

THE GROUND BEETLES (COLEOPTERA: CARABIDAE) OF THE BULGARIAN BLACK SEA COAST

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Abstract

TEOFILOVA, T., E. MARKOVA and N. KODZHABASHEV, 2012. The ground beetles (Coleoptera: Carabidae) of the Bulgarian Black Sea coast. *Bulg. J. Agric. Sci.*, 18: 370-386

The publication represents the first complete overview of the established in the area of the Bulgarian Black Sea coast species from the Carabidae family. Full checklist of the all 465 species is given. Species of ground beetles are characterized and classified by their zoogeographical belonging, degree of endemism, habitat preferences, and life form they refer to Carabid's subsuming to the subdivisions Northern or Southern Black Sea coast is pointed.

Key words: Carabidae, ground beetles, Black Sea coast

Introduction

Combination of various environmental factors contributed to the definition of the Black Sea coast as a detached zoogeographical region (Gruev and Kuzmanov, 1994) and in terms of wildlife, it could be claimed that ground beetles are convenient and expedient group for monitoring and bioindication researches (Desender and Baert, 1995; Luff, 1996; Cranston and Trueman, 1997; Pearsall, 2007).

Studies on the carabid fauna of the Bulgarian Black Sea coast began at the end of the 19th century and continued until our days. This period might be divided into three main stages depending on the significance, volume and nature of the scientific researches. Preliminary information had mainly descriptive faunistic nature and included the period up to 1930. The first summarized data for the group of ground beetles was discovered in the detailed catalogue of Apfelbeck (1904), where as

occurring in the area of the Bulgarian Black Sea coast 98 species were described, and for 5 more it was considered that they would probably be found there. Data for the species of the researched zoogeographical region was found also in the revision of Rambousek (1912).

The second period of studies included the time until around 1950 and was characterized by more intensive and detailed faunistic researches. Data from this period had mostly faunistic nature and related primarily to the region of the Northern Black Sea coast (Kantardzhieva, 1928; Buresh and Kantardzhieva, 1928; Müller, 1929; Panin, 1941; Drensky, 1942;). Some biocoenotic studies on the coastal arthropods were carried out by Caspers (1951). Hallobiont carabid fauna of the Black Sea coast was examined by Lutshnik (1934) and Karnoschitzky (1950; 1954).

The third period in the studies of the group of Carabidae continues until our days. It is associated with summarizing and analyzing of the collected informa-

tion and with supplementation of the faunistic gaps. Muche (1963; 1965) made an investigation of the carabid fauna of the Southern Bulgarian Black Sea coast, and Palm (1966) published results from his coleopterologic expedition along the Black Sea coast of Bulgaria. During this period, the foundations of the expanded ecological studies were laid. Their main objectives are an inventory of the groupings of ground beetles, and determination of the main significant gradients of the environment, towards their guilds and ensembles are allocated. Generalized faunistic data was brought in the catalogue of Hieke and Wrase (1988). According to the authors in the area of study occurred 373 species (from 628 species for whole Bulgaria). Guéorguiev and Guéorguiev (1995) made a complete inventory of the Bulgarian carabid fauna. Totally, for Bulgaria they described 754 species, of which over 400 were encountered in the area of the Black Sea coast of Bulgaria. Kodzhabashev and Penev (1998; 2006) and Popov and Krusteva (1999) also made researches in the area. At the end of the 20th century, Kryzhanovskij (unpublished data) made detailed systematic tables with descriptions of the Bulgarian representatives of the family Carabidae, but unfortunately, his work at this point remains unpublished.

The aims of the present publication are to summarize the data about the carabid fauna in the zoogeographical region of the Bulgarian Black Sea coast, and to classify the species according to their zoogeographical belonging, life form and habitat preferendum. The systematic list follows Kryzhanovskij et al. (1995).

Material and Methods

An overview of the literary data about species composition of the carabid fauna in zoogeographical region of the Bulgarian Black Sea coast was made. Ground beetle species were presented in tabular form as Appendix. Information was given about the zoogeographical belonging, life form, habitat preference, and literary sources, giving information about the presence of the species in the area. Presence in subdivisions of Northern and Southern Black Sea coast was pointed. Degree of endemism was shown about the species with restricted distribution.

According to their zoogeographical belonging, species were separated in zoogeographical categories and faunal types (Vigna Taglianti, 1995; Casale, Vigna Taglianti, 1999; Vigna Taglianti et al., 1999). In order to obtain more informative and adequate results, some changes in the classification were made (Kodzhabashev and Penev, 2006).

Categorization of the species in respect of their life forms was made according to the classification of Sharova (1981).

For all carabids most favourable and typical habitats were pointed and species were divided into groups according to their habitat preferences.

Results and Discussion

Species diversity and taxonomic structure

On the basis of the collected literary data, for the area of the Bulgarian Black Sea coast 465 species of ground beetles were established (see Appendix). They belonged to 95 genera and 33 tribes. That represented respectively 62% of the species, 82% of the genera and 89% of the tribes of ground beetles occurring in Bulgaria (Guéorguiev and Guéorguiev, 1995).

There was some divergence between the data about the number of species found in the initial investigation of the carabid fauna of the area (Teofilova et al., 2011) and presented here, which was due to some adjustments in the taxonomical list. It was imposed the exclusion of *Ditomus tricuspидatus*, since the specimens pointed as its representatives (Guéorguiev and Guéorguiev, 1995, p. 208) in fact proved to be incorrectly determined and belonged to *D. calydonius* (Guéorguiev and Lobo, 2006). In addition, it was imposed the inclusion of four additional species to the applications list, since their presence in the area was established later.

Taxonomic structure (Figure 1) showed the highest participation of the representatives of the tribes Harpalini (134 species) and Bembidiini (54 species). Relatively high was the species richness of the tribes Amarini and Lebiini (32 species each), Pterostichini (29 species), Platynini (21 species), Carabini (20 species), Dyschiriini (17 species), Brachinini (15 species), Sphodrini (14 species), Callistini (13 species), Pogoniini (12 species) and Cicindelini (11 species). The total species richness of all those 13 tribes encompassed 404

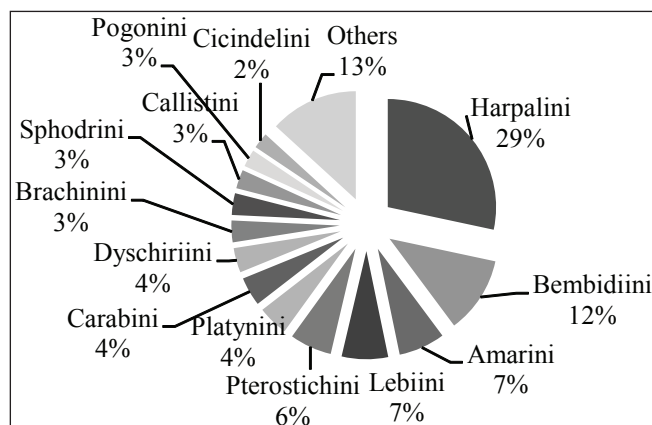


Fig. 1. Taxonomic structure of the ground beetle fauna of the Bulgarian Black Sea coast

species, which represented the majority of the coastal fauna (87%).

Similar results were obtained by Popov and Krusteva (1999) and Kodzhabashev and Penev (2006), who found a markedly increased species richness of the tribe Harpalini; according to them, the higher richness of Harpalini is due to the prevalence of open habitats.

Zoogeographical peculiarities

Of the 465 species, 224 occurred in the two subregions of the Black Sea coast zoogeographical region – Northern and Southern. There were, however, species, which were typical for one or another sub region. That demonstrated the reasonable subdivision of the coast at Cape Emine. For the subregion of Northern Black Sea coast 42 (+ 3, see lower) species were characteristic, and in the subregion of Southern Black Sea coast 144 (+ 31, see lower) species were found. In the subregion of the Southern Black Sea coast was met the Bulgarian endemic *Pterostichus (Pterostichus) merkli*.

Peculiarity was that 55 species, known from the territory of Bulgaria, were not established anywhere else except in the area of the coast. Of these, 3 species occurred only in the Northern, 31 – only in the Southern Black Sea coast, and 21 were found in both subregions and in no other zoogeographical region in Bulgaria (Figure 2).

The carabid species belonged to 27 zoogeographical categories or chorotypes, grouped in 4 major “faunal types”, consisting of species of presumably similar geographical origin.

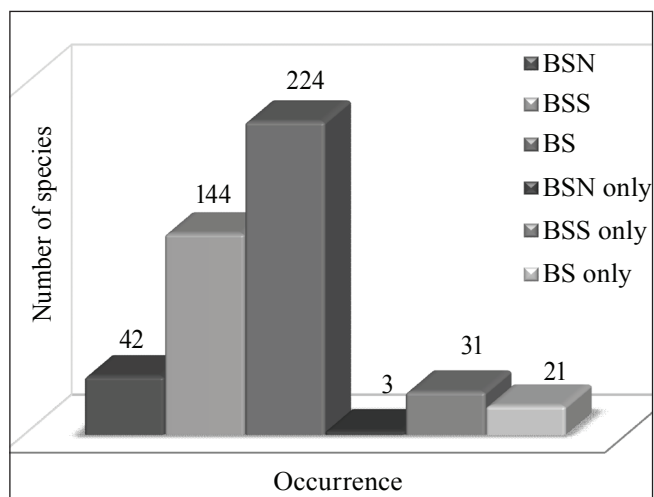


Fig. 2. Occurrence of the ground beetle fauna of the Bulgarian Black Sea coast (BSN – Northern Black Sea coast, BSS – Southern Black Sea coast, BS –Black Sea coast)

The Northern Holarctic and Euro-Siberian faunal type consisted of 103 species (22%), distributed mainly in the northern regions of the Holarctic, mostly in Europe and Siberia. The European faunal type was characteristic for species connected to the middle and southern part of Europe. It included 84 species (18%). The third faunal type (Euro-Asiatic) consisted of 132 species or 28% of the total. The Euro-Asiatic species ranges lie between the Euro-Siberian and Mediterranean zones. The fourth, and probably most complicated faunal type was the Mediterranean (*s. lato*), consisting of 146 species, or 32%, distributed in the so-called region of the “Ancient Mediterranean” (Popov, 1927; Kryzhanovskij, 1965).

Zoogeographical belonging of the species showed a predominance of the Mediterranean faunal type, followed by the Northern Holarctic and Euro-Siberian, European and Euroasiatic faunal types (Figure 3).

Highest was the presence of Balkan-Neareastern (55 species), European-Neareastern (47 species), Palearctic (32 species), European-Centralasian (31 species) and Eurosiberian (30 species) and Euroasiatic complexes (29 species). They represented 48% of all taxa.

Twelve endemic species were found – 11 Balkan and one Bulgarian endemic.

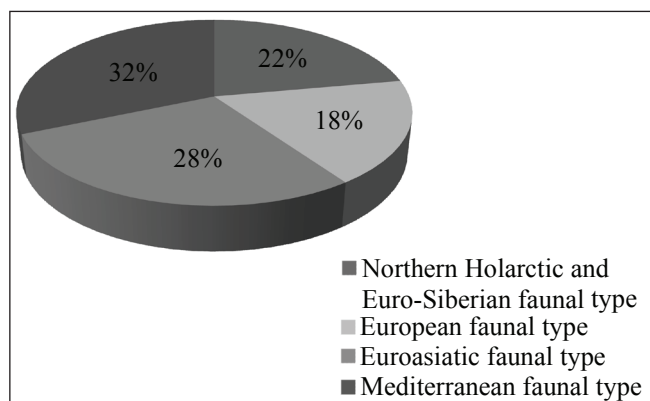


Fig. 3. Zoogeographical structure of the ground beetle fauna of the Bulgarian Black Sea coast

Life forms

The 465 ground beetle species established for the Black Sea coast related to the three classes of life forms, proposed by Sharova (1981).

Representatives of the class Zoophagous predominated – 298 species (64.1% of all species). Most of the zoophages belonged to the subclass Stratobios (216 species; 46.5% of all), followed by Epigeobios (37 species; 8%), Geobios (28 species; 6%), Phytobios (15 species; 3.2%) and Psammocolimbets (2 species; 0.4%). Mixophytogous were 166 species (35.7%

of all species). They included three subclasses, namely 95 species (20.4%) of Geohortobios, 37 species (8%) of Stratohortobios and 34 species (7.3%) of Stratobios. Symphylous-myrmecophilous was only *Paussus turcicus* (0.2%) (Figure 4).

Most numerous were surface & litter-dwelling stratobios from class Zoophagous, series crevice-dwelling species (106 species; 23% of all taxa) and harpaloid geohortobios from class Mixophytogous (67 species; 14%).

Similar patterns in the distribution of species in life forms were found in study of the carabid fauna of South Dobrudzha (Kodzhabashev and Penev, 2006).

Habitat preference

There were four main types of habitat preference groups (Thiele, 1977) – inhabitants of open biotopes, forest species, extra- and intrazonal (psammobios, halobios, bothrobios, and riparian) species, and eurytopic species. There were plenty of varieties between those groups, due to the possibilities of some species to inhabit more than one habitat. Therefore, ground beetles were separated to three major groups: stenotopic (living in very restricted environmental conditions), oligo- and polytopic (inhabitants of several habitats), and eurytopic species (Figure 5).

