

Faunistic records of Carabidae and Staphylinidae (Coleoptera) caught by pitfall trapping in western Finnish Lapland

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New faunistic records are given based on a total collection of 41 601 Coleoptera, of which 6 364 are Carabidae and 30 414 Staphylinidae. They were collected mostly by pitfall trapping in different forest and mire habitats in western Finnish Lapland. A total of 52 carabid and 186 staphylinid species are reported. Of these, 6 (11 %) and 49 (26 %) species, respectively, were new for the province Lapponia kemensis occidentalis (LkW). *Microdota wireni* Brundin is reported as new for Finland. Notes on the occurrence and biology of the following species are given: *Platynus (Agonum) mannerheimii*, *Harpalus nigratarsis*, *Philonthus lederi*, *Lesteva monticola*, *Oxyptoda operta*, *Mocysta (Atheta) amblystegii*, *Lomechusa pubicollis* and *Myllaena hyperborea*.

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1. Introduction

The western part of the biogeographical province Lapponia kemensis (Lk, KemL) is faunistically a poorly known area in Finland as regards the Coleoptera (Raatikainen & Iivarinen 1984). The few publications dealing with beetles from the province or adjacent areas include Kittilä and the Pallastunturi area (Saalas 1917, 1923), the Pallastunturi area (Renkonen 1938), Pisavaara in northern Ostrobothnia (ObN) (Lindberg & Saris 1952), and the Pallas-Ounastunturi area (Wegelius 1960).

I have collected large numbers of Coleoptera from western Finnish Lapland in connection with a study on quantitative trapping methods from 1988 onward. This paper is the first summary of faunistic records and deals with Carabidae and

Staphylinidae collected mostly by pitfall trapping. Notes on the occurrence and biology of some rare and little known species are given.

2. Study area, material and methods

The study area lies in Kolari commune, western Finnish Lapland (about 67°30'N, 24°E). The material determined so far comprises 41 601 individuals of Coleoptera, of which 6 364 are Carabidae and 30 414 are Staphylinidae. The beetles were collected primarily by pitfall trapping in different forest and mire habitats during 1988–1991. Gutter pitfall traps were used in the mires. In addition to pitfall trapping, sifting was used as a sampling method at two sites and dry funneling at one site.

All the study sites fall within the UTM square FV1. The habitat types of the sites studied are grouped below. Names and Finnish abbreviations used for the forest site types follow Kalela (1961), and those of the mire site types Euroala et al. (1984).

- A) Dry pine forest, approaching *Cladina*-type (CIT).
- B) Mesic pine forests, *Empetrum-Myrtillus*-type (EMT).
- C) Mesic spruce forests, *Hylocomium-Myrtillus*-type (HMT).
- D) Moist spruce-birch forests, thin-peated herb-rich spruce mire (LhK) or drained birch fen (LK).
- E) Oligo-mesotrophic pine mires, site types ranging from *Carex globularis* pine mire (PSR) to true rich pine fen (VLR).
- F) Mesotrophic open mires and and birch mires, site types ranging from true tall-sedge fen (VSN) to mesotrophic flark fen (MeRiN) and true tall-sedge birch fen (VLK).
- G) eutrophic open mires, mostly rich flark fens (RiL).
- H) Meso-eutrophic pine and birch mires, mostly true rich pine fens (VLR) and rich birch fens (KoL) drained sixty years ago and becoming transformed into peatland forests.

The trapping periods, sampling effort and number of individuals caught in the different habitat types are given in Table 1. New provincial records are given as compared to Lindroth (1985, 1986) for carabids and Lindroth (1960) for staphylinids. The systematic arrangement and the nomenclature follow Silfverberg (1992).

3. Species found

A total of 52 carabid and 186 staphylinid species were found (Appendix). Of these 6 (11 %) and 49 (26 %) respectively were new to the province. *Microdota wireni* Brundin was new to Finland. The new species accounted for 2.6 % of the total number of carabid individuals caught and 4.4 % of the staphylinids. This means that a pitfall trap sample containing about forty carabid or twenty staphylinid individuals on average would have included a species new to the province.

