	17	<i>Anthocoris confusus</i>	20
<i>Aradus corticalis</i>	17	<i>Anthocoris nemorum</i>	28
<i>Aradus depressus</i>	24	<i>Orius minutus</i>	32
<i>Aradus obtectus</i>	179	<i>Temnostethus gracilis</i>	13
Total	308	<i>Xylocoris galactinus</i>	19
		Microphysidae	6
		<i>Loricula elegantula</i>	4
		<i>Loricula exilis</i>	2
		Miridae	302
		<i>Atractotomus magnicornis</i>	13
		<i>Blepharidopterus angulatus</i>	5
		<i>Capsus wagneri</i>	97
		<i>Pachytomella parallela</i>	12
		<i>Phytocoris longipennis</i>	3
		<i>Psallus varians</i>	93
		<i>Stenodema holsata</i>	79
		Pentatomidae	379
		<i>Neottiglossa pusilla</i>	35
		<i>Pentatoma rufipes</i>	275

<i>Troilus luridus</i>	28
<i>Zicrona caerulea</i>	41
Tingidae	393
<i>Tingis pilosa</i>	393
Total	1199

Table S3.3 List of captured obligate and facultative saproxylic Arachnida species

Obligate saproxylics	No. of individuals	Facultative saproxylics	No. of individuals
Agelenidae	1749	Agelenidae	9
<i>Histopona torpida</i>	622	<i>Malthonica silvestris</i>	9
<i>Inermocoelotes inermis</i>	1127	Araneidae	4
Amaurobiidae	3648	<i>Aculepeira ceropegia</i>	1
<i>Amaurobius fenestralis</i>	106	<i>Gibbaranea omoeda</i>	3
<i>Callobius claustrarius</i>	1390	Clubionidae	67
<i>Coelotes terrestris</i>	2152	<i>Clubiona comta</i>	6
Clubionidae	30	<i>Clubiona lutescens</i>	1
<i>Clubiona caeruleascens</i>	23	<i>Clubiona pallidula</i>	9
<i>Clubiona terrestris</i>	7	<i>Clubiona reclusa</i>	50
Gnaphosidae	1287	<i>Clubiona trivialis</i>	1
<i>Gnaphosa badia</i>	485	Corinnidae	17
<i>Gnaphosa montana</i>	156	<i>Phrurolithus festivus</i>	17
<i>Haplodrassus signifer</i>	646	Cybaeidae	174
Hahniidae	85	<i>Cybaeus angustiarum</i>	174
<i>Cryphoeca silvicola</i>	85	Dictynidae	50
Linyphiidae	1374	<i>Cicurina cicur</i>	31
<i>Agyreta affinis</i>	208	<i>Dictyna pusilla</i>	1
<i>Centromerus sellarius</i>	84	<i>Lathys humilis</i>	18
<i>Dicymbium tibiale</i>	13	Dysderidae	787
<i>Diplocephalus latifrons</i>	45	<i>Harpactea lepida</i>	787
<i>Labulla thoracica</i>	2	Gnaphosidae	303
<i>Mecopistes silus</i>	3	<i>Drassodes pubescens</i>	4