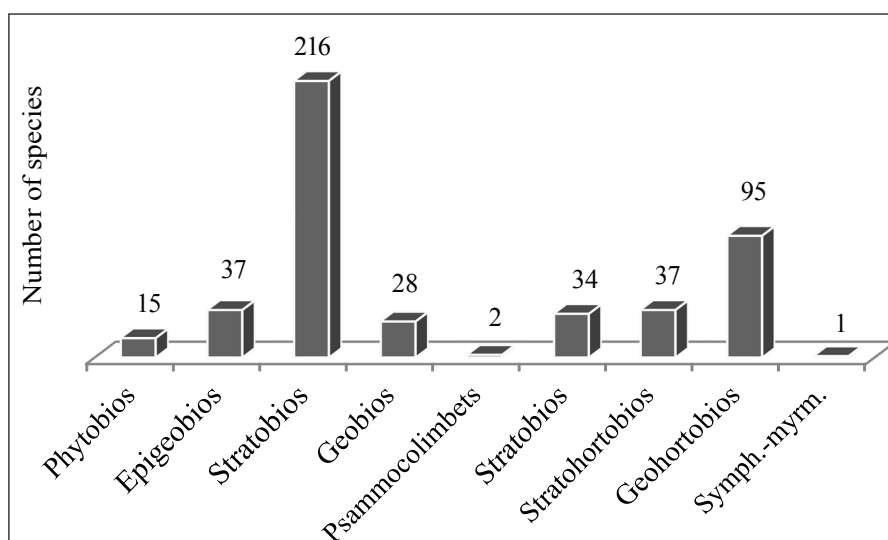


Fig. 4. Life form structure of the ground beetle fauna of the Bulgarian Black Sea coast

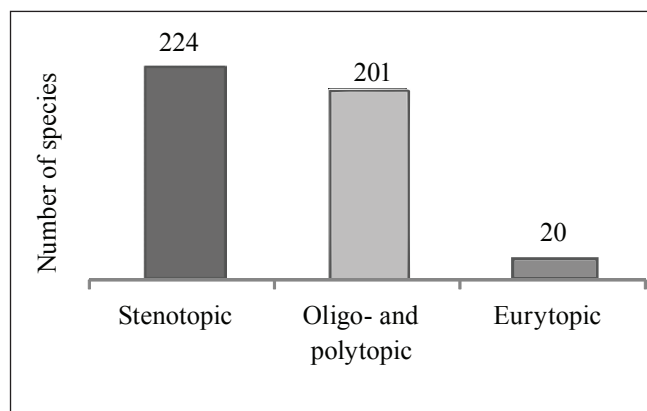


Fig. 5. Habitat preference structure of the ground beetle fauna of the Bulgarian Black Sea coast

Most of the species (244 species; 53%) were from the first category and preferred a concrete habitat conditions. The second group included 201 species (43%). Eurytopic were 20 species (4%). Predominance of stenotopic species showed once again the urgent need to extend the protection of several natural and semi-natural habitats as reference biotopes and “islands” of preservation of the biodiversity. Such habitats include coastal and riverside biotopes, swamps, floodlands, mesophilous and xerophilous forests, steppe or steppe-like grasslands.

An important group of habitats was formed by the great variety of seashore, river, swamp and lake banks. Of special conservation value were the salinized habitats along the coasts, where a remarkable number of halobionts exist, mostly of the tribes Pogonini, Dyschiriini and Bembidiini.

Conclusions

Long-term studies of Bulgarian and foreign researchers in the area of the Bulgarian Black Sea coast had provided enough comprehensive database in respect of the species diversity, including that of the representatives of the family Carabidae. The present paper summarized for the first time the data about the Bulgarian coastal ground beetles. At this point 465 species of ground beetles have been established, which included more than a half of the species, known from the territory of Bulgaria. This warranted that the Carabidae fauna in the researched area could be defined as very rich, which was probably due to the favorable combination of environmental conditions. Future researches would forward further clarity in that respect. Established taxonomic structure demonstrated the wide variety of carabid beetles from the Black Sea coast of Bulgaria and reflected the wealth of available habitats. Zoogeographical structure of the family was proved complex and included four main faunal types, of which Mediterranean predominated. Great diversity of Carabidae life forms was established. Despite the long history of human-mediated landscape transformation, the region of the Bulgarian Black Sea coast was found to possess a rich, original and diverse ground beetle fauna, which reinforces the need to extend the network of protected areas so that they will cover all main natural habitats of the region.

Acknowledgments

This study was carried out thanks to the financial assistance of the Fund for scientific researches of the Sofia University “St. Kliment Ohridski”.

Explanations to the Appendix

Column № 1. Consecutive number.

Column № 2. List of the species recorded from the Bulgarian Black Sea coast.

Column № 3. Zoogeographical categories and faunal types:

I. Northern Holarctic and Euro-Siberian faunal type:

OLA - Holarctic; PAL - Palearctic; W-PAL - Western Palearctic; E-SI - Eurosiberian; E-WSI - Euro-Westsiberian.

II. European faunal type:

EUR - European; E-PAS - European-Neareastern; CE-PAS - Central European and Neareastern; CEE-PA - Central

and Eastern European and Neareastern; C-EE - Central and Eastern European; CEUR - Central European; BAL-K - Balkan-Carpathian.

III. Euroasiatic faunal type:

E-AS - Euroasiatic steppe complex; E-CAS - European and Central Asian; B-CAS - Balkan and Central Asian; B-PAS - Balkan-Neareastern (+ Balkan-Anatolian).

IV. Mediterranean (s. lato) faunal type (species of the Ancient Mediterranean):

E-CA-M - European-Centralasian-Mediterranean; E-PA-M - European-Neareastern-Mediterranean; CA-MED - Mediterranean-Centralasian; MED-PAS - Mediterranean-Neareastern; MED - Mediterranean; E-MED - Eastmediterranean; P-SMED - Pontic-Submediterranean; PON - Pontic; SE - South European; NMED - Northmediterranean; NM-CAS - Northmediterranean-Centralasian; BAL - Balkan; BgE - Bulgarian endemic.

Column № 4. Explanation to the indexes of the life forms:

The first figure in the index shows the class of life form, the second – the subclass, the third – the life form group. In brackets after the subclass the series is shown, when it exists.

Life form class 1. Zoophagous.

Life form subclass: 1.1 - Phytobios; 1.2 - Epigeobios; 1.3 - Stratobios; 1.4 - Geobios; 1.5 - Psammocolimbets.
Life form groups: 1.1.1 - dendrobionts; 1.1.2 - stem-dwelling hortobionts; 1.1.3 - leaf-dwelling dendrohortobionts; 1.2.1 - small walking epigeobionts; 1.2.2 - large walking epigeobionts; 1.2.2(1) - large walking dendroepigeobionts; 1.2.3 - running epigeobionts; 1.2.4 - flying epigeobionts; 1.3(1) - series crevice-dwelling stratobionts; 1.3(1).1 - surface & litter-dwelling; 1.3(1).2 - litter-dwelling; 1.3(1).3 - litter & crevice-dwelling; 1.3(1).4 - endogeobionts; 1.3(1).5 - litter & bark-dwelling; 1.3(1).6 - bothrobionts; 1.3(1).7 - troglobionts; 1.3(2) - series digging stratobionts; 1.3(2).1 - litter & soil-dwelling; 1.3(2).2 - litter & crevice-dwelling; 1.3(2).3 - bothrobionts; 1.3(2).4 - troglobionts; 1.4.1 - running & digging geobionts; 1.4.2(1) - small digging geobionts; 1.4.2(1) - large digging geobionts 1.5.1 - shore psammobionts.

Life form class 2. Mixophytophagous.

Life form subclass: 2.1 - Stratobios; 2.2 - Stratohortobios; 2.3 - Geohortobios.
Life form groups: 2.1.1 - crevice-dwelling stratobionts; 2.2.1 - stratohortobionts; 2.3.1 - harpaloid geohortobionts; 2.3.1(1) - crevice-dwelling harpaloid geohortobionts; 2.3.2 - zabroid geohortobionts; 2.3.3 - dytomeoid geohortobionts.

Life form class 3. Symphyulous-mymecophilous.

Column № 5 - 7. Occurrence of the ground beetles in the region:

BSN - Northern Black Sea coast; BSS - Southern Black Sea coast; BS only - for the territory of Bulgaria the species inhabits only in the Black Sea coast zoogeographical region.

Column № 8. Habitat preferences of the species in the region of the coast:

swa - swamps; marsh - marshlands; banks - river's and lake's banks; comp - compost; hummead - humid meadows, meadow - mesophilous meadows; drmead - dry meadows; xerofor - xerothermic forests; mesofor - mesophilous forests; swamfor - swamp forests; halob - halobiontic; steppe - steppes or semisteppes; agro - arable lands; bothro - bothrobionts; psamob - psammobionts; eury - eurybionts.

Column № 9: Abbreviations of the publications containing records on ground beetles from the region:

Apf. - Apfelbeck (1904); Müll. - Müller (1929); Pan. - Panin (1941); Šus. - Šustek (1975); H.-W. – Hieke and Wrase (1988); P.-K. - Popov and Krusteva (1999); G.- G. - Guéorguiev and Guéorguiev (1995); Kr. – Kryzhanovskij (unpublished data).

Appendix. List of Carabidae beetles, established in the Bulgarian Black Sea Coast region

