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New or little-known ground beetles (Coleoptera: Carabidae) of Kunashir Island, Kurile Islands, Russia

Новые и редкие жужелицы (Coleoptera: Carabidae) острова Кунашир, Курильские острова, Россия

Yu.N. Sundukov[1], K.V. Makarov[2]
Ю.Н. Сундуков[1], К.В. Макаров[2]

1 State Nature Reserve "Kurilskiy", Zarechnaya str. 5, Yuzhno-Kuril'sk, Sakhalinskaya oblast' 694500 Russia. E-mail: yun-sundukov@mail.ru
Государственный природный заповедник "Курильский", ул. Заречная 5, Южно-Курильск, Сахалинская область 694500 Россия.
2 Zoology and Ecology Department, Moscow Pedagogical State University, Kibalchicha str. 6, Bld. 5, Moskow 129164 Russia.
Московский государственный педагогический университет, кафедра зоологии и экологии, ул. Кибальчича 6, корп. 3, Москва 129164 Россия. E-mail: kvmac@inbox.ru

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КЛЮЧЕВЫЕ СЛОВА. Жужелицы, Курильские острова, остров Кунашир, фауна, новый синоним.

ABSTRACT. The paper presents some results of field explorations on the ground beetles (Carabidae) carried out in 2008–2015 on Kunashir Island, the southernmost of the Great Kurile Archipelago. Our review concerns previously unpublished, scarce or dubious taxa in the island's fauna. Of the 70 taxa listed in the paper, 4 species and 1 subspecies are recorded in Russia for the first time, 26 are new to the entire Kurile Archipelago, 1 is new to the Great Kuriles, and 8 are new to Kunashir. A new synonym (*Acupalpus inouyei* Habu, 1980 = *A. storozhenkoi* Lafer, 1989, **syn.n.**) and a new combination (*Nebria shibanai shiretokoana* Nakane, 1960, **stat. rest.**) are established.

РЕЗЮМЕ. В статье рассматриваются результаты полевых исследований по жужелицам (Carabidae) в 2008–2015 годах на самом южном острове Большой Курильской гряды — Кунашире. В обзор включены не опубликованные ранее, редкие в сборах или вызывающие сомнение таксоны фауны этого острова. Из 70 таксонов, приведенных в статье, 4 вида и 1 подвид впервые указываются для фауны России, 26 — для Курильского архипелага, 1 — для островов Большой Курильской гряды и 8 видов — для острова Кунашир. Установлены один новый синоним (*Acupalpus inouyei* Habu, 1980 = *A. storozhenkoi* Lafer, 1989, **syn.n.**) и одна новая комбинация (*Nebria shibanai shiretokoana* Nakane, 1960, **stat.rest.**).

Introduction

The geographical position of Kunashir Island at the border of the boreal and East Asian zoogeographical realms, the proximity to and a shared geological history with Hokkaido have determined a highly peculiar composition of the island fauna and flora that attracted and still attracts researchers. Due to this, Kunashir is presently one of the best-studied islands of the Kurile Archipelago.

In particular, the first information on carabid beetles of the Kuriles generally and Kunashir Island in particular is contained in a number of first descriptions and a brief "Catalogus Coleopterorum japonicum" [Matsumura, 1928–1929] which altogether put on record only 10 species for the Kuriles. The first records of carabids on Kunashir Island proper are provided by Konakov [1956] who considered a near-fumarole fauna of the southern Kuriles. He reported only 3 species from Mendeleyeva Volcano and Golovnina Caldera: *Carabus rugipennis* (Motschulsky, 1861), *Cylindera elisae* (Motschulsky, 1859) and *Cicindela sachalinensis* A. Morawitz, 1862.

The first considerable paper on the insect fauna of the southern Kuriles belonged to Kuwayama [1967], who listed 20 carabid species from Kunashir. Krivolutskaja [1973], in her monograph reviewing the insects of the whole Kurile Archipelago, recorded already 66 carabid species from Kunashir alone, followed by Kryzhanovskij et al. [1975] who, in their paper specially focusing on the family Carabidae, found as many as 113 species.

Intense studies on carabids of the Far East of Russia are associated with the name of G.Sh. Lafer, an active and prolific researcher. He published a good number of papers on the fauna and systematics of ground beetles, including a key to species of the Far East [Lafer, 1989, 1992, 1996] and a review of this family on the southern islands of the Great Kuriles [Lafer, 2002b]; this review provided an estimate of carabid beetle diversity of Kunashir as amounting to 140 species.

In addition, Kunashir carabids have been the subject of special studies not only by Lafer [1998, 1999, 2002a], but also by other authors [Pütz, Wiesner, 1995; Makarov et al., 2013; Makarov, Sundukov, 2014]. Some further information on the species composition, distribution and systematic position of Carabidae on Kunashir Island is contained in

the works of Kryzhanovskij [1968, 1976], Movchan, Petrusenko [1973], Lafer [1976, 1978a, 1978b, 1980, 2006], Kryzhanovskij et al. [1995], Fedorenko [1996], Sundukov [2001, 2008, 2011], Makarov, Sundukov [2011], Sundukov, Makarov [2013]. As a result, already 138 carabid species have hitherto been reported from that island.

Study region

Kunashir is the southernmost and one of the largest islands of the Great Kurile Archipelago, being 1490 sq. km in area, 123 km in length and 7 to 30 km in width. The relief is mainly volcanic. The island consists of three mountain massifs formed by four active volcanoes: Tyatya (1819 m a.s.l.) and Ruruy (1485 m a.s.l.), the latter volcano being the highest peak of the Dokuchayev Mountain Range in the north, Mendeleyeva (888 m a.s.l.) in the central part, and Golovnina (543 m a.s.l.) in the south. The mountain massifs are divided by two depressions, Yuzhnokurilsky and Sernovodsky, both composed of Quaternary marine deposits and volcanogenic, sedimentary, plicate, Neogene rocks.

Kunashir's vegetation is considerably richer and more diverse compared to the other islands of the archipelago. According to Barkalov [2009], Kunashir hosts 1,078 vascular plant species. Spruce-fir, stone birch and mixed coniferous-broadleaved forests are widespread on Kunashir. The southwestern parts of the island usually feature oak woodlands of *Quercus dentata* Thumb. and *Q. crispula* Bl. Considerable areas of slopes at 250–300 m or higher altitudes are overgrown with thickets of Japanese stone pine and bamboo meadows. River beds characteristically support alder-birch forests and riverside willow thickets. Swampy herb-grass-sedge meadows and bogs are common in lower reaches and at mouths of rivers, as are dry, mixed species and bamboo grasslands on sandy and ochre soils on maritime coasts.

Material and methods

The following annotated checklist of new or poorly-known carabids of Kunashir is based on the following material (Map 1):

(1) Beetle collections made on Kunashir in 1990, 2008, 2009, 2011 and 2013 by K.V. Makarov, I.V. Melnik, A.A. Zaitsev, A.V. Matalin and A.S. Prosvirov (all Moscow). During their excursions, about 200 localities were visited, with a total of more than 5,000 ground beetle specimens taken which represent 138 species.

(2) From late May to early October 2013–2015, in the framework of a programme for inventorying the insect (Insecta) and spider (Aranei) faunas of the southern Kuriles, Yu.N. Sundukov and L.A. Sundukova (Lazo, Maritime Province) visited 73 localities on Kunashir Island, having collected 6,650 adult carabids which belonged to 146 species.

All available collecting techniques were applied: hand collecting, exhauster usage, entomological net sweeping, litter sieving, "stomping" the swamp vegetation, watering the ground, shaking trees and bushes, as well as light, pitfall, window fly, "yellow" and Malaise trapping.

In addition to the above material, about 600 carabid specimens belonging to 37 species were studied, which D.N. Kochetkov (Arkhara, Amurskaya Region) took on Kunashir in 2003 and 2006 at 8 localities.

The present review incorporates previously unpublished, scarce or dubious species captured on Kunashir. The review does not cover new taxa from the tribe Trechini which will be dealt with elsewhere. Besides the faunistic results, a new synonym (*Acupalpus inouyei* Habu, 1980 = *A. storozhenkoi* Lafer, 1989, **syn.n.**) and a new combination (*Nebria shibanai shiretokoana* Nakane, 1960, **stat.rest.**) are established in the present paper.

All material, with a few exceptions indicated below, is housed either in the Moscow State Pedagogical University or the private collection of Yu.N. Sundukov (Lazo, Maritime Province). Comparative material of some species of the subgenus *Nakanebria*, genus *Nebria*, is kept in the collection of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZISP), while the types of *Acupalpus storozhenkoi* Lafer, 1989 are deposited in the Institute of Biology and Soil Sciences, Far East Branch, Russian Academy of Sciences, Vladivostok.

Annotated species checklist

Family Carabidae

Subfamily Nebriinae

Tribe Nebriini

Nebria (*Nakanebria*) *shibanai shiretokoana* Nakane, 1960, **stat. rest.**

Figs 1–20; Map 2.

Nebria shibanaii shiretokoana Nakane, 1960: 64; type locality: "Rushagawa", Shiretoko Peninsula, Hokkaido, Japan.

Nebria (*Nakanebria*) *gibbulosa shiretokoana* Nakane, 1960: Ledoux, Roux, 2005: 188.

MATERIAL. 198 ex: canyon of stream, 2.5 km north-west of Cape Nelyudimyi, h~60 m, 2.VIII.2013, K. Makarov, Yu. Sundukov leg., 28 ex; mouth of Dokuchaevka River, 30.VII.2013, Yu. Sundukov leg., 2 ex; foothills of Ruruy Volcano ~1 km south of Dokuchaevo, h~150, 5.VIII.2013, K. Makarov leg., 1 ex; 150–200 m north of Dalnii Stream, 8.VIII.2013, K. Makarov, Yu. & L. Sundukov leg., 2 ex; lower reaches of Dalnii Stream, h~110, 9.VIII.2013, Yu. & L. Sundukov leg., 8 ex; coast of Okhotsk Sea ~1 km north of Dalnii Stream, 8.VIII.2013, K. Makarov leg., 2 ex; ibid, south of Dalnii Stream, 11.VIII.2013, K. Makarov leg., 3 ex; creek ~1 km south of Bely Utes Cape, 11.VIII.2013, K. Makarov, Yu. Sundukov leg., 5 ex; upper course of Zolotaya River, h~100 m, 25.VII.2013, K. Makarov, Yu. Sundukov leg., 11 ex; middle flow of Zolotaya River, 15.VIII.2013, Yu. Sundukov leg., 1 ex; lower reaches of Zolotaya River, 30.VI.2008, K. Makarov leg., 1 ex; middle flow of Severyanka River, 27.VII.2013, Yu. Sundukov leg., 1 ex; right side of Severyanka River valley, 29.VI.2008, K. Makarov leg., 12 ex; Dokuchaeva Ridge, road km 3 from Rudnoe to Filatovka, h~300 m, 16.VI.2014, Yu. Sundukov leg., 2 ex; 2.5 km south-west of Severyanka River, 26.VII.2013, K. Makarov, Yu. & L. Sundukov leg., 14 ex; creek ~1 km east-north-east of Cape Stolbchatyi, 12.VIII.2011, K. Makarov, 2 ex; Odinokii Stream, 1 km south of Alekhino, 3.VIII.2011, K. Makarov leg., 5 ex; ibid, 8.VII.2015, Yu. & L. Sundukov leg., 5 ex; ibid, 23.VII.2015, Yu. & L. Sundukov leg., 8 ex; 4.5 km south-west of Cape Alekhina, western slope of 341 Mt., waterfall, 20.VIII.2009, K. Makarov leg., 18 ex; ibid, 27.VII.2011, K. Makarov leg., 1 ex; creeks north of Ozernaya River mouth, 16.IX.2014, Yu. Sundukov leg., 7 ex; Okhotskoe place north of the mouth of Ozernaya River, 23.VII.2011, K. Makarov leg., 6 ex; creek 1.5 km south of the mouth of Ozernaya River, 26.VII.2011, K.

Makarov leg., 3 ex; mouth of creek, 1 km north of Blizhnii Island, 26.VII.2011, K. Makarov leg., 10 ex; mouth of creek near Blizhnii Island, 16.VIII.2011, K. Makarov leg., 13 ex, ibid, 22.IX.2014, Yu. Sundukov leg., 4 ex; creek 1 km north Vodopadnyi Stream, 15.VI.2011, A. Matalin leg., 20 ex; ibid, 18.VIII.2011, K. Makarov leg., 4 ex.

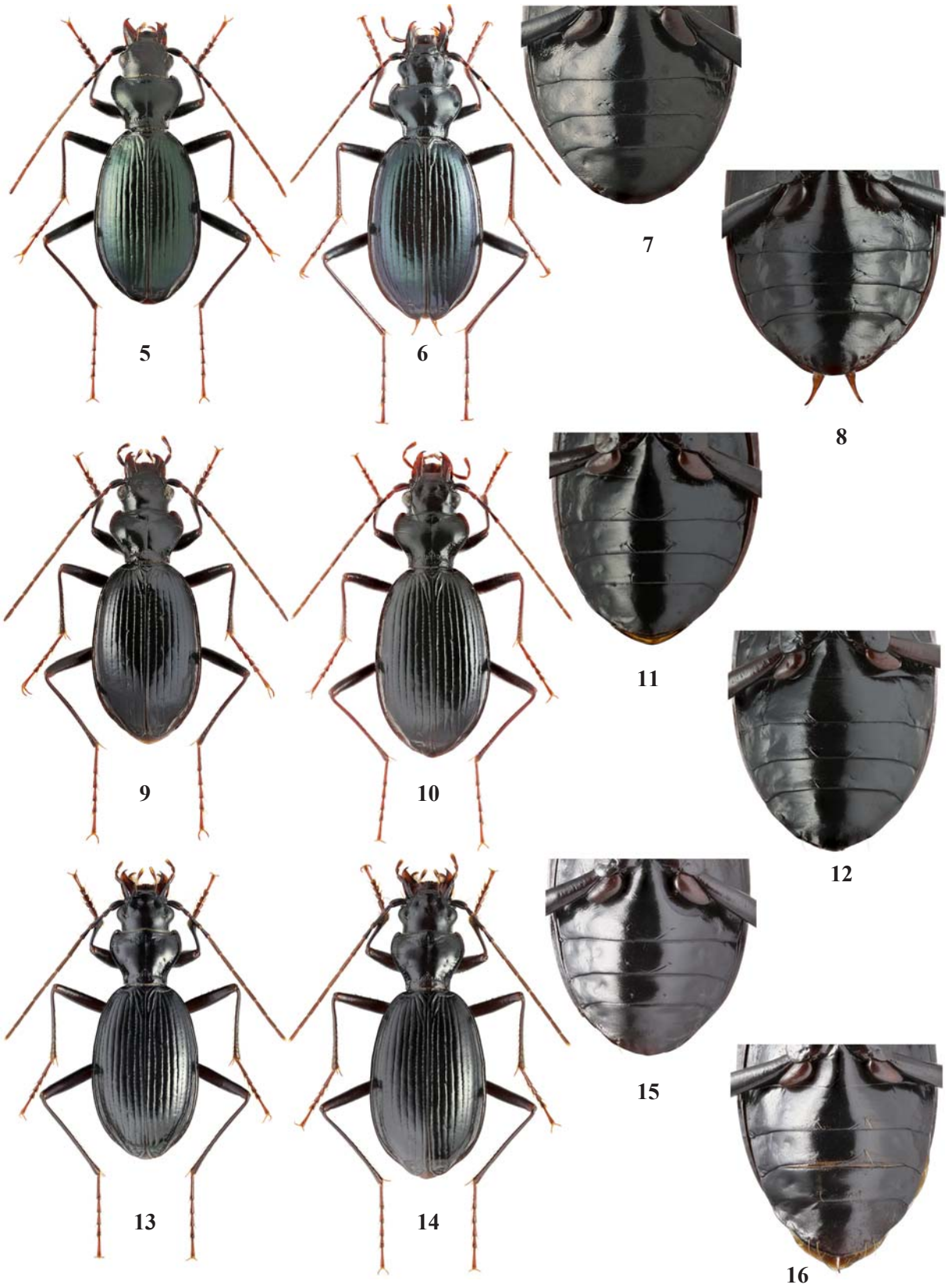
ADDITIONAL MATERIAL. *Nebria* (*Nakanebria*) *shibanai shibanai* Uéno, 1955: Hokkaido, Mt. Asahi dake 26.VII.1975, S. Morita leg., 1 male (ZISP); Japan, Hokkaido, Mt. Daisetsuzan, 3.VII.1955, Kawamura leg., 3 females (ZISP). *Nebria* (*Nakanebria*) *shibanai shiretokoana* Nakane, 1960: Japan, Hokkaido, Nemuro, Mt. Rausudake, 2.VIII.1964, T. Okumura leg., 2 males, 2 females (ZISP). *Nebria* (*Nakanebria*) *gibbulosa* Motschulsky, 1860: Urup Is., Natalii Bay, 10.IX.1981, O. Kabakov leg., 3 males, 3 females (ZISP); Kurile Islands, Urup Is., Ukromnaya Bay, sea shore, rocky debris, 20.VIII.1996, K. Eskov leg., 1 male, 3 females.

LITERATURE DATA. Krivolutskaja, 1973: 63 (*N. gibbulosa*: Kunashir); Kryzhanovskij et al., 1975: 129 (*N. gibbulosa*: NE Kunashir); Lafer, 1989: 102 (*N. shibanai*: Kunashir), 2002: 49 (*N. shibanai*: Kunashir); Kryzhanovskij et al., 1995: 30 (*N. shibanai shiretokoana*: Kunashir).

DISTRIBUTION. Russia: southern Kuril Islands (Kunashir). — Japan (Hokkaido).

Figs 1–4. Typical habitats of *N. shibanai shiretokoana* Nakane on Kunashir Island: 1 — right source of Severyanka River; 2 — Okhotskoe place north of the mouth of Ozernaya River; 3 — canyon of stream, 2.5 km north-west of Cape Nelyudimyi; 4 — mouth of creek near Blizhnii Island.

Рис. 1–4. Типичные местообиттания *N. shibanai shiretokoana* Nakane на острове Кунашир: 1 — правый приток р. Северянка; 2 — урочище Охотское к северу от устья р. Озёрная; 3 — ущелье ручья 2,5 км северо-западнее мыса Нелюдимый; 4 — устье ручья напротив острова Ближний.



Figs 5–16. *N. shibanai* : 5–8 — *N. s. shibanai* Uéno; 9 –16 — *N. s. shiretokoana* Nakane; 5–6, 9–10, 13–14 — habitus, dorsal; 7–8, 11–12, 15–16 — abdomen, ventral; 5, 7, 9, 11, 13, 15 — males; 6, 8, 10, 12, 14, 16 — females; 5–12 — from Hokkaido; 13–16 — from Kunashir Is.

Рис. 5–16. *N. shibanai* : 5–8 — *N. s. shibanai* Uéno; 9–16 — *N. s. shiretokoana* Nakane; 5–6, 9–10, 13–14 — внешний вид, сверху; 7–8, 11–12, 15–16 — брюшко, снизу; 5, 7, 9, 11, 13, 15 — самцы; 6, 8, 10, 12, 14, 16 — самки; 5–12 — с Хоккайдо; 13–16 — с о. Кунашир.

Figs 17–20. Male genitalia of *Nakanebria*: 17 — *N. gibbulosa* (Urup Is.), 18 — *N. shibanai shibanai* (Hokkaido), 19 — *N. shibanai shiretokoana* (Hokkaido), 20 — *N. shibanai shiretokoana* (Kunashir Is.).

Рис. 17–20. Гениталии самцов *Nakanebria*: 17 — *N. gibbulosa* (о. Уруп), 18 — *N. shibanai shibanai* (Хоккайдо), 19 — *N. shibanai shiretokoana* (Хоккайдо), 20 — *N. shibanai shiretokoana* (о. Кунашир).

ECOLOGY. Common in beds of mountain rivers and creeks on the island's Sea of Okhotsk coast, preferring places with large differences of level, waterfalls etc. Avoiding flat habitats and larger rivers, often occurring far way from mainstreams, such as gravelly cliffs with oozing water. Adults are found under stones near the water line or inside wet stony or gravelly looses on steep creek edges (Figs 1–4).

COMMENTS. Referred to previously as *N. gibbulosa* Motschulsky, 1860, based on few specimens taken in the north-east of Kunashir on 1, 2 and 20 August by O.N. Kabakov (Kryzhanovskij et al., 1975). The ZISP collection contains a specimen of this species labeled "5206 South. Kuriles Kunashir Is., NE part, 2.VIII.1960 OK", apparently one of those mentioned above. Revision of the O.N. Kabakov collection, now also housed in ZISP, showed that all his material he took in 1960 stemmed from the mainland, largely from the environs of the Ussuri Nature Reserve. O.N. Kabakov collected on Kunashir much later, in 1981 and 1988. Therefore, the label seems to be erroneous and an exact locality thus remains unknown.

Lafer re-identified the same beetles later and, as *N. shibanaii*, included in his key to the *Nebria* species of the Far East [Lafer, 1989]. Since Lafer had only young, not fully pigmented specimens in his hands, he failed to trace the subspecies identity, giving in the key the characters of the nominative subspecies which lives in the mountains on Hokkaido and shows a bright metallic lustre.

All specimens we collected represent the low-montane melanistic and larger form, *N. shibanaii shiretokoana* Nakane, 1960, described from Shiretoko Peninsula, Hokkaido, a territory geographically the closest to Kunashir. This form was later [Ledoux, Roux, 2005] considered as a subspecies of the species *N. gibbulosa* which is known both from Iturup and Urup islands, Kuriles. That viewpoint was only based on external characters such as a dark, non-metallic upperside and the presence of only 1 pair of chaetae on visible abdominal sternites 4–6. A study of our material shows the number of sternal chaetae to be strongly variable (Table), thus failing to reliably discriminate the *Nakanebria* taxa in question.

Comparisons of aedeagus preparations (Figs 17–20) showed that *N. gibbulosa* differs from both subspecies of *N. shibanai* in an elongated lamella of the penis and a longer, apically pointed, left paramere, against the background of a generally similar shape of the endophallus. It seems noteworthy that the population from Kunashir is characterized by considerable variations in endophallus shape, so that the differences between the Kunashir males often considerably surpass those from the nominative subspecies.

As a result, we believe that both Siretoko Peninsula and the Kunashir coast it faces are populated by the same subspecies of *Nakanebria* Ledoux et Roux, 2005, one which is to be referred to *N. shibanai* and restored in its initial status: *Nebria shibanai shiretokoana* Nakane, 1960, **stat. rest**.

Table. Proportion of different chaetotaxy patterns on visible abdominal sternites 4–6 in *N. gibbulosa* Motschulsky, 1860 and *N. shibanai* Uéno, 1955.

Таблица. Доля различных вариантов хетотаксии 4–6 видимых стернитов брюшка у *N. gibbulosa* Motschulsky, 1860 и *N. shibanai* Uéno, 1955.

Taxon and collection locality	Proportion of chaetotaxy patterns, %		
	1+1	1+2	2+2
N. gibbulosa (Urup Is.)	60	30	0
N. shibanai shibanai (Hokkaido Is.)	30	40	20
N. shibanai shiretokoana (Hokkaido Is.)	40	20	40
N. shibanai shiretokoana (Kunashir Is.)	82	13	5

Tribe Notiophilini

Notiophilus impressifrons A. Morawitz, 1862

Map 3.

Notiophilus impressifrons A. Morawitz, 1862: 190 [238]; type locality: "Bureja-Gebirge", Bureinsky Ridge near Amur River, Russian Far East.