<i>Micrargus georgescuae</i>	3	<i>Micaria aenea</i>	6
<i>Micrargus herbigradus</i>	40	<i>Micaria pulicaria</i>	61
<i>Nerienne radiata</i>	4	<i>Zelotes clivicola</i>	229
<i>Nusoncus nasutus</i>	72	<i>Zelotes subterraneus</i>	3
<i>Tenuiphantes tenebricola</i>	779	Hahniidae	2
<i>Walckenaeria cucullata</i>	121	<i>Hahnia difficilis</i>	2
Lycosidae	2959	Linyphiidae	2043
<i>Acantholycosa lignaria</i>	1676	<i>Agyneta cauta</i>	4
<i>Alopecosa taeniata</i>	225	<i>Agyneta conigera</i>	16
<i>Pardosa ferruginea</i>	372	<i>Agyneta ramosa</i>	1
<i>Pardosa sordidata</i>	309	<i>Agyneta rurestris</i>	31
<i>Xerolycosa nemoralis</i>	377	<i>Agyneta saxatilis</i>	55
Mimetidae	3	<i>Anguliphantes tripartitus</i>	1
<i>Ero furcata</i>	3	<i>Araeoncus humilis</i>	5
Philodromidae	10	<i>Asthenargus helveticus</i>	36
<i>Philodromus collinus</i>	10	<i>Asthenargus paganus</i>	49
Salticidae	4	<i>Asthenargus perforatus</i>	17
<i>Aelurillus v insignitus</i>	4	<i>Bathyphantes gracilis</i>	1
Theridiidae	6	<i>Centromerus pabulator</i>	20
<i>Robertus scoticus</i>	6	<i>Centromerus silvicola</i>	26
Total	11155	<i>Ceratinella brevis</i>	77
		<i>Cinetata gradata</i>	14
		<i>Cnephalocotes obscurus</i>	15
		<i>Diplocephalus picinus</i>	415
		<i>Diplostyla concolor</i>	59

<i>Dismodicus bifrons</i>	1
<i>Dismodicus elevatus</i>	17
<i>Drapetisca socialis</i>	11
<i>Entelecara congenera</i>	2
<i>Entelecara erythropus</i>	75
<i>Entelecara obscura</i>	1
<i>Erigone atra</i>	13
<i>Erigone dentipalpis</i>	7
<i>Erigonella hiemalis</i>	15
<i>Evansia merens</i>	1
<i>Gongylidiellum latebricola</i>	5
<i>Hypomma cornutum</i>	1
<i>Macrargus rufus</i>	154
<i>Maro lehtineni</i>	39
<i>Maro sublestus</i>	1
<i>Maso sundevalli</i>	4
<i>Mecopisthes silus</i>	6
<i>Mermessus trilobatus</i>	61
<i>Micrargus apertus</i>	4
<i>Microlinyphia pusilla</i>	4
<i>Microneta viaria</i>	89
<i>Minicia marginella</i>	32
<i>Minyriolus pusillus</i>	11
<i>Moebelia penicillata</i>	15

<i>Oedothorax apicatus</i>	2
<i>Pocadicnemis pumila</i>	56
<i>Porrhomma campbelli</i>	1
<i>Porrhomma microps</i>	3
<i>Porrhomma oblitum</i>	1
<i>Pseudocarorita thaleri</i>	1
<i>Saloca diceros</i>	242
<i>Tapinocyba affinis</i>	43
<i>Tenuiphantes alacris</i>	41
<i>Tenuiphantes mengei</i>	11
<i>Tenuiphantes zimmermanni</i>	34
<i>Thyreosthenius parasiticus</i>	66
<i>Tiso vagans</i>	2
<i>Trichoncyboides simoni</i>	11
<i>Walckenaeria atrotibialis</i>	90
<i>Walckenaeria cuspidata</i>	7
<i>Walckenaeria dysderoides</i>	4
<i>Walckenaeria mitrata</i>	17
Liocranidae	69
<i>Agroeca brunnea</i>	69
Lycosidae	7381
<i>Alopecosa pulverulenta</i>	166
<i>Pardosa amentata</i>	138
<i>Pardosa lugubris</i>	2893