Nº	Species	Range type	Life form	BSN	BSS	BS only	Habitat preferences	Faunistic records from the literature
1.	<i>Cicindela (Cylindera) germanica</i> Linnaeus, 1758	E-PAS	1.2.4	+	+		drmead	Apf., Šus., H.-W., G.-G., P.-K.
2.	<i>Cicindela (Cephalota) elegans</i> Fisher-Waldheim, 1823	E-CAS	1.2.4	+			drmead, steppe, halob	Pan., G.-G.
3.	<i>Cicindela (Cephalota) circumdata</i> Latreille et Dejean, 1822	NM-CAS	1.2.4	+			halob	Apf., H.-W., G.-G., Kr.
4.	<i>Cicindela (Cephalota) chiloleuca</i> Fisher-Waldheim, 1820	B-CAS	1.2.4	+			drmead, halob	H.-W., G.-G., Kr.
5.	<i>Cicindela (Eugrapha) arenaria</i> Fuesslin, 1775	E-SI	1.2.4	+			halob, psamob, banks	H.-W., G.-G., Kr.
6.	<i>Cicindela (Eugrapha) trisignata</i> Latreille et Dejean, 1822	E-PA-M	1.2.4	+			banks, psamob	H.-W., G.-G., Kr.
7.	<i>Cicindela (Lophyridita) litoralis</i> Fabricius, 1787	E-CAS	1.2.4	+			drmead, halob	Apf., G.-G., Kr.
8.	<i>Cicindela (Cicindela) hybrida</i> Linnaeus, 1758	E-SI	1.2.4	+	+	+	meadow, banks, psamob	Apf., Šus., H.-W., G.-G., Kr.
9.	<i>Cicindela (Cicindela) sylvicola</i> Latreille et Dejean, 1822	CE-PAS	1.2.4	+			meadow	Apf., G.-G.
10.	<i>Cicindela (Cicindela) soluta</i> Latreille et Dejean, 1822	E-WSI	1.2.4	+	+	+	drmead, psamob	Apf., H.-W., G.-G., Kr.
11.	<i>Cicindela (Cicindela) campestris</i> Linnaeus, 1758	PAL	1.2.4	+	+		drmead, meadow, banks	H.-W., G.-G., P.-K., Kr.
12.	<i>Omophron limbatum</i> (Fabricius, 1776)	PAL	1.5.1	+	+		banks, psamob	Apf., Pan., H.-W., G.-G., Kr.
13.	<i>Leistus (Pogonophorus) rufomarginatus</i> (Duftschmid, 1812)	EUR	1.3(1).2	+			mesofof	P.-K.
14.	<i>Leistus (Leistus) ferrugineus</i> (Linnaeus, 1758)	E-SI	1.3(1).1	+			mesofof	H.-W., P.-K.
15.	<i>Nebria (Nebria) brevicollis</i> (Fabricius, 1792)	E-PAS	1.3(1).2	+	+		mesofof, meadow	H.-W., G.-G., P.-K., Kr.
16.	<i>Nothophilus aestuans</i> Motschulsky, 1864	E-PAS	1.3(1).1	+			meadow, banks	G.-G., Kr.
17.	<i>Nothophilus interstitialis</i> Reitter, 1889	B-PAS	1.3(1).1	+			meadow, banks	H.-W., G.-G., Kr.
18.	<i>Nothophilus palustris</i> (Duftschmid, 1812)	E-SI	1.3(1).1	+			mesofof, banks	G.-G., Kr.
19.	<i>Nothophilus laticollis</i> Chaudoir, 1850	C-EE	1.3(1).1	+			xerofof	P.-K.
20.	<i>Nothophilus biguttatus</i> (Fabricius, 1779)	W-PAL	1.3(1).1	+			mesofof	H.-W., G.-G., Kr.
21.	<i>Nothophilus substriatus</i> Waterhouse, 1833	E-PA-M	1.3(1).1	+			meadow, banks	H.-W., G.-G., Kr.
22.	<i>Nothophilus danieli</i> Reitter, 1897	B-PAS	1.3(1).1	+			banks, swamfof	H.-W., G.-G., Kr.
23.	<i>Nothophilus rufipes</i> Curtis, 1829	CE-PAS	1.3(1).1	+			xerofof	Apf., H.-W., G.-G.
24.	<i>Calosoma (Calosoma) sycophanta</i> (Linnaeus, 1758)	PAL	1.2.2(1)	+	+		mesofof	Apf., H.-W., G.-G., P.-K., Kr.
25.	<i>Calosoma (Acalosoma) inquisitor</i> (Linnaeus, 1758)	PAL	1.2.2(1)	+	+		xerofof	Apf., H.-W., G.-G., P.-K., Kr.
26.	<i>Calosoma (Campanita) auropunctatum</i> (Herbst, 1784)	E-CAS	1.2.2	+	+		drmead, steppe, agro	Apf., Šus., H.-W., G.-G., P.-K., Kr.
27.	<i>Calosoma (Charnosta) denticolle</i> Gebler, 1833	B-CAS	1.2.2	+			steppe	H.-W., G.-G., Kr.
28.	<i>Carabus (Eucarabus) ulrichi</i> Germar, 1824	C-EE	1.2.2	+	+		mesofof, meadow	H.-W., G.-G., P.-K.
29.	<i>Carabus (Autocarabus) cancellatus</i> Illiger, 1798	E-SI	1.2.2	+	+		mesofof, meadow, banks	Apf., H.-W., G.-G., P.-K.
30.	<i>Carabus (Carabus) granulatus</i> Linnaeus, 1758	E-AS	1.2.2	+	+		swamfof, hummead, banks	Šus., G.-G., P.-K.
31.	<i>Carabus (Trachycarabus) scabriusculus</i> Olivier, 1795	B-PAS	1.2.2	+	+		meadow, steppe, agro	Apf., H.-W., G.-G., P.-K.
32.	<i>Carabus (Carabus) clathratus</i> Linnaeus, 1758	E-SI	1.2.2	+	+		H.-W., G.-G., Kr.	H.-W., G.-G., Kr.
33.	<i>Carabus (Archicarabus) montivagus</i> Palliardi, 1825	BAL-K	1.2.2	+	+		swa, banks	Apf., Šus., H.-W., G.-G., P.-K.
34.	<i>Carabus (Archicarabus) wiedemanni</i> Ménétriés, 1836	B-PAS	1.2.2	+	+		xerofof	Apf., H.-W., G.-G., P.-K., Kr.
35.	<i>Carabus (Tomocarabus) convexus</i> Fabricius, 1775	E-PAS	1.2.2	+	+		xerofof, mesofof	Apf., H.-W., G.-G., P.-K.
36.	<i>Carabus (Pachystus) graecus morio</i> Mannerheim, 1830	B-PAS	1.2.2	+	+		drmead, steppe	Apf., Müll., H.-W., G.-G., P.-K.
37.	<i>Carabus (Heterocarabus) marretti</i> Cristofori et Jan, 1837	B-PAS	1.2.2	+	+		mesofof	H.-W., G.-G., P.-K., Kr.
38.	<i>Carabus (Chaetocarabus) inirricatus</i> Linnaeus, 1761	EUR	1.2.2	+	+		mesofof	H.-W., G.-G., Kr.
39.	<i>Carabus (Megodontus) violaceus</i> Linnaeus, 1758	E-SI	1.2.2	+	+		mesofof	G.-G.
40.	<i>Carabus (Lampprostus) torosus</i> Fivaldiszky, 1835	BAL	1.2.2	+	+		drmead, steppe, agro	Apf., Müll., H.-W., G.-G., P.-K., Kr.
41.	<i>Carabus (Procrustes) coriaceus</i> Linnaeus, 1758	E-PAS	1.2.2	+	+		eufof	Apf., Šus., H.-W., G.-G., P.-K., Kr.
42.	<i>Carabus (Procrustes) gigas</i> (Creutzer, 1799)	C-EE	1.2.2	+			mesofof	Šus., G.-G., P.-K.
43.	<i>Carabus (Procrustes) scabrosus</i> (Olivier, 1789)	B-PAS	1.2.2	+	+		mesofof	H.-W., G.-G., P.-K.
44.	<i>Cychrus semigranosus</i> Palliardi, 1825	BAL-K	1.2.2	+	+		mesofof	H.-W., G.-G.

45.	<i>Scarites tericollis</i> Bonelli, 1813	PAL	1.4.2(2)	+	+	+	banks	Apf., Pan., H.-W., G.-G.
46.	<i>Scarites laevigatus</i> Fabricius, 1792	MED	1.4.2(2)	+	+	+	banks, psamob, halob	Apf., H.-W., G.-G., Kr.
47.	<i>Clivina fossor</i> (Linnaeus, 1758)	E-AS	1.4.2(1)	+	+	+	eury	H.-W., G.-G., P.-K.
48.	<i>Clivina collaris</i> (Herbst, 1784)	E-CAS	1.4.2(1)	+	+	+	meadow, banks, agro	Pan., H.-W., G.-G.
49.	<i>Clivina ypsilon</i> Dejean, 1829	E-CA-M	1.4.2(1)	+	+	+	halob	H.-W., G.-G., Kr.
50.	<i>Clivina laevifrons</i> Chaudoir, 1842	NM-CAS	1.4.2(1)	+	+	+	banks	H.-W., G.-G., Kr.
51.	<i>Dyschirius (Dyschirius) caspius</i> Putzeys, 1866	CA-MED	1.4.2(1)	+	+	+	halob	Apf., Pan., G.-G., Kr.
52.	<i>Dyschirius (Dyschiriotodes) globosus</i> Herbst, 1783	PAL	1.4.2(1)	+	+	+	banks	G.-G.
53.	<i>Dyschirius (Dyschiriotodes) importunus</i> (Schaum, 1857)	MED-PAS	1.4.2(1)	+	+	+	halob	H.-W., G.-G., Kr.
54.	<i>Dyschirius (Dyschiriotodes) chalcicus</i> (Erichson, 1837)	E-CAS	1.4.2(1)	+	+	+	halob	Apf., H.-W., G.-G., Kr.
55.	<i>Dyschirius (Dyschiriotodes) politus</i> Dejean, 1825	PAL	1.4.2(1)	+	+	+	psamob, banks	G.-G.
56.	<i>Dyschirius (Dyschiriotodes) aeneus</i> Dejean, 1825	E-SI	1.4.2(1)	+	+	+	banks	H.-W., G.-G.
57.	<i>Dyschirius (Dyschiriotodes) apicalis</i> (Putzeys, 1846)	NM-CAS	1.4.2(1)	+	+	+	halob, banks	H.-W., G.-G., Kr.
58.	<i>Dyschirius (Dyschiriotodes) cylindricus</i> Dejean, 1825	E-CAS	1.4.2(1)	+	+	+	halob	Apf., H.-W., G.-G., Kr.
59.	<i>Dyschirius (Dyschiriotodes) pusillus</i> Dejean, 1825	E-CAS	1.4.2(1)	+	+	+	halob, banks	H.-W., G.-G., Kr.
60.	<i>Dyschirius (Dyschiriotodes) laeviusculus</i> (Putzeys, 1846)	E-PAS	1.4.2(1)	+	+	+	halob, banks	G.-G.
61.	<i>Dyschirius (Dyschiriotodes) laticola</i> (Chaudoir, 1850)	NMED	1.4.2(1)	+	+	+	halob, banks	H.-W., G.-G., Kr.
62.	<i>Dyschirius (Dyschiriotodes) macraderus</i> (Chaudoir, 1850)	B-PAS	1.4.2(1)	+	+	+	halob, banks	H.-W., G.-G., Kr.
63.	<i>Dyschirius (Dyschiriotodes) chalybaeus</i> (Putzeys, 1846)	E-MED	1.4.2(1)	+	+	+	halob, banks	Apf., H.-W., G.-G., Kr.
64.	<i>Dyschirius (Dyschiriotodes) salinus</i> (Schaum, 1843)	E-WSI	1.4.2(1)	+	+	+	halob	Apf., H.-W., G.-G., Kr.
65.	<i>Dyschirius (Dyschiriotodes) tristis</i> (Stephens, 1827)	E-SI	1.4.2(1)	+	+	+	banks	G.-G.
66.	<i>Dyschirius (Dyschiriotodes) strumosus</i> (Erichson, 1837)	B-PAS	1.4.2(1)	+	+	+	halob	H.-W., G.-G., Kr.
67.	<i>Dyschirius (Dyschiriotodes) extensus</i> (Putzeys, 1846)	CEUR	1.4.2(1)	+	+	+	banks, halob	G.-G.
68.	<i>Brosicus cephalotes</i> (Linnaeus, 1785)	E-AS	1.4.1	+	+	+	drmead, psamob, banks	H.-W., G.-G.
69.	<i>Brosicus nobilis</i> (Dejean, 1828)	B-PAS	1.4.1	+	+	+	drmead, banks	G.-G.
70.	<i>Apotomus rufus</i> (Rossi, 1790)	MED-PAS	1.4.2(1)	+	+	+	halob, banks	G.-G.
71.	<i>Apotomus testaceus</i> Dejean, 1825	E-PA-M	1.4.2(1)	+	+	+	halob, banks	G.-G.
72.	<i>Apotomus clypeomittens adanensis</i> Jedlicka, 1961	E-MED	1.4.2(1)	+	+	+	halob, banks	G.-G.
73.	<i>Perileptus areolatus</i> (Creutzer, 1799)	E-PAS	1.3(1).2	+	+	+	banks	H.-W., G.-G., Kr.
74.	<i>Trechus quadristriatus</i> (Schrank, 1781)	E-CA-M	1.3(1).2	+	+	+	eury	Pan., H.-W., G.-G., Kr.
75.	<i>Trechus austriacus</i> Dejean, 1831	CEUR	1.3(1).2	+	+	+	synanthr, eury	G.-G.
76.	<i>Trechus crucifer</i> La Brulere, 1875	B-PAS	1.3(1).2	+	+	+	mesofof	G.-G., Kr.
77.	<i>Trechus cardioderus balcanicus</i> Jeannel, 1927	BAL-K	1.3(1).2	+	+	+	mesofof	H.-W., G.-G., Kr.
78.	<i>Trechus asiaticus</i> Jeannel, 1927	B-PAS	1.3(1).2	+	+	+	mesofof	G.-G., Kr.
79.	<i>Tachys (Tachys) scutellaris</i> (Stephens, 1829)	CA-MED	1.3(1).4	+	+	+	halob, banks	Apf., H.-W., G.-G.
80.	<i>Tachys (Paratachys) bistriatus</i> (Dufschmid, 1812)	E-PA-M	1.3(1).4	+	+	+	banks	H.-W., G.-G.
81.	<i>Tachys (Paratachys) centristatus</i> Reitter, 1894	B-CAS	1.3(1).4	+	+	+	halob	H.-W., G.-G.
82.	<i>Tachys (Paratachys) micros</i> (Fischer-Waldheim, 1828)	PAL	1.3(1).4	+	+	+	psamob, banks, marsh	H.-W., G.-G.
83.	<i>Tachys (Paratachys) fuvicollis</i> (Dejean, 1831)	E-PA-M	1.3(1).4	+	+	+	swa	H.-W., G.-G.
84.	<i>Polydorus cardioiderus</i> (Chaudoir, 1846)	MED-PAS	1.3(1).4	+	+	+	banks	H.-W., G.-G.
85.	<i>Elaphropus (Tachyura) diabrachys</i> (Kolenati, 1845)	E-PA-M	1.3(1).1	+	+	+	banks	H.-W., G.-G.
86.	<i>Elaphropus (Tachyura) parvulus</i> (Dejean, 1831)	E-PA-M	1.3(1).1	+	+	+	banks	H.-W., G.-G.
87.	<i>Elaphropus (Sphaerotachys) haemorrhoidalis</i> (Ponza, 1850)	E-CA-M	1.3(1).1	+	+	+	banks	H.-W., G.-G.
88.	<i>Porotachys bisulcatus</i> (Nicolai, 1822)	E-PA-M	1.3(1).1	+	+	+	bothro, comp	H.-W., G.-G.
89.	<i>Asaphidion caraboides</i> (Schrank, 1781)	E-PAS	1.2.3	+	+	+	banks	G.-G., Kr.
90.	<i>Asaphidion flavipes</i> (Linnaeus, 1761)	W-PAL	1.2.3	+	+	+	banks, swa, marsh	Apf., G.-G., P.-K., Kr.
91.	<i>Asaphidion flavicorne</i> (Solsky, 1874)	B-PAS	1.2.3	+	+	+	banks	G.-G.