MATERIAL. 13 ex: Cape Dokuchaeva, Dokuchaevo, 31.VII.2013, L. Sundukova leg., 1 ex; ibid, upper reaches of first creek to the east, 5.VIII.2013, Yu. Sundukov leg., 1 ex; upper reaches of Zolotaya River, 25.VII.2013, Yu. Sundukov leg., 1 ex; Rudnoe, 28.VI-5.VII.2006, D. Kochetkov leg., 1 ex; Dokuchaeva Mt. Ridge, road-km 2 from Rudnoe to Filatovka, h~200–250 m, 16.VI.2014, Yu. Sundukov leg., 1 ex; hills south of Cape Stolbchatyi, h~18–193, 18.IX.2009, A. Prosvirov leg., 1 ex; creek south of Cape Stolbchatyi, 21.VII.2013, Yu. & L. Sundukov leg., 1 ex; Alekhino, 14.IX.2014, Yu. Sundukov leg., 1 ex; Cape Ivanovskii, Grozovoe, 17.IX.2013, Yu. Sundukov leg., 1 ex; ibid, 17–21.IX.2014, Yu. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 7–9.VI.2015, Yu. Sundukov leg., 1 ex; ibid, 15.VI.2015, Yu. Sundukov leg., 1 ex; ibid, 18.VI.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), Sakhalin, Primorskii Krai (= Maritime Province), Khabarovskii Krai (= Khabarovsk Province), Jewish Autonomous Region, Amurskaya oblast', southern Magadanskaya oblast'; Transbaikalia, Irkutskaya oblast', Khakassia. — Japan (Hokkaido, Honshu, Kyushu), Korea, north-eastern China, Mongolia.

ECOLOGY. Inhabiting various types of valley and mountain woodlands, meadows and watersheds all over the island. Adults are found under dry leaves or openly running on the ground.

COMMENTS. A species new to the fauna of Kunashir. In the Kuriles, it has hithero been recorded only on Shikotan Island [Kryzhanovskij et al., 1975; Lafer, 1989, 2006; Sundukov, Makarov, 2013].

Subfamily Carabinae

Tribe Carabini

Calosoma (*Campalita*) *chinense chinense* Kirby, 1819

Map 4.

Calosoma chinense Kirby, 1819: 379; type locality: "in China", China.

MATERIAL. 2 ex: western shore of Lake Peshchanoe, 2.IX.2014, Yu. Sundukov leg., 1 ex; ibid, 3.IX.2014, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Kuwayama, 1967: 131 (Grigorievo); Kryvolutskaja, 1973: 61 (Alekhino; Lake Goryacheye); Kryzhanovskij et al., 1975: 128 (Kunashir); Lafer, 1989: 106 (Kunashir), 2002: 50 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Iturup, Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'. — Japan (Hokkaido, Honshu, Kyushu, Ryukyu Islands), Korea, north-eastern and eastern China.

ECOLOGY. Adults were collected on the slope of a meadow.

COMMENTS. A species very scarce on Kunashir, not refound there for over 50 years [Kryvolutskaja, 1973].

Carabus (*Hemicarabus*) *tuberculosus* Dejean, 1829

Map 5.

Carabus tuberculosus Dejean, 1829: 359; nomen novum pro *Carabus tuberculatus* Fischer von Waldheim, 1828: 186; type locality: "montibus Altaicis", Altai Mts., Russia.

MATERIAL. 9 ex: Yuzhno-Kurilsk, 6.VII.2013, Yu. Sundukov leg., 1 ex; Cape Ivanovskii, Grozovoe, 23–25.V.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 1–3.VI.2013, Yu. & L. Sundukov leg., 5 ex; ibid, 11–16.VI.2013, Yu. & L. Sundukov leg., 1 ex; right bank of Golovnina River 1.5 km upstream the mouth, 15.VI.2015, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 128 (Sernovodsk; Golovnino; Dubovoe); Lafer, 1989: 107 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'; southern Siberia. — Japan (Hokkaido, Honshu), Korea, north-eastern China, Mongolia, north-eastern Kazakhstan.

ECOLOGY. Inhabiting maritime mixed grass-bamboo meadows, found there in the first half of the summer.

COMMENTS. A scarce species on Kunashir, not refound there for over 40 years [Kryzhanovskij et al., 1975].

Subfamily Elaphrinae

Tribe Elaphrini

Blethisa multipunctata aurata Fischer von Waldheim, 1828

Map 6.

Blethisa aurata Fischer von Waldheim, 1828: 262; type locality: "Kamtschatka", Kamchatka, Russian Far East.

MATERIAL. 19 ex: flood-plain of Bolotnaya River north of Yuzhno-Kurilsk, 6.VII.2008, K. Makarov leg., 1 ex; marsh between Serebryanka River and sea coast, 30.VIII.2014, Yu. Sundukov leg., 3 ex; Danilovo place, lake, 7–9.VIII.2011, K. Makarov leg., 4 ex; ibid, 2.VII.2015, Yu. & L. Sundukov leg., 4 ex; ibid, 5.VII.2015, Yu. Sundukov leg., 6 ex; Veslovskii Peninsula 1.5 km north of Cape Veslo, 21.VII.2008, K. Makarov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin [Goulet et al, 2009], Far East (excluding other islands of the Kurile Archipelago). — Japan (Hokkaido); Alaska, Northwest of Canada.

ECOLOGY. Inhabiting moss-grassy swamps and wet meadows.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Elaphrus (*Elaphrotatus*) *punctatus* Motschulsky, 1844

Map 7.

Elaphrus punctatus Motschulsky, 1844: 73; type locality: "rives de la Selenga au-dela du Baical", Selenga River, Buryatia, Russia.

MATERIAL. 2 ex: Lovzova Peninsula, Lake Nadya, 16.VIII.2015, Yu. & L. Sundukov leg., 1 ex; ibid, north-east coast of Lake Dlinnoe, 18.VIII.2015, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast': Transbaikalia, Irkutskaya oblast', Tyva, Eastern Sayan. — Japan (Hokkaido, Honshu), north-eastern and northern China, Mongolia, Tibet.

ECOLOGY. Adults found on swampy shores of fresh- or brackish-water lakes.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Subfamily Scaritinae

Tribe Clivinini

Clivina fossor sachalinica Nakane, 1952

Map 8.

Clivina fossor sachalinica Nakane, 1952: 2; type locality: "Konuma, Saghalien", Novoalexandrovsk near Yuzhno-Sakhalinsk, Sakhalin, Russia.

MATERIAL. 131 ex: Lovzova Peninsula, lake north of Lake Nadya, 8.VIII.2015, Yu. & L. Sundukov leg., 1 ex; ibid, marsh south of Lake Nadya, 16.VIII.2015, Yu. & L. Sundukov leg., 9 ex; ibid, north-east coast of Lake Dlinnoe, 18.VIII.2015, Yu. & L. Sundukov leg., 9 ex; lower reaches of Severyanka River, 5.VI.2014, Yu. Sundukov leg., 4 ex; mouth of Severjanka River, 26.VI.2008, K. Makarov leg., 1 ex; ibid, 26.VII.2013, K. Makarov leg., 3 ex, coast south of Rudnoe, 26.VII.2013, Yu. & L. Sundukov leg., 6 ex; mouth of Tyatina River, 21.VII.2014, Yu. & L. Sundukov leg., 2 ex; lower reaches of Saratovskaya River, 2–4.VII.2014, Yu. Sundukov leg., 3 ex; ibid, 12–14.VII.2014, Yu. & L. Sundukov leg., 11 ex; Filatovka River upstream the mouth of Belysheva Stream, 31.VII.2014, Yu. & L. Sundukov leg., 1 ex; near Yuzhno-Kurilsk, 14–20.VI.1990, K. Makarov leg., 7 ex; Yuzhno-Kurilsk, 6.VII.2013, Yu. Sundukov leg., 2 ex; ibid, 30.VIII.2013, L. Sundukova leg., 1 ex; ibid,

17.VI.2011, A. atalin leg., 1 ex; Lesnaya River near mouth, 17.VII.2009, K. Makarov leg., 1 ex; lakes in the valley south of western shore of Lake Peshchanoe, 3–4.VII.2015, Yu. & L. Sundukov leg., 25 ex; ibid, 26.VII.2015, Yu. Sundukov leg., 12 ex; mouth of Andreyevka River, 30.V.2014, Yu. Sundukov leg., 2 ex; mouth of Alekhina River, 19.VIII.2009, K. Makarov leg., 1 ex; Alekhino, 3.VI.2011, A. Matalin leg., 1 ex; caldera of Golovnina Volcano, 7–9.VI.2013, Yu. & L. Sundukov leg., 1 ex; coast north of Krivonozhka Stream, 11.VII.2013, Yu. & L. Sundukov leg., 3 ex; Cape Ivanovskii, Grozovoe, 28–30.V.2015, Yu. Sundukov leg., 3 ex; ibid, 1–3.VI.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 8–9.VII.2013, Yu. & L. Sundukov leg., 1 ex; mouth of Temnaya River, 6.VI.2015, Yu. Sundukov leg., 1 ex; mouth of Khlebnikova River, 15–17.VI.2015, Yu. Sundukov leg., 3 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 7–9.VI.2015, Yu. Sundukov leg., 3 ex; ibid, 15–22.VI.2015, Yu. Sundukov leg., 12 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 130 (Dubovoe); Lafer, 1989: 130 (Kunashir), 1996: 403 (Kunashir), 2002: 52 (Kunashir).

DISTRIBUTION. Russia: Kurile Islands (Paramushir, Urup, Iturup, Kunashir, Shikotan), Sakhalin. — Japan (Hokkaido, Honshu).

ECOLOGY. Occurring all over the island. Common both in natural humid or wet forestless habitats and human settlements.

COMMENTS. The sole Kunashir record was based on a single specimen taken at Dubovoe [Kryzhanovskij et al., 1973]. According to Lafer [2002], this is a species scarce on Kunashir. Our studies show it to be one of the common carabids in wet open habitats of the island.

Tribe Dyschiriini

Dyschirius (*Dyschiriodes*) *fassatii* Kult, 1949
Map 9.

Dyschirius Fassatii Kult, 1949: 125; type locality: "Manchukuo: Lake Khanka", Lake Khanka, Heilongjiang, north-eastern China.

MATERIAL. 21 ex: Danilovo place, 2.VII.2015, Yu. & L. Sundukov leg., 21 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'; Transbaikalia. — North Korea, Mongolia, Kazakhstan.

ECOLOGY. Collected on wet sandy bracken soils on the shore of a small waterbody; aggregate in habits.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Dyschirius (*Dyschiriodes*) *tristis* Stephens, 1827
Map 10.

Dyschirius tristis Stephens, 1827: 43; type locality: "near Hertford", Hertford near London, United Kingdom.

MATERIAL. 16 ex: Danilovo place, 2.VII.2015, Yu. & L. Sundukov leg., 3 ex; Cape Ivanovskii, 14–18.VII.2013, Yu. & L. Sundukov leg., 10 ex; small creek 2 km south of Grozovoe, 2.VI.2015, Yu. Sundukov leg., 3 ex.

LITERATURE DATA. Fedorenko, 1996: 145, fig. 367 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, Khabarovskii Krai, Amurskaya oblast', Magadanskaya oblast'; Yakutia, Transbaikalia, Siberia, Ural, Caucasus, European part. — Japan (Hokkaido, Honshu, Kyushu), Korea, Mongolia, Middle Asia, Transcaucasia, Europe.

ECOLOGY. Inhabiting wet sandy or sandy-loam soils on banks of streams and small waterbodies, where making burrows and often aggregate in habits.

COMMENTS. It seems probable the the record of *D. ovicollis* Putzeys, 1873 at Tretiyakovo [Kryzhanovskij et al., 1975; Lafer, 1989] actually refers to *D. tristis*.

Subfamily Broscinae

Tribe Broscini

Eobroscus (*Eobroscus*) *lutshniki* (Roubal, 1928)
Map 11.

Broscus Lutshniki Roubal, 1928: 90; type locality: "Siberia occ.: Suèan", Partizansk, Primorskii Krai, Russia.

MATERIAL. 7 ex: lower course of Zolotaya River, 30.VI.2008, K. Makarov, I. Melnik leg., 2 ex; middle course of Zolotaya River, 15.VIII.2013, K. Makarov leg., 1 ex; 9 km south-west of Yuzhno-Kurilsk, north slope of Mendeleyeva Volcano, near thermal spring, 19.VI.1990, I. Melnik leg., 1 ex; Mendeleyeva Volcano, Lechebnyi Spring, 2–3.VIII.1989, N. Nikitsky leg., 1 ex; near Tretiyakovo, Valentiny Stream, 19–25.VIII.2008, I. Melnik leg., 1 ex; upper reaches of Odinokii Stream, 8.VII.2015, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij, 1968: 173 (Kunashir); Krivolutskaja, 1973: 63 (Kunashir); Lafer, 1989: 126 (Kunashir), 1998: 19 (Cape Stolbchatyi).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai. — Japan (Hokkaido, Honshu), North Korea, north-eastern and central China.

ECOLOGY. Inhabiting the banks of mountain rivers and streams. Adults occur in niches under stones or in wet stony or gravelly grounds.

COMMENTS. A species very rare on Kunashir. Reliably recorded previously only from Cape Stolbchatyi, based on N.B. Nikitsky's collections of 25.VII.1985 [Lafer, 1998].

Subfamily Trechinae

Tribe Tachyini

Tachys (*Paratachys*) *micros* (Fischer von Waldheim, 1828)
Map 12.

Dromius micros Fischer von Waldheim, 1828: 97; type locality: "Caucasus", Caucasus.

MATERIAL. 8 ex: creek south of Cape Stolbchatyi, 21.VII.2013, K. Makarov, Yu. & L. Sundukov leg., 6 ex; Cape Ivanovskii, Grozovoe, 28–30.V.2015, Yu. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 15–17.VI.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), Primorskii Krai, southern Amurskaya oblast'; Cisbaikalia, southern Siberia, Altai, Caucasus, centre and south of European part. — Japan (Hokkaido, Honshu, Kyushu), North Korea, north-eastern China, Kazakhstan, south-western and Middle Asia, Europe, North Africa.

ECOLOGY. Occurring in humid habitats: flood-plain tall-grass thickets, silted banks of rivers and streams.

COMMENTS. A species new to the fauna of Kunashir. In the Kuriles, it has hitherto been recorded only on Shikotan Is. [Sundukov, Makarov, 2013].

Elaphropus latissimus latissimus (Motschulsky, 1851)
Map 13.

Tachys latissima Motschulsky, 1851: 508; type locality: "Ind. or.", East India.

MATERIAL. 110 ex: caldera of Golovnina Volcano, south shore of Lake Goryacheye, 12.VIII.2009, K. Makarov, A. Zaitsev leg., 1 ex; lower reaches of Krivonozhka Stream, 20–22.VI.2013, Yu. & L. Sundukov leg., 13 ex; Cape Ivanovskii, 23–25.V.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 1–3.VI.2013, Yu. & L. Sundukov leg., 14 ex; ibid, 2.IX.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 5–6.IX.2013, Yu. & L. Sundukov leg., 3 ex; ibid, 13–15.IX.2013, Yu. & L. Sundukov leg., 4 ex; ibid, 28–30.V.2015, Yu. Sundukov leg., 3 ex; Vodopadnyi Stream south of Cape Ivanovskii, 27–28.V.2013, Yu. & L. Sundukov leg., 10 ex; mouth of Sennaya River, 11.VIII.2011, K. Makarov & A. Zaitsev leg., 1 ex; watershed of Golovnina and Khle-

bnikova rivers in lower reaches, 15–17.VI.2015, Yu. Sundukov leg., 6 ex; ibid, 30.IX.2015, Yu. Sundukov leg., 1 ex; ibid, west of Dubovoe, 28–29.IX.2015, Yu. Sundukov leg., 52 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 133 (*E. bifoveolatus*: Dubovoe).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'. — Japan (Hokkaido, Honshu, Kyushu), North Korea, Taiwan, eastern China, Pakistan; Oriental Region, Australia, Africa.

ECOLOGY. Banks of streams and humid habitats in the belt of low-montane meadows.

COMMENTS. Based on the literature record, only 1 specimen taken at Dubovoe [Kryzhanovskij et al., 1975]. According to our observations, widespread in the south and south-west of Kunashir.

Tribe Bembidiini

Bembidion (*Sakagutia*) *umi* Sasakawa, 2007
Map 14.

Bembidion (*Sakagutia*) *umi* Sasakawa, 2007: 36; nomen novum for *Bembidion* (*Sakagutia*) *marinum* Uéno, 1955: 344; type locality: "Kuno", Shitsuoka Pref., Honshu, Japan.

MATERIAL. 39 ex: Cape Puzanova, 8.VIII.2014, Yu. & L. Sundukov leg., 6 ex; ibid, 26.VIII.2014, Yu. Sundukov leg., 21 ex; mouth of Stolbovskoy Stream south of Cape Stolbchatyi, 21.IX.2009, A. Prosvirov leg., 1 ex; mouth of Medny Stream, 3.VII.2008, K. Makarov leg., 11 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, southern Primorskii Krai. — Japan (Honshu).

ECOLOGY. Inhabiting marine gravelly and sandy beaches of the spray zone.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Bembidion (*Desarmatocillenus*) *yokohamae* (Bates, 1883)
Map 15.

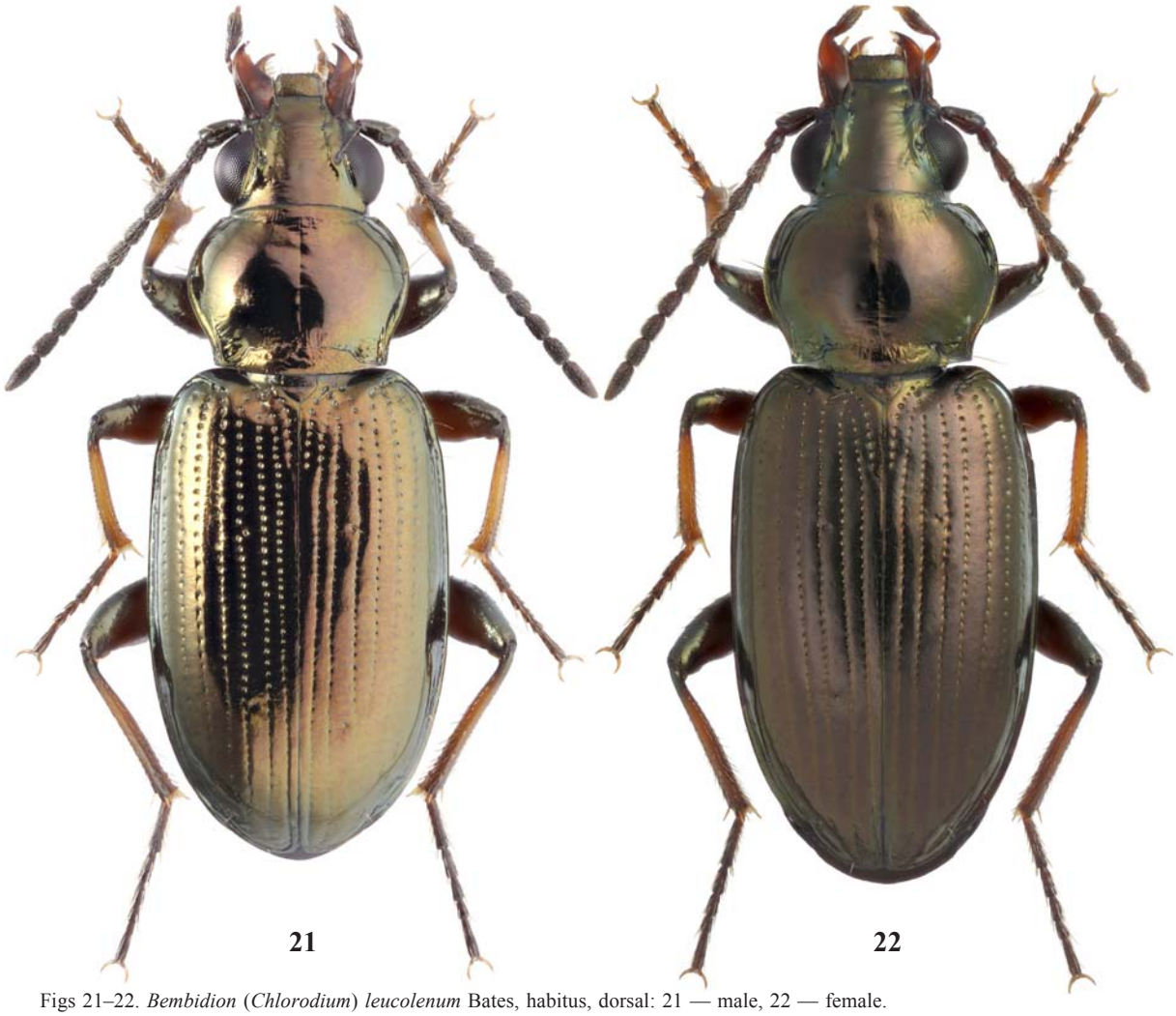
Cillenum Yokohamae Bates, 1883: 268; type locality: "Kawasaki", near Yokohama, Honshu, Japan.

MATERIAL. 1 ex: mouth of Sennaya River, 2.5 km east of Paltusovo, 17.VI.2011, A. Matalin leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin. — Japan (Honshu, Shikoku, Kyushu).

ECOLOGY. "This species … inhabits the intertidal zone, especially of sandy beaches of brackish water areas" [Uéno, 1955: 350].

COMMENTS. A species new to the fauna of the Kurile Archipelago.



Figs 21–22. *Bembidion* (*Chlorodium*) *leucolenum* Bates, habitus, dorsal: 21 — male, 22 — female.

Рис. 21–22. *Bembidion* (*Chlorodium*) *leucolenum* Bates, внешний вид, сверху: 21 — самец, 22 — самка.

Bembidion (*Bracteon*) *stenoderum* Bates, 1873
Map 16.

Bembidium stenoderum Bates, 1873: 300; type locality: "Osaka", Honshu, Japan.

MATERIAL. 79 ex: Lovzova Peninsula, lake north of Lake Nadya, 8.VIII.2015, Yu. & L. Sundukov leg., 57 ex; shore of Lake Glukhoe, 9.VII.2008, I. Melnik leg., 6 ex; western shore of Lake Peshchanoe, 8.VIII.2009, K. Makarov leg., 8 ex; ibid, 8.IX.2014, Yu. Sundukov leg., 6 ex; ibid, 5.VI.2011, A. Matalin leg., 1 ex; creek south of Cape Znamenka, 6.VIII.2009, K. Makarov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 131 (Sernovodsk); Lafer, 2002: 52 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Iturup, Kunashir), southern Sakhalin, Primorskii Krai; Karelia. — Japan, North Korea, eastern and north-eastern China.

ECOLOGY. Occurring on sandy shores of freshwater lakes and other stagnant waters, more rarely on sandy shores at stream mouths.

COMMENTS. Previously recorded, based only on 1 specimen taken at Sernovodsk [Kryzhanovskij et al., 1975]. According to our material, widespread across Kunashir.

Bembidion (*Chlorodium*) *leucolenum* Bates, 1883
Figs 21–22; Map 17.

Bembidium leucolenum Bates, 1883: 275; type locality: "Nikko", Tochigi Pref., Honshu, Japan.

MATERIAL. 2 ex: lower reaches of Krivonozhka Stream, 20–22.VI.2013, Yu. & L. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers west of Dubovoe, 28.IX.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Hokkaido, Honshu).

ECOLOGY. Adults found at road flanks on maritime bamboo meadows.

COMMENTS. A species new to the fauna of Russia. When identifying the *B. leucolenum* samples, we noted that in the catalogue of Palaearctic Carabidae [Maggi et al., 2003] and in most of the electronic databases on the Internet the year of description of this species is given wrong, 1873 instead of 1883.