4. Notes on occurrence and biology

Platynus (Agonum) mannerheimii (Dejean)

P. mannerheimii was trapped at three localities: Teuravuoma 1988 3 and 1989 12 ex., Munarimmit 3 ex. and Lahosaajo 5 ex. At Teuravuoma in 1989 the individuals were trapped during the following periods: 4 ex. 30 May – 20 June, 1 ex. 7–29 August and 7 ex. 29 August – 26 September. Other individuals were trapped at the end of May – June. The species was found in rather different habitats: at Teuravuoma several sites in a eutrophic pine-birch mire ditched about sixty years earlier, at Munarimmit in a tall-sedge birch fen, and at Lahosaajo in a *Carex globularis* spruce-pine mire.

Many recent finds of *P. mannerheimii* based on pitfall trapping (unpubl. data, Lindelöw 1990) indicate that *P. mannerheimii* is probably not an especially rare species in different kinds of swampy forests and not as strict a habitat specialist as concluded by Niemelä et al. (1987).

Harpalus nigratarsis Sahlberg

Only seven specimens of this species were previously known: the two syntypes from "Finnish

Table 1. Trapping periods, sampling effort in trap days and numbers of individuals caught in different habitat types (see the text).

Habitat type	Trapping period	Trap days	Individuals		
			Carab.	Staph.	Other
Pitfall trapping					
A	20.V–30.IX	1330	159	319	66
B	22.V–28.X	6580	130	603	636
C	18.V–11.X	7040	551	2076	925
D	17.V–28.X	16642	1380	19346	2114
E	28.V–8.X	2095	185	384	225
F	6.VI–25.IX	2214	129	280	107
G	1.VI–9.X	6454	2559	2131	269
H	30.V–2.X	7072	1211	3292	374
	Total	49427	6304	28431	4716
Sifting					
D	16.V–11.X		50	1548	86
Dry funneling					
C	8.VI–2.X		10	435	21
Total			6364	30414	4823

Lapland" collected before 1834, one specimen from "Swedish Lapland" collected in the 1850s, one male from Norrbotten, Northern Sweden, collected in 1977, and two males and one female from western Finnish Lapland (ObN, Tornio) collected in 1984 (Lundberg 1981, Muona 1988).

Five specimens of *H. nigratarsis* were found in a series of gutter pitfall traps at Lahosaajo. They were trapped during the following periods: 1♂ in 4–26 July 1990, 1♂ 1♀ in 13 June – 2 July 1991, 2♂♂ in 2–31 July 1991. All the specimens were caught in traps placed in a transition zone between a spruce dominated *Hylocomium-Myrtillus*-type forest and a pine mire. No individuals were found in traps placed in the forest or the mire. The transition zone with a shallow peat layer and poor-growing pines and spruces could best be classified as a *Carex globularis* spruce-pine mire. Thus, the habitat is similar to the *H. nigratarsis* habitat described by Muona (1988). Other carabid species trapped with *H. nigratarsis* are given in Table 2.

Philonthus lederi Eppelsheim

This northern taiga staphylinid species described from Siberia was discovered in northern Sweden in 1941 (Palm 1963), but it was not found in Finland until 1983 (Muona 1984). Since then it has been discovered in several locations in northeastern Finland (Ks, Kuusamo), always in

Table 2. Carabid species trapped together with *Harpalus nigratarsis* Sahlberg: Individuals in (A) same pitfall traps and trapping periods, (B) at same habitat and whole summer.

	A	B
<i>Carabus glabratus</i>	12	35
<i>C. violaceus</i>	1	1
<i>C. nitens</i>	6	7
<i>Notiophilus aquaticus</i>	7	15
<i>N. germinyi</i>	3	6
<i>Dyschirius nigricornis</i>	2	2
<i>Pterostichus oblongopunctatus</i>	–	1
<i>P. diligens</i>	–	4
<i>Calathus melanocephalus</i>	–	1
<i>C. micropterus</i>	–	26
<i>Amara brunnea</i>	4	7
<i>Harpalus nigratarsis</i>	5	5

fresh dung in *Empetrum-Myrtillus*- or *Hylocomium-Myrtillus*-type forests (Muona & Viramo 1986). According to Lundberg (1989) *P. lederi* is common on fresh moose droppings in old spruce forests at Blåkölen forest reserve, northern Sweden.