continued on next page

92.	<i>Bembidion (Odontium) striatum</i> (Fabricius, 1792)	E-WSI	1.2.3	+		banks					H.-W., G.-G.	
93.	<i>Bembidion (Euryrachelus) laticolle</i> (Dufschmid, 1812)	E-WSI	1.3(1).1	+		banks					G.-G.	
94.	<i>Bembidion (Chlorodromus) splendidum</i> Sturm, 1825	CE-PAS	1.3(1).1	+		eury					H.-W., G.-G., Kr.	
95.	<i>Bembidion (Metallina) lampros</i> (Herbst, 1784)	OLA	1.3(1).1	+		eury					Apf., H.-W., G.-G., Kr.	
96.	<i>Bembidion (Metallina) properans</i> (Stephens, 1828)	E-WSI	1.3(1).1	+		banks					Pan., H.-W., G.-G., Kr.	
97.	<i>Bembidion (Phyla) tethys</i> Netolitzky, 1926	MED	1.3(1).1	+		halob, banks, swamföör					H.-W., G.-G., Kr.	
98.	<i>Bembidion (Princidium) punctulatum</i> Drapiez, 1820	E-CA-M	1.2.3	+		banks					H.-W., G.-G., Kr.	
99.	<i>Bembidion (Notaphus) obtiquum</i> Sturm, 1825	PAL	1.3(1).1	+	+	banks, swa, marsh					G.-G.	
100.	<i>Bembidion (Notaphus) semipunctatum</i> (Donovan, 1806)	PAL	1.3(1).1	+		banks					G.-G.	
101.	<i>Bembidion (Notaphus) varium</i> (Olivier, 1795)	PAL	1.3(1).1	+		banks, swa					Apf., H.-W., G.-G., Kr.	
102.	<i>Bembidion (Notaphus) rumelicum</i> Apfelbeck, 1902	BAL	1.3(1).1	+	+	banks, meadow					Apf., G.-G.	
103.	<i>Bembidion (Notaphenphanes) ephippium</i> (Marsham, 1802)	E-PA-M	1.3(1).1	+	+	halob					Apf., H.-W., G.-G., Kr.	
104.	<i>Bembidion (Notaphocampa) niloticum</i> Dejean, 1831	PAL	1.3(1).1	+	+	banks					G.-G., Kr.	
105.	<i>Bembidion (Philochthus) escherichi</i> Ganglbauer, 1879	MED-PAS	1.3(1).1	+		halob					H.-W., G.-G., Kr.	
106.	<i>Bembidion (Philochthus) decolor</i> Apfelbeck, 1911	BAL	1.3(1).1	+		halob, banks					H.-W., G.-G., Kr.	
107.	<i>Bembidion (Philochthus) inoptatum</i> Schaum, 1857	E-PAS	1.3(1).1	+		halob					H.-W., G.-G.	
108.	<i>Bembidion (Philochthus) lumulatum</i> (Fourcroy, 1785)	E-MED	1.3(1).1	+		banks					H.-W., G.-G.	
109.	<i>Bembidion (Emphanes) azureus</i> Dalla Torre, 1877	E-SI	1.3(1).1	+		banks, halob					H.-W., G.-G., Kr.	
110.	<i>Bembidion (Emphanes) latiplaga</i> Chaudoir, 1850	NMED	1.5.1	+	+	psamob, halob, banks					H.-W., G.-G., Kr.	
111.	<i>Bembidion (Emphanes) minimum</i> Fabricius, 1792	W-PAL	1.3(1).1	+	+	halob, banks					Apf., Pan., H.-W., Kr.	
112.	<i>Bembidion (Emphanes) normannum</i> Dejean, 1831	MED	1.3(1).1	+	+	halob					H.-W., G.-G., Kr.	
113.	<i>Bembidion (Emphanes) rivulare</i> Dejean, 1831	PON	1.3(1).1	+	+	halob					Pan., H.-W., G.-G., Kr.	
114.	<i>Bembidion (Emphanes) tenellum</i> Erichson, 1837	E-CAS	1.3(1).1	+	+	halob					Pan., H.-W., G.-G.	
115.	<i>Bembidion (Talanus) subfasciatum</i> Chaudoir, 1850	B-PAS	1.3(1).1	+	+	halob, banks					Apf., Pan., H.-W., G.-G., Kr.	
116.	<i>Bembidion (Leja) articulatum</i> (Panzer, 1796)	PAL	1.3(1).1	+	+	banks					Apf., H.-W., G.-G., Kr.	
117.	<i>Bembidion (Leja) octomaculatum</i> (Goeze, 1777)	PAL	1.3(1).1	+	+	banks					Apf., Pan., H.-W., G.-G.	
118.	<i>Bembidion (Leja) maculatum</i> Dejean, 1831	MED	1.3(1).1	+	+	swa, banks					H.-W., G.-G., Kr.	
119.	<i>Bembidion (Semicampa) guttulatum</i> Chaudoir, 1850	BAL	1.3(1).1	+	+	halob, banks					Pan., H.-W., G.-G., Kr.	
120.	<i>Bembidion (Diplocampa) assimile</i> Gyllenhal, 1810	W-PAL	1.3(1).1	+	+	banks, marsh, swa					H.-W., G.-G.	
121.	<i>Bembidion (Diplocampa) fumigatum</i> (Dufschmid, 1812)	E-AS	1.3(1).1	+	+	halob, marsh					H.-W., G.-G., Kr.	
122.	<i>Bembidion (Bembidion) quadrimaculatum</i> (Linnaeus, 1761)	OLA	1.3(1).1	+	+	mesoföör, meadow, banks					Apf., H.-W., G.-G., Kr.	
123.	<i>Bembidion (Bembidion) quadripustulatum</i> (Serville, 1821)	E-CAS	1.3(1).1	+	+	banks					Apf., Pan., H.-W., G.-G., Kr.	
124.	<i>Bembidion (Nepha) tetragrammum</i> Chaudoir, 1846	E-MED	1.3(1).1	+	+	banks					G.-G.	
125.	<i>Bembidion (Bembidionetolitzkya) concoloratum</i> Netolitzsky, 1943	BAL	1.3(1).1	+	+	banks					G.-G.	
126.	<i>Bembidion (Limnaeus) nigropiceum</i> (Marsham, 1802)	NMED	1.3(1).1	+	+	psamob, halob					H.-W., G.-G., Kr.	
127.	<i>Bembidion (Euperyphus) combustum</i> Ménétrés, 1832	B-CAS	1.3(1).1	+	+	banks					H.-W., G.-G.	
128.	<i>Bembidion (Peryphus) andreae</i> (Fabricius, 1787)	E-SI	1.3(1).1	+	+	psamob, banks					H.-W., G.-G.	
129.	<i>Bembidion (Peryphus) femoratum</i> Sturm, 1825	W-PAL	1.3(1).1	+	+	banks, psamob					H.-W., G.-G.	
130.	<i>Bembidion (Peryphus) testaceum</i> Dufschmid, 1812	E-PAS	1.3(1).1	+	+	banks					H.-W., G.-G.	
131.	<i>Bembidion (Peryphus) subcostatum</i> (Möschulsky, 1850)	B-PAS	1.3(1).1	+	+	banks					Pan., H.-W., G.-G., Kr.	
132.	<i>Bembidion (Peryphus) cordicollis</i> Duval, 1851	B-PAS	1.3(1).1	+	+	mesoföör, banks					H.-W., G.-G., Kr.	
133.	<i>Bembidion (Ocydromus) atlanticum</i> Wollaston, 1854	CA-MED	1.3(1).1	+	+	banks					H.-W., G.-G., Kr.	
134.	<i>Bembidion (Ocydromus) decorum decorum</i> (Zenker, 1801)	E-CA-M	1.3(1).1	+	+	banks					H.-W., G.-G.	
135.	<i>Bembidion (Ocydromus) decorum bodemeyeri</i> K. et J. Daniel, 1902	E-CA-M	1.3(1).1	+	+	banks					H.-W., G.-G.	
136.	<i>Bembidion (Ocydromus) siculum</i> Dejean, 1831	B-PAS	1.3(1).1	+	+	psamob					H.-W., G.-G.	
137.	<i>Bembidion (Ocyturanus) praeustum</i> Dejean, 1831	E-MED	1.3(1).1	+	+	banks					H.-W., G.-G., Kr.	

138.	<i>Bembidion (Peryphanes) dalmatinum</i> Dejean, 1831	CE-PAS	1.3(1).1	+	+	banks	H.-W., G.-G.
139.	<i>Bembidion (Peryphanes) brunnicornis</i> Dejean, 1831	E-PAS	1.3(1).1	+	+	banks	H.-W., G.-G.
140.	<i>Bembidion (Peryphanes) stephensii</i> Crotch, 1866	EUR	1.3(1).1	+	+	banks	Pan., H.-W.
141.	<i>Bembidion (Peryphanes) castaneipennis</i> Jacquelin-Duval, 1851	B-PAS	1.3(1).1	+	+	banks	Apf., H.-W., G.-G., Kr.
142.	<i>Bembidion (Synecostichus) elongatum</i> Dejean, 1831	B-PAS	1.3(1).1	+	+	banks	H.-W., G.-G.
143.	<i>Cardioderus chloroticus</i> (Fischer-Waldheim, 1823)	CA-MED	1.3(2).2	+	+	halob	H.-W., G.-G., Kr.
144.	<i>Pogonus (Pogonoidius) meridionalis</i> Dejean, 1828	E-SI	1.3(2).2	+	+	halob	G.-G., Kr.
145.	<i>Pogonus (Pogonoidius) punctulatus</i> Dejean, 1828	B-CAS	1.3(2).2	+	+	halob	H.-W., G.-G., Kr.
146.	<i>Pogonus tridipennis</i> Nicolai, 1822	E-AS	1.3(2).2	+	+	halob	H.-W., G.-G., Kr.
147.	<i>Pogonus litoralis</i> (Duftschmid, 1812)	B-PAS	1.3(2).2	+	+	halob	Apf., H.-W., G.-G., Kr.
148.	<i>Pogonus luridipennis</i> (Germar, 1822)	W-PAL	1.3(2).2	+	+	halob	Apf., H.-W., G.-G., Kr.
149.	<i>Pogonus orientalis</i> Dejean, 1828	E-PAS	1.3(2).2	+	+	halob	Apf., H.-W., G.-G., Kr.
150.	<i>Pogonus olivaceus</i> Carret, 1903	BAL	1.3(2).2	+	+	halob	G.-G., Kr.
151.	<i>Pogonus riparius</i> Dejean, 1828	NMED	1.3(2).2	+	+	halob	G.-G.
152.	<i>Pogonus persicus</i> Chaudoir, 1842	B-PAS	1.3(2).2	+	+	halob	Apf., Pan., H.-W., G.-G., Kr.
153.	<i>Pogonistes convexicollis</i> Chaudoir, 1871	E-PAS	1.3(2).2	+	+	halob	H.-W., G.-G., Kr.
154.	<i>Pogonistes rufaeneus</i> (Dejean, 1828)	B-CAS	1.3(2).2	+	+	halob	Apf., H.-W., G.-G., Kr.
155.	<i>Putrobis atrorufus</i> (Strom, 1768)	E-WSI	1.3(1).2	+	+	mesofo	P.-K.
156.	<i>Stomis pumicatus</i> (Panzer, 1796)	E-PAS	1.3(1).2	+	+	mesofo	Šus., H.-W., G.-G., P.-K.
157.	<i>Myas chalybaeus</i> (Palliard, 1825)	BAL-K	1.3(1).4	+	+	xerofo	H.-W., G.-G., P.-K., Kr.
158.	<i>Poecilus (Poecilus) koyi</i> (Germar, 1724)	E-SI	1.3(2).1	+	+	steppe, meadow	Apf., Kr.
159.	<i>Poecilus (Poecilus) cupreus</i> (Linnaeus, 1758)	E-AS	1.3(2).1	+	+	drmead, meadow	Apf., H.-W., G.-G., P.-K., Kr.
160.	<i>Poecilus (Poecilus) cursorius</i> (Dejean, 1828)	E-PAS	1.3(2).1	+	+	banks, marsh	H.-W., G.-G.
161.	<i>Poecilus (Angoleus) puncticollis</i> (Dejean, 1828)	B-PAS	1.3(2).1	+	+	halob	H.-W., G.-G., Kr.
162.	<i>Pterostichus (Platysma) niger</i> (Schaller, 1783)	E-AS	1.3(2).1	+	+	mesofo	Pan., H.-W., G.-G., P.-K.
163.	<i>Pterostichus (Argutor) cursor</i> (Dejean, 1828)	E-PAS	1.3(2).1	+	+	banks, swa	H.-W., G.-G., Kr.
164.	<i>Pterostichus (Argutor) leonisi</i> Apfelbeck, 1904	C-EE	1.3(2).1	+	+	swamfo, banks	H.-W., G.-G., P.-K.
165.	<i>Pterostichus (Argutor) vernalis</i> (Panzer, 1796)	W-PAL	1.3(1).1	+	+	swamfo, banks	G.-G.
166.	<i>Pterostichus (Padius) longicollis</i> (Duftschmid, 1812)	E-PAS	1.3(2).1	+	+	xerofo, steppe	H.-W., G.-G., Kr.
167.	<i>Pterostichus (Padius) inquitatus</i> (Sturm, 1824)	B-PAS	1.3(2).1	+	+	xerofo	H.-W., G.-G.
168.	<i>Pterostichus (Adelosta) macer</i> (Marsham, 1802)	E-CAS	1.3(2).1	+	+	mesofo, marsh	H.-W., G.-G., P.-K., Kr.
169.	<i>Pterostichus (Melanius) anthracinus</i> (Illiger, 1798)	E-PAS	1.3(2).1	+	+	swamfo, banks	H.-W., G.-G., P.-K., Kr.
170.	<i>Pterostichus (Melanius) minor</i> (Gyllenhal, 1827)	E-SI	1.3(1).1	+	+	swa, hummead, marsh	Apf., G.-G., P.-K.
171.	<i>Pterostichus (Melanius) nigrita</i> (Paykull, 1790)	PAL	1.3(2).1	+	+	swamfo, banks	Pan., H.-W., G.-G., P.-K.
172.	<i>Pterostichus (Phonias) strenuus</i> (Panzer, 1797)	E-AS	1.3(1).1	+	+	swamfo, banks	H.-W., G.-G., P.-K.
173.	<i>Pterostichus (Phonias) ovoideus</i> (Sturm, 1824)	E-SI	1.3(2).1	+	+	mesofo	P.-K.
174.	<i>Pterostichus (Omaseus) aterrimus</i> (Herbst, 1784)	W-PAL	1.3(2).1	+	+	banks, swa, marsh	Müll., Pan., G.-G.
175.	<i>Pterostichus (Omaseus) elongatus</i> (Duftschmid, 1812)	E-PAS	1.3(2).1	+	+	swa, banks	H.-W., G.-G., P.-K.
176.	<i>Pterostichus (Bothriopterus) quadrifoveolatus</i> Letzner, 1852	E-WSI	1.3(2).1	+	+	mesofo, swamfo, banks	G.-G.
177.	<i>Pterostichus (Morphosoma) melanarius</i> (Illiger, 1798)	E-SI	1.3(2).1	+	+	eury	Šus., H.-W., G.-G., P.-K.
178.	<i>Pterostichus (Feronidius) melas</i> (Creutzer, 1799)	E-PAS	1.3(2).1	+	+	meadow	Apf., Šus., H.-W., G.-G.
179.	<i>Pterostichus (Pterostichus) merkli</i> Frivaldsky, 1879	BGE	1.3(2).1	+	+	mesofo	G.-G.
180.	<i>Abax parallelopedus</i> (Piller et Mitterpacher, 1783)	EUR	1.3(2).1	+	+	mesofo	Šus., G.-G.
181.	<i>Abax carinatus</i> (Duftschmid, 1812)	C-EE	1.3(2).1	+	+	mesofo	H.-W., G.-G., P.-K.
182.	<i>Abax parallelus</i> (Duftschmid, 1812)	EUR	1.3(2).1	+	+	mesofo	G.-G., P.-K.
183.	<i>Abax ovalis</i> (Duftschmid, 1812)	E-PAS	1.3(2).1	+	+	mesofo	G.-G.
184.	<i>Molops piceus</i> (Panzer, 1793)	E-PAS	1.3(2).1	+	+	mesofo	H.-W., G.-G., Kr.