Pardosa riparia 3629

Pirata uliginosus 2

Piratula hygrophila 75

Trochosa terricola 478

Nemastomatidae 29

Nemastoma triste 29

Phalangiidae 423

Mitopus morio 328

Oligolophus tridens 57

Platybunus bucephalus 38

Philodromidae 5

Philodromus albidus 1

Philodromus aureolus 2

Philodromus praedatus 1

Philodromus rufus 1

Pisauridae 20

Dolomedes fimbriatus 20

Salticidae 47

Euophrys frontalis 3

Evarcha falcata 10

Heliophanus cupreus 2

Heliophanus dampfi 5

Heliophanus dubius 6

Neon reticulatus 16

<i>Salticus cingulatus</i>	2
<i>Salticus scenicus</i>	1
<i>Sibianor aurocinctus</i>	1
<i>Synageles venator</i>	1
Sclerosomatidae	2
<i>Leiobunum rupestre</i>	2
Segestriidae	3
<i>Segestria senoculata</i>	3
Tetragnathidae	85
<i>Metellina mengei</i>	3
<i>Metellina merianae</i>	1
<i>Pachygnatha clercki</i>	2
<i>Pachygnatha listeri</i>	79
Theridiidae	44
<i>Enoplognatha ovata</i>	4
<i>Episinus truncatus</i>	1
<i>Neotiura bimaculata</i>	1
<i>Paidiscura pallens</i>	3
<i>Philloneta sisyphia</i>	1
<i>Robertus lividus</i>	27
<i>Theonoe minutissima</i>	1
<i>Theridion mystaceum</i>	1
<i>Theridion pinastri</i>	4
<i>Theridion varians</i>	1

Thomisidae	55
<i>Diaea dorsata</i>	26
<i>Xysticus audax</i>	17
<i>Xysticus cristatus</i>	11
<i>Xysticus lanio</i>	1
Total	11619

S4 Summary tables of basic data information for the species richness estimation for the taxa Coleoptera, Heteroptera, Arachnida

Table S4 Basic data information for the species richness estimation for the taxa Coleoptera, Heteroptera and Arachnida. T = number of plots, U = overall number of species incidences within locality (i.e. the sum of incidences of individual species), SC = sample coverage estimate, S.obs= observed number of species, Q1 =Uniques, Q2=Duplicates.

Taxonomic order	Group	T	U	SC	S.obs	Q1	Q2
Coleoptera	Obligate saproxylic	60	5674	0.986	417	82	31
	Facultative saproxylic	60	962	0.903	209	94	30
	Total number of species	60	12742	0.968	1300	413	143
Heteroptera	Obligate saproxylic	37	88	1.000	6	0	0
	Facultative saproxylic	31	47	0.750	21	12	4
	Total number of species	60	1060	0.970	136	32	19
Arachnida	Obligate saproxylic	60	796	1.000	32	0	2
	Facultative saproxylic	60	605	0.917	127	51	20
	Total number of species	60	2348	0.976	215	57	26

S5 Species richness estimates for the taxa Coleoptera, Heteroptera, Arachnida

Table S5 Species richness of Coleoptera: Observed value and estimated species richness values (estimate, lower and upper confidence level) extrapolated to a common sample coverage of 100%. Calculations were performed using the ICE estimator (incidence-based coverage estimator) implemented in the function iNEXT from the R package iNEXT in R3.6.3.

	Obs	Extrapolated to 85% sample coverage			Extrapolated to 90% sample coverage			Extrapolated to 100% sample coverage		
		Est.	LCL	UCL	Est.	LCL	UCL	Est.	LCL	UCL
Coleoptera										
Total	1300	654	645	663	787	775	798	1886	1750	2064
Obligate	417	237	233	241	261	257	266	524	477	607
Facultative	209	154	145	163	204	190	218	354	292	461
Heteroptera										
Total	204	83	79	86	96	92	100	162	147	199
Obligate	7	5	4	5	5	5	6	6	6	6
Facultative	21	28	19	36	31	20	43	38	25	90
Arachnida										
Total	215	110	107	113	130	126	134	276	246	335
Obligate	32	21	20	22	23	22	23	32	32	34
Facultative	127	90	84	97	115	105	125	191	158	258