P. lederi is by far the most abundant large *Philonthus* species in the present pitfall material: 26 specimens have been caught at six different sites (*P. chaldeus* 4 individuals at 1 site, *P. puella* 3 individuals at 3 site). The habitats range from moist spruce dominated forests to a mesic pine dominated forest and a pine bog. Both Wegelius (1960) at Pallas and Lindberg and Saris (1952) at Pisavaara collected several *Philonthus* species from dung but did not find the conspicuous *P. lederi*. I believe that *P. lederi* has become more common during the last decade because of the considerable increase in moose populations in northern Finland (Nygrén 1987, 1990).

Lesteva monticola Kiesenwetter

One old find of this species is known from Finland (by Poppius in eastern Lapponia kemensis). In addition, two localities are known from Lapponia inarenensis (*Li*) (T. Clayhills, J. Muona, pers. comm.). Seventeen individuals were trapped at Ylläs fell, Varkaankuru. Most individuals were caught in a thin-peated herb-rich spruce mire (*LhK*) in wet moss around springs. Three individuals were caught in a true tall-sedge fen in wet moss along a brook. *L. monticola* seems to be a pronounced autumn species. The earliest two specimens were caught at the end of July but most individuals were caught during a trapping period between 19 September and 11 October.

Oxypoda operta Sjöberg

This species was described from Sweden as late as 1950 and it has been considered very rare. Palm (1972) knew of only 13 specimens from Sweden and 2 from Finland. According to Muona and Viramo (1986) *O. operta* is rare and only known from one locality at Kuusamo, northeastern Finland. In the present material *O. operta* seems to be a common species typical to moist mixed forests or forest mires: 77 specimens have been caught at six different sites.

Microdota wireni Brundin

This species is known from only three localities in Sweden: the type specimen from Värmland, hundreds of individuals in connection with a spring flood from Luleå (Lundberg 1971, 1972) and one individual from Blåkölen forest reserve, northern Sweden (Lundberg 1989). According to Lundberg the species probably lives subterraneously in vole burrows. One individual was caught in a gutter pitfall trap placed on a hummock ridge in the middle of an open rich flark fen at the end of September to beginning of October 1989. Burrows of the root vole, *Microtus oeconomus* (Pallas), were frequent in the hummocks.

Lomechusa pubicollis (Brisout de Barnevillei)

This species was previously known from a few southernmost provinces in Finland, but it was recently found in *ObN* (Muona 1988). The present find extends the known distribution still further north. Ten individuals of *L. pubicollis* were trapped in an old HMT spruce forest with large nests of *Formica* and nests of *Myrmica* occurring frequently in the moss covered trunks of spruces.

Myllaena hyperborea Strand and *Mocyta (Atheta) amblystegii* Brundin

Both species have been reported once before in Finland (Biström & Helve 1975). According to T. Clayhills (pers. comm.) *M. hyperborea* is rather common in alpine tall-sedge fens in *Li*. The species was trapped abundantly at Ylläs fell in a true tall-sedge fen both on wet *Sphagnum* and on the drier hummocks. One individual of *M. amblystegii* was found at the same place. A couple of finds have been made in *Li* (T. Clayhills, J. Muona, pers. comm.). Other interesting species caught in the same habitat include *Dyschirius nigricornis*, *Euryporus picipes* and *Gabrius sphagnicola*.

5. Conclusions

Faunistic data constitutes the basic source of information for studies on, for instance, immigra-

tion routes, courses of adaptation and faunal management (Refseth 1987). Quantitative surveys are needed on both a regional and local scale to provide basic data for identifying critical species, for estimating their abundances, and for assessing their habitat preferences (Niemelä et al. 1987).

The present material yields, besides the new provincial records, information about the state of our faunistic knowledge of beetles in western Finnish Lapland. The trapping sites cover the most important forest and mire site types in the study area and, in this respect, the results should be representative.