continued on next page

185.	<i>Calathus (Calathus) distinguendus</i> Chaudoir, 1846	B-PAS	1.3(1).2	+		dirmead, agro, steppes	G.-G., P.-K.
186.	<i>Calathus (Calathus) fuscipes</i> (Goeze, 1777)	PAL	1.3(1).2	+		drmead, agro	Apf., Šus., H.-W., G.-G., P.-K.
187.	<i>Calathus (Calathus) longicollis</i> Motschulsky, 1864	B-PAS	1.3(1).2	+		drmead, agro	G.-G.
188.	<i>Calathus (Neocalathus) ambiguus</i> (Paykull, 1790)	E-AS	1.3(1).2	+		drmead, agro, steppes	Apf., H.-W., G.-G., P.-K.
189.	<i>Calathus (Neocalathus) erratus</i> (Sahlberg, 1827)	E-AS	1.3(1).2	+		xerofor, meadow	H.-W., G.-G., Kr.
190.	<i>Calathus (Neocalathus) melanocephalus</i> (Linnaeus, 1758)	OLA	1.3(1).2	+		eury	Apf., H.-W., G.-G., P.-K.
191.	<i>Calathus (Neocalathus) metallicus</i> Dejean 1828	BAL-K	1.3(1).2	+		mesofofor, meadow	P.-K.
192.	<i>Calathus (Neocalathus) mollis</i> (Marsham, 1802)	W-PAL	1.3(1).2	+		psamob, drmead	H.-W., G.-G., P.-K.
193.	<i>Calathus (Dolichus) halensis</i> (Schaller, 1783)	E-AS	1.3(1).2	+		meadow	Šus., H.-W., G.-G., P.-K.
194.	<i>Taphoxenus gigas</i> (Fischer-Waldheim, 1823)	B-CAS	1.3(2).3	+	+	bothr	Müll., G.-G.
195.	<i>Laemostenus (Laemostenus) venustus</i> (Dejean, 1828)	E-MED	1.3(1).6	+		mesofofor, xerofofor	G.-G.
196.	<i>Laemostenus (Laemostenus) complanatus</i> (Dejean, 1828)	MED	1.3(1).6	+		banks	P.-K.
197.	<i>Laemostenus (Pristonychus) terricola</i> (Herbst, 1783)	W-PAL	1.3(1).6	+		bothr, synanthr	Šus., H.-W., G.-G., P.-K.
198.	<i>Laemostenus (Pristonychus) cimmertius</i> (Fischer-Waldheim, 1823)	B-PAS	1.3(1).6	+		bothr	Šus., G.-G., P.-K., Kr.
199.	<i>Agonum (Agonum) atratum</i> (Duftschmid, 1812)	E-CAS	1.3(1).1	+		halob, banks	H.-W., G.-G., Kr.
200.	<i>Agonum (Agonum) gracilipes</i> (Duftschmid, 1812)	PAL	1.3(1).1	+		mesofofor, meadow	H.-W., G.-G., Kr.
201.	<i>Agonum (Agonum) longicorne</i> Chaudoir, 1846	CEE-PA	1.3(1).1	+		banks	H.-W., G.-G., P.-K.
202.	<i>Agonum (Agonum) angustatum</i> Dejean, 1828	E-PA-M	1.3(1).1	+		banks, swa	H.-W., G.-G., P.-K.
203.	<i>Agonum (Agonum) hypocirtia</i> Aptelbeck, 1904	E-SI	1.3(1).1	+		banks	P.-K.
204.	<i>Agonum (Agonum) lugens</i> (Duftschmid, 1812)	E-CA-M	1.3(1).1	+		banks	H.-W., G.-G., Kr.
205.	<i>Agonum (Agonum) marginatum</i> (Linnaeus, 1758)	W-PAL	1.3(1).1	+		banks	H.-W., G.-G.
206.	<i>Agonum (Agonum) duftschmidi</i> Schmidt, 1994	E-SI	1.3(1).1	+		banks, mesofofor	G.-G., P.-K.
207.	<i>Agonum (Agonum) sordidum</i> Dejean, 1828	E-MED	1.3(1).1	+		banks	H.-W., G.-G.
208.	<i>Agonum (Agonum) permooestum</i> Puel, 1938	SE	1.3(1).1	+		swamfofor, meadow, banks	G.-G.
209.	<i>Agonum (Agonum) viridicupreum</i> (Goeze, 1777)	E-PA-M	1.3(1).1	+		marsh, swa, meadow	H.-W., G.-G., Kr.
210.	<i>Agonum (Europhilus) thoreyi</i> (Dejean, 1828)	OLA	1.3(1).2	+		marsh, swa, banks	Pan., H.-W., G.-G., Kr.
211.	<i>Platynus (Platynus) assimile</i> (Paykull, 1790)	PAL	1.3(1).1	+		mesofofor, banks	Apf., H.-W., G.-G., P.-K., Kr.
212.	<i>Platynus (Platynus) krynickii</i> Spertk, 1835	PAL	1.3(1).1	+		mesofofor, hummead	P.-K.
213.	<i>Platynus (Batenus) livens</i> (Gyllenhal, 1810)	E-SI	1.3(1).1	+		banks, swamfofor	G.-G.
214.	<i>Paranchus albipes</i> (Fabricius, 1796)	OLA	1.3(1).1	+		banks	G.-G., Kr.
215.	<i>Oxypselaphus obscurum</i> (Herbst, 1784)	OLA	1.3(1).1	+		mesofofor, marsh	Šus., G.-G.
216.	<i>Anchomenus dorsalis</i> (Pontoppidan, 1763)	PAL	1.3(1).1	+		meadow, agro, steppe	Apf., H.-W., G.-G., P.-K., Kr.
217.	<i>Olisthopus glabricollis</i> (Germar, 1817)	NMED	1.3(1).2	+		banks, meadow	H.-W., G.-G.
218.	<i>Olisthopus fuscatus</i> Dejean, 1828	MED	1.3(1).2	+		drmead, xerofofor	H.-W., G.-G.
219.	<i>Synuchus vivalis</i> (Illiger, 1798)	E-SI	1.3(1).2	+		banks, meadow, agro	H.-W., G.-G., P.-K.
220.	<i>Amara (Zezea) chaudiroi</i> Putzeys, 1858	E-CA-M	2.3.1	+		meadow, bank	H.-W., G.-G.
221.	<i>Amara (Zezea) concinna</i> Zimmermann, 1832	E-PAS	2.2.1	+		psamob	H.-W., G.-G., Kr.
222.	<i>Amara (Zezea) reflexicollis</i> Motschulsky, 1844	E-PA-M	2.2.1	+		drmead, steppe	H.-W., G.-G.
223.	<i>Amara (Zezea) tricuspidata</i> Dejean, 1831	E-CA-M	2.2.1	+	+	halob	H.-W., G.-G., Kr.
224.	<i>Amara (Amara) aenea</i> (De Geer, 1774)	OLA	2.3.1	+		drmead, agro, steppe	Apf., Šus., H.-W., G.-G., P.-K., Kr.
225.	<i>Amara (Amara) anthobia</i> Villa, 1833	E-PAS	2.1.1	+		drmead	Apf., H.-W., G.-G., P.-K.
226.	<i>Amara (Amara) convexior</i> Stephens, 1828	E-CAS	2.3.1	+		drmead, agro, steppe	H.-W., G.-G., P.-K.
227.	<i>Amara (Amara) eurynota</i> (Panzer, 1797)	OLA	2.3.1	+		drmead, agro, steppe	H.-W., G.-G., P.-K., Kr.
228.	<i>Amara (Amara) familiaris</i> (Duftschmid, 1812)	OLA	2.1.1	+		eury	Šus., H.-W., G.-G., Kr.
229.	<i>Amara (Amara) lucida</i> (Duftschmid, 1812)	E-PA-M	2.3.1	+		eury	Apf., H.-W., G.-G., P.-K., Kr.
230.	<i>Amara (Amara) ovata</i> (Fabricius, 1792)	PAL	2.3.1	+		drmead, agro, steppe	Šus., H.-W., G.-G., P.-K., Kr.