Bembidion (*Eupetedromus*) *sibiricum* Dejean, 1831
Map 18.

Bembidium (*Notaphus*) *sibiricum* Dejean, 1831: 66; type locality: "Sibérie", Barnaul (designated by Jedlička, 1965: 101), Altai, Russia.

MATERIAL. 133 ex: Lovzova Peninsula, marsh south of Lake Nadya, 15–16.VIII.2015, Yu. & L. Sundukov leg., 73 ex; Severyanka River 1 km upstream of Rudnoe, 2.VII.2008, K. Makarov leg., 22 ex; ibid, 23.VII.2013, Yu. & L. Sundukov leg., 4 ex; ibid, 5–8.VI.2014, Yu. Sundukov leg., 11 ex; ibid, 17.VI.2014, Yu. Sundukov leg., 3 ex; floodplain of Severyanka River near mouth, 27.VII.2013, K. Makarov leg., 5 ex; south-east shore of Lake Valentina, 27.VI.2008, K. Makarov leg., 2 ex; middle reaches of Serebryanka River, 20.VI.2011, A. Matalin leg., 6 ex; ibid, 3.VIII.2015, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Kamchatka; Yakutia, Transbaikalia, southern and western Siberia, Ural. — Japan (Hokkaido), northern Kazakhstan.

ECOLOGY. Inhabiting swampy meadows and silty shores of waterbodies.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Bembidion (*Plataphus*) *lucillum lucillum* Bates, 1883
Map 19.

Bembidium (*Peryphus*) *lucillum* Bates, 1883: 271; type locality: "Hakone", Kanagawa Pref., Honshu, Japan.

MATERIAL. 22 ex: Saratovskaya River 3 km upstream of mouth, 16.VII.2014, Yu. & L. Sundukov leg., 7 ex; ibid, 22.VII.2014, Yu. Sundukov leg., 11 ex; lower reaches of Saratovskaya River, 7.VII.2014, Yu. & L. Sundukov leg., 4 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin. — Japan (Hokkaido, Honshu, Shikoku, Kyushu).

ECOLOGY. Inhabiting gravelly banks of larger rivers within the belt of dark coniferous forest.

COMMENTS. A species new to the fauna of the Kurile Archipelago. Erroneously recorded by us on Shikotan Is. (see below under comments to *B. pseudolucillum* Netolitzky, 1938).

Bembidion (*Nipponobembidion*) *ruruy* Makarov et Sundukov, 2014
Map 20.

Bembidion (?*Nipponobembidion*) *ruruy* Makarov et Sundukov, 2014: 77; type locality: "2.5 km NW of Cape Nelyudimyi", Kunashir Isl., southern Kurile, Russian Far East.

MATERIAL. 14 ex: mouth of Dokuchaevka River, 30.VII.2013, Yu. Sundukov leg., 1 ex; 2.5 km north-west of Cape Nelyudimyi, 4.VIII.2013, K. Makarov & Yu. Sundukov leg., 8 ex; Cape Lovzova, 10.VIII.2015, Yu. & L. Sundukov leg., 3 ex; ibid, 22.VIII.2015, Yu. Sundukov leg., 2 ex.

LITERATURE DATA. Makarov, Sundukov, 2014: 77 (Cape Nelyudimyi; Dokuchaeva River).

DISTRIBUTION. Russia: southern Kurile Islands (northern Kunashir).

ECOLOGY. Adults collected on wet rocky cliffs and inside wet or humid gravelly-argil mixes on stream banks, as well as on maritime cliffs.

COMMENTS. This species was described [Makarov, Sundukov, 2014] as being endemic to Ruruy Volcano. The new samples show that *B. ruruy* is distributed more widely along the northern coast of Kunashir.

Bembidion (*Blepharoplataphus*) *hiogoense* Bates, 1873
Map 21.

Bembidium (*Peryphus*) *Hiogoense* Bates, 1873: 302; type locality: "Hiogo", Honshu, Japan.

MATERIAL. 132 ex: Zolotaya River, 1.VII.2008, K. Makarov leg., 1 ex; ibid, 24.VII.2013, Yu. & L. Sundukov leg., 2 ex; Severyanka River, 23.VII.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 8.VI.2014, Yu. Sundukov leg., 1 ex; ibid, 17.VI.2014, Yu. Sundukov leg., 3 ex; mouth of Tyatina River, 6.IX.2009, I. Melnik leg., 1 ex; ibid, 21.VII.2014, Yu. & L. Sundukov leg., 12 ex; Saratovskaya River 3 km upstream of mouth, 16.VII.2014, Yu. & L. Sundukov leg., 10 ex; ibid, 22.VII.2014, Yu. Sundukov leg., 10 ex; lower reaches of Saratovskaya River, 2–7.VII.2014, Yu. & L. Sundukov leg., 60 ex; Mostovaya River, 9.IX.2009, A. Prosvirov leg., 1 ex; lower reaches of Bolysheva Stream, 30.VII.2014, Yu. & L. Sundukov leg., 6 ex; Filatovka River upstream of the mouth of Bolysheva Stream, 31.VII.2014, Yu. & L. Sundukov leg., 17 ex; lower reaches of Filatovka River, 25–28.VI.2013, Yu. Sundukov leg., 6 ex; lower reaches of Krivonozhka Stream, 28.V.2013, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Urup, Iturup, Kunashir, Shikotan), southern Sakhalin. — Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), Korea.

ECOLOGY. Inhabiting banks of rivers and streams in their lower reaches.

COMMENTS. A species new to the fauna of the Kurile Archipelago. The records of *B. ventricosum* (Ménétriès, 1860) on Kunashir [Kryzhanovskij et al., 1975; Lafer, 2002] might actually concern *B. hiogoense*.

Bembidion (*Peryphanes*) cf. *sanatum* Bates, 1883
Figs 23–26; Map 22.

Bembidium (*Peryphus*) *sanatum* Bates, 1883: 274; type locality: "Niohozan", Tochigi Pref., Honshu, Japan.

MATERIAL. 6 ex: source of Kislaya River, 18.VI.2011, I. Melnik & A. Matalin leg., 4 ex; mouth of Kislaya River, 17.VIII.2009, A. Prosvirov leg, 2 ex.

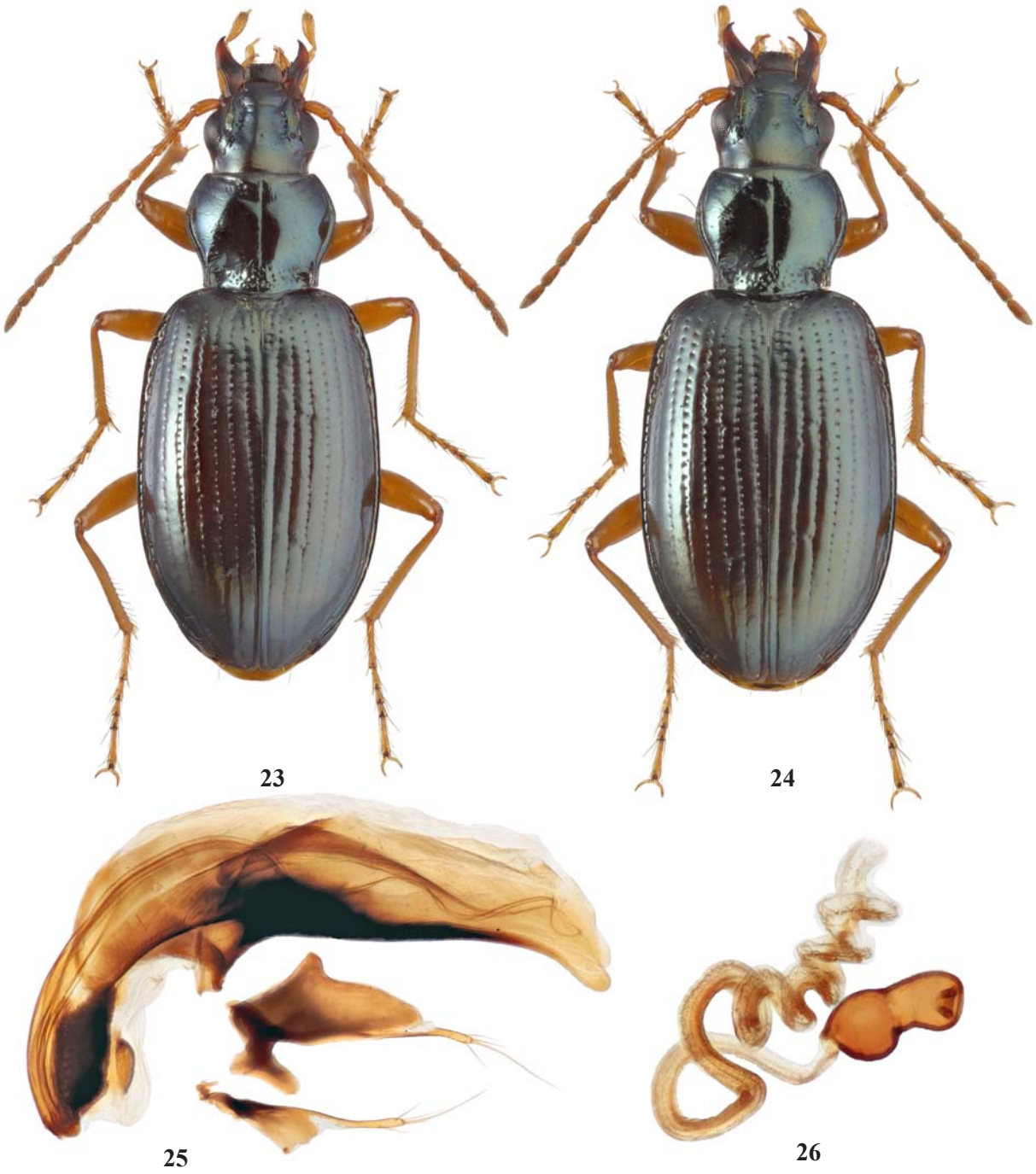
ADDITIONAL MATERIAL. 4 ex: Japan: Mt. Hikageyama, Jyoushu Gunma Pref., 18.IX.1993, S. Morita leg.

LITERATURE DATA. Kryzhanovskij et al., 1975: 132 (Mendeleyeva Volcano).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Honshu).

ECOLOGY. Collected on a stream bank in the zone of solfatar fields of Mendeleyeva Volcano.

COMMENTS. First described in the subgenus *Peryphus* [Bates, 1883], later treated as a dubious species, even though Netolitzky [1943] noted its "convergent" similarity to species of the subgenus *Peryphanes*. Its aedeagus structure (hypertrophied armature, large ribbon brush and main sclerite) and female genital tracts (long spermathecal duct with



Figs 23–26. *Bembidion* (*Peryphanes*) cf. *sanatum* Bates: 23–24 — habitus, dorsal; 25 — male genitalia; 26 — spermatheca; 23, 25 — male, 24, 26 — female.

Рис. 23–26. *Bembidion* (*Peryphanes*) cf. *sanatum* Bates: 23–24 — внешний вид, сверху; 25 — эдеагус; 26 — сперматека; 23, 25 — самец; 24, 26 — самка.

thickened walls, missing annulus receptaculum, complex spermatheca with an asymmetrical basal part) are evidence of the attribution of this species to the subgenus *Peryphanes* Jeannel, 1941 [sensu Müller-Motzfeld, 1983; Belousov, Sokolov, 1996]. The identity of *B. sanatum* specimens described from Honshu requires confirmation.

Bembidion (*Ocydromus*) *cnemidotum* Bates, 1883
Map 23.

Bembidium (*Peryphus*) *cnemidotum* Bates, 1883: 273; type locality: "Sapporo", Hokkaido, Japan.

MATERIAL. 91 ex: lower reaches of Saratovskaya River, 4.IX.2009, A. Prosvirov leg., 1 ex; ibid, 2.VII.2014, Yu. Sundukov leg., 8 ex; ibid, 7.VII.2014, Yu. & L. Sundukov leg., 23 ex; Saratovskaya River 3 km upstream of mouth, 16.VII.2014, Yu. & L. Sundukov leg., 10 ex; ibid, 22.VII.2014, Yu. Sundukov leg., 5 ex; mouth of Alekhina River, 6.VIII.2009, K. Makarov leg., 14 ex; ibid, 19.VIII.2009, K. Makarov leg., 11 ex; Alekhino, 11–14.IX.2014, Yu. Sundukov leg., 4 ex; ibid, 7.VII.2015, Yu. & L. Sundukov leg., 13 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin. — Japan (Hokkaido, Honshu, Shikoku, Kyushu).

ECOLOGY. Inhabiting gravelly banks of rivers and streams in their lower reaches.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Bembidion (*Ocydromus*) *negrei* Habu, 1958
Figs 27–30; Map 24.

Bembidion (*Peryphus*) *negrei* Habu, 1958: 64; type locality: "Mt. Osore, lake-side of Usoriyamako", Aomori Pref., Honshu, Japan.


27


28


29


30

Figs 27–30. Typical habitats of *Bembidion* (*Ocydromus*) *negrei* Habu: 27, 28 — north coast of Lake Goryacheye, fumarole field "Bezymyannoe"; 29, 30 — coast of Lake Kipyashcheye.

Рис. 27–30. Типичные местообитания *Bembidion* (*Ocydromus*) *negrei* Habu: 27, 28 — северное побережье озера Горячее, фумарольное поле "Безымянное"; 29, 30 — берг озера Кипящее.

MATERIAL. 139 ex: north coast of Lake Goryacheye, 24.VII.2011, K. Makarov leg., 4 ex; ibid, fumarole field "Bezymyannoe", 24.VII.2011, K. Makarov leg., 16 ex; ibid, 17.VII.2015, Yu. & L. Sundukov leg., 9 ex; east coast of Lake Goryacheye, 13.VIII.2009, K. Makarov leg., 6 ex; ibid, 26.V.2011, I. Melnik & A. Matalin leg., 31 ex; Lake Goryacheye, fumarole fields "Central West", 16.VII.2015, Yu. & L. Sundukov leg., 23 ex; ibid, 11.IX.2015, Yu. Sundukov leg., 4 ex; Lake Goryacheye, sulfur beach 200 m west of fumarole field "Central West", 7.IX.2015, Yu. Sundukov leg., 1 ex; ibid, 11.IX.2015, Yu. Sundukov leg., 2 ex; south-west coast of Lake Kipyashcheye, 7–9.VI.2013, Yu. & L. Sundukov leg., 25 ex; ibid, 15.VII.2015, Yu. & L. Sundukov leg., 11 ex; ibid, 5.IX.2015, Yu. Sundukov leg., 7 ex.

LITERATURE DATA. Lafer, 2002: 45 (*B. kuznetzovi*: Lake Kipyashchee); Makarov et al., 2013: 56 (*B. kuznetzovi*: caldera of Golovnina Volcano).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Hokkaido, Honshu).

ECOLOGY. Known only from solfatar fields in the caldera of Golovnina Volcano, where adults occur on banks of acid and slightly acid waterbodies under stones, plant debris or inside strongly whitewashed (opalized) rocks (Figs 27–30).

COMMENTS. In Russian papers, previously referred to as *Bembidion* (*Peryphus*) *kuznetzovi* Lafer, 2002 [Lafer, 2002; Makarov et al., 2013], but now considered as a junior subjective synonym of *B. negrei* [Morita, 2010: 14].

Bembidion (*Ocydromus*) *scopulinum* (Kirby, 1837)
Map 25.

Peryphus scopulinus Kirby, 1837: 53; type locality: "in Lat. 54º", Edmonton (designated by Lindroth, 1963: 342), Alberta, Canada.

MATERIAL. 4 ex: 150–200 m north of Dalnii Stream, 7.VIII.2013, Yu. & L. Sundukov leg., 1 ex; Cape Belyi Utes, 11.VIII.2013, Yu. Sundukov leg., 1 ex; flood-plain of Severjanka River near Rudnyi, 23.VII.2013, K. Makarov leg., 1 ex; Vodopadnyi Stream south of Cape Ivanovskii, 27–28.V.2013, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Kamchatka, Chukotka; Yakutia, Transbaikalia, Siberia. — Japan (Hokkaido, Honshu, Kyushu), North Korea, north-eastern China, Mongolia, northern Kazakhstan; North America.

ECOLOGY. Adults taken on humid banks of streams and rivers.

COMMENTS. A species new to the fauna of the Kuriles.

Bembidion grapii Gyllenhal, 1827
Map 26.

Bembidium Grapii Gyllenhal, 1827: 403; type locality: "Lapponia boreali", Abisko (designated by Lindroth, 1963: 319), Kiruna, Sweden.

MATERIAL. 1 ex: source of right tributary of Zolotaya River, h~400–450 m, 19.VIII.2013, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Kamchatka, Chukotka; Yakutia, Transbaikalia, Siberia, Ural, Caucasus, north of European part. — North Korea, north-eastern Kazakhstan, Baltia, Scandinavian Peninsula, Iceland; North America.

ECOLOGY. Taken in litter at a small creek following a forest road in a spruce-birch wood.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Bembidion pseudolucillum Netolitzky, 1938
Figs 31–35; Map 27.

Bembidion (*Peryphus*) *pseudolucillum* Netolitzky, 1938: 37; type locality: "Settsu", Osaka, Honshu, Japan.

MATERIAL. 111 ex: mouth of Dokuchaevka River, 30.VII.2013, Yu. Sundukov leg., 1 ex; creek mouth near Moristyi Island, 17.VIII.2013, K. Makarov leg., 12 ex; middle reaches of Zolotaya River, 24.VII.2013, Yu. & L. Sundukov leg., 7 ex; ibid, 15.VIII.2013, Yu. Sundukov leg., 1 ex; right tributary of Zolotaya River, 19.VIII.2013, K. Makarov leg., 1 ex; lower reaches of Severyanka River, 17.VI.2014, Yu. Sundukov leg., 2 ex; middle reaches of Severyanka River, 27.VII.2013, K. Makarov & Yu. Sundukov leg., 16 ex; Saratovskaya River 3 km upstream of mouth, 16.VII.2014, Yu. & L. Sundukov leg., 2 ex; ibid, 22.VII.2014, Yu. Sundukov leg., 2 ex; lower reaches of Bolysheva Stream, 30.VII.2014, Yu. & L. Sundukov leg., 1 ex; Filatovka River upstream of the mouth of Bolysheva Stream, 31.VII.2014, Yu. & L. Sundukov leg., 2 ex; lower reaches of Filatovka River, 25–28.VI.2013, Yu. Sundukov leg., 7 ex; Stolbovskoi Stream upstream of thermal springs, 16.VIII.2009, K. Makarov leg., 13 ex; Tretiyakovo, right source of Valentiny Stream, 24.V.2011, A. Matalin leg., 9 ex; ibid, 21.VIII.2013, K.Makarov leg., 15 ex; middle reaches of Tretiyakova Stream, 13.VIII.2011, K.Makarov leg., 2 ex; ibid, 22.VIII.2013, K.Makarov, Yu. & L. Sundukov leg., 18 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan). — Japan (Hokkaido, Honshu, Kyushu).

ECOLOGY. Inhabiting sandy and sandy-loam banks of rivers and streams in the forest belt, more often in places with cold water, springs etc. In contrast to most of the *Bembidion* occurring on Kunashir, avoiding near-mouth beds.

COMMENTS. A species new to the fauna of Russia. Erroneously reported from Shikotan Is. sub *B. lucillum lucillum* Bates, 1883 [Sundukov, Makarov, 2013].

Tribe Patrobini

Diplous (*Diplous*) *sibiricus atratus* Habu, 1951
Map 28.

Diplous caligatus f. *atratus* Habu, 1951: 70; type locality: not defined.

MATERIAL. 20 ex: mouth of Tyatina River, 6.IX.2009, A. Prosvirov leg., 8 ex; ibid, 21.VII.2014, Yu. & L. Sundukov leg., 7 ex; lower reaches of Saratovskaya River, 4.IX.2009, A. Prosvirov leg., 1 ex; Saratovskaya River 3 km upstream of mouth, 22.VII.2014, Yu. Sundukov leg., 3 ex; bank of Mostovaya River, 9.IX.2009, A. Prosvirov leg., 1 ex.

LITERATURE DATA. Lafer, 2002: 52 (*D. sibiricus*: ?Kunashir); Makarov et al., 2013: 56 (North Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Iturup, Kunashir), Sakhalin. — Japan (Hokkaido, Honshu, Shikoku).

ECOLOGY. Inhabiting banks of lower reaches of larger rivers. Adults aggregate under stones or larger pebble.

COMMENTS. Recorded for the first time on Kunashir, based on our material [Makarov et al., 2013], but without exact places of collection.

Diplous (*Platidius*) *depressus* (Gebler, 1829)
Map 29.

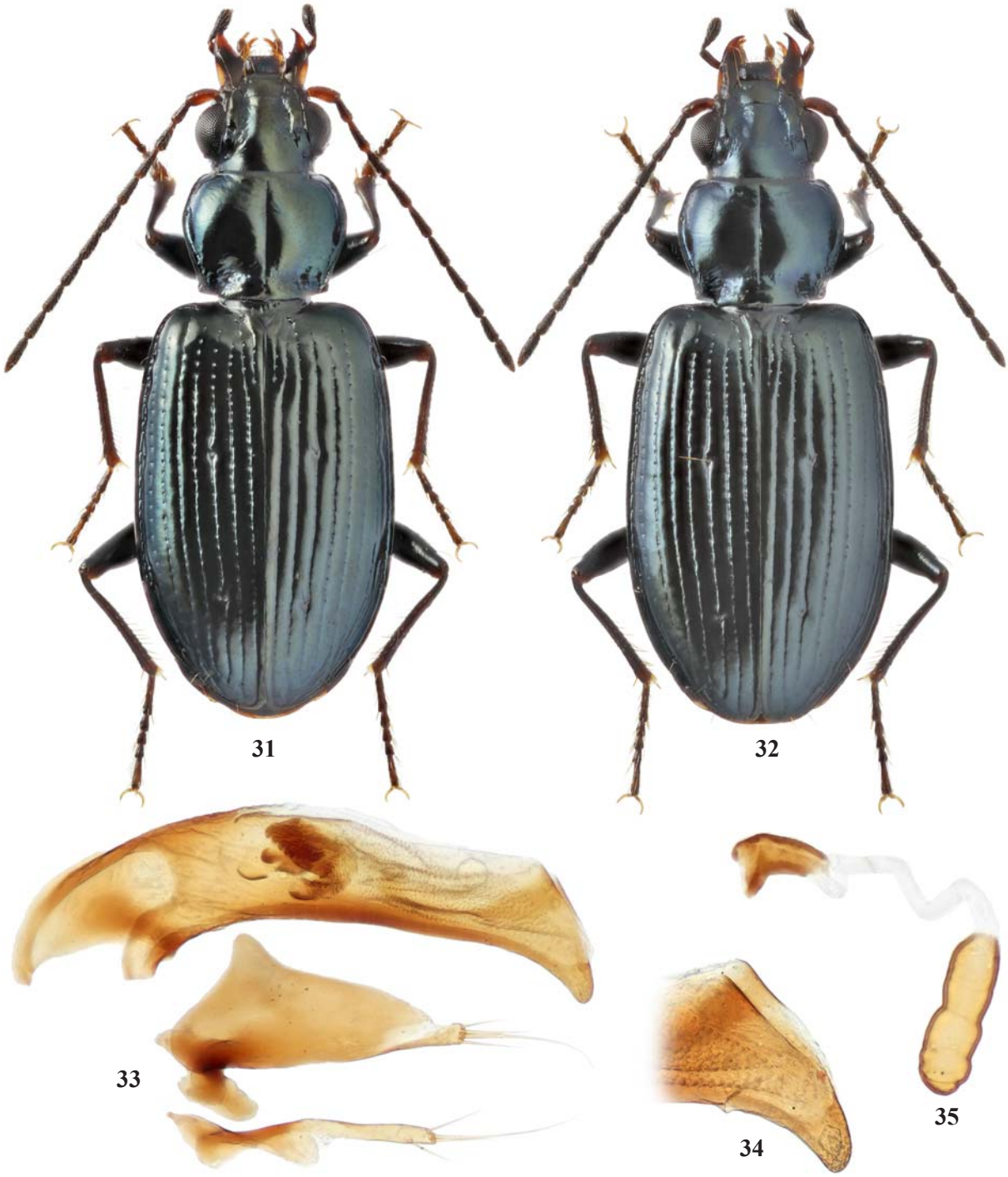
Patrobus depressus Gebler, 1829: 49; type locality: "montibus altaicis et prope Riddersk", Ridder, north-eastern Kazakhstan.