S6 Sample completeness curves

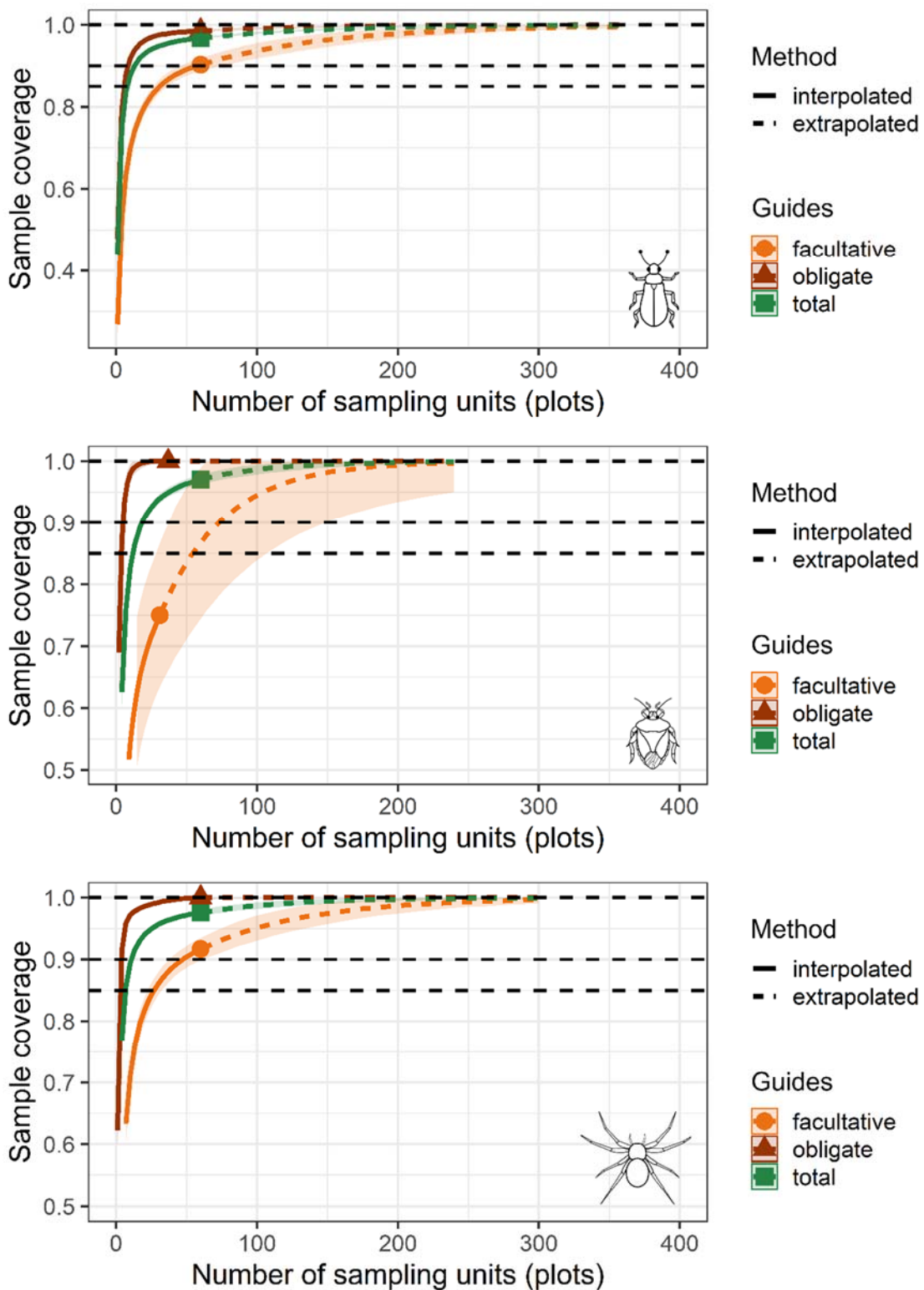


Figure S6 Sample completeness curves for Coleoptera, Heteroptera and Arachnida. Rarefied (solid lines) and extrapolated (dashed lines) sample coverage with 95% confidence intervals (shaded area) based on 50 bootstrap replications. Observed sample coverage is denoted by solid symbols. Comparison of sample completeness among groups, each comprising the total number

of species, obligate saproxylic species and facultative saproxylic species, respectively. The 100% sample coverage for facultative Coleoptera, Heteroptera and Arachnida was achieved by six-, four- and five-folding of the sample size, respectively. Dashed horizontal lines highlight estimated values at a sample coverage of 85%, 90% and 100%, respectively.