231.	<i>Amara (Amara) saphyrea</i> Dejean, 1828	C-EE	2.2.1	+	+		drmead, agro, steppe	H.-W., G.-G., P.-K.
232.	<i>Amara (Amara) similata</i> (Gyllenhal, 1810)	E-AS	2.3.1	+	+		meadow, agro	Šus, H.-W., G.-G., P.-K.
233.	<i>Amara (Celia) bifrons</i> (Gyllenhal, 1810)	E-CAS	2.3.1	+			drmead, steppe	H.-W., G.-G., P.-K., Kr.
234.	<i>Amara (Celia) fusca</i> Dejean, 1828	E-PA-M	2.3.1	+	+		drmead	H.-W., G.-G.
235.	<i>Amara (Celia) ingenua</i> (Dufschmid, 1812)	E-AS	2.3.1	+			drmead, agro, synanthr	H.-W., G.-G., P.-K.
236.	<i>Amara (Celia) municipalis</i> (Dufschmid, 1812)	E-SI	2.3.1	+			psamob, drmead	P.-K.
237.	<i>Amara (Celia) sabulosa</i> Serville, 1821	E-PAS	2.3.1	+	+		psamob, meadow	H.-W., G.-G., Kr.
238.	<i>Amara (Celia) sollicita</i> Panté, 1888	E-PA-M	2.3.1	+	+		agro, steppe	H.-W., G.-G., P.-K., Kr.
239.	<i>Amara (Paracelia) serdicana</i> Apfelbeck, 1904	B-PAS	2.3.1	+	+		xerofor, drmead	H.-W., G.-G.
240.	<i>Amara (Bradyus) apricaria</i> (Paykull, 1790)	OLA	2.3.1(1)	+	+		drmead, steppe, agro	H.-W., G.-G., P.-K., Kr.
241.	<i>Amara (Bradyus) consularis</i> (Dufschmid, 1812)	E-CAS	2.3.1(1)	+	+		meadow, agro, psamob	Pan, H.-W., G.-G., P.-K., Kr.
242.	<i>Amara (Bradyus) erenata</i> Dejean, 1828	CE-PAS	2.3.1(1)	+	+		drmead	Müll., Pan., H.-W., G.-G.
243.	<i>Amara (Bradyus) fulva</i> (O. Müller, 1776)	E-WSI	2.3.1(1)	+	+		meadow, psamob	Pan., H.-W., G.-G.
244.	<i>Amara (Bradyus) majuscula</i> (Chaudoir, 1850)	PAL	2.3.1(1)	+	+		agro, steppe, synanthr	H.-W., G.-G.
245.	<i>Amara (Amathitis) parvicollis</i> Gebler, 1833	CE-PAS	2.3.1(1)	+	+		steppe, halob	G.-G., Kr.
246.	<i>Curtonotus aulicus</i> (Panzer, 1797)	E-AS	2.3.1	+	+		meadow	G.-G., P.-K.
247.	<i>Curtonotus convexusculus</i> (Marsham, 1802)	E-WSI	2.3.1	+	+		meadow	H.-W., G.-G., P.-K.
248.	<i>Curtonotus propinquus</i> (Ménétriés, 1832)	B-PAS	2.3.1	+	+		halob	H.-W., G.-G., Kr.
249.	<i>Zabrus (Zabrus) tenebrioides</i> (Goeze, 1777)	E-CAS	2.3.2	+	+		agro, drmead	Apf., Pan., Šus, H.-W., G.-G., P.-K., Kr.
250.	<i>Zabrus (Pelor) corpulentus</i> Schaum, 1864	B-PAS	2.3.2	+	+		drmead, steppe	P.-K.
251.	<i>Zabrus (Pelor) spinipes</i> (Fabricius, 1798)	NMED	2.3.2	+	+		drmead, steppe	Apf., Šus, H.-W., G.-G., Kr.
252.	<i>Anisodactylus (Anisodactylus) binotatus</i> (Fabricius, 1787)	E-AS	2.3.1	+	+		drmead, mesofof, agro	Pan., G.-G., P.-K., Kr.
253.	<i>Anisodactylus (Anisodactylus) puelli</i> Schauberg, 1933	B-PAS	2.3.1	+	+		drmead, agro, steppe	G.-G.
254.	<i>Anisodactylus (Anisodactylus) signatus</i> (Panzer, 1797)	E-AS	2.3.1	+	+		drmead, agro, steppe	Pan., H.-W., G.-G., P.-K., Kr.
255.	<i>Anisodactylus (Pseudochirius) intermedius</i> Dejean, 1829	MED-PAS	2.3.1	+	+		swa	H.-W., G.-G.
256.	<i>Anisodactylus (Hexarrichus) poeciloides</i> (Stephens, 1828)	E-CA-M	2.3.1	+	+		halob	H.-W., G.-G., Kr.
257.	<i>Scybalicus oblongusculus</i> (Dejean, 1829)	MED	2.3.1	+	+		drmead, agro	H.-W., G.-G., P.-K.
258.	<i>Gynandromorphus etruscus</i> (Quensel, 1806)	NMED	2.2.1	+	+		drmead, xerofor	H.-W., G.-G., P.-K.
259.	<i>Diachromus germanus</i> (Linnaeus, 1758)	E-MED	2.2.1	+	+		marsh, swa, banks	Pan., H.-W., G.-G., Kr.
260.	<i>Bradycellus csikii</i> Laezo, 1912	E-PAS	2.1.1	+	+		marsh, swa	H.-W., G.-G., Kr.
261.	<i>Dicheitrichus lacustris</i> (Redtenbacher, 1858)	NMED	2.1.1	+	+		halob	H.-W., G.-G., Kr.
262.	<i>Trichocellus placidus</i> (Gyllenhal, 1827)	E-SI	2.1.1	+	+		marsh, swamfor, banks	G.-G.
263.	<i>Stenolophus teutonius</i> (Schrank, 1781)	E-MED	2.1.1	+	+		meadow, swamfor	H.-W., G.-G.
264.	<i>Stenolophus discophorus</i> (Fischer-Waldheim, 1823)	CE-PAS	2.1.1	+	+		banks	H.-W., G.-G.
265.	<i>Stenolophus skrimshiranus</i> Stephens, 1828	E-MED	2.1.1	+	+		banks, marsh	H.-W., G.-G., P.-K.
266.	<i>Stenolophus steveni</i> Krynicki, 1832	B-PAS	2.1.1	+	+		banks, halob	Müll., H.-W., G.-G., P.-K.
267.	<i>Stenolophus mixtus</i> (Herbst, 1784)	PAL	2.1.1	+	+		banks, marsh, swamfor	Pan., H.-W., G.-G., P.-K., Kr.
268.	<i>Stenolophus procerius</i> (Dejean, 1829)	E-PAS	2.1.1	+	+		swa, banks	H.-W., G.-G., Kr.
269.	<i>Loxoncus procerus</i> (Schaum, 1858)	B-CAS	2.1.1	+	+		banks	G.-G.
270.	<i>Acupalpus (Ancylostrina) interstitialis</i> Reitter, 1884	B-PAS	2.1.1	+	+		hummead, banks	Apf., H.-W., G.-G.
271.	<i>Acupalpus (Acupalpus) brunnipes</i> (Sturm, 1825)	SE	2.1.1	+	+		banks, marsh, hummead	H.-W., G.-G., Kr.
272.	<i>Acupalpus (Acupalpus) flavicollis</i> (Sturm, 1825)	E-PAS	2.1.1	+	+		hummead, banks	H.-W., G.-G.
273.	<i>Acupalpus (Acupalpus) meridianus</i> (Linnaeus, 1767)	E-PAS	2.1.1	+	+		marsh, banks, hummead	H.-W., G.-G.
274.	<i>Acupalpus (Acupalpus) suturalis</i> (Dejean, 1829)	CEE-PA	2.1.1	+	+		banks	H.-W., G.-G.
275.	<i>Acupalpus (Acupalpus) planicollis</i> Schaum, 1857	BAL	2.1.1	+	+		banks	G.-G.
276.	<i>Acupalpus (Acupalpus) elegans</i> (Dejean, 1829)	E-MED	2.1.1	+	+		halob, marsh, swa	H.-W., G.-G., Kr.
277.	<i>Acupalpus (Acupalpus) parvulus</i> (Sturm, 1825)	W-PAL	2.1.1	+	+		banks, halob	H.-W., G.-G.

continued on next page

278.	<i>Acupalpus (Acupalpus) maculatus</i> Schaum, 1860	MED	2.1.1	+	+	+	banks, halob, swa	H.-W., G.-G.
279.	<i>Acupalpus (Acupalpus) notatus</i> Mulsant et Rey, 1861	MED	2.1.1	+	+	+	banks, swa	H.-W., G.-G., Kr.
280.	<i>Acupalpus (Acupalpus) paludicola</i> Reiter, 1884	E-MED	2.1.1	+	+	+	halob	H.-W., G.-G.
281.	<i>Acupalpus (Acupalpus) luteatus</i> (Duftschmid, 1812)	E-PAS	2.1.1	+	+	+	banks	H.-W., G.-G.
282.	<i>Acupalpus (Acupalpus) exiguus</i> (Dejean, 1829)	CE-PAS	2.1.1	+	+	+	banks, hummead, swamfor	H.-W., G.-G.
283.	<i>Anthraxus conspuratus</i> (Duftschmid, 1812)	E-AS	2.1.1	+	+	+	banks	H.-W., G.-G.
284.	<i>Anthraxus longicornis</i> (Schaum, 1857)	B-PAS	2.1.1	+	+	+	banks	H.-W., G.-G.
285.	<i>Anthraxus quarnerensis</i> Reiter, 1884	SE	2.1.1	+	+	+	banks	H.-W., G.-G.
286.	<i>Daptus vittatus</i> Fischer-Waldheim, 1824	CA-MED	2.3.1(1)	+	+	+	halob	H.-W., G.-G., Kr.
287.	<i>Parophonus (Parophonus) maculicornis</i> (Duftschmid, 1812)	E-PAS	2.2.1	+	+	+	meadow, agro	H.-W., G.-G.
288.	<i>Parophonus (Parophonus) dejeani</i> (Csiki, 1932)	E-PAS	2.2.1	+	+	+	drmead	H.-W., G.-G.
289.	<i>Parophonus (Tachyphonus) laeviceps</i> (Ménétriés, 1832)	B-PAS	2.2.1	+	+	+	meadow, agro	Müll., H.-W., G.-G.
290.	<i>Parophonus (Tachyphonus) mendax</i> (Rossi, 1790)	B-PAS	2.2.1	+	+	+	hummead, mesofof	H.-W., G.-G.
291.	<i>Parophonus (Tachyphonus) planicollis</i> (Dejean, 1829)	NMED	2.1.1	+	+	+	meadow, drmead	Apf., H.-W., G.-G.
292.	<i>Ophonus (Metophonus) nitidulus</i> Stephens, 1828	E-SI	2.2.1	+	+	+	drmead, xerofof	Šus., H.-W., G.-G., P.-K.
293.	<i>Ophonus (Metiophonus) cordatus</i> (Duftschmid, 1812)	E-PA-M	2.2.1	+	+	+	drmead	Pan., G.-G.
294.	<i>Ophonus (Metophonus) rupicola</i> (Sturm, 1818)	E-PAS	2.2.1	+	+	+	drmead	H.-W., G.-G., P.-K.
295.	<i>Ophonus (Metophonus) puncticollis</i> (Paykull, 1798)	W-PAL	2.2.1	+	+	+	drmead	Šus., G.-G.
296.	<i>Ophonus (Metophonus) cordicollis</i> (Dejean, 1829)	NMED	2.2.1	+	+	+	drmead, agro	H.-W., G.-G., Kr.
297.	<i>Ophonus (Metiophonus) puncticeps</i> (Stephens, 1828)	E-CAS	2.2.1	+	+	+	drmead, steppe	H.-W., G.-G., P.-K., Kr.
298.	<i>Ophonus (Metiophonus) rufibarbis</i> (Fabricius, 1792)	W-PAL	2.2.1	+	+	+	eury	Apf., Šus., H.-W., G.-G., P.-K.
299.	<i>Ophonus (Metophonus) schaubergerianus</i> Puel, 1937	CE-PAS	2.2.1	+	+	+	drmead	P.-K.
300.	<i>Ophonus (Metiophonus) melleti</i> (Heer, 1837)	E-PAS	2.2.1	+	+	+	meadow, drmead	Šus., H.-W., G.-G.
301.	<i>Ophonus (Metiophonus) subsinuatus</i> (Rey, 1886)	E-PA-M	2.2.1	+	+	+	drmead	H.-W., Kr.
302.	<i>Ophonus (Metiophonus) gabrieleae</i> Wrase, 1987	B-PAS	2.2.1	+	+	+	drmead, meadow	H.-W., G.-G.
303.	<i>Ophonus (Metophonus) parvirellus</i> (Dejean, 1829)	E-MED	2.2.1	+	+	+	meadow, drmead	H.-W., G.-G.
304.	<i>Ophonus (Metophonus) brevicollis</i> (Serville, 1821)	SE	2.2.1	+	+	+	meadow	H.-W., G.-G.
305.	<i>Ophonus (Hesperophonus) similis</i> (Dejean, 1829)	NMED	2.2.1	+	+	+	drmead, agro	H.-W., G.-G., Kr.
306.	<i>Ophonus (Hesperophonus) jailensis</i> (Schauberger, 1926)	E-MED	2.2.1	+	+	+	drmead	G.-G.
307.	<i>Ophonus (Hesperophonus) azureus</i> (Fabricius, 1775)	E-CA-M	2.2.1	+	+	+	drmead, meadow, agro	Apf., Pan., H.-W., G.-G., P.-K.
308.	<i>Ophonus (Hesperophonus) subquadratus</i> (Dejean, 1829)	MED	2.2.1	+	+	+	drmead	H.-W., G.-G., P.-K.
309.	<i>Ophonus (Hesperophonus) cribricollis</i> Dejean, 1829	E-CAS	2.2.1	+	+	+	drmead	Apf., H.-W., G.-G.
310.	<i>Ophonus (Ophonus) ardiostacus</i> (Lutshnik, 1922)	E-MED	2.2.1	+	+	+	drmead	G.-G.
311.	<i>Ophonus (Ophonus) diffinis</i> (Dejean, 1829)	E-PAS	2.2.1	+	+	+	drmead	H.-W., G.-G., P.-K.
312.	<i>Ophonus (Ophonus) sabulicola</i> (Panzer, 1796)	E-PA-M	2.2.1	+	+	+	drmead	Müll., Pan., Šus., H.-W., G.-G., P.-K.
313.	<i>Ophonus (Ophonus) franzinii</i> Siciaky, 1987	NMED	2.2.1	+	+	+	drmead	G.-G., Kr.
314.	<i>Ophonus (Macrophonus) oblongus</i> (Schaum, 1858)	B-PAS	2.2.1	+	+	+	meadow, steppe	Apf., H.-W., G.-G., Kr.
315.	<i>Ophonus (Cephalophonus) cephalotes</i> (Fabricius et Laboulbène, 1854)	E-AS	2.2.1	+	+	+	steppe, halob	H.-W., G.-G.
316.	<i>Ophonus (Semitophonus) signaticornis</i> (Duftschmid, 1812)	E-PAS	2.2.1	+	+	+	drmead, steppe	H.-W., G.-G., P.-K.
317.	<i>Pseudoophonus rufipes</i> (Degeer, 1774)	PAL	2.1.1	+	+	+	eury	Šus., H.-W., G.-G., P.-K., Kr.
318.	<i>Pseudoophonus griseus</i> (Panzer, 1797)	PAL	2.1.1	+	+	+	eury	Pan., Šus., H.-W., G.-G., P.-K., Kr.
319.	<i>Pseudoophonus calceatus</i> (Duftschmid, 1812)	E-AS	2.3.1	+	+	+	drmead, steppe	Pan., Šus., H.-W., G.-G., P.-K.
320.	<i>Harpalus (Cryptophonus) tenebrosus</i> Dejean, 1829	E-CA-M	2.3.1	+	+	+	drmead, steppe	H.-W., G.-G., P.-K.
321.	<i>Harpalus (Cryptophonus) litigiosus</i> Dejean, 1829	MED-PAS	2.3.1	+	+	+	psamob	H.-W., G.-G., Kr.
322.	<i>Harpalus (Cryptophonus) melancholicus</i> Dejean, 1829	B-PAS	2.3.1	+	+	+	psamob, halob	H.-W., G.-G., Kr.
323.	<i>Harpalus (Harpalus) rufipalpis</i> Sturm, 1818	W-PAL	2.3.1	+	+	+	drmead	H.-W., G.-G.