MATERIAL. 57 ex: middle reaches of Zolotaya River, 25.VII.2013, Yu. Sundukov leg., 1 ex; ibid, 15.VIII.2013, K. Makarov & Yu. Sundukov leg., 31 ex; lower reaches of Severyanka River, 17.VII. 2014, Yu. Sundukov leg., 7 ex; mouth of Tyatina River, 21.VII.2014, Yu. & L. Sundukov leg., 4 ex; Filatovka River upstream of the mouth of Bolysheva Stream, 31.VII.2014, Yu. & L. Sundukov leg., 3 ex; lower stream of Filatovka River, 25–28.VI.2013, Yu. Sundukov leg., 11 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Magadanskaya oblast'; Transbaikalia, southern Siberia. — Japan (Hokkaido, Honshu), Korea, north-eastern China, Mongolia, north-eastern Kazakhstan.

ECOLOGY. Populating banks of mountain rivers; adults often aggregate under stones or larger pebble.

COMMENTS. A species new to the fauna of the Kurile Archipelago.



Figs 31–35. *Bembidion pseudolucillum* Netolitzky: 31–32 — habitus, dorsal; 33 — male genitalia; 34 — apical part of penis; 35 — spermatheca; 31, 33–34 — male; 32, 35 — female.

Рис. 31–35. *Bembidion pseudolucillum* Netolitzky: 31–32 — внешний вид, сверху; 33 — эдеагус; 34 — вершина пениса; 35 — сперматека; 31, 33–34 — самец; 32, 35 — самка.

Subfamily Harpalinae

Tribe Pterostichini

Pterostichus (*Pseudomaseus*) *rotundangulus* A. Morawitz, 1862

Map 30.

Pterostichus (*Omaseus*) *rotundangulus* A. Morawitz, 1862: 209 [252]; type locality: “Ussuri”, Ussuri River, Russian Far East.

MATERIAL. 3 ex: caldera of Golovnina Volcano, western coast of Lake Goryacheye, 29.VII.2011, K. Makarov leg., 2 ex; ibid, 7–9.VI.2013, Yu. & L. Sundukov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 136 (Dubovoe).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast’. —

Japan (Hokkaido, Honshu, Kyushu), North Korea, north-eastern China.

ECOLOGY. Taken on overflow reed on the bank of a lake.

COMMENTS. Recorded previously, based on a single specimen taken at Dubovoe [Kryzhanovskij et al., 1975]. Our material confirms the presence of this species on Kunishir.

Pterostichus (*Argutor*) *sulcitarsis* A. Morawitz, 1862
Map 31.

Pterostichus (*Lagarus*) *sulcitarsis* A. Morawitz, 1862: 206 [250]; type locality: "Hafen Possiet", Posiet Bay, Primorskii Krai, Russia.

MATERIAL. 7 ex: thermal springs "Stolbovskie", 7.VI.2011, A. Matalin leg., 1 ex; Tretiyakovo, Valentiny Stream, 24.V.2011, I. Melnik leg., 1 ex; lower reaches of Krivonozhka Stream, 20–22.VI.2013, Yu. & L. Sundukov leg., 1 ex; Cape Ivanovskii, 2.IX.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 17–21.IX.2014, Yu. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 18–22.VI.2015, Yu. Sundukov leg., 2 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 135 (8 km north-west of Mendeleyevo); Kryzhanovskij et al., 1995: 98 (S Kuril).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'; Transbaikalia. — Japan (Hokkaido, Honshu, Shikoku, Kyushu), North Korea, north-eastern China.

ECOLOGY. Occurring in humid habitats in maritime meadows and bush thickets.

COMMENTS. Recorded previously on Kunashir, based on 2 specimens collected in the island's central part [Kryzhanovskij et al., 1975]. Our material shows this species to be quite widespread in the south of the island.

Pterostichus (*Biphonias*) *longinquus* Bates, 1873
Map 32.

Pterostichus (*Argutor*) *longinquus* Bates, 1873: 286; type locality: "Hiogo; Nagasaki", Honshu and Kyushu, Japan.

MATERIAL. 26 ex: lower reaches of Severyanka River, 8.VI.2014, Yu. Sundukov leg., 1 ex; flood-plain of Severyanka River near Rudnyi, 3.VII.2008, K. Makarov leg., 1 ex; lower reaches of Saratovskaya River, 2–4.VII.2014, Yu. & L. Sundukov leg., 4 ex; ibid, 12.VII.2014, Yu. & L. Sundukov leg., 2 ex; Saratovskaya River 2 km upstream of mouth, 26.VII.2014, Yu. & L. Sundukov leg., 11 ex, shore of Lake Valentiny, 27.VI.2008, K. Makarov leg., 3 ex; mouth of Mednyi Creek, 27.VI.2008, K. Makarov leg., 2 ex; shore of Lake Serebryanoe, 20.VI.2011, A. Matalin leg., 1 ex; south shore of Lake Serebryanoe, 12.IX.2009, I. Melnik leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 136 (Sernovodsk); Lafer, 2002: 56 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Urup, Iturup, Kunashir), southern Sakhalin, Primorskii Krai. — Japan (Hokkaido, Honshu, Shikoku, Kyushu), eastern China.

ECOLOGY. Occurring on sedge-moss swamps in river flood-plains and on sea shores.

COMMENTS. Recorded previously on Kunashir, based on 3 specimens collected in the flood-plain of Sernovodka River [Kryzhanovskij et al., 1975]. Our material shows that *P. longinquus* is widespread, being common on Kunashir.

Pterostichus (*Biphonias*) *neglectus* A. Morawitz, 1862
Map 33.

Pterostichus (*Argutor*) *neglectus* A. Morawitz, 1862: 211 [253]; type locality: "Bureja-Gebirge; Amurmündung", Bureinsky Ridge near Amur River and mouth of Amur River, Russian Far East.

MATERIAL. 85 ex: Lovzova Peninsula, lake north of Lake Nadya, 8.VIII.2015, Yu. & L. Sundukov leg., 4 ex; ibid, marsh south of Lake Nadya, 15–16.VIII.2015, Yu. & L. Sundukov leg., 16 ex; ibid, north-eastern coast of Lake Dlinnoe, 18.VIII.2015, Yu. & L. Sundukov leg., 1 ex; western coast of Lake Peshchanoe, 29.IX.2014, Yu. Sundukov leg., 1 ex; lakes in the valley south of western shore of Lake Peshchanoe, 3–4.VII.2015, Yu. & L. Sundukov leg., 54 ex; ibid, 26.VII.2015, Yu. Sundukov leg., 9 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 135 (Tretiyakovo).

DISTRIBUTION. Russia: southern Kuril Islands (Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'. — Japan (Hokkaido, Honshu).

ECOLOGY. Inhabiting swampy or silty banks of stagnant or slow-moving waterbodies.

COMMENTS. The literature record is restricted to a single specimen taken at Tretiyakovo [Kryzhanovskij et al., 1975]. Our material shows this species to be widespread across Kunashir.

Tribe Sphodrini

Synuchus (*Synuchus*) *congruus* (A. Morawitz, 1862)
Map 34.

Taphria congrua A. Morawitz, 1862: 205 [249]; type locality: "Bureja-Gebirge", Bureinsky Ridge near Amur River, Russian Far East.

MATERIAL. 11 ex: creek north of Krivonozhka Stream, 19.IX.2013, Yu. & L. Sundukov leg., 1 ex; Cape Ivanovskii, 18.IX.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 22.IX.2013, Yu. & L. Sundukov leg., 2 ex; ibid, 28.IX.2013, Yu. Sundukov leg., 2 ex; ibid, 30.IX.2013, Yu. Sundukov leg., 5 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'; Transbaikalia, southern Siberia, southern Ural. — Japan (Hokkaido, Honshu), South Korea, eastern China.

ECOLOGY. Inhabiting forest edges and sparse broad-leaved or mixed woodlands low in the mountains.

COMMENTS. A species new to the fauna of Kunashir. Reported from the Kurile Archipelago for the first time on Shikotan [Sundukov, Makarov, 2013]. The above records of *S. congruus* on Kunashir broaden our knowledge of the species' distribution in the southern Kuriles.

Synuchus (*Synuchus*) *cycloderus* (Bates, 1873)
Map 35.

Pristodactyla cyclodera Bates, 1873: 273; type locality: "Nagasaki", Kyushu, Japan.

MATERIAL. 6 ex: northern end of Golovnina Bay, 28.VIII.2009, I. Melnik leg., 1 ex; north-western coast of Lake Peshchanoe, 7.VIII.2011, K. Makarov leg., 1 ex; Ozernaya River valley 500 m below source, 29.VII.2011, K. Makarov leg., 1 ex; ibid, 6–8.IX.2015, Yu. Sundukov leg., 2 ex; creek 2 km north of Bystryi Stream, 18.VIII.2011, K. Makarov leg., 1 ex.

LITERATURE DATA. Lafer, 1989: 152 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan). — Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, eastern China.

ECOLOGY. Occurring in mixed valley forest and bush thickets.

COMMENTS. Rare in the fauna of Kunashir. Reported only by Lafer [1989] without indication of a locality. Our material shows this species to be rather widely distributed on the island, albeit relatively scarce.

Synuchus (*Synuchus*) *nitidus nitidus* (Motschulsky, 1861)
Map 36.

Crepidactyla nitida Motschulsky, 1861: 5; type locality: "Khokodady", Hakodate, Hokkaido, Japan.

MATERIAL. 4 ex: hills south of Cape Stolbchatyi, 23.VIII.2008, I. Melnik leg., 1 ex; Tretiyakovo, valley of Valentiny Stream, 14.IX.2009, I. Melnik leg., 2 ex; caldera of Golovnina Volcano, cordon Ozernyi, 15–19.VII.2006, D. Kochetkov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 135 (Alekhino); Lafer, 1976: 26 (Alekhino), 1989: 151 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Primorskii Krai. — Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, Taiwan, north-eastern China.

ECOLOGY. Occurring in valley and mountain mixed forests

COMMENTS. In the literature record, reported based on 1 specimen taken at Alekhino on 3.VIII.1970 by Y.G. Loktin [Kryzhanovskij et al., 1975; Lafer, 1989]. Our material confirms the presence of this species on Kunashir.

Synuchus (*Synuchus*) *vivalis uenoi* Lindroth, 1956
Map 37.

Synuchus uenoi Lindroth, 1956: 495; type locality: "Utsukushigahara, 2000 m", Nagano Pref., Honshu, Japan.

MATERIAL. 10 ex: coast of Lake Serebryanoe, 11.IX.2009, A. Zaitsev leg., 1 ex; Golovnina Bay near Yuzhno-Kurilsk, 18.VIII.2008, I. Melnik leg., 1 ex; 2.5 km north-north-west of Mendeleyevo, h~170 m, 16.IX.2009, A. Prosvirov leg., 1 ex; Tretiyakovo, forest near Valentiny Creek, 19.IX.2009, A. Prosvirov leg., 1 ex; south-western coast of Lake Goryacheye, 16.VII.2015, Yu. & L. Sundukov leg., 1 ex; Cape Ivanovskii, 2.IX.2013, Yu. & L. Sundukov leg., 3 ex; ibid, 5–6.IX.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 13–15.IX.2013, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Anuchina, Tanfilieva), southern Far East. — Japan (Hokkaido, Honshu), Korea.

ECOLOGY. Populating both broadleaved and mixed forests.

COMMENTS. A species new to the Great Kurile Archipelago.

Tribe Platynini

Agonum (*Agonum*) *chalcomum* (Bates, 1873)
Map 38.

Anchomenus (*Agonum*) *chalcomus* Bates, 1873: 280; type locality: "Hiogo; Nagasaki", Honshu and Kyushu, Japan.

MATERIAL. 6 ex: lower reaches of Filatovka River, 26.VI.2014, Yu. Sundukov leg., 1 ex; Prozrachnyi Stream valley, 26.VIII.1964, G. Krivolutskaja, 1 ex; Mendeleyevo, 2.IX.1975, V. Kuznetsov, 1 ex; Cape Sukacheva, 5 km north-east of Yuzhno-Kurilsk, tributary of Petrovka River, 8.IX.1997, Yu. Marusik leg., 1 ex; near Goryachii Plyazh village, 17.VIII.2009, A. Prosvirov leg., 1 ex; flood-plain of Alekhina River, 6.VIII.2009, K. Makarov leg., 1 ex.

LITERATURE DATA. Krivolutskaja, 1973: 67 (Prozrachnyi Stream); Kryzhanovskij et al., 1975: 134 (Prozrachnyi Stream); Sundukov, 2001: 755 (Prozrachnyi Stream; Mendeleyevo; Cape Sukacheva).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Hokkaido, Honshu, Shikoku, Kyushu).

ECOLOGY. Occurring in litter at edges of flood-plain forests.

COMMENTS. The history of *A. chalcomum* records on Kunashir is quite confused. This species was first reported from the island by Krivolutskaja [1973], based on the single specimen that Lafer had identified upon her request. Kryzhanovskij et al. [1975], in their "Review of the ground beetles of the Kurile Islands", not only made a reference to *A. chalcomum* after Krivolutskaja, but they also put *A. fallax* A. Morawitz, 1862, a close species, on record from Kunashir. Later, Lafer [1992: 612, footnote] provided the following correction: "Our previous record [Kryzhanovskij et al., 1975] of *A. chalconum* (!) Bat. on Kunashir actually concerns *A. fallax*". So he did not include it into the key to Far Eastern species. Apparently due to this, *A. chalcomum* was also omitted from the latest catalogue of the Carabidae of Russia [Kryzhanovskij et al., 1995]. Additional material of this species allowed for *A. chalcomum* resurrection in the fauna of Kunashir [Sundukov, 2001].

Agonum (*Europhilus*) *gracile* Sturm, 1824
Map 39.

Agonum gracilis Sturm, 1824: 197; type locality: "Deutschland", Germany.

MATERIAL. 94 ex: lower reaches of Zolotaya River, 24.VII. 2013, K. Makarov leg., 1 ex; lower reaches of Severyanka River, 17.VI.2014, Yu. Sundukov leg., 1 ex; flood-plain of Severyanka River, 2.VII.2008, K. Makarov leg., 3 ex; hills south of Rudnyi, 1–2.VII.2008, I. Melnik leg., 2 ex; ibid, h~430, 2.VII.2008, K. Makarov leg., 1 ex; Saratovskaya River 2 km upstream of mouth, 26.VII.2014, Yu. & L. Sundukov leg., 1 ex; lower reaches of Saratovskaya River, 2–4.VII.2014, Yu. & L. Sundukov leg., 43 ex; south-west shore of Lake Valentiny, 27.VI.2008, K. Makarov leg., 4 ex; Danilovo place, 2.VII. 2015, Yu. & L. Sundukov leg., 12 ex; ibid, 5.VII.2015, Yu. Sundukov leg., 2 ex; lower reaches of Andreyevka River, 20–23.VIII.2011, K. Makarov leg., 6 ex; flood-plain of Alekhina River, 1–5.VIII.2011, K. Makarov leg., 2 ex; caldera of Golovnina Volcano, 7–9.VI.2013, Yu. & L. Sundukov leg., 2 ex; western extremity of Lake Goryacheye, 13–16.VII.2008, K. Makarov leg., 4 ex; south-western shore of Lake Goryacheye, 16.VII.2015, Yu. & L. Sundukov leg., 7 ex; south coast of Cape Vodopadnyi, marshes, 22.VIII.2011, K. Makarov leg., 3 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Far East; Yakutia, Transbaikalia, Siberia, Ural, Caucasus, European part. — Japan (Hokkaido), north-eastern China, Turkey, Europe, Algeria.

ECOLOGY. Populating flood-plain swamps, reed thickets and swampy shores of freshwater bodies.

COMMENTS. A species new to the Kurile Archipelago.

Agonum (*Europhilus*) *jurecekianum* Jedlička, 1952
Map 40.

Agonum (*Europhilus*) *Jureèekianum* Jedlička, 1952: 80; type locality: "Wladiwostok", Vladivostok, Russian Far East.

MATERIAL. 10 ex: Cape Dokuchaeva, Dokuchaevo, 6.VIII. 2013, Yu. & L. Sundukov leg., 1 ex; creek south of Cape Stolbchatyi, 21.VII.2013, Yu. & L. Sundukov leg., 1 ex; western coast of Lake Peshchanoe, 2–3.IX.2014, Yu. Sundukov leg., 3 ex; ibid, 7–8.IX.2014, Yu. Sundukov leg., 2 ex; Cape Ivanovskii, Grozovoe, 1–3.VI.2013, Yu. & L. Sundukov leg., 2 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 18.VI.2015, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Sundukov, 2001: 756 (Cape Kruglyi).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, southern Khabarovskii Krai, southern Jewish Autonomous Region. — Japan (Hokkaido, Honshu).

ECOLOGY. Inhabiting maritime sedge, mixed grass and bamboo meadows, as well as edges of flood-plain forests.

COMMENTS. Reported from Kunashir, based on a single specimen taken on 23.IX.1997 at Cape Kruglyi by Yu.M. Marusik [Sundukov, 2001]. Our material shows this species to be widespread throughout the island.

Agonum (*Olisares*) *dolens* (C.R. Sahlberg, 1827)
Map 41.

Harpalus dolens C.R. Sahlberg, 1827: 256; type locality: "Lapponia", Lapland, Finland.

MATERIAL. 157 ex: Lake Nadya, 15–16.VIII.2015, Yu. & L. Sundukov leg., 47 ex; ibid, lake north of Lake Nadya, 8.VIII.2015, Yu. & L. Sundukov leg., 4 ex; south shore of Lake Serebryanoe, 12.IX.2009, I. Melnik leg., 4 ex; near Yuzhno-Kurilsk, flood-plain of Bolotnyi Creek, 6.VII.2008, K. Makarov leg., 3 ex; marsh between sea shore and Serebryanka River, 30.VIII.2014, Yu. Sundukov leg., 12 ex; Danilovo place, 2.VII.2015, Yu. & L. Sundukov leg., 1 ex; west coast of Lake Peshchanoe, 7.IX.2014, Yu. Sundukov leg., 1 ex; ibid, 27.IX.2014, Yu. Sundukov leg., 1 ex; ibid, 8.VIII.2009, K. Makarov leg., 6 ex; ibid, 30.VII.2011, K. Makarov leg., 1 ex; lakes in valley south of western shore of Lake Peshchanoe, 3–4.VII.2015, Yu. & L. Sundukov leg., 63 ex; ibid, 26.VII.2015, Yu. Sundukov leg., 14 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Far East; Yakutia, Transbaikalia, Siberia, Ural, Eu-

ropean part. — Japan (Hokkaido), North Korea, north-eastern China, Kazakhstan, Europe.

ECOLOGY. Inhabiting banks of stagnant and slowly-moving waterbodies.

COMMENTS. A species new to the Kurile Archipelago.

Agonum (*Olisares*) *sculptipes* (Bates, 1883)
Map 42.

Anchomenus (*Agonum*) *sculptipes* Bates, 1883: 257; type locality: "Junsai Lake", Hakodate, Hokkaido, Japan.

MATERIAL. 18 ex: mouth of Valentiny Stream near Tretiyakovo, 12.VIII.2011, K. Makarov leg., 3 ex; Danilovo place, lake shore, 1.VIII.2011, K. Makarov leg., 1 ex; ibid, 7–8.VIII.2011, K. Makarov leg., 7 ex; ibid, 2.VII.2015, Yu. & L. Sundukov leg., 1 ex; ibid, 5.VII.2015, Yu. Sundukov leg., 1 ex; flood-plain of Alekhina River near mouth, 22.VIII.2009, A. Zaitsev leg., 1 ex; ibid, 3–4.VIII.2011, K. Makarov leg., 2 ex; creek 2 km south of Grozovoe, 2.VI.2015, Yu. Sundukov leg., 2 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'; Transbaikalia, Cisbaikalia. — Japan (Hokkaido, Honshu), Korea, eastern and north-eastern China, Mongolia.

ECOLOGY. Occurring in swampy meadows and on banks of stagnant waterbodies near sea shore.

COMMENTS. A species new to the Kurile Archipelago.

Agonum (*Glaucagonum*) *sylphis stichai* (Jedlička, 1935)
Map 43.

Colpodes Štichai Jedlička, 1935: 33; type locality: "Shimashima", Hokkaido, Japan.

MATERIAL. 11 ex: 17 km south-west of Yuzhno-Kurilsk, 20.VII.1987, K. Makarov leg., 1 ex; Tretiyakovo, Valentiny Stream valley, 14.IX.2009, I. Melnik leg., 1 ex; ibid, 19.IX.2009, A. Zaitsev leg., 1 ex; ibid, 25.IX.2009, I. Melnik leg., 2 ex; ibid, 24.V.2011, A. Matalin leg., 2 ex; ibid, 22.VIII.2013, Yu. & L. Sundukov leg., 1 ex; Ozernaya River valley, 16.VII.2008, I. Melnik leg., 2 ex; ibid, 19.VII.2008, K. Makarov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin. — Japan (Hokkaido).

ECOLOGY. A phytophilic species occurring in tree canopies in broadleaved and mixed forests, in tall-herb associations.

COMMENTS. A species new to the Kurile Archipelago.

Limodromus assimilis (Paykull, 1790)
Map 44.

Carabus assimilis Paykull, 1790: 53; type locality: "Scania", Sweden.

MATERIAL. 4 ex: Rudnoe, 14–15.VIII.2003, D. Kochetkov leg., 1 ex; Alekhino, 31.V.2011, I. Melnik leg., 1 ex; ibid, 1.VI.2011, A. Matalin leg., 1 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 25.IX.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Kamchatka; Yakutia, Transbaikalia, Siberia, Ural, Caucasus, European part. — Japan (Hokkaido), North Korea, Mongolia, Kazakhstan, Asia Minor, Europe.

ECOLOGY. Collected in litter in alder bush thickets.

COMMENTS. A species new to the Kurile Archipelago.

Metacolpodes buchannani (Hope, 1831)
Map 45.

Colpodes Buchannani Hope, 1831: 21; type locality: "Nepal", Nepal.

MATERIAL. 11 ex: lower reaches of Zolotaya River, 14–18.VIII. 2013, K. Makarov leg., 1 ex; middle reaches of Severyanka River, 27.VII. 2013, Yu. Sundukov leg., 1 ex; Saratovskaya River 3 km upstream of mouth, 16.VII.2014, Yu. & L. Sundukov leg., 1 ex; lower reaches of Filatovka River, 31.VII.2014, L. Sundukova leg., 1 ex; eastern slope of Mendeleyeva Volcano, 21.VIII.1991, A. Napolov leg., 1 ex; Tretiyakovo, 22.VIII.2013, Yu. & L. Sundukov leg., 4 ex; ibid, 23.VIII.2013, L. Sundukova leg., 1 ex; Alekhino, 27.VII.1985, M. Danilevsky leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'; Irkutskaya oblast', Kemerovskaya oblast'. — Japan (all over), Korea, Taiwan, China, Nepal, Pakistan; Oriental Region; introduced to the USA (Oregon).