The high proportion of species new for the province show that the beetle fauna in *LkW* is still rather poorly known. Similar results in terms of unrecorded species were obtained by Raatikainen & Iivarinen (1984) who took sweep-net samples of beetles from hay fields in different parts of Finland. They found that 20 % of the species collected in Kittilä (*LkW*) were new for the province. In the present pitfall material, carabids and staphylinids pooled, 23 % of the species trapped were new for the province. However, the state of knowledge may vary considerably between families. The proportion of new species was over twice as high in staphylinids as in carabids.

Several species considered rare were found abundantly. This partly reflects the lack of beetle data collected by mass trapping methods, such as pitfall trapping, in many habitat types, e.g. in different types of mires (see Muona & Viramo 1986). Some species, for instance *Harpalus nigritarsis*, may be extremely difficult to detect by conventional collecting. Systematic and extensive surveys with different trapping methods are, indeed, needed to supplement our knowledge about distribution, habitat preferences and relative abundances of different species.

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Appendix. List of carabid and staphylinid species collected from western Lapponia kemensis (LkW). Localities of the finds (uniform grids, 1 = 746:35, 2 = 746:36, 3 = 747:36, 4 = 747:37, 5 = 750:38, 6 = 751:38), habitat types (see the text) and total number of individuals caught are given. Uncertain and possibly accidental habitat types (only 1–2 individuals caught) are given in parenthesis. Species new for the province LkW are indicated with an asterisk.

	Localities	Habitat types	Ind.
Trachypachidae			
<i>Trachypachus</i>			
<i>zetterstedti</i> (Gyllenhal)	3	(H)	1
Carabidae			
<i>Leistus terminatus</i> (Hellwig)	234	D(E)FGH	110
* <i>L. ferrugineus</i> (L.)	5	(D)	2
<i>Notiophilus aquaticus</i> (L.)	123456	ABCDE(F)GH	162
* <i>N. palustris</i> (Duftschmid)	234	(D)G(H)	6
<i>N. germinyi</i> Fauvel	123	ABCE(H)	80
<i>N. reitteri</i> Spaeth	235	DH	298
<i>N. biguttatus</i> (Fabricius)	123	BC(H)	13
<i>Loricera pilicornis</i> (Fabricius)	2345	D(E)FGH	454
<i>Carabus clathratus</i> L.	46	G	500
<i>C. glabratus</i> Paykull	123456	ABCDE(F)GH	183
<i>C. nitens</i> L.	234	AEGH	94
<i>C. violaceus</i> L.	2345	(BC)E	19
<i>Cychrus caraboides</i> (L.)	235	BDH	33
<i>Blethisa multipunctata</i> (L.)	46	G	201
<i>Elaehrus lapponicus</i> Gyllenhal	345	FG	401
* <i>E. uliginosus</i> Fabricius	4	G	47
<i>E. cupreus</i> Duftschmid	46	(E)G	5
<i>Dyschirius septentrionum</i> Munster	245	(DG)	4
<i>D. nigricornis</i> Motschulsky	235	E	13
<i>D. globosus</i> (Herbst)	23	(ADH)	4
<i>Miscodera arctica</i> (Paykull)	1345	AB(EFG)	32