324.	<i>Harpalus (Harpalus) honestus</i> (Duftschmid, 1812)	E-SI	2.3.1	+			drmead	H.-W., G.-G.
325.	<i>Harpalus (Harpalus) sulphuripes</i> Germar, 1824	CEE-PA	2.3.1	+		drmead, steppe	H.-W., G.-G., P.-K., Kr.	
326.	<i>Harpalus (Harpalus) rubripes</i> (Duftschmid, 1812)	E-AS	2.3.1	+		eury	Apf., Pan., Šus., H.-W., G.-G., P.-K.	
327.	<i>Harpalus (Harpalus) attenuatus</i> Stephens, 1828	MED	2.3.1	+		mesofor, psamob	Pan., H.-W., G.-G., P.-K.	
328.	<i>Harpalus (Harpalus) atratus</i> Latreille, 1804	E-CAS	2.3.1	+		eury	H.-W., P.-K.	
329.	<i>Harpalus (Harpalus) stripes</i> (Quensel, 1806)	PAL	2.3.1	+		drmead, steppe, agro	Apf., Šus., H.-W., G.-G., P.-K.	
330.	<i>Harpalus (Harpalus) politus</i> Dejean, 1829	E-SI	2.3.1	+		xerofor	Apf., Müll., H.-W., G.-G., P.-K.	
331.	<i>Harpalus (Harpalus) flavicornis</i> Dejean, 1829	CE-PAS	2.3.1	+		xerofor, drmead	Apf., Pan., H.-W., G.-G., P.-K.	
332.	<i>Harpalus (Actephilus) pumilus</i> (Sturm, 1818)	E-CAS	2.3.1	+		drmead, agro	H.-W., G.-G.	
333.	<i>Harpalus (Actephilus) picipennis</i> Duftschmid, 1812	EUR	2.3.1	+		psamob, drmead	Pan., G.-G.	
334.	<i>Harpalus (Harpalus) anxius</i> (Duftschmid, 1812)	PAL	2.3.1	+		drmead, steppe, agro	Pan., H.-W., G.-G.	
335.	<i>Harpalus (Harpalus) amplicollis</i> Ménétrés, 1848	NM-CAS	2.3.1	+	+	steppe	H.-W., G.-G.	
336.	<i>Harpalus (Harpalus) calathoides</i> Motschulsky, 1844	B-CAS	2.3.1	+		drmead, steppe, agro	H.-W., G.-G., P.-K., Kr.	
337.	<i>Harpalus (Harpalus) servus</i> (Duftschmid, 1812)	E-SI	2.3.1	+		xerofor, drmead, psamob	H.-W., G.-G., Kr.	
338.	<i>Harpalus (Harpalus) subcylindricus</i> Dejean, 1829	E-CAS	2.3.1	+		eury	H.-W., G.-G.	
339.	<i>Harpalus (Haploharpalus) zabroides</i> Dejean, 1829	E-SI	2.3.2	+		drmead, steppe, agro	H.-W., G.-G.	
340.	<i>Harpalus (Haploharpalus) froelichi</i> Sturm, 1818	E-AS	2.3.1	+		meadow	H.-W., G.-G., P.-K.	
341.	<i>Harpalus (Acarthysus) flavescens</i> (Piller et Mitterpacher, 1783)	EUR	2.3.1(1)	+		meadow, psamob	H.-W., G.-G., Kr.	
342.	<i>Harpalus (Harpalus) modestus</i> Dejean, 1829	E-SI	2.3.1	+		drmead	G.-G., Kr.	
343.	<i>Harpalus (Harpalus) tardus</i> (Panzer, 1797)	E-CAS	2.3.1	+		eury	Apf., Šus., H.-W., G.-G., P.-K.	
344.	<i>Harpalus (Harpalus) albanicus</i> Reitter, 1900	E-PAS	2.3.1	+		drmead, steppe, agro	Apf., H.-W., G.-G., P.-K.	
345.	<i>Harpalus (Harpalus) latus</i> (Linnaeus, 1758)	E-AS	2.3.1	+		xerofor	Šus., H.-W., P.-K.	
346.	<i>Harpalus (Harpalus) xanthopus</i> Gemminger et Harold, 1868	E-PAS	2.3.1	+		xerofor	P.-K.	
347.	<i>Harpalus (Harpalus) luteicornis</i> Duftschmid, 1812	E-SI	2.3.1	+		meadow	Šus.	
348.	<i>Harpalus (Harpalus) fuscicornis</i> Ménétrés, 1832	W-PAL	2.3.1	+		xerofor	P.-K.	
349.	<i>Harpalus (Harpalus) smaragdinus</i> (Duftschmid, 1812)	E-AS	2.3.1	+		eury	Šus., H.-W., G.-G.	
350.	<i>Harpalus (Harpalus) autumnalis</i> (Duftschmid, 1812)	E-MED	2.3.1	+		drmead, steppe, agro	Pan., H.-W., G.-G., P.-K.	
351.	<i>Harpalus (Harpalus) cupreus</i> Dejean, 1829	NMED	2.3.1	+		drmead, agro	Apf., H.-W., G.-G., P.-K.	
352.	<i>Harpalus (Harpalus) dimidiatus</i> (Rossi, 1790)	E-PAS	2.3.1	+		xerofor, drmead	H.-W., G.-G., P.-K.	
353.	<i>Harpalus (Harpalus) caspius</i> (Steven, 1806)	E-PAS	2.3.1	+		drmead	P.-K.	
354.	<i>Harpalus (Harpalus) metallinus</i> Ménétrés, 1838	B-PAS	2.3.1	+		mesofor, meadow	H.-W., G.-G.	
355.	<i>Harpalus (Harpalus) pygmaeus</i> Dejean, 1829	E-PA-M	2.3.1	+		drmead, xerofor	H.-W., G.-G., Kr.	
356.	<i>Harpalus (Ariabas) punctatostriatus</i> (Dejean, 1829)	MED	2.3.1	+		banks, halob	Apf., H.-W., G.-G.	
357.	<i>Harpalus (Ariabas) rumelicus</i> Apfelbeck, 1904	BAL	2.3.1	+	+	steppe	Apf., H.-W., G.-G., Kr.	
358.	<i>Harpalus (Harpalophonus) hospes</i> Sturm, 1818	CE-PAS	2.3.1	+		drmead, halob	Apf., Pan., H.-W., G.-G.	
359.	<i>Harpalus (Harpalus) affinis</i> (Schränk, 1781)	E-AS	2.3.1	+		eury	Pan., Šus., H.-W., G.-G., Kr.	
360.	<i>Harpalus (Harpalus) distinguendus</i> (Duftschmid, 1812)	PAL	2.3.1	+		eury	Apf., Pan., Šus., H.-W., G.-G., P.-K., Kr.	
361.	<i>Harpalus (Harpalus) saxicola</i> Dejean, 1829	CE-PAS	2.3.1	+		drmead, steppe	H.-W., G.-G.	
362.	<i>Harpalus (Harpalus) oblitus</i> Dejean, 1829	E-PA-M	2.3.1	+		meadow, halob	G.-G., Kr.	
363.	<i>Harpalus (Harpalus) euchlorus</i> Ménétrés, 1836	BAL	2.3.1	+	+	drmead	Apf., H.-W., G.-G.	
364.	<i>Pangus scaritides</i> (Sturm, 1818)	E-PA-M	2.3.1	+	+	steppe	H.-W., G.-G.	
365.	<i>Acinopus (Acinopus) laevigatus</i> Ménétrés, 1832	B-CAS	2.3.2	+		drmead, steppe	G.-G., P.-K., Kr.	
366.	<i>Acinopus (Acinopus) subquadratus</i> Brullé, 1832	BAL	2.3.2	+		drmead, steppe	G.-G.	
367.	<i>Acinopus (Acinopus) picipes</i> (Olivier, 1795)	NMED	2.3.2	+		drmead	Apf., Müll., Pan., Šus., H.-W., G.-G., P.-K.	
368.	<i>Acinopus (Osimus) amophilus</i> Dejean, 1829	B-PAS	2.3.2	+		drmead, steppe	Apf., Müll., H.-W., G.-G., P.-K., Kr.	
369.	<i>Acinopus (Oedemateicus) megacephalus</i> (Rossi, 1794)	NMED	2.3.2	+		drmead, steppe	Apf., H.-W., G.-G., P.-K., Kr.	
370.	<i>Graniger corticollis</i> (Serville, 1821)	NMED	2.2.1	+	+	meadow	H.-W., G.-G., Kr.	