ECOLOGY. A dendrophilic species occurring in tree canopies in mountain, valley and flood-plain forests.

COMMENTS. A species new to the Kurile Archipelago.

Tribe Zabrini

Amara (*Amara*) *obscuripes* Bates, 1873
Map 46.

Amara obscuripes Bates, 1873: 294; type locality: "Nagasaki", Kyushu, Japan.

MATERIAL. 3 ex: Cape Ivanovskii, Grozovoe, 1–3.VI.2013, Yu. & L. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 15–17.VI.2015, Yu. Sundukov leg., 1 ex; ibid, 28.IX.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Urup, Kunashir, Shikotan), Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'. — Japan (Hokkaido, Honshu, Kyushu), Korea, China (except the west), Mongolia; Oriental Region.

ECOLOGY. Collected on maritime bamboo meadows.

COMMENTS. A species new to the fauna of Kunashir. Recorded earlier in the Kuriles only from Urup [Lafer, 2002] and Shikotan islands [Sundukov, Makarov, 2013].

Amara (*Amara*) *ovata* (Fabricius, 1792)
Map 47.

Carabus ovatus Fabricius, 1792: 154: "Sachsen", Saxony, Germany.

MATERIAL. 10 ex: upper reaches of Zolotaya River, 25.VII. 2013, Yu. Sundukov leg., 2 ex; middle reaches of Severyanka River, 27.VII.2013, Yu. Sundukov leg., 1 ex; Rudnoe, 28.VII 2013, L. Sundukova leg., 1 ex; basin of Filatovka River, cordon Filatovka, 8–11.VII.2006, D. Kochetkov leg., 2 ex; lower reaches of Serebryanka River, 6.VII.2013, Yu. Sundukov leg., 1 ex; Danilovo place, 5.VII.2015, Yu. Sundukov leg., 1 ex; lower reaches of Andreyevka River, 15–21.VII.2006, D. Kochetkov leg., 2 ex.

LITERATURE DATA. Kuwayama, 1967: 133 (Cape Gemmerlinga; Tyatino); Krivolutskaja, 1973: 68 (Cape Gemmerlinga); Kryzhanovskij et al., 1975: 138 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Magadanskaya oblast', Kamchatka; Transbaikalia, Siberia, Ural, Caucasus, European part. — Japan (Hokkaido), North Korea, China, Tibet, Kazakhstan, Middle Asia, southern Asia, Europe; Oriental Region; North America.

ECOLOGY. Inhabiting mixed valley forests, adults occurring at forest edges, on glades and roads.

COMMENTS. Recorded from Kunashir for the first time by Kuwayama [1967], while all later authors only cited that paper. Our material confirms the presence of *A. ovata* in the southern Kuriles.

Amara (*Reductocelia*) *chalcophaea chalcophaea* Bates, 1873
Figs 36–37; Map 48.

Amara (*Celia*) *chalcophaea* Bates, 1873: 292; type locality: "Hiogo; Nagasaki", Honshu and Kyushu, Japan.

MATERIAL. 53 ex: near Yuzhno-Kurilsk, 8–14.VIII.1992, A. Sokolov leg., 2 ex; mouth of Lesnaya River, 24.VIII.2009, A.

Prosvirov leg., 1 ex; near Cape Stolbchatyi, 23.IX.2009, I. Melnik leg., 1 ex; Tretiyakovo, 21.VIII.2013, Yu. & L. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers, lower reaches, 15–17.VI.2015, Yu. Sundukov leg., 2 ex; ibid, 25.IX.2015, Yu. Sundukov leg., 4 ex; ibid, west of Dubovoe, 28–29.IX.2015, Yu. Sundukov leg., 22 ex; right bank of Golovnina River, 2 km upstream of mouth, 23–24.IX.2015, Yu. Sundukov leg., 8 ex; ibid, 1 km upstream of mouth, 27.IX.2015, Yu. Sundukov leg., 6 ex; ibid, 0.5 km upstream of mouth, 30.IX.2015, Yu. Sundukov leg., 6 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Hokkaido, Honshu, Kyushu).

ECOLOGY. Inhabiting wastelands and road flanks, adults occurring in plant debris and under various items.

COMMENTS. A subspecies new to the fauna of Russia. The only other subspecies, *A. chalcophaea sachalinica* Hieke, 1999, is known from Sakhalin.

Amara (*Celia*) *iturupensis* Lafer, 1978
Figs 38–42; Map 49.

Amara (*Celia*) *iturupensis* Lafer, 1978b: 59; type locality: "Ocean Beach from Burevestnik to Iodnyi", Iturup Is., southern Kurile, Russian Far East.

MATERIAL. 9 ex: mouth of Dokuchaeva River, 30.VII.2013, K. Makarov leg., 1 ex; Cape Dokuchaeva, Dokuchaevo, 6.VIII.2013, L. Sundukova leg., 2 ex; lighthouse at Cape Lovzova, 6–7.VIII.2015, Yu. & L. Sundukov leg., 1 ex; ibid, 10–11.VIII.2015, Yu. & L. Sundukov leg., 4 ex; Lovzova Peninsula, lake north of Lake Nadya, 8.VIII.2015, Yu. & L. Sundukov leg., 1 ex.

ADDITIONAL MATERIAL: 3 ex: Iturup Is., Prostor Gulf, Tornaya Bay, coastal meadows, under stones, 19.VIII.1994, K. Eskov leg.

DISTRIBUTION. Russia: southern Kurile Islands (Iturup, Kunashir).

ECOLOGY. Inhabiting mixed herb meadows and wastelands, adults occurring in litter and grass and under various items.

COMMENTS. A species new to the fauna of Kunashir. Two close species of the subgenus *Celia* C. Zimmermann, 1832 were previously recorded from the southern Kuriles: *A. fujiii* Tanaka, 1959, from the Tanfilyeva Island, and *A. iturupensis*, from Iturup [Lafer, 1989]. Our studies of the relevant material from Kunashir and Iturup show that the characters Lafer [1989: 168] quoted in his key (body size, shapes of pronotum and elytra) vary so strongly that they fail to discriminate these species. Material from northern Kunashir is referred here to *A. iturupensis*, based on the structure of the right paramere (Figs 40–42).

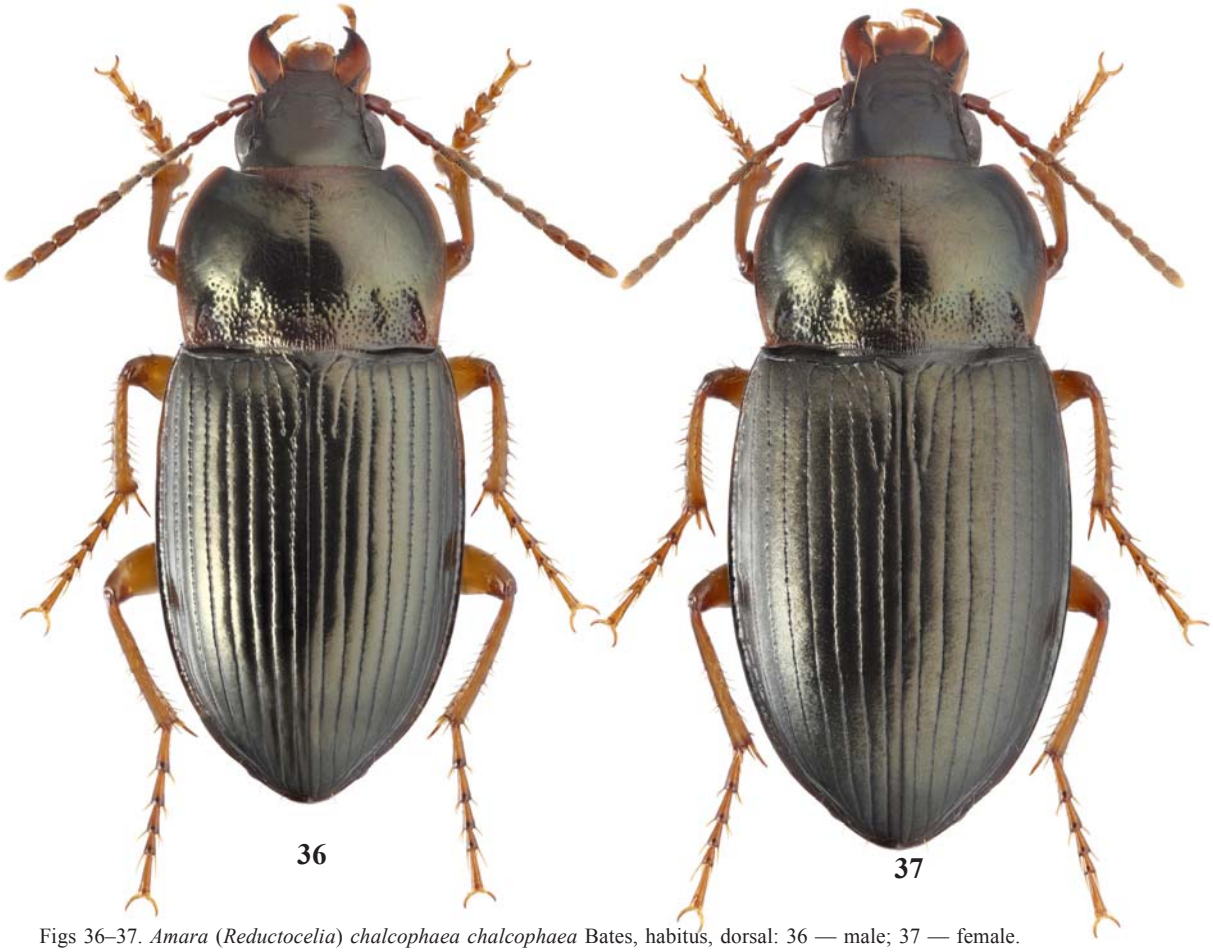
Tribe Harpalini

Bradycellus (*Tachycellus*) *glabratus* Reitter, 1894
Map 50.

Bradycellus glabratus Reitter, 1894: 125; type locality: "Quellgebiet des Irkut", the source of Irkut River, Buryatia, Russia.

MATERIAL. 6 ex: caldera of Golovnina Volcano, 15–19.VII.2006, D. Kochetkov leg., 2 ex; Cape Ivanovskii, 28.IX.2013, Yu. Sundukov leg., 1 ex; ibid, 17–21.IX.2014, Yu. Sundukov leg., 3 ex.

LITERATURE DATA. Kryzhanovskij et al., 1995: 135 (S Kuriles).



Figs 36–37. *Amara* (*Reductocelia*) *chalcophaea chalcophaea* Bates, habitus, dorsal: 36 — male; 37 — female.
Рис. 36–37. *Amara* (*Reductocelia*) *chalcophaea chalcophaea* Bates, внешний вид, сверху: 36 — самец; 37 — самка.

Figs 38–42. *Amara* (*Celia*) *iturupensis* Lafer: 38, 39 — habitus, dorsal; 40–42 — right paramere (40–41 — specimens from Iturup Is.; 43 — from Kunashir Is.); 38, 40–42 — male, 39 — female.

Рис. 38–42. *Amara* (*Celia*) *iturupensis* Lafer: 38, 39 — внешний вид, сверху ; 40–42 — правая парамера (40–41 — экземпляры с о. Итуруп; 43 — с о. Кунашир); 38, 40–42 — самцы, 39 — самка.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Kamchatka; Yakutia, Transbaikalia, eastern and southern Siberia. — Eastern China, Mongolia, southern Kazakhstan.

ECOLOGY. Occurring in litter in spruce-fir and mixed mountain forests.

COMMENTS. A species new to the fauna of Kunashir. Recorded earlier only from the southern Kuriles in the catalogue of Russia's Carabidae [Kryzhanovskij et al., 1995], but without a particular island mentioned.

Dicheirotrichus (*Trichocellus*) *tenuimanus tenuimanus* Bates, 1873
Map 51.

Dichirotrichus tenuimanus Bates, 1873: 259; type locality: "Hiogo; Nagasaki", Honshu and Kyushu, Japan.

MATERIAL. 62 ex: middle reaches of Serebryanka River, 6.VII.2013, Yu. Sundukov leg., 1 ex; ibid, 31.VII.2015, Yu. & L. Sundukov leg., 9 ex; ibid, 3.VIII.2015, Yu. & L. Sundukov leg., 51 ex; watershed of Golovnina and Khlebnikova rivers west of Dubovoe, 28.IX.2015, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Lafer, 1996: 407 (Goryachii Plyazh).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin. — Japan (Hokkaido, Honshu, Shikoku, Kyushu).

ECOLOGY. Inhabiting elevated sandy places in floodplain swamps and swampy banks of waterbodies.

COMMENTS. Previously recorded based on 2 specimens taken at Goryachii Plyazh on 10.VIII.1992 by V. Gusarov [Lafer, 1996]. Our material shows that this species is rather widely distributed across Kunashir.

Acupalpus (*Acupalpus*) *inouyei* Habu, 1980
Figs 43–63; Map 52.

Acupalpus (*Acupalpus*) *inouyei* Habu, 1980: 77; type locality: "Memuro", Hokkaido, Japan.

Acupalpus (*Acupalpus*) *storozhenkoi* Lafer, 1989: 198; type locality: "Lake Peshchanoe", Kunashir Island, Kuril Islands, Russia; **syn. n.**

MATERIAL. 31 ex: Yuzhno-Kurilsk, marsh between sea shore and Serebryanka River, 30.VIII.2014, Yu. Sundukov leg., 2 ex; Tretiyakovo, to light, 27.VII.1970, Yu. Loktin leg., 1 ex; Lake Peshchanoe, 17–18.VIII.1980, S. Storozhenko leg., 1 ex; west coast of Lake Peshchanoe, 7.IX.2014, Yu. Sundukov leg., 1 ex; ibid, 29.IX.2014, Yu. Sundukov leg., 13 ex; ibid, swampy shore of lake, 14.VIII.1982, V. Kuznetsov leg., 1 ex; ibid, 17.VIII.1982, G. Lafer leg., 1 ex; lower lake in valley of stream on south-west shore of Lake Peshchanoe, 3.VII.2015, Yu. & L. Sundukov leg., 1 ex; Danilovo place, 16.IX.2009, I. Melnik leg., 1 ex; Cape Ivanovskii, creek bank, 14–16.VII.2013, Yu. & L. Sundukov leg., 3 ex; ibid, 17–18.VII.2013, Yu. & L. Sundukov leg., 5 ex; ibid, 2.IX.2013, Yu. & L. Sundukov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 139 (*Acupalpus* sp.: Tretiyakovo); Lafer, 1989: 198 (*A. storozhenkoi*: Lake Peshchanoe); Kryzhanovskij et al., 1995: 138 (*A. storozhenkoi*, *A. inoyei*: S Kuril).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Hokkaido).

ECOLOGY. Inhabiting silty and swampy banks of streams and freshwater stagnant bodies in forestless zones.

COMMENTS. Revision of the types of *A. storozhenkoi* Lafer, 1989 (holotype, ♀, "Kunashir, Lake Peshchanoe, 17–18.VIII.1980, S. Storozhenko", "*Acupalpus sinensis* Tschit., G. Lafer det. 1980", "Holotypus *Acupalpus storozhenkoi* Lafer, G. Lafer det. 86.", and paratype, ♀, "Kunashir Island, Tretiyakovo, to light, 27.VII.70, Yu.G. Loktin leg.", "*Acupalpus* (s.str.) ?*sinensis* Tschitsch., 74. Lafer det.", "Paratypus *Acupalpus storozhenkoi* Lafer, G. Lafer det. 86.", all kept in the collection of the Institute of Biology and Soil Sciences FEB RAS, Vladivostok, as well as studies of the new samples referred to above, show that Kunashir supports only one species of the subgenus *Acupalpus* Latreille, 1829, which, based on body size, coloration and shape, as well as the conformation of the aedeagus and endophallus armature, is identical to *A. inouyei* Habu, 1980, from Hokkaido (Figs 43–63).

Acupalpus (*Setacupalpus*) *hilaris* Tschitschérine, 1899
Map 53.

Acupalpus (i. sp.) *hilaris* Tschitschérine, 1899: 274; type locality: "Chabarowsk (Amur); Wladiwostok", Khabarovsk and Vladivostok, Russian Far East.

MATERIAL. 13 ex: caldera of Golovnina Volcano, meadow near creek between Ozernaya River and Lake Kipyashchee, 5.IX.2015, Yu. Sundukov leg., 1 ex; Cape Ivanovskii, Grozovoe, 23–25.V.2013, Yu. & L. Sundukov leg., 2 ex; ibid, 1–3.VI.2013, Yu. & L. Sundukov leg., 7 ex; watershed of Golovnina and Khlebnikova rivers in lower reaches, 15–17.VI.2015, Yu. Sundukov leg., 2 ex; watershed of Golovnina and Khlebnikova rivers west of Dubovoe, 28.IX.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'. — Japan (Hokkaido), South Korea.

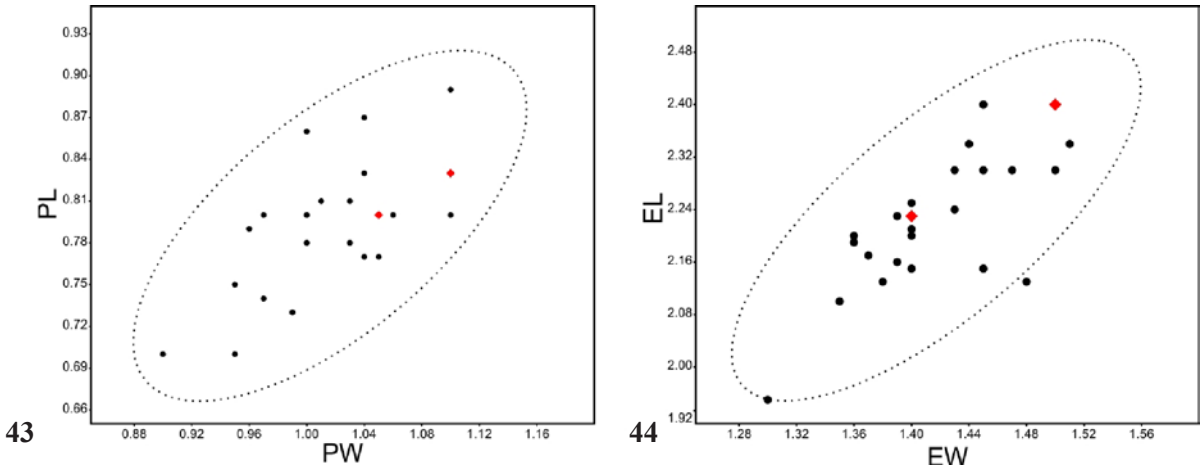
ECOLOGY. Occurring in humid meadows and on stream banks in forestless zones.

COMMENTS. A species new to the Kurile Archipelago.

Trichotichnus (*Trichotichnus*) *longitarsis longitarsis* A. Morawitz, 1863
Map 54.

Trichotichnus longitarsis A. Morawitz, 1863: 65; type locality: "Hakodate", Hokkaido, Japan.

MATERIAL. 21 ex: 150–200 m north of Dalnii Stream, 7.VIII.2013, Yu. & L. Sundukov leg., 1 ex; lower reaches of Severyanka River, 7.VI.2014, Yu. Sundukov leg., 1 ex; mouth of Filatovka River, 18.VI.2011, I. Melnik leg., 1 ex; Cape Stolbchatyi, 21–23.VIII.1992, K. Makarov leg., 1 ex; creek south of Cape Stolbchatyi, 21.VII.2013, Yu. & L. Sundukov leg., 1 ex; Tretiyakovo, 19–25.VIII.2008, I. Melnik leg., 4 ex; ibid, 21–22.VIII.2013, Yu. & L.

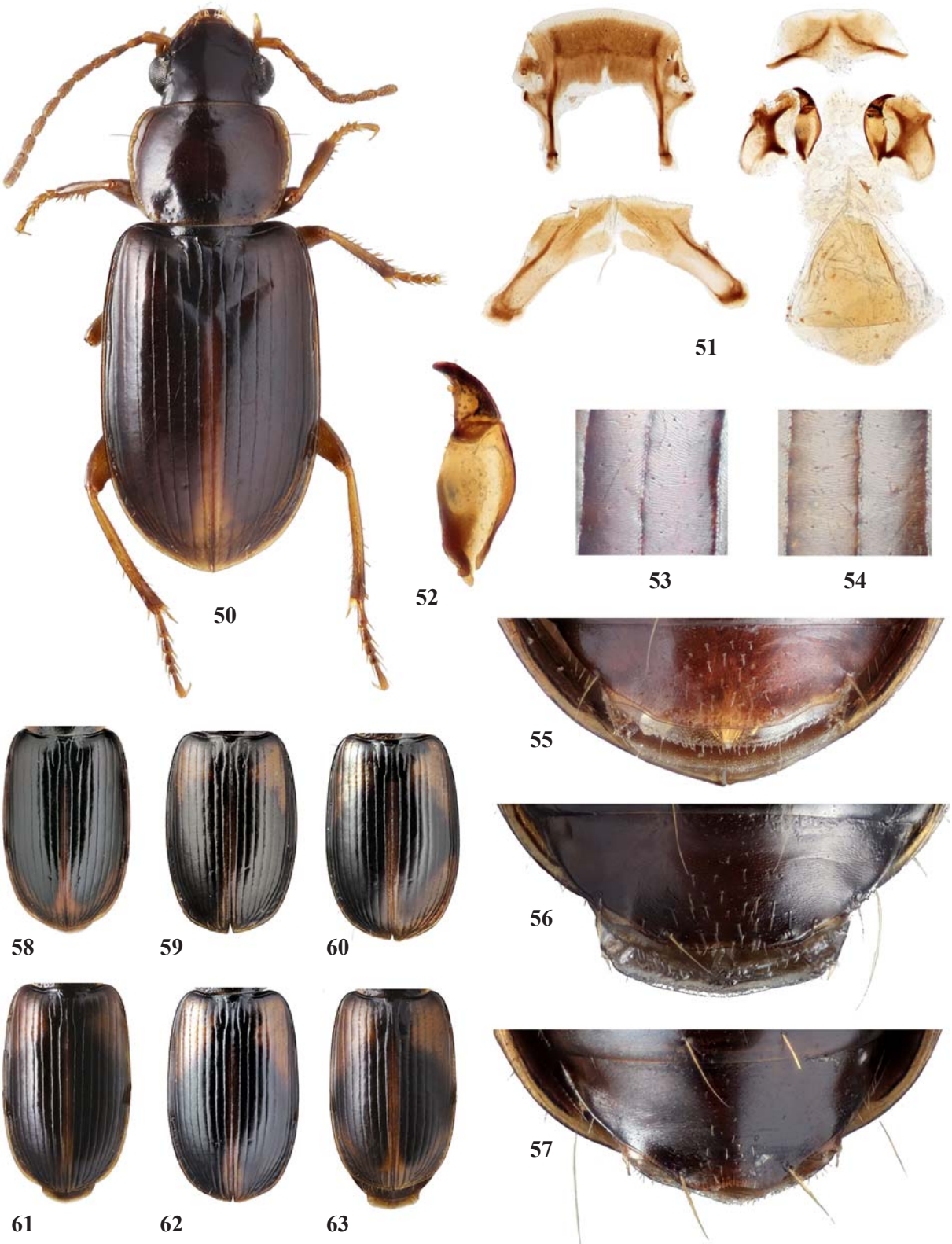


Figs 43–44. Variablity of size of pronotum (43) and elytra (44) in *Acupalpus storozhenkoi* Lafer (red diamond) and *A. inouyei* Habu (black circle).

Рис. 43–44. Изменчивость размеров переднеспинки (43) и надкрылий (44) у *Acupalpus storozhenkoi* Lafer (красные ромбы) и *A. inouyei* Habu (чёрные кружки).