Localities Habitat types Ind.			Localities Habitat types Ind.				
<i>Patrobus septentrionis</i> Dejean	2345	D(G)H	202	<i>Lathrobium zetterstedti</i> Rye	23	DH	132
<i>P. assimilis</i> Chaudoir	2345	CDFGH	372	<i>L. terminatum</i> Gravenhorst	2345	DEFGH	424
* <i>Trechus rivularis</i> (Gyllenhal)	234	(D)FGH	103	<i>L. rufipenne</i> Gyllenhal	34	(EG)	4
<i>T. rubens</i> (Fabricius)	23	(DH)	3	<i>L. fulvipenne</i> (Gravenhorst)	2	C(D)	6
<i>B. difficile</i> (Motschulsky)	3	(D)	2	<i>L. brunripes</i> (Fabricius)	23456	(C)DEFGH	334
<i>B. gratii</i> Gyllenhal	1235	(AB)CDH	69	<i>Ochtheophilum fracticorne</i> (Paykull)	23	E	10
<i>B. bruxellense</i> Wesmaël	3	(H)	1	* <i>Euastethus ruficapillus</i> Lacord.	4	(G)	1
* <i>B. saxatile</i> Gyllenhal	5	(D)	1	<i>E. laeviusculus</i> Mannerheim	4	G	7
<i>B. doris</i> (Panzer)	24	(DH)	3	<i>E. bipunctatus</i> (Ljungh)	4	G	6
<i>Pterostichus adstrictus</i> Eschsch.	123	(A)B(C)DH	35	<i>Stenus junco</i> (Paykull)	24	(DFG)	4
<i>P. oblongopunctatus</i> (Fabricius)	123	CD(E)H	142	<i>S. fasciculatus</i> J.Sahlberg	4	G	7
<i>P. rhaeticus</i> Heer	23456	EFGH	989	<i>S. proditor</i> Erichson	4	G	80
* <i>P. minor</i> (Gyllenhal)	4	G	8	<i>S. clavicornis</i> (Scopoli)	12	BC	76
<i>P. diligens</i> (Sturm)	23456	DEFGH	233	<i>S. melanarius</i> Stephens	34	G	79
<i>Calathus melanocephalus</i> (L.)	123	A(BDEH)	10	* <i>S. vinnulus</i> Casey	4	(F)G	12
<i>C. micropterus</i> (Duftschmied)	123456	ABCDE(FG)H	542	<i>S. carbonarius</i> Gyllenhal	235	DFH	291
<i>Platynus mannerheimii</i> (Dejean)	234	EFH	25	<i>S. scabriculus</i> J.Sahlberg	24	(D)G	29
<i>Agonum gracile</i> Sturm	34	(E)FG	10	<i>S. opticus</i> Gravenhorst	46	(E)G	24
<i>A. fuliginosum</i> (Panzer)	23456	(D)EFGH	357	<i>S. formicetorum</i> Mannerheim	4	G	5
<i>A. consimile</i> (Gyllenhal)	4	G	67	<i>S. binotatus</i> Ljungh	4	(FG)	3
<i>A. ericeti</i> (Panzer)	23456	E(F)G	51	<i>S. bifoveolatus</i> Gyllenhal	235	D(F)H	43
<i>Amara nigricornis</i> Thomson	234	(ABDGH)	5	<i>S. ludyi</i> Fauvel	2	(D)	2
<i>A. lunicollis</i> Schiödt	123	(CD)H	6	<i>S. palustris</i> Erichson	12345	BD(FH)	60
<i>A. brunnea</i> (Gyllenhal)	1235	(AB)CDE(FG)H	402	<i>S. flavipalpis</i> Thomson	235	D(H)	51
<i>A. torrida</i> (Panzer)	4	(G)	1	* <i>Megarthus nigrinus</i> J.Sahlberg	12	(C)D	15
<i>Harpalus nigrirarsis</i> Sahlberg	2	E	5	<i>M. sinuatocollis</i> (Lacordaire)	1235	(C)D(H)	78
<i>Trichocellus cognatus</i> (Gyllenhal)	3	A	36	* <i>Proteinus brachypterus</i> (Fabricius)	23	(C)D	15
<i>Bradycellus caucasicus</i> (Chaudoir)	3	A	3	* <i>P. hyperboreus</i> Muona	235	D	6