418.	<i>Lebia (Lebia) lepida</i> Audouin et Brulle, 1834	B-PAS	1.1.3	+		drmead	H.-W., G.-G., Kr.
419.	<i>Demetrias (Demetrias) atricapillus</i> (Linnaeus, 1758)	E-PA-M	1.1.2	+		mesofor, agro, marsh	H.-W., G.-G.
420.	<i>Demetrias (Atophorus) imperialis</i> (Germar, 1824)	E-PAS	1.1.2	+		banks, marsh	H.-W., G.-G., Kr.
421.	<i>Dromius quadrimaculatus</i> (Linnaeus, 1758)	EUR	1.3(1).5	+		mesofor, xerofor	G.-G.
422.	<i>Paradromius (Paradromius) suturalis</i> (Motschulsky, 1844)	B-CAS	1.3(1).5	+		halob	H.-W., G.-G., Kr.
423.	<i>Paradromius (Manodromius) linearis</i> (Olivier, 1759)	E-MED	1.3(1).5	+		banks, marsh, swa	Apf., Šus., H.-W., G.-G., P.-K.
424.	<i>Philorhizus (Philorhizus) notatus</i> (Stephens, 1827)	E-PA-M	1.1.2	+		drmead, steppe	G.-G.
425.	<i>Philorhizus (Philorhizus) sigma</i> (Rossi, 1790)	PAL	1.1.2	+		marsh, swa	Apf., H.-W., G.-G., Kr.
426.	<i>Synonymus obscuroguttatus</i> (Duftschmid, 1812)	E-PA-M	1.3(1).3	+		drmead, steppe	H.-W., G.-G.
427.	<i>Synonymus pallipes</i> (Dejean, 1825)	E-CA-M	1.1.2	+		drmead, steppe	H.-W., G.-G.
428.	<i>Synonymus impressus</i> (Dejean, 1825)	B-PAS	1.1.2	+		drmead, steppe	H.-W., G.-G.
429.	<i>Microlestes corticalis</i> (Dufour, 1820)	CA-MED	1.3(1).3	+		drmead, steppe, agro	H.-W., G.-G., Kr.
430.	<i>Microlestes fissuralis</i> Reitter, 1901	E-CAS	1.3(1).3	+		drmead, mesofor	H.-W., G.-G.
431.	<i>Microlestes fulvibasis</i> Reitter, 1900	CA-MED	1.3(1).3	+		halob	H.-W., G.-G.
432.	<i>Microlestes luctuosus</i> Holdhaus, 1904	CA-MED	1.3(1).3	+		drmead	Apf., H.-W., G.-G.
433.	<i>Microlestes maurus</i> (Sturm, 1827)	E-CAS	1.3(1).3	+		drmead, steppe	Šus., H.-W., G.-G.
434.	<i>Microlestes minutulus</i> (Goeze, 1777)	OLA	1.3(1).3	+		drmead, steppe	H.-W., G.-G.
435.	<i>Microlestes negrita</i> (Wollaston, 1854)	MED-PAS	1.3(1).3	+		drmead, steppe	H.-W., G.-G.
436.	<i>Microlestes plagiatus</i> (Duftschmid, 1812)	E-CAS	1.3(1).3	+		drmead, steppe, agro	H.-W., G.-G.
437.	<i>Microlestes apterus</i> Holdhaus, 1912	BAL	1.3(1).3	+		drmead	G.-G.
438.	<i>Lionychus quadrimaculatus</i> (Duftschmid, 1812)	EUR	1.3(1).1	+		psamob, banks	Pan., H.-W., G.-G.
439.	<i>Cymindis (Cymindis) axillaris</i> (Fabricius, 1794)	W-PAL	1.3(1).3	+		drmead, steppe	Šus., H.-W., G.-G., P.-K.
440.	<i>Cymindis (Cymindis) ornata</i> Fisher-Waldheim, 1824	B-PAS	1.3(1).3	+		drmead	H.-W., G.-G.
441.	<i>Cymindis (Cymindis) lineata</i> (Quensel, 1806)	B-CAS	1.3(1).3	+		drmead, steppe	H.-W., G.-G.
442.	<i>Cymindis (Cymindis) scapularis</i> Schaum, 1857	E-PAS	1.3(1).3	+		drmead, steppe	Müll., Šus., G.-G.
443.	<i>Cymindis (Menas) variolosa</i> (Fabricius, 1794)	E-PAS	1.3(1).3	+		drmead, steppe	H.-W., G.-G., P.-K.
444.	<i>Drypta dentata</i> (Rossi, 1790)	W-PAL	1.1.2	+		hummead, marsh	H.-W., G.-G., P.-K.
445.	<i>Polystichus connexus</i> (Fourcroy, 1785)	E-CA-M	1.3(1).1	+		meadow, drmead	Pan., H.-W., G.-G.
446.	<i>Polystichus fasciatus</i> (Rossi, 1790)	E-MED	1.3(1).1	+	+	meadow, banks	H.-W., G.-G.
447.	<i>Zuphium (Zuphium) olens</i> (Rossi, 1790)	E-AS	1.3(1).4	+		banks, swa	H.-W., G.-G.
448.	<i>Zuphium (Zuphium) araxidis</i> Khnzorian, 1972	B-PAS	1.3(1).4	+	+	halob, swa, steppe	H.-W., G.-G., Kr.
449.	<i>Zuphium (Parazuphium) chevrolati</i> Castelnau, 1833	E-MED	1.3(1).4	+	+	banks, hummead	H.-W., G.-G., Kr.
450.	<i>Apitinus cordicollis</i> Chaudoir, 1843	B-PAS	1.3(1).3	+		mesofor	G.-G., Kr.
451.	<i>Brachinus alexandri</i> F. Battoni, 1984	P-SMED	1.3(1).3	+		meadow, drmead	H.-W., G.-G.
452.	<i>Brachinus bayarati</i> Dejean, 1831	E-MED	1.3(1).3	+	+	banks, halob	H.-W., G.-G., Kr.
453.	<i>Brachinus berytensis</i> Reiche, 1855	B-PAS	1.3(1).3	+	+	drmead, steppe	G.-G.
454.	<i>Brachinus bipustulatus</i> Quensel, 1806	P-SMED	1.3(1).3	+		halob, steppe	H.-W., G.-G.
455.	<i>Brachinus bodemeyeri</i> Apfelbeck, 1904	E-MED	1.3(1).3	+		halob, banks	Apf., H.-W., G.-G., Kr.
456.	<i>Brachinus brevicollis</i> Motschulsky, 1844	B-CAS	1.3(1).3	+		xerofor, mesofor	Šus., G.-G., P.-K.
457.	<i>Brachinus crepitans</i> (Linnaeus, 1758)	PAL	1.3(1).1	+	+	drmead, steppe, agro	Apf., Šus., H.-W., G.-G., P.-K., Kr.
458.	<i>Brachinus ejiaculans</i> Fischer-Waldheim, 1829	B-CAS	1.3(1).3	+		meadow, hummead, banks	Apf., H.-W., G.-G., Kr.
459.	<i>Brachinus elegans</i> Chaudoir, 1842	MED	1.3(1).3	+	+	drmead, steppe	G.-G., P.-K.
460.	<i>Brachinus explodens</i> Duftschmid, 1812	E-CA-M	1.3(1).3	+		drmead, steppe, agro	Apf., Pan., Šus., H.-W., G.-G., P.-K.
461.	<i>Brachinus nigricornis</i> Gebler, 1829	E-PAS	1.3(1).3	+		meadow, halob	Apf., G.-G., Kr.
462.	<i>Brachinus plagiatus</i> Reiche, 1868	P-SMED	1.3(1).3	+		meadow	H.-W., G.-G., P.-K.
463.	<i>Brachinus efflans</i> Dejean et Boisduval, 1829	MED	1.3(1).3	+	+	banks, halob	Apf., G.-G., Kr.
464.	<i>Brachinus psophia</i> Serville, 1821	E-CAS	1.3(1).3	+		drmead, steppe, agro	H.-W., G.-G., P.-K.
465.	<i>Paussus turcicus</i> Frivaldsky, 1885	E-MED	3	+		xerofor, drmead	G.-G.

References

- Apfelbeck, V.**, 1904. Die Käferfauna der Balkanhalbinsel, mit Berücksichtigung Klein-Asiens und der Insel Kreta. Erstes Band: Familienreihe Caraboidea, 422 pp.
- Buresh, I. and S. Kantardzhieva**, 1928. Die in Bulgarien vorkommenden Arten der Subfamilie Carabinae (Coleoptera, Carabidae). *Mitt. Bulg. Ent. Ges. Sofia*, **1**: 45-107 (Bg).
- Casale, A. and A. Vigna Taglianti**, 1999. Caraboid beetles of Anatolia, and their biogeographical significance (Coleoptera: Caraboidea). *Biogeographia*, **20**: 1-405.
- Caspers, H.**, 1951. Biozönotische Untersuchungen über die Strandarthropoden im Bulgarischen Küstenbereich des Schwarzen Meers. *Hydrobiologia*, **3**: 131-193.
- Cranston, P. S. and J. W. H. Trueman**, 1997. "Indicator" taxa in invertebrate biodiversity assessment. *Memoirs of the Museum of Victoria*, **56** (2): 267-274.
- Desender, K. and L. Baert**, 1995. Carabid beetles as bio-indicators in Belgian coastal dunes: a long term monitoring project. *Bulletin de L'Institut Royal de Belgique Entomologie*, **65**: 35-54.
- Drensky, P.**, 1942. Über die Insektenfauna des Küstengebietes nördlich von Warna. *Mitt. Bulg. Ent. Ges. Sofia*, **12**: 15-44 (Bg).
- Gruev, B. and B. Kuzmanov**, 1994. General biogeography. *Nauka i Izkustvo*, Sofia, 498 pp. (Bg).
- Guéorguiev, V. B. and B. V. Guéorguiev**, 1995. Catalogue of the ground-beetles of Bulgaria (Coleoptera: Carabidae). *PENSOFIT Publishers*, Sofia-Moscow, 279 pp.
- Guéorguiev, V. B. and J. M. Lobo**, 2006. Adephagous beetles (Insecta: Coleoptera: Adephaga) in the Western Rhodopes (Bulgaria and Greece). In: Beron P. (ed.). Biodiversity of Bulgaria. 3. Biodiversity of Western Rhodopes (Bulgaria and Greece) I. *Pensoft & Nat. Mus. Natur. Hist.*, Sofia, pp. 283-346.
- Hieke, F. and W. Wrase**, 1988. Faunistik der Laufkäfer Bulgariens (Coleoptera, Carabidae). *Deutsche Entomologische Zeitschrift, N. F. Band*, **35** (1-3): 1-171.
- Kantardzhieva, S.**, 1928. Die Arten der Familie Cicindelidae (Col.) in Bulgarien. *Mitt. Bulg. Ent. Ges. Sofia*, **4**: 91-114 (Bg).
- Karnoschitzky, N.**, 1950. Review of halobiontic and halophilic Coleoptera of the Bulgarian Black Sea coast. *Publ. Marine Biol. Stat. Varna*, **15**: 1-66 (Ru).
- Karnoschitzky, N.**, 1954. Additional materials to the fauna of halobiontic and halophilic beetles of the Bulgarian Black Sea coast. *Ibid.*, **18**: 21-31 (Ru).
- Kodzhabashev N. D. and L. D. Penev**, 1998. Coleoptera, In: Michev, T., B. B. Georgiev, A. V. Petrova and M. P. Stoyneva (Eds), 1998. Biodiversity of the Srebarna Biosphere Reserve. Checklist and bibliography. *Co-published by Context & Pensoft, Sofia*, ivx + 130 pp.
- Kodzhabashev, N. D. and L. D. Penev**, 2006. The ground beetles (Coleoptera: Carabidae) of South Dobrudzha, Bulgaria. *Acta Zoologica Bulgarica*, **58** (2): 147-180.
- Kryzhanovskij, O. L.**, 1965. Composition and origin of the terrestrial fauna of Middle Asia. *Nauka*, Moscow-Leningrad, 420 pp. (Ru).
- Kryzhanovskij, O. L., I. A. Belousov, I. I. Kabak, B. M. Kataev, K. V. Makarov and V. G. Shilenkov**, 1995. A Checklist of the Ground-Beetles of Russia and Adjacent Lands (Insecta, Coleoptera, Carabidae), Series Faunistica № 3. *PENSOFIT Publishers*, Sofia-Moscow, 271 pp.
- Kryzhanovskij, O. L.**, Fauna Bulgarica, Carabidae. *Manuscript, unpublished data* (Ru).
- Luff, M. L.**, 1996. Use of Carabids as environmental indicators in grasslands and cereals. *Ann. Zool. Fennici*, **33**: 185-195.
- Lutshnik, V.**, 1934. Übersicht der Gruppe Pogoninae (Col.) an der europäischen Küste des Schwarzen Meers. *Mitt. Bulg. Ent. Ges. Sofia*, **8**: 97-108 (in Bulgarian).
- Muche, W. H.**, 1963. Sammeltage in Nessebar (Bulgarien). *Ent. Zeitschr.*, **73** (16): 173-179.
- Muche, W. H.**, 1965. Carabidae von Nessebar (Bulgarien). *Ent. Abh. Staatl. Mus. Tierk. Dresden*, **31** (1): 72-78.
- Müller, A.**, 1929. Zur Kenntnis der Insektenfauna der Süddobrudzha und Südbesarabiens. *Verh. und Mitt. Siebenburg. Ver. Naturwiss. zu Hermannstadt.*, **79**: 167-187.
- Palm, Th.**, 1966. Pa koleopterologiska excursioner vid Bulgariens Svarta havskust. *Ent. Tidskr.*, **87** (1-2): 5-22.
- Panin, S.**, 1941. Aperçu Sur la Faune Coléoptérologique de la Vallée de Batova. *Bull. Sec. Sci. Acad. Roum.*, **23** (10): 543-557.
- Pearsall, I. A.**, 2007. Carabid beetles as ecological indicators. In: "Monitoring the Effectiveness of Biological Conservation" (Proceeding of conference, 2-4 November 2004, Richmond), BC, pp. 389-399.
- Popov, M. G.**, 1927. The main features of the historical development of the flora of Middle Asia. *Bull. Middle Asian State Univ.*, **15**: 239-292 (Ru).
- Popov, V. V. and I. A. Krusteva**, 1999. Epigeobiont animal assemblages from two landscapes of the Bulgarian Black Sea Coast: relationship to environmental gradients, assemblage structure and biodiversity. Part I: Ground beetles. *Acta Zoologica Bulgarica*, **51** (1): 81-114.
- Rambousek, F.**, 1912. Fauna Coleopterorum Bulgarica. *Trav. Soc. Bulg. Sc. Nat.*, **5**: 57-113. (Bg).
- Sharova, I.**, 1981. Life forms of Carabids. *Nauka*, Moscow, 360 pp. (Ru).
- Šustek, Z.**, 1975. Pokus o vyhodnocení čeledi Carabidae Dobrudže ve srovnání se středoevropskými podmínkami. - Studentské vědecká práce. Vysoká škola zemědělská v Brně, Brno, 20 pp.
- Teofilova, T. M., E. P. Markova and N. D. Kodzhabashev**, 2011. A brief overview of the ground beetles (Coleoptera: Carabidae) of the Bulgarian Black Sea coast. *Science & Technologies, Section "Nautical & Environmental studies"*, Vol. **I** (2): 40-44.
- Thiele, H. U.**, 1977. Carabid beetles and their environments: a study on habitat selection by adaptations in physiology and behaviour. *Springer-Verlag*, Berlin, 369 pp.
- Vigna Taglianti, A., A. P. Audisio, M. Biondi, M. A. Bologna, G. M. Carpaneto, A. De Biase, S. Fattorini, E. Piattella, R. Sindaco, A. Venchi and M. Zapparoli**, 1999. A proposal for chorotype classification of the Near East fauna, in the framework of the Western Palearctic region. *Biogeographia*, **20**: 31-59.
- Vigna Taglianti, A.**, 1995. Coleopteri Carabidi del Parco Nazionale d'Abruzzo. Liste preliminari degli organismi viventi del Parco Nazionale d'Abruzzo. In: Franco Tassi, Progetto Biodiversità Ente Autonomo Parco Nazionale d'Abruzzo № 1, 32 pp.