Figs 45–49. *Acupalpus inouyei* Habu: 45–46 — habitus, dorsal (45 — male, 46 — female); 47 — male genitalia (specimen from Lake Peshchanoe); 48 — gonostyli; 49 — female genitalia.

Рис. 45–49. *Acupalpus inouyei* Habu: 45–46 — внешний вид, сверху (45 — самец, 46 — самка); 47 — гениталии самца (экземпляр с оз. Песчаное); 48 — гоностили; 49 — гениталии самки.



Figs 50–63. *Acupalpus* spp.: 50–53, 55 — *A. storozhenkoi* Lafer (holotype); 54, 56–63 — *A. inouyei* Habu; 50 — habitus, dorsal; 51 — female genitalia; 52 — gonostyle; 53–54 — elytral microsculpture in basal third of 5–6 intervals; 55–57 — abdomen; 58–63 — variation in elytral markings; 50–56, 58–60 — females, 57, 61–63 — males.

Рис. 50–63. *Acupalpus* spp.: 50–53, 55 — *A. storozhenkoi* Lafer (голотип); 54, 56–63 — *A. inouyei* Habu; 50 — внешний вид, сверху; 51 — гениталии самки; 52 — гоностиль; 53–54 — мироскульптура надкрылий в основании 5–6 промежутков; 55–57 — брюшко; 58–63 — изменчивость рисунка надкрылий; 50–56, 58–60 — самки, 57, 61–63 — самцы.

Sundukov leg., 5 ex; ibid, 21–22.VIII.2013, K. Makarov leg., 6 ex; mouth of Andreyevka River, 30.V.2014, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Lafer, 1989: 195 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), southern Sakhalin. — Japan (Hokkaido, Honshu, Kyushu).

ECOLOGY. Inhabiting humid places in mixed herb meadows and on forest glades, not too rare in disturbed anthropogenic habitats.

COMMENTS. Recorded from Kunashir by Lafer [1989], but without particular locality data. Our material confirms the presence of this species on the island.

Harpalus (*Harpalus*) *laevipes* Zetterstedt, 1828
Map 55.

Harpalus laevipes Zetterstedt, 1828: 26; type locality: "Lapponia", Lapland, Finland.

MATERIAL. 8 ex: hills between Severyanka and Zolotaya rivers, 1.VII.2008, K. Makarov leg., 1 ex; lower reaches of Severyanka River, 5.VI.2014, Yu. Sundukov leg., 1 ex; hills south of Stolbovskoj Stream, 7.VIII.2011, A. Matalin leg., 1 ex; lower reaches of Asin Stream, 28.VII.2015, Yu. & L. Sundukov leg., 1 ex; 1st Ryborazvod Stream, trail Alekhino — Sernovodsk, 9.VII.2015, Yu. & L. Sundukov leg., 1 ex; lower reaches of Andreyevka River, 22.V.2011, A. Matalin leg., 1 ex; near Alekhino, 1.VI.2011, A. Matalin leg., 1 ex; ibid, 19.VIII.2009, A. Prosvirov leg., 1 ex.

LITERATURE DATA. Lafer, 2002: 60 (*H. quadripunctatus*: Kunashir), 2006: 224 (*H. quadripunctatus*: Kunashir).

DISTRIBUTION. Russia: Kurile Islands (Paramushir, Onekotan, Chirinkotan, Matua, Ketoi, Simushir, Chirpoi, Brat Chirpoyev, Iturup, Kunashir), Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', southern Magadanskaya oblast', Kamchatka; Yakutia, Transbaikalia, Siberia, Ural, northern and central European part. — Japan (Hokkaido, Honshu), Korea, northern and western China, Mongolia, northern Kazakhstan, Turkey, Europe; North America.

ECOLOGY. Occurring in valley forests and maritime mixed herb meadows.

COMMENTS. Recorded from Kunashir by Lafer [2002, 2006), but without particular locality data. Our material demonstrates a wide distribution of *H. laevipes* across the island.

Harpalus (*Harpalus*) *tarsalis* Mannerheim, 1825
Map 56.

Harpalus tarsalis Mannerheim, 1825: 28; type locality: "Barnaul", Altai, Russia.

MATERIAL. 1 ex: Danilovo place, 2.VII.2015, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'; Transbaikalia, southern Siberia, Ural, southern European part. — Japan (Hokkaido, Honshu), North Korea, north-eastern and eastern China, Mongolia, Kyrgyzstan, Kazakhstan, Ukraine.

ECOLOGY. Collected in a mixed herb meadow on a sea terrace.

COMMENTS. A species new to the Kurile Archipelago.

Harpalus (*Harpalus*) *xanthopus xanthopus* Gemminger et Harold, 1868
Map 57.

Harpalus xanthopus Gemminger et Harold, 1868: 285; nomen novum for *Harpalus pallipes* Motschulsky, 1844: 215; type locality: "environs de Tourkinsk", Turka on the eastern shore of Lake Baikal, Buryatia, Russia.

MATERIAL. 22 ex: Cape Lovzova, 5–6.VIII.2015, Yu. Sundukov leg., 2 ex; ibid, 10–11.VIII.2015, Yu. & L. Sundukov leg., 4 ex; Cape Lovzova near Piko Island, 12.VIII.2015, Yu. & L. Sundukov leg., 3 ex; 150–200 m north of Dalnii Stream, 7.VIII.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 12.VIII.2013, Yu. Sundukov leg., 2 ex; ibid, 8–9.VIII.2013, K. Makarov leg., 5 ex; middle reaches of Zolotaya River, 15.VIII.2013, K. Makarov leg., 1 ex; creek south of Cape Stolbchatyi, 21.VII 2013, Yu. & L. Sundukov leg., 3 ex; Cape Ivanovskii, Grozovoe, 28–30.V.2015, Yu. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast', Magadanskaya oblast', Kamchatka; Yakutia, Transbaikalia, southern and eastern Siberia. — North-eastern and western China, Mongolia, north-eastern Kazakhstan, Tianshan Mountains.

ECOLOGY. Occurring in humid habitats in flood-plain forests and tall-herb meadows, adults living in leaf and other litter.

COMMENTS. A species new to the Kurile Archipelago.

Tribe Perigonini

Perigona (*Perigona*) *exigua* (A. Morawitz, 1863)
Figs 64–67; Map 58.

Pentoplogenius exiguus A. Morawitz, 1863: 25; type locality: "Hakodade", Hakodate, Hokkaido, Japan.

MATERIAL. 47 ex: Alekhino, 2–5.VIII.2011, S. Kurbatov leg., 1 ex; caldera of Golovnina Volcano, cordon Ozernyi, 21–28.VII.2011, S. Kurbatov leg., 1 ex; Cape Ivanovskii, 13.IX.2013, Yu. & L. Sundukov leg., 1 ex; ibid, 18.IX.2013, Yu. & L. Sundukov leg., 5 ex; ibid, 20.IX.2013, Yu. & L. Sundukov leg., 39 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Primorskii Krai. — Japan (Hokkaido, Honshu).

ECOLOGY. Inhabiting oak-broadleaved forests, developing in rotten hay or last-year's grass.

COMMENTS. A species new to the fauna of Russia. According to D.N. Fedorenko's personal communication, the southern part of the Russian Far East seems to be populated only by *P. exigua*, not *P. nigriceps* (Dejean, 1831), as given in the earlier publications [Lafer, 1989; Kryzhanovskij et al., 1995; Sundukov, 2013 and others].

Tribe Panagaeini

Panagaeus (*Panagaeus*) *japonicus* Chaudoir, 1861
Map 59.

Panagaeus japonicus Chaudoir, 1861: 356; type locality: "du Japon", Japan.

MATERIAL. 1 ex: watershed of Golovnina and Khlebnikova rivers in lower reaches, 17.VI.2015, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 133 (Dubovoe; Golovnino); Lafer, 1989: 208 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), Primorskii Krai. — Japan (Hokkaido, Honshu, Kyushu), North Korea, eastern and north-eastern China.

ECOLOGY. Collected in a maritime bamboo meadow.

COMMENTS. A species rare on Kunashir. Recorded previously, based on 2 specimens taken in the south of the island [Kryzhanovskij et al., 1975].

Panagaeus (*Panagaeus*) *robustus* A. Morawitz, 1862
Map 60.

Panagaeus robustus A. Morawitz, 1862: 240 [323]; type locality: "Hakodade", Hakodate, Hokkaido, Japan.

MATERIAL. 3 ex: Cape Lovzova, 12.VIII.2015, L. Sundukova leg., 1 ex; mouth of Belkina River, 10.VII.2008, I. Melnik leg., 1 ex; Danilovo place, 29.VII–6.VIII.2008, I. Melnik leg., 1 ex.

LITERATURE DATA. Krivolutskaja, 1973: 65 (Alekhino); Kryzhanovskij et al., 1975: 133 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, southern Amurskaya oblast'. — Japan (Hokkaido, Honshu), Korea, north-eastern China.

ECOLOGY. Collected in a maritime mixed herb meadow.

COMMENTS. A species very rare on Kunashir, first recorded based on a single specimen taken at Alekhino in August 1962 by V.A. Nechaev [Krivolutskaja, 1973]. In later publications [Lafer, 1989; Kryzhanovskij et al., 1995; Baehr, 2003 and others], this species was omitted from the Kuriles' list. Our material confirms the presence of *P. robustus* on Kunashir.

Tribe Callistini

Chlaenius (*Chlaeniellus*) *inops* Chaudoir, 1856
Map 61.

Chlaenius inops Chaudoir, 1856: 239; type locality: "Chusan", Zhoushan Archipelago near Shanghai, China.

MATERIAL. 1 ex: mouth of Vodopadnyi Stream south of Cape Ivanovskii, 10.VIII.2008, I. Melnik leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Cisamuria. — Japan (Hokkaido, Honshu, Kyushu), Korea, Taiwan, eastern China.

ECOLOGY. Taken at a creek mouth.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

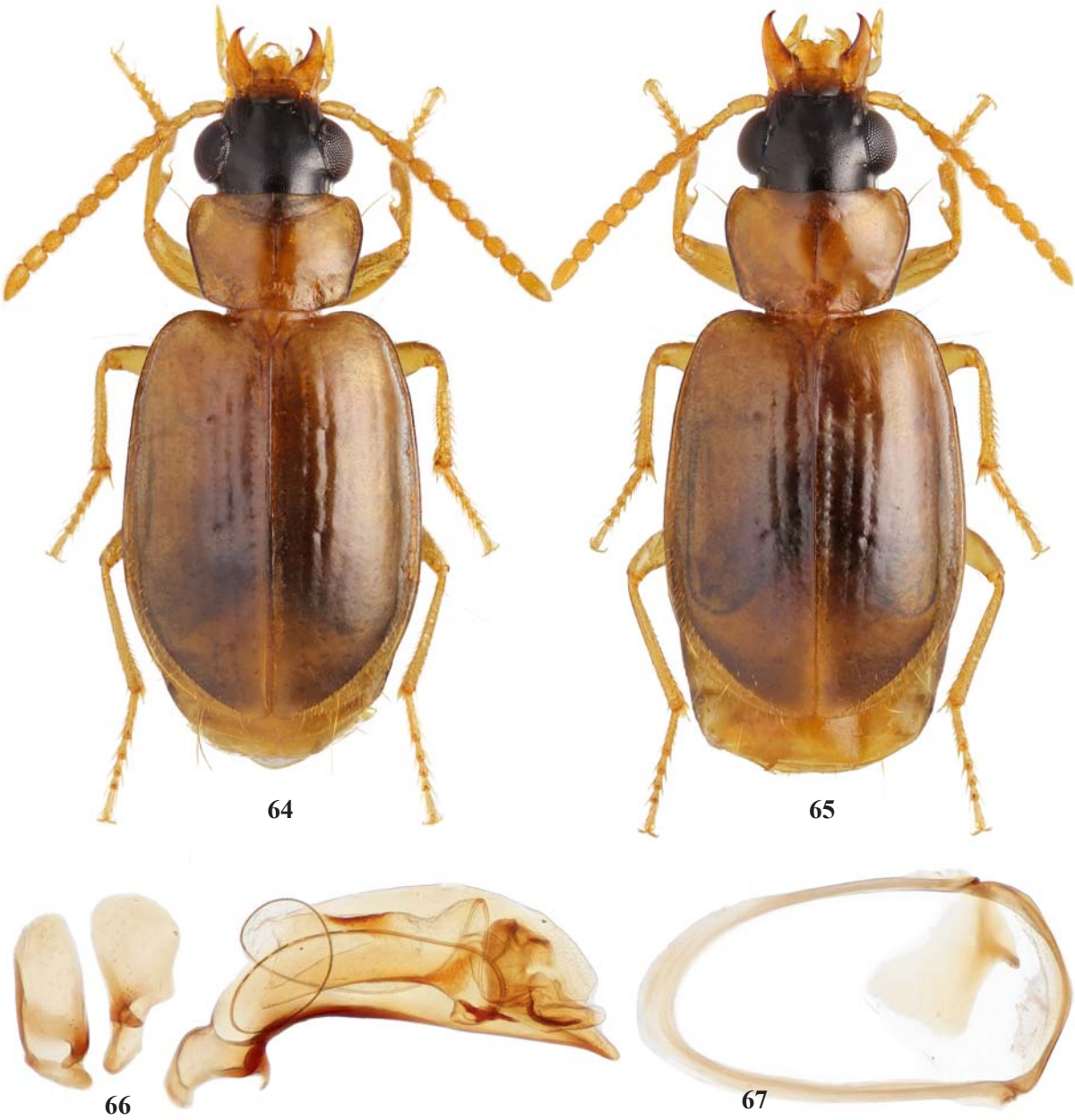
Tribe Oodini

Oodes integer Semenov, 1889
Map 62.

Oodes integer Semenov, 1889: 293; type locality: "Wladiwostok", Vladivostok, Russian Far East.

MATERIAL. 1 ex: flood-plain of Alekhina River near mouth, 2.VIII.2011, K. Makarov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai.



Figs 64–67. *Perigona* (*Perigona*) *exigua* (A. Morawitz): 64–65 — habitus, dorsal (64 — male, 64 — female); 66–67 — male genitalia.
Рис. 64–67. *Perigona* (*Perigona*) *exigua* (A. Morawitz): 64–65 — внешний вид, сверху (64 — самец, 64 — самка); 66–67 — гениталии самца.

ECOLOGY. Collected in a swampy meadow on a river flood-plain.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Tribe Licinini

Badister (*Badister*) *lacertosus lacertosus* Sturm, 1815
Map 63.

Badister lacertosus Sturm, 1815: 188; type locality: "Dreußen", Germany.

MATERIAL. 4 ex: Lovzova Peninsula, Spokoinyi Bay, 14.VIII.2015, Yu. & L. Sundukov leg., 1 ex; middle reaches of Severyanka River, 9.VI. 2014, Yu. Sundukov leg., 1 ex; watershed of Golovnina and Khlebnikova rivers west of Dubovoe, 28.IX.2015, Yu. Sundukov leg., 1 ex; mouth of Khlebnikova River, 15–17.VI.2015, Yu. Sundukov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 133 (*B. bipustulatus*: Lagunnoe); Lafer, 1989: 206 (*B. bipustulatus*: Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, Amurskaya oblast'; western Siberia, Ural, northern and central European part. — Kyrgyzstan, Kazakhstan, Europe.

ECOLOGY. Occurring in maritime mixed herb meadows and forest clearings.

COMMENTS. Recorded from Kunashir, based on 1 specimen taken near Lake Lagunnoe [Kryzhanovskij et al., 1975]. Our material shows that *B. lacertosus* is widespread across the island.

Badister (*Baudia*) *ussuriensis* Jedlička, 1937
Map 64.

Badister (*Baudia*) *ussuriensis* Jedlička, 1937: 83; type locality: "Nikolsk-Ussurijski", Ussuriysk, Primorskii Krai, Russia.

MATERIAL. 5 ex: Lovzova Peninsula, marsh south of Lake Nadya, 15–16.VIII.2015, Yu. & L. Sundukov leg., 5 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, southern Khabarovskii Krai, Amurskaya oblast'. — Japan, North Korea.

ECOLOGY. Collected on a lake flood-plain in a swampy meadow.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Tribe Pentagonicini

Pentagonica angulosa Bates, 1883
Map 65.

Pentagonica angulosa Bates, 1883: 286; type locality: "Yuyama; Kashiwagi; Nikko", Honshu, Japan.

MATERIAL. 3 ex: Cape Dokuchaeva, Dokuchaevo, window traps, 1–5.VIII.2013, K. Makarov leg., 1 ex; lower reaches of Dalnii Stream, 9.VIII.2013, L. Sundukova leg., 1 ex; right slope of Severyanka River valley, window traps, 23–27.VII.2013, K. Makarov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 141 (Tretiyakovo); Lafer, 1989: 210 (Kunashir).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), southern Primorskii Krai, Jewish Autonomous Region. — Japan (Hokkaido, Honshu, Kyushu).

ECOLOGY. A dendrophilic species, adults living in tree and bush canopies in mixed forests.

COMMENTS. Recorded from Kunashir, based on 1 specimen taken at Tretiyakovo on 9 August by I.M. Kerzhner [Kryzhanovskij et al., 1975]. Our material confirms the presence of *P. angulosa* on the island.

Tribe Odacanthini

Odacantha (*Odacantha*) *puziloi* Solsky 1875
Map 66.

Odacantha Puziloi Solsky, 1875: 264; type locality: "lac Khanka et dans les environs de Vladivostok", Lake Khanka and near Vladivostok, Russian Far East.

MATERIAL. 1 ex: Veslovskii Peninsula, 1.5 km north of Cape Veslo, 21.VII.2008, K. Makarov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region. — Japan (Honshu), North Korea, north-eastern China.

ECOLOGY. Collected at night on swampy vegetation.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Tribe Lebiini

Lachnolebia cribricollis (A. Morawitz, 1862)
Map 67.

Lebia cribricollis A. Morawitz, 1862: 199 [245]; type locality: "Bureja-Gebirge", Bureinsky Ridge near Amur River, Russian Far East.

MATERIAL. 1 ex: lower reaches of Krivonozhka Stream, 20–22.VI.2013, Yu. & L. Sundukov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), southern Sakhalin, Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'. — Japan (Hokkaido, Honshu, Kyushu), Korea, north-eastern, northern and southern (Yunnan) China.

ECOLOGY. Collected in a mixed herb maritime meadow.

COMMENTS. A species new to the fauna of Kunashir. Recorded in the Kurile Archipelago for the first time from Shikotan [Sundukov, Makarov, 2013]. The report of *L. cribricollis* from Kunashir confirms its presence in the southern Kuriles.

Lebia (*Poecilothais*) *bifenestrata* A. Morawitz, 1862
Map 68.

Lebia bifenestrata A. Morawitz, 1862: 200 [245]; type locality: "Bureja-Gebirge. Ussuri", Bureinsky Mountain Ridge near Amur River and Ussuri River, Russian Far East.

MATERIAL. 11 ex: lower reaches of Zolotaya River, 14.VIII. 2013, Yu. Sundukov leg., 1 ex; lower reaches of Severyanka River, 13–15.VI.2014, Yu. Sundukov leg., 2 ex; thermal springs "Stolbovskie", 7.VI.2011, A. Matalin leg., 1 ex; ibid, 12.VIII.2011, K. Makarov leg., 1 ex; near Tretiyakovo, Valentiny Creek, 19.IX.2009, A. Prosvirov leg., 1 ex; Cape Ivanovskii, 12.VI.2011, A. Matalin leg., 4 ex; 3 km south-east of Cape Ivanovskii, 15.VIII.2011, K. Makarov leg., 1 ex.

LITERATURE DATA. Kryzhanovskij et al., 1975: 140 (Tretiyakovo).

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir, Shikotan), Primorskii Krai, southern Khabarovskii Krai, Jewish Autonomous Region, southern Amurskaya oblast'. — Japan (Hokkaido, Honshu, Shikoku, Kyushu), Korea, north-eastern China.

ECOLOGY. A dendrophilic species, adults populating tree and bush canopies in valley and mountain forests.

COMMENTS. First recorded from Kunashir, based on 3 specimens taken at Tretiyakovo [Kryzhanovskij et al., 1975]. In all later papers [Lafer, 1989; Kryzhanovskij et al., 1995 and others], *L. bifenestrata* was omitted from the Kuriles' list. The presence of this species in the southern Kuriles is confirmed through its report from Shikotan [Sundukov, Makarov, 2013] and by the new Kunashir material.

Dromius (*Dromius*) *angusticollis* J.R. Sahlberg, 1880
Map 69.

Dromius angusticollis J.R. Sahlberg, 1880: 22; type locality: "Obi", Ob River, western Siberia, Russia.

MATERIAL. 2 ex: Danilovo place, 6.VII.2011, K. Makarov & A. Zaitsev leg., 1 ex; caldera of Golovnina Volcano, east shore of Goryacheye Lake, 24.VII.2008, K. Makarov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir), Sakhalin, Primorskii Krai, Khabarovskii Krai, Amurskaya oblast', Magadanskaya oblast', Kamchatka; Yakutia, Transbaikalia, Siberia, Ural, northern and central European part. — South Korea, Bulgaria.

ECOLOGY. A dendrophilic species, adults occurring in tree and bush canopies in mixed mountain and valley forests, also met with on herb stems in meadows.

COMMENTS. A species new to the fauna of the Kurile Archipelago.

Dromius (*Dromius*) *matsudai* Habu, 1952
Figs 68–71; Map 70.

Dromius (*Dromius*) *matsudai* Habu, 1952: 37; type locality: "Ashoromura", Hokkaido, Japan.

MATERIAL. 5 ex: Filatovka River valley near cordon Filatovskii, 2.IX.2009, A. Zaitsev leg., 1 ex; Danilovo place, 6.VII.2011, K. Makarov & A. Zaitsev leg., 3 ex; beach south of Cape Znamenka, 5.VIII.2009, K. Makarov leg., 1 ex.

DISTRIBUTION. Russia: southern Kurile Islands (Kunashir). — Japan (Hokkaido, Honshu, Kyushu).

ECOLOGY. A dendrophilic species populating tree and bush canopies in valley and mountain forests.