<i>Dromius agilis</i> (Fabricius)	235	D(E)	5	* <i>P. macropterus</i> (Gravenhorst)	2	(D)	1
<i>Cymindis vaporarium</i> (L.)	3	AE	14	<i>Eusphalerum sorbicola</i> (Y. Kangas)	3	(E)	1
Staphylinidae				* <i>Omalium rivulare</i> (Paykull)	235	D	6
<i>Gabrius subnigriritulus</i> Joy	234	(B)GH	14	<i>O. septentrionis</i> Thomson	2	(D)	2
* <i>G. sphagnicola</i> (Sjöberg)	2356	E	11	<i>O. strigicolle</i> Wankowicz	235	(B)C(DE)	62
<i>G. expectatus</i> Smetana	2	D	4	<i>Mannerheimia arctica</i> (Erichson)	235	D	632
<i>G. trossulus</i> (Nordman)	2345	(C)DFGH	93	<i>Deliphium tectum</i> (Paykull)	12345	ABCD(EG)H	626
<i>Philonthus corvinus</i> Erichson	4	G	8	<i>Olophrum fuscum</i> (Gravenhorst)	23	DH	373
<i>P. scoticus</i> Joy & Tomlin	235	DH	141	<i>O. boreale</i> (Paykull)	23456	D(EFH)	385
* <i>P. puella</i> Nordman	23	(DE)	3	<i>O. consimile</i> (Gyllenhal)	123456	(B)CDEFGH	565
<i>P. succicola</i> Thomson	2	D	4	<i>O. rotundicolle</i> (Sahlberg)	23456	EFGH	499
<i>P. nigriventris</i> Thomson	3	(A)	2	<i>Arpedium quadrum</i> (Gravenhorst)	235	CDEH	690
* <i>P. lederi</i> Eppelsheim	235	(B)D(EH)	27	<i>Eucnecosum tenue</i> (LeConte)	2345	DFGH	394
<i>P. nigrita</i> (Gravenhorst)	345	(EF)G	13	<i>E. brachypterus</i> (Gravenhorst)	12345	(A)BCDEFGH	411
* <i>Platydracus fulvipes</i> (Scopoli)	3	(E)	2	<i>E. brunnescens</i> (J.Sahlberg)	123456	(B)CDEFGH	844
<i>Staphylinus erythropterus</i> L.	2346	EG	45	<i>A. crenata</i> (Fabricius)	123456	ABCDEFGH	246
* <i>Euryporus picipes</i> (Paykull)	5	(F)	1	<i>A. quadrata</i> (Zetterstedt)	12345	BCD(EG)H	344
<i>Quedius brevis</i> Erichson	3	(D)	1	* <i>Lesteva monticola</i> Kiesenwetter	5	D	19
* <i>Q. tenellus</i> (Gravenhorst)	1235	D(CH)	13	<i>Psephidonus plagiatus</i> (Fabricius)	2	(E)	1
<i>Q. plagiatus</i> (Mannerheim)	23	(D)	2	<i>Anthrophagus alpinus</i> (Paykull)	5	D	13
* <i>Q. fuliginosus</i> (Gravenhorst)	34	(DG)H	13	<i>A. omalinus</i> Zetterstedt	235	(AB)CDH	109
* <i>Q. subunicolor</i> Korge	34	(D)FG	17	<i>A. caraboides</i> (L.)	234	DGH	33
<i>Q. molochinus</i> (Gravenhorst)	123456	ABCDEFGH	246	* <i>Coryphium angusticolle</i> Stephens	23	AC(D)H	20
<i>Q. fulvicollis</i> (Stephens)	12345	B(CE)DGH	828	<i>Boreaphilus</i>			
<i>Q. boopoides</i> Munster	2345	(C)DEFG	119	<i>henningianus</i> Sahlberg	12345	(A)CD(E)FGH	1016
<i>Q. boops</i> (Gravenhorst)	23	A(CE)	35	* <i>Syntomium aeneum</i> Müller	5	D	3
<i>Othius lapidicola</i> Kiesenwetter	1235	(B)CDH	88	* <i>Oxytelus fulvipes</i> Erichson	3	(H)	2
				<i>O. laqueatus</i> (Marsham)	123	(C)D(H)	10