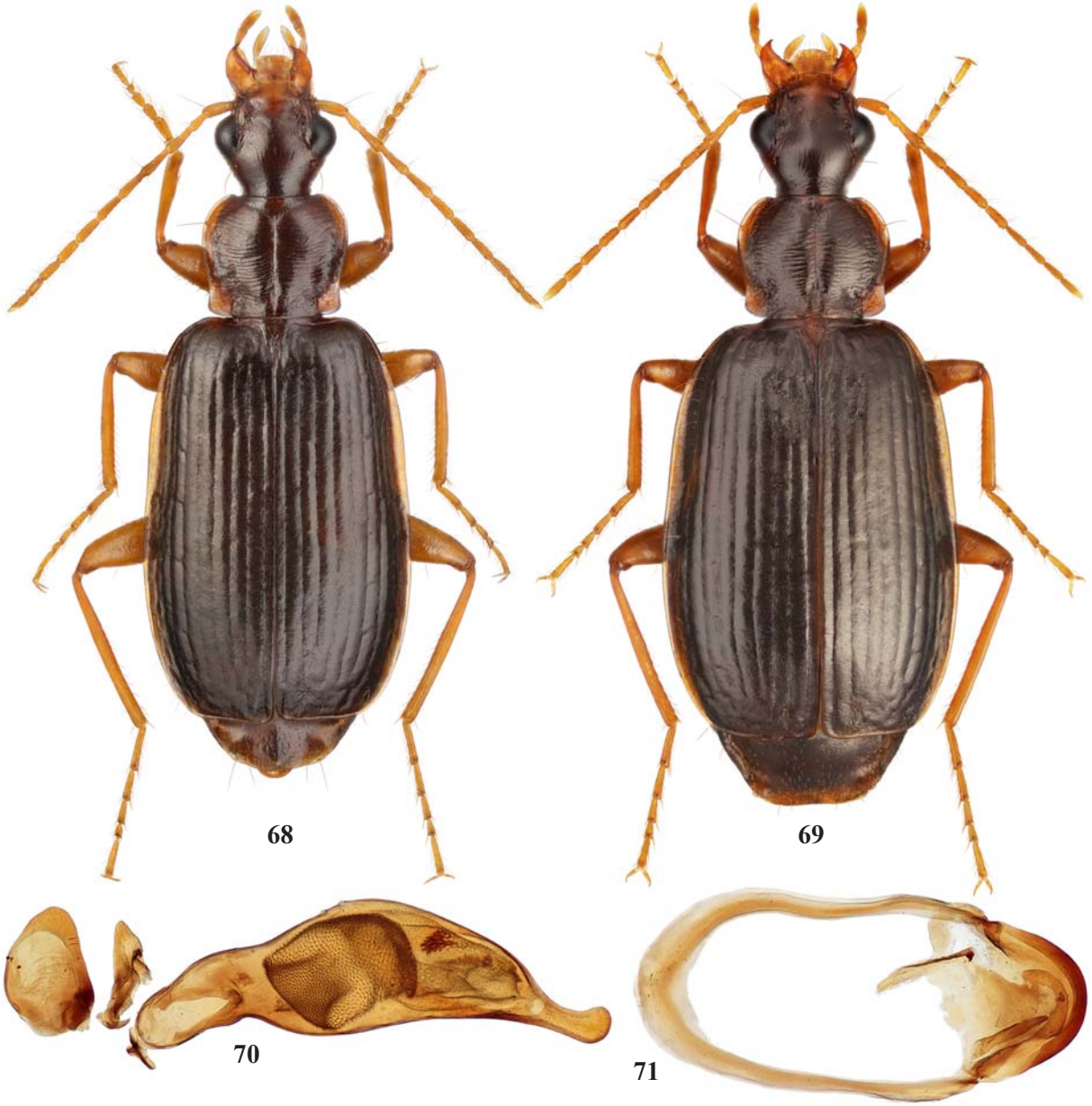
COMMENTS. A species new to the fauna of Russia.

Cymindis (*Tarus*) *vaporariorum* (Linnaeus, 1758)
Map 71.

Carabus vaporariorum Linnaeus, 1758: 415; type locality: "Uppsala", Sweden.

MATERIAL. 3 ex: Yuzhno-Kurilsk, 8–14.VIII.1992, A. Sokolov leg., 1 ex; Cape Ivanovskii, 4.VIII.2008, I. Melnik leg., 1 ex; ibid, Grozovoe, 31.VIII.2013, Yu. & L. Sundukov leg., 1 ex.

LITERATURE DATA. Sundukov, 2011: 340 (Yuzhno-Kurilsk; Cape Ivanovskii).



Figs 68–71. *Dromius* (*Dromius*) *matsudai* Habu, habitus, dorsal (68 — male, 69 — female; 70–71 — male genitals)
Рис. 68–71. *Dromius* (*Dromius*) *matsudai* Habu, внешний вид, сверху (68 — самец, 69 — самка; 70–71 — гениталии самца)

DISTRIBUTION. Russia: Kurile Islands (Simushir, Paramushir, Kunashir, Shikotan, Tanfilieva), Sakhalin, Primorskii Krai, Khabarovskii Krai, Amurskaya oblast', Magadanskaya oblast', Chukotka, Kamchatka; Yakutia, Transbaikalia, Siberia, Ural, European part. — Japan (Hokkaido, Honshu), north-eastern China, Mongolia, north-eastern Kazakhstan, Europe; Alaska, north-western Canada.

ECOLOGY. Inhabiting mixed herb maritime meadows.

Concluion

Of the 70 species or subspecies treated above, 4 species and 1 subspecies are recorded in Russia for the first time, 26 are new to the entire Kurile Archipelago, 1 is new to the Great Kuriles, and 8 are new to Kunashir. Such a considerable contribution to the carabid fauna list of Kunashir is related to the discovery of single individuals or mass material representing widespread or localized and highly specialized species. For example, *Bembidion sibiricum*, *Agonum gracile* and *A. dolens* are rather widely distributed across the island (Maps 19, 39, 41) and can attain relatively high population densities. Such species as *Bembidion umi*, *B. pseudolucillum* or *Perigona exigua* have been collected in various parts of the island (Maps 14, 27, 58), but they always occur, sometimes in large numbers, only in highly particular habitats. Interestingly, such a widespread, common, forest-dwelling species as *Limodromus assimilis* appears to be very rare on Kunashir, its known records being restricted to a few localities on the Okhotian coast (Map 44).

Finally, there are quite a number of species reported from single or very few individuals, which makes it impossible to evaluate their distribution on the island. Such are *Bembidion yokohamae*, *B. leucolenum*, *B. grapii*, *Harpalus tarsalis*, both *Panagaeus* spp., *Chlaenius inops*, *Oodes integer*, *Badister ussuriensis*, *Odacantha puziloi*.

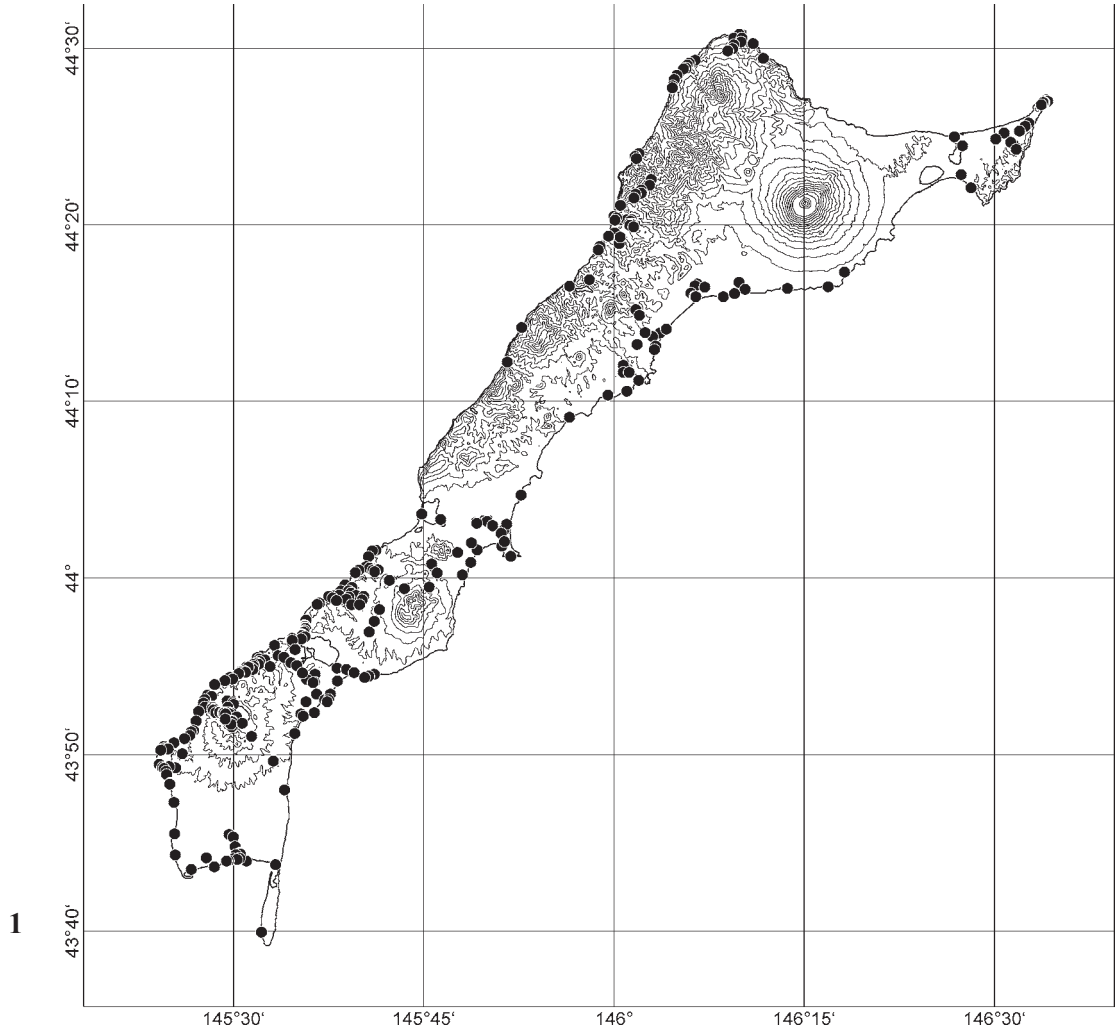
A separate group of species reported from Kunashir for the first time is represented by phytophilic ground beetles (*Agonum sylphis stichai*, *Metacolpodes buchannani*, *Lachnolebia cribricollis*, *Dromius angusticollis*, *D. matsudai*) which are difficult to capture by applying usual collecting techniques, thus also making information on their distributions and numbers a priori inexact.

Quite similar patterns are seen as well in the proportions of localized to widespread, and of rare to abundant taxa amongst the carabid species previously recorded from Kunashir. For example, *Nebria shibanai shiretokoana* is a widely distributed and highly specialized species reaching high abundance levels in suitable habitats, whereas *Bembidion negrei* is similarly highly specialized, but very local on Kunashir; *Eobroscus lutshniki* is widespread, but always rare on the island, while *Clivina fossor sachalinica* has been found at many localities and is invariably abundant (Maps 2, 8, 11, 24), etc.

These data suggest that the carabid fauna of Kunashir is still far from completely revealed. Further additions to the list can be expected through getting more species, widespread or localized, possibly even endemic. For example, *Calosoma maximowiczi* A. Morawitz, 1863 is known from Iturup Island [Kuwayama, 1967; Krivolutskaja, 1973; Kryzhanovskij et al., 1975; Lafer, 1989, 2002] and Hokkaido [Imura, 1991], while *Lebia cruxminor* (Linnaeus, 1758) from Shikotan Island [Sundukov, Makarov, 2013] and Hokkaido [Habu, 1967]. So finding these two species on Kunashir is highly probable, the more so as both are capable of flight. In addition, the highest montane parts of Kunashir still remain almost unexplored, such as the northern part of Dokuchaeva Mountain Range which might harbour localized ground beetle taxa.

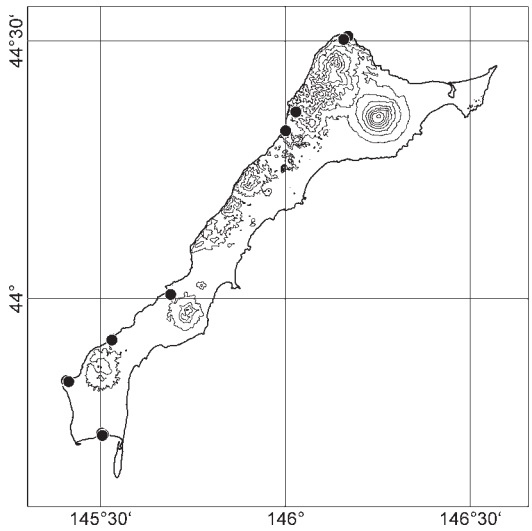
In conclusion, the already known fauna of Kunashir encompasses at least 170 species or subspecies of Carabidae. We have omitted some known from the island only from the literature. Firstly, such are two species of *Poecilus*, i.e. *P. gaturs* (Davies, 2004) [= *gratus* (Jedlička, 1962)] and *P. spectus* (Jedlička, 1962), both recorded by Kryzhanovskij et al. [1975], yet probably as a result of misidentifications of *Poecilus planicollis* [see Lafer, 2002: 55). Secondly, such are also *Bembidion* (*Plataphus*) *gebleri edai* Fassati, 1954 (sub *Bembidion* (*Plataphus*) *nakanei* Jedlička, 1965, synonymy after Morita, 1989) and *Bembidion* (*Plataphus*) *pliculatum* Bates, 1883 [Kryzhanovskij et al., 1975: 131]. These *Bembidion* were captured on Kunashir half a century ago in most readily available places frequented by entomologists, but never collected since. Thirdly, our paper omits 4 species of the tribe Trechini at our disposal, which will be treated elsewhere. So even now the diversity of carabids on Kunashir may be estimated as amounting to 180–190 species or subspecies. This is comparable with the ground beetle fauna of such a large island as Sakhalin [Lafer, Kuznetsov, 1996; Berlov, Berlov, 1997; Plutenko, 2005; Lafer, 2011; Vertyankin, Lafer, 2012; Shigehisa, Vertyankin, 2013 etc.], even though the area of Sakhalin is almost 50 times as large as that of Kunashir. Similar ratios have been noted for vascular plants and different animal groups [Pietsch et al, 2003]. Discussing the reasons for the high insect diversity of Kunashir, various displays of volcanism have often been considered among the leading factors, mainly the presence of thermal water fields of various size and temperature on the island [Kupianskaya et al, 2000; Lelej et al., 2002]. There is no question that the thermal activities of Kunashir's volcanoes do provide specific conditions, in which only the species occur that live nowhere else on the island. Among carabids, such are *Cylindera elisae kunashirensis* Putz et Wiesner, 1994, *Bembidion negrei* and *B.* cf. *sanatum*. It seems quite probable that the conditioning activities of thermal waters could have allowed a number of ground beetles to survive during the Pleistocene colds and form local taxa (*B. ruruy*). However, the proportion of such species in the total list appears to be low, less than 3%. About the same contribution is due to the species populating gravelly habitats of larger rivers in the northern part of Kunashir (*Bembidion lucillum*, *B.* (*Synechostictus*) cf. *galloisi* (Netolitzky, 1938), both species of *Diplous*) or those living mostly in anthropogenic conditions (*Dolichus halensis* (Schaller, 1783), *Amara plebeja* (Gyllenhal, 1810), *A. obscuripes*, *A. ovata*, *A. chalcophaea*, *Anisodactylus signatus* (Panzer, 1796), *Harpalus capito* A. Morawitz, 1862 etc.).

A general reason for the high faunal diversity of Kunashir, apart from the territorial proximity to Hok-



1

Map 1. Map of Carabidae localities on Kunashir Island, 2008–2015.
Карта 1. Места сбора жужелиц на острове Кунашир в 2008–2015 г.г.



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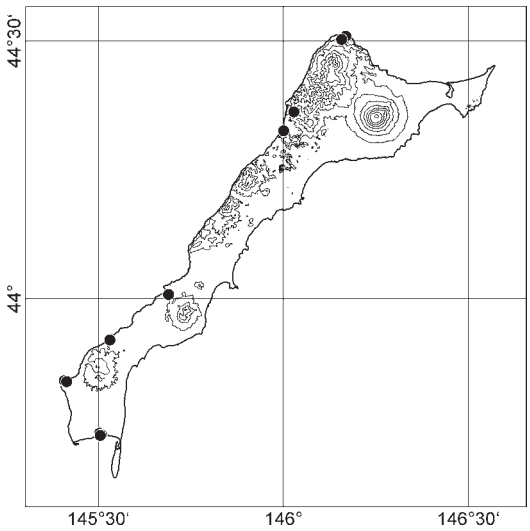
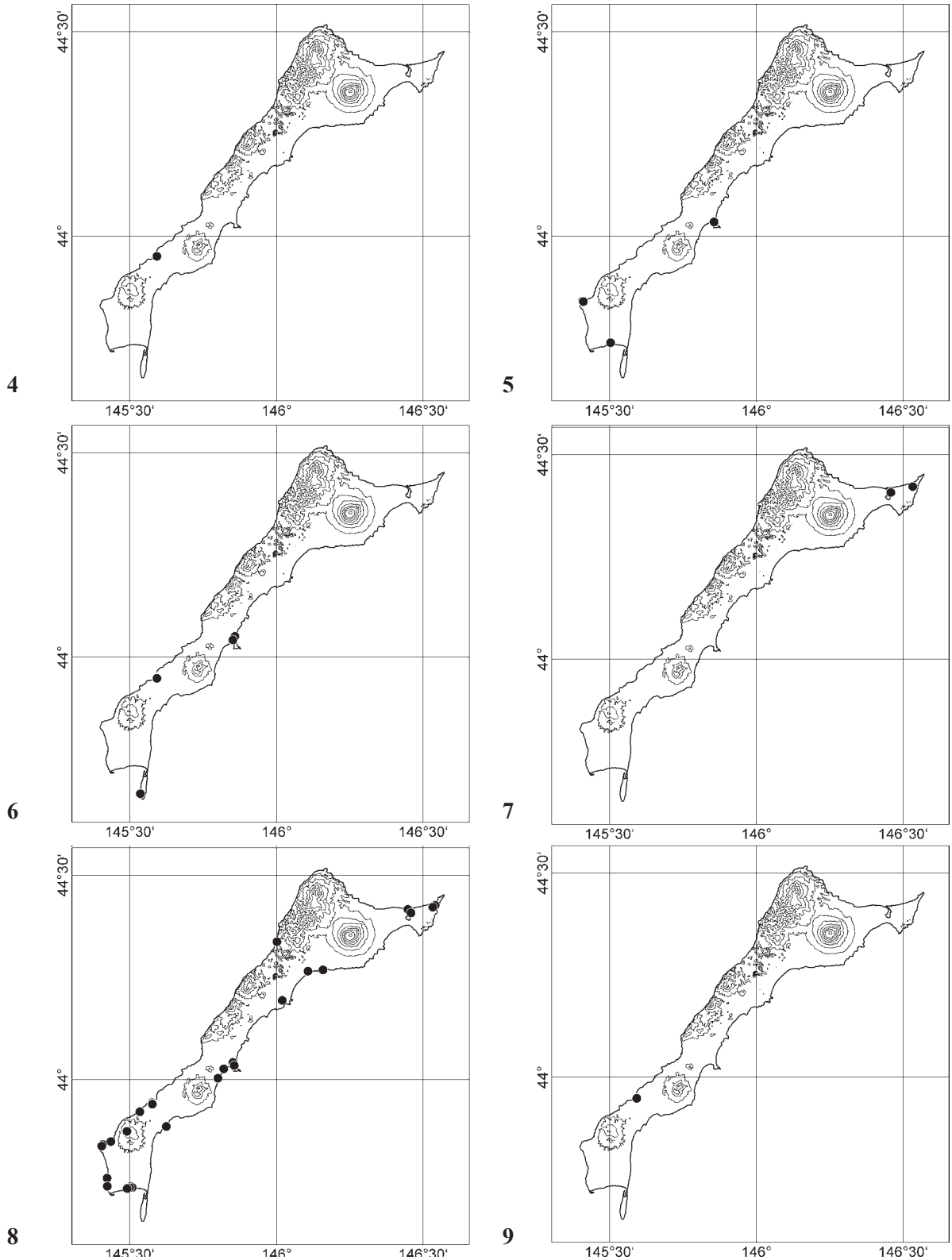


3

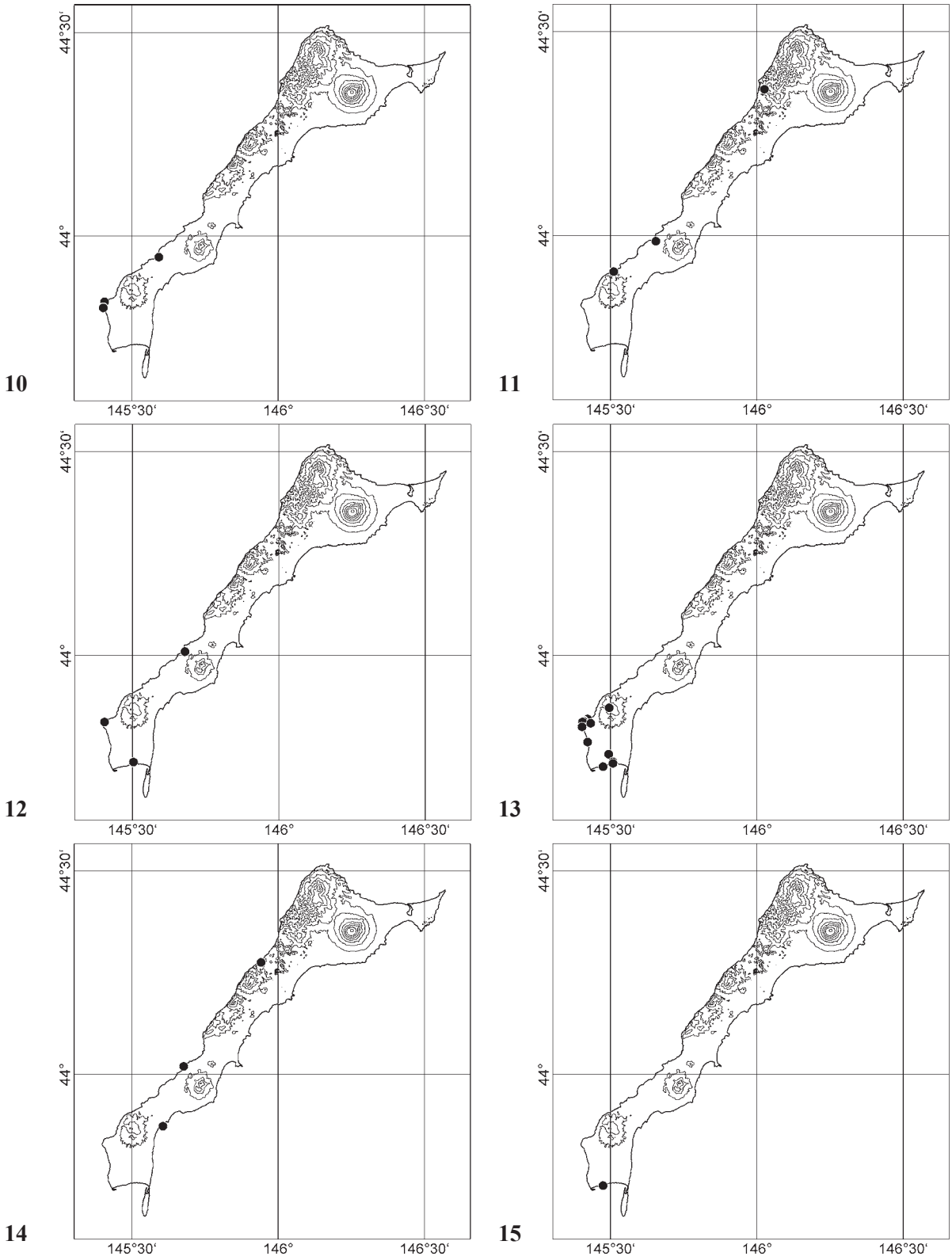
Maps 2–3. Distribution of ground beetles on Kunashir Island: 2 — *Nebria* (*Nakanebria*) *shibanai shiretokoana* Nakane, 1960; 3 — *Notiophilus impressifrons* A. Morawitz, 1862.

Карты 2–3. Распространение жужелиц на острове Кунашир: 2 — *Nebria* (*Nakanebria*) *shibanai shiretokoana* Nakane, 1960; 3 — *Notiophilus impressifrons* A. Morawitz, 1862.