Localities Habitat types Ind.				Localities Habitat types Ind.			
<i>Mycetoporus mulsanti</i> Ganglbauer	235	DH	65	<i>Philhygra arctica</i> (Thomson)	2345	(C)D(F)GH	92
* <i>M. altaicus</i> Luze	23	(CDH)	4	* <i>P. hygrobica</i> (Thomson)	23	(DH)	2
<i>M. monticola</i> Fowler	235	CD(EFH)	19	<i>P. fallaciosa</i> (Sharp)	4	(G)	2
<i>M. lepidus</i> (Gravenhorst)	123456	ABCDE(F)GH	183	* <i>Microdota palleola</i> (Erichson)	2	(D)	2
<i>M. inaris</i> Luze	234	(CDEGH)	6	* <i>M. wireni</i> Brundin	4	(G)	1
* <i>M. maeklini</i> Bernhauer	3	(A)	1	<i>M. subtilis</i> (Scriba)	123	(B)CD(H)	81
<i>M. clavicornis</i> (Stephens)	3	(E)	2	* <i>M. boreella</i> Brundin	6	(E)	2
<i>M. niger</i> Fairmaire & Laboulbène	235	(C)DH	26	<i>Xenota myrmecobia</i> (Kraatz)	235	(C)D	59
<i>M. nigrans</i> Mäklin	235	C(DE)	18	<i>Mocyta fungi</i> (Gravenhorst)	235	(B)CD(F)H	148
<i>M. punctus</i> (Gravenhorst)	1	(C)	1	* <i>M. amblystegii</i> Brundin	5	(F)	1
* <i>Ichnosoma bergrothi</i> Hellén	2	(D)	1	<i>Megacrotona lateralis</i> (Mannerh.)	1235	(B)CD(F)H	4058
<i>M. longicorne</i> Mäklin	1234	BCD(EG)H	212	<i>Alaobia sodalis</i> (Erichson)	23	D(H)	38
<i>M. splendidum</i> (Gravenhorst)	123456	ABCDEFGH	497	* <i>A. gagatina</i> (Baudi)	2	(C)	2
<i>Bryoporus cernuus</i> (Gravenhorst)	345	FG(H)	21	<i>A. sparreschneideri</i> Munster	23	(D)	2
<i>B. punctipennis</i> Thomson	235	CD(E)	28	<i>Notothecta flavipes</i> (Gravenhorst)	2	D	5
<i>B. rugipennis</i> (Pandelle)	2356	DE(H)	9	* <i>Boreophilina eremita</i> (Rye)	25	DH	52
<i>Lordithon thoracicus</i> (Fabricius)	2345	(B)CD(G)H	28	<i>Dimetrota cinnamoptera</i> (Thomson)	23	(D)	2
<i>Bolitobius cingulatus</i> Mannerheim	1234	(A)B(C)D(EG)H	40	<i>D. aeneipennis</i> (Thomson)	12345	ABCDEF(G)H	713
* <i>B. castaneus</i> (Stephens)	12	(BC)	2	<i>D. parapicipennis</i> Brundin	12	(BD)	2
<i>Sepedophilus littoreus</i> (L.)	2	(D)	1	<i>D. lapponica</i> J.Sahlberg	123	ABCDH	147
<i>Tachyporus obscurellus</i> Zetterst.	1234	BCDE(G)H	76	<i>Atheta atramentaria</i> (Gyllenhal)	3	(D)	2
<i>T. abdominalis</i> (Fabricius)	2	D	64	<i>A. hypnorum</i> (Kiesenwetter)	12345	(ABC)D(G)H	114
<i>T. transversalis</i> Gravenhorst	23456	(D)EFGH	36	<i>A. laevicauda</i> J.Sahlberg	235	CDH	37
<i>T. pulchellus</i> Mannerheim	3	(H)	1	<i>A. brunneipennis</i> (Thomson)	1235	BCDH	437
<i>Tachinus rufipes</i> (L.)	235	D(F)H	316	<i>A. graminicola</i> (Gravenhorst)	23	(DH)	2
<i>T. pallipes</i> (Gravenhorst)	1235	BCD(E)H	502	* <i>A. procera</i> (Kraatz)	35	D(H)	5
* <i>T. proximus</i> Kraatz	1235	BD	30	* <i>A. allocera</i> Eppelsheim	235	D	11
<i>T. atripes</i> J.Sahlberg	12	(C)	2	<i>A. diversa</i> (Sharp)	1235	B(C)D(H)	59
<i>T. corticinus</i> Gravenhorst	2	(D)	1	* <i>A. strandiella</i> Brundin	23	(DE)	2
<i>T. laticollis</i> Gravenhorst	235	D(FH)	119	<i>A. pilicornis</i> (Thomson)	123	(BC)DH	15
<i>T. marginellus</i> (Fabricius)	34	D(G)H	20	<i>A. crassicornis</i> (Fabricius)	2	(BCD)	7
<i>T. elongatus</i> Gyllenhal	123456	ABCDEFG	445	<i>A. euryptera</i> (Stephens)	2	CD	7
<i>Aleochara brevipennis</i> Gravenh.	2345	D(F)GH	83	* <i>Bessobia excellens</i> (Kraatz)	25	(BD)	3
<i>A. moerens</i> Gyllenhal	1234	ABCDEFGH	101	<i>Anopleta depressicollis</i> (Fauvel)	2	(CD)	4
<i>Oxypoda lugubris</i> Kraatz	235	DH	527	* <i>Dinaraea angustula</i> (Gyllenhal)	4	(G)	3
<i>O. procerata</i> Mann.	23456	(A)CDEFGH	185	<i>D. aequata</i> (Erichson)	235	B(C)DH	23
* <i>O. aperta</i> Sjöberg	235	DH	77	<i>D. arcana</i> (Erichson)	2	(D)	1
* <i>O. spectabilis</i> Märkel	2345	CD(G)H	28	* <i>Amischa bifoveolata</i> (Mannerheim)	23	(AD)	2
<i>O. funebris</i> Kraatz	2345	D(E)FGH	147	<i>Drusilla canaliculata</i> (Fabricius)	123456	ABCDEFGH	446
<i>O. skalitzkyi</i> Bernhauer	1235	(B)CDH	140	<i>Zyras collaris</i> (Paykull)	4	(G)	2
<i>O. umbrata</i> (Gyllenhal)	2356	D(E)H	120	<i>Zyras humeralis</i> (Gravenhorst)	12345	BCDE(F)GH	5639
<i>O. islandica</i> Kraatz	3	A	50	* <i>Lomechusoides wellenii</i> (Palm)	24	(E)	2
<i>O. annularis</i> (Mannerheim)	2345	CD(EG)H	354	* <i>Lomechusa</i>			
* <i>Acrostiba borealis</i> Thomson	23	(C)D	7	<i>pubicollis</i> (Brisont de Barneville)	2	C	10
<i>Ocyusa maura</i> (Erichson)	34	(FH)	2	* <i>Encephalus complicans</i> Kirby	2	(D)	2
* <i>Calodera riparia</i> (Erichson)	4	G	3	<i>Bolitochara pulchra</i> (Gravenh.)	12345	ABCD(E)GH	90
<i>Parocysa rubicunda</i> (Erichson)	2	(CD)	2	<i>Leptusa pulchella</i> (Mannerheim)	235	(C)D(H)	15
<i>Mniusa grandiceps</i> (J.Sahlberg)	25	CD	31	<i>Gymnusa brevicollis</i> (Paykull)	345	FGH	44
* <i>M. incrassata</i> (Mulsant & Rey)	235	(C)DH	25	<i>G. variegata</i> Kiesenwetter	24	D(F)	25
<i>Dinarda dentata</i> (Gravenhorst)	3	(A)	2	<i>Deinopsis erosa</i> (Stephens)	4	(G)	3
* <i>Liogluta granigera</i> (Kiesenwetter)	23	DH	313	<i>Myllaena dubia</i> (Gravenhorst)	4	G	7
<i>L. micans</i> (Mulsant & Rey)	12345	BCDE(G)H	1611	<i>M. intermedia</i> Erichson	4	(G)	2
* <i>L. alpestris</i> (Heer)	5	D	522	* <i>M. kraatzi</i> Sharp	6	(E)	2
<i>Geostiba circellaris</i> (Gravenhorst)	23	(ADE)	4	* <i>M. hyperborea</i> Strand	5	EF	21