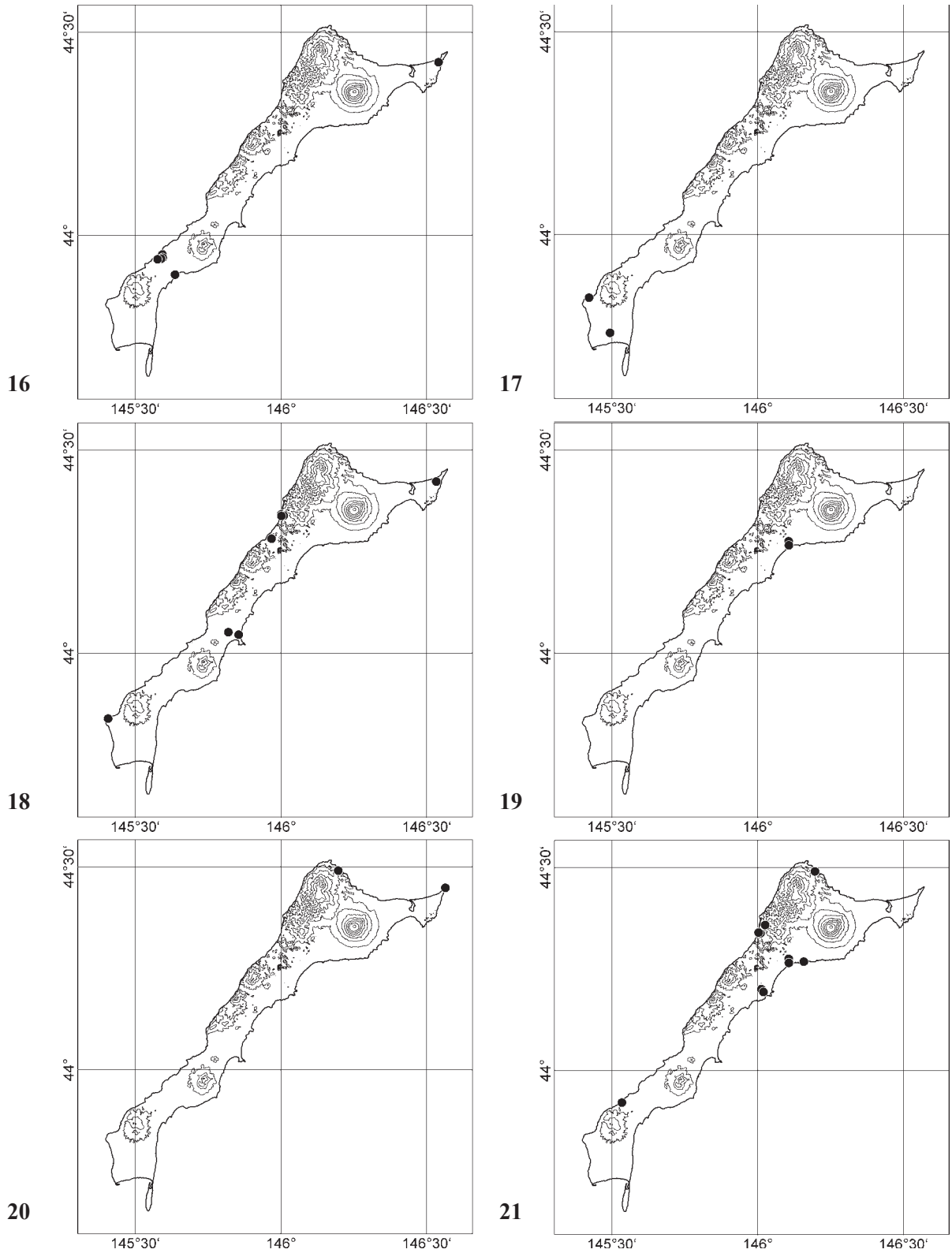
Maps 4–9. Distribution of ground beetles on Kunashir Island: 4 — *Calosoma* (*Campalita*) *chinense chinense* Kirby, 1819; 5 — *Carabus* (*Hemicarabus*) *tuberculosus* Dejean, 1829; 6 — *Blethisa multipunctata aurata* Fischer von Waldheim, 1828; 7 — *Elaphrus* (*Elaphrotatus*) *punctatus* Motschulsky, 1844; 8 — *Clivina fossor sachalinica* Nakane, 1952; 9 — *Dyschirius* (*Dyschiriodes*) *fassatii* Kult, 1949.

Карты 4–9. Распространение жужелиц на острове Кунашир: 4 — *Calosoma* (*Campalita*) *chinense chinense* Kirby, 1819; 5 — *Carabus* (*Hemicarabus*) *tuberculosus* Dejean, 1829; 6 — *Blethisa multipunctata aurata* Fischer von Waldheim, 1828; 7 — *Elaphrus* (*Elaphrotatus*) *punctatus* Motschulsky, 1844; 8 — *Clivina fossor sachalinica* Nakane, 1952; 9 — *Dyschirius* (*Dyschiriodes*) *fassatii* Kult, 1949.



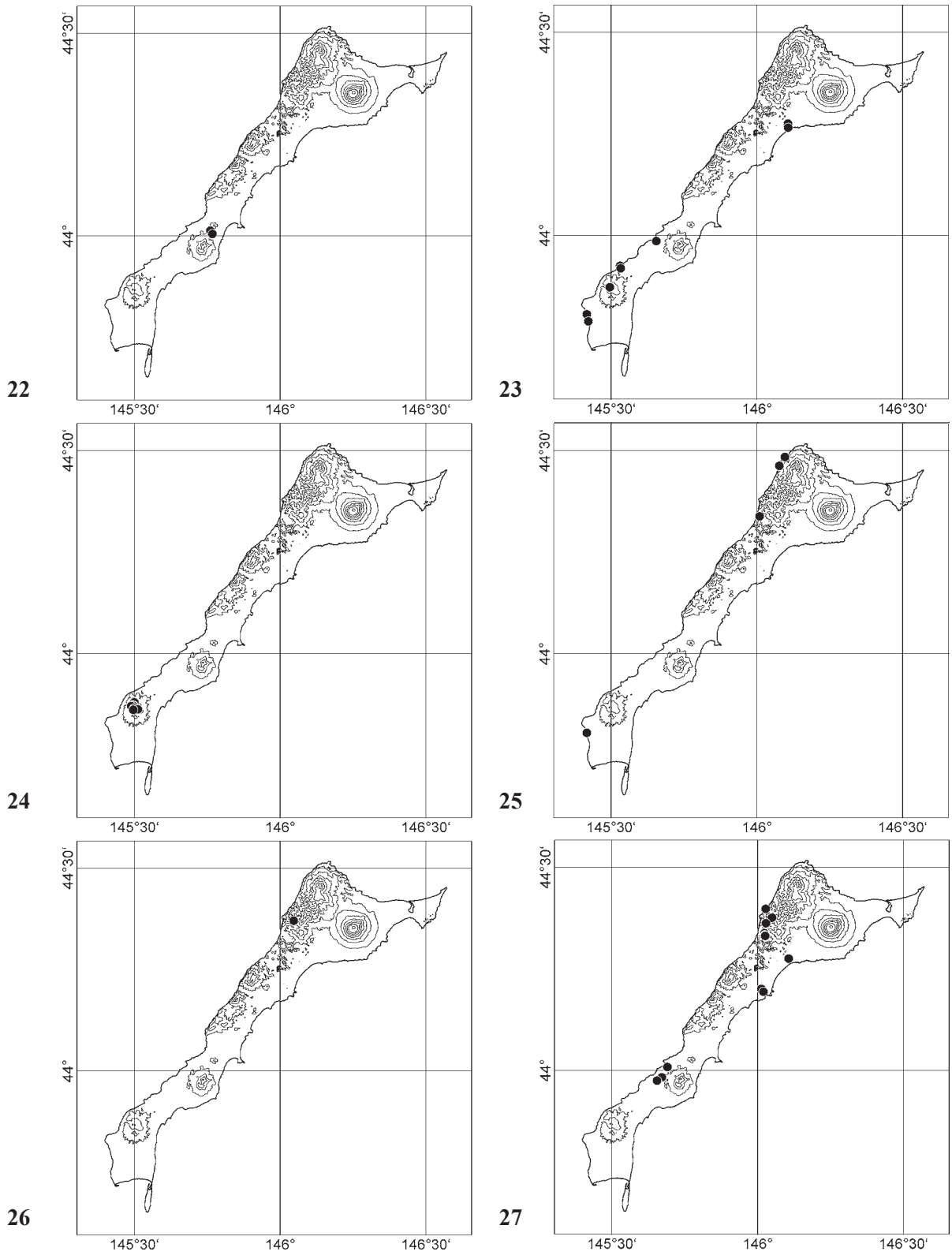
Maps 10–15. Distribution of ground beetles on Kunashir Island: 10 — *Dyschirius* (*Dyschiriodes*) *tristis* Stephens, 1827; 11 — *Eobroscus* (*Eobroscus*) *lutshniki* (Roubal, 1928); 12 — *Tachys* (*Paratachys*) *micros* (Fischer von Waldheim, 1828); 13 — *Elaphropus latissimus latissimus* (Motschulsky, 1851); 14 — *Bembidion* (*Sakagutia*) *umi* Sasakawa, 2007; 15 — *B*. (*Desarmatocillenus*) *yokohamae* (Bates, 1883).

Карты 10–15. Распространение жужелиц на острове Кунашир: 10 — *Dyschirius* (*Dyschiriodes*) *tristis* Stephens, 1827; 11 — *Eobroscus* (*Eobroscus*) *lutshniki* (Roubal, 1928); 12 — *Tachys* (*Paratachys*) *micros* (Fischer von Waldheim, 1828); 13 — *Elaphropus latissimus latissimus* (Motschulsky, 1851); 14 — *Bembidion* (*Sakagutia*) *umi* Sasakawa, 2007; 15 — *B*. (*Desarmatocillenus*) *yokohamae* (Bates, 1883).



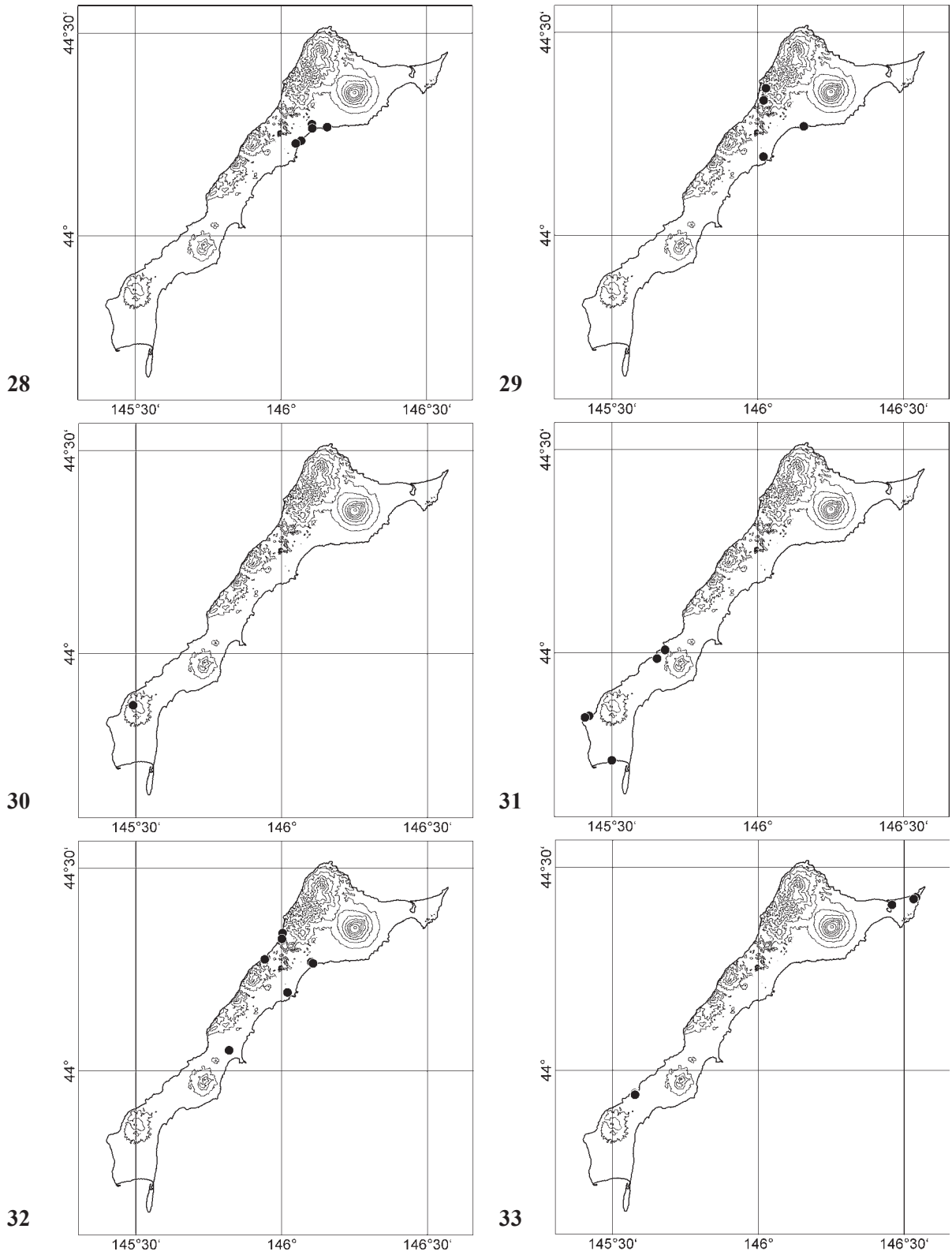
Maps 16–21. Distribution of ground beetles on Kunashir Island: 16 — *B*. (*Bracteon*) *stenoderum* Bates, 1873; 17 — *B*. (*Chlorodium*) *leucolenum* Bates, 1883; 18 — *Bembidion* (*Eupetedromus*) *sibiricum* Dejean, 1831; 19 — *B*. (*Plataphus*) *lucillum lucillum* Bates, 1883; 20 — *B*. (*Nipponobembidion*) *ruruy* Makarov et Sundukov, 2014; 21 — *B*. (*Blepharoplataphus*) *hiogoense* Bates, 1873.

Карты 4–10. Распространение жужелиц на острове Кунашир: 16 — *B*. (*Bracteon*) *stenoderum* Bates, 1873; 17 — *B*. (*Chlorodium*) *leucolenum* Bates, 1883; 18 — *Bembidion* (*Eupetedromus*) *sibiricum* Dejean, 1831; 19 — *B*. (*Plataphus*) *lucillum lucillum* Bates, 1883; 20 — *B*. (*Nipponobembidion*) *ruruy* Makarov et Sundukov, 2014; 21 — *B*. (*Blepharoplataphus*) *hiogoense* Bates, 1873.



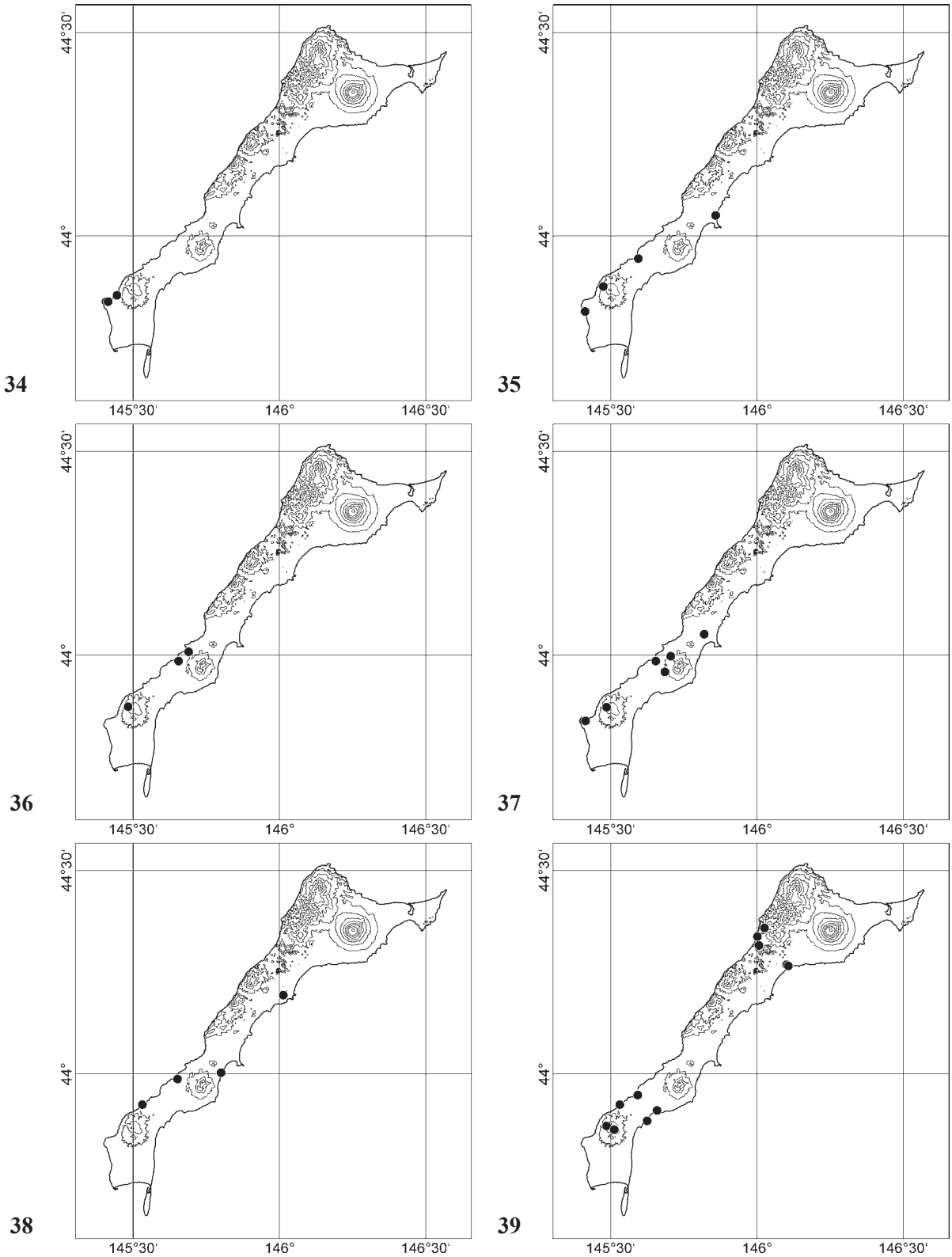
Maps 22–27. Distribution of ground beetles on Kunashir Island: 22 — *Bembidion* (*Peryphanes*) cf. *sanatum* Bates, 1883; 23 — *B*. (*Ocydromus*) *cnemidotum* Bates, 1883; 24 — *B*. (*O*.) *negrei* Habu, 1958; 25 — *B*. (*O*.) *scopulinum* (Kirby, 1837); 26 — *Bembidion grapii* Gyllenhal, 1827; 27 — *B*. *pseudolucillum* Netolitzky, 1938.

Карты 22–27. Распространение жужелиц на острове Кунашир: 22 — *Bembidion* (*Peryphanes*) cf. *sanatum* Bates, 1883; 23 — *B*. (*Ocydromus*) *cnemidotum* Bates, 1883; 24 — *B*. (*O*.) *negrei* Habu, 1958; 25 — *B*. (*O*.) *scopulinum* (Kirby, 1837); 26 — *Bembidion grapii* Gyllenhal, 1827; 27 — *B*. *pseudolucillum* Netolitzky, 1938.



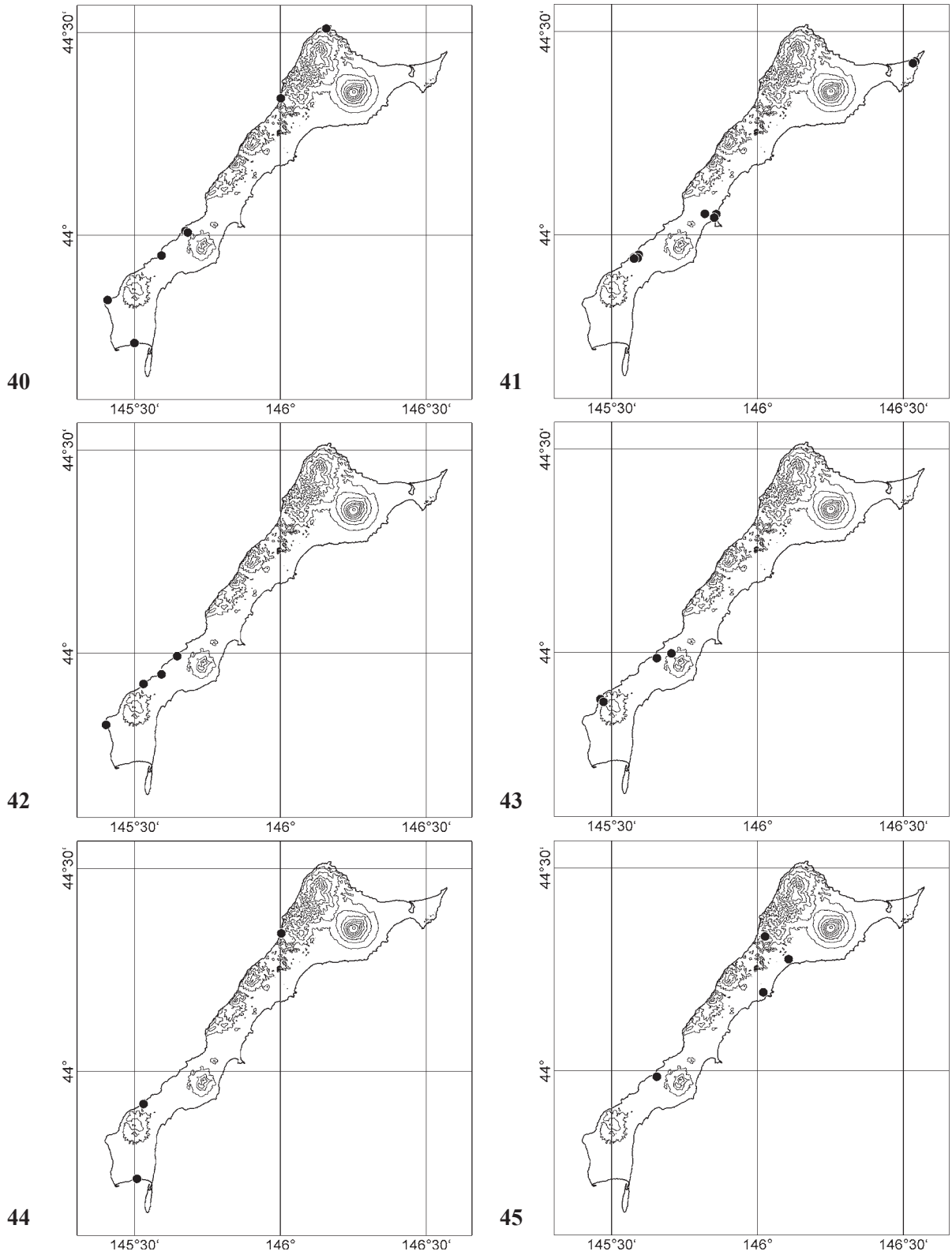
Maps 28–33. Distribution of ground beetles on Kunashir Island: 28 — *Diplous* (*Diplous*) *sibiricus atratus* Habu, 1951; 29 — *D.* (*Platidius*) *depressus* (Gebler, 1829); 30 — *Pterostichus* (*Pseudomaseus*) *rotundangulus* A. Morawitz, 1862; 31 — *P.* (*Argutor*) *sulcitarsis* A. Morawitz, 1862; 32 — *P.* (*Biphonias*) *longinquus* Bates, 1873; 33 — *P.* (*B.*) *neglectus* A. Morawitz, 1862.

Карты 28–33. Распространение жужелиц на острове Кунашир: 28 — *Diplous* (*Diplous*) *sibiricus atratus* Habu, 1951; 29 — *D.* (*Platidius*) *depressus* (Gebler, 1829); 30 — *Pterostichus* (*Pseudomaseus*) *rotundangulus* A. Morawitz, 1862; 31 — *P.* (*Argutor*) *sulcitarsis* A. Morawitz, 1862; 32 — *P.* (*Biphonias*) *longinquus* Bates, 1873; 33 — *P.* (*B.*) *neglectus* A. Morawitz, 1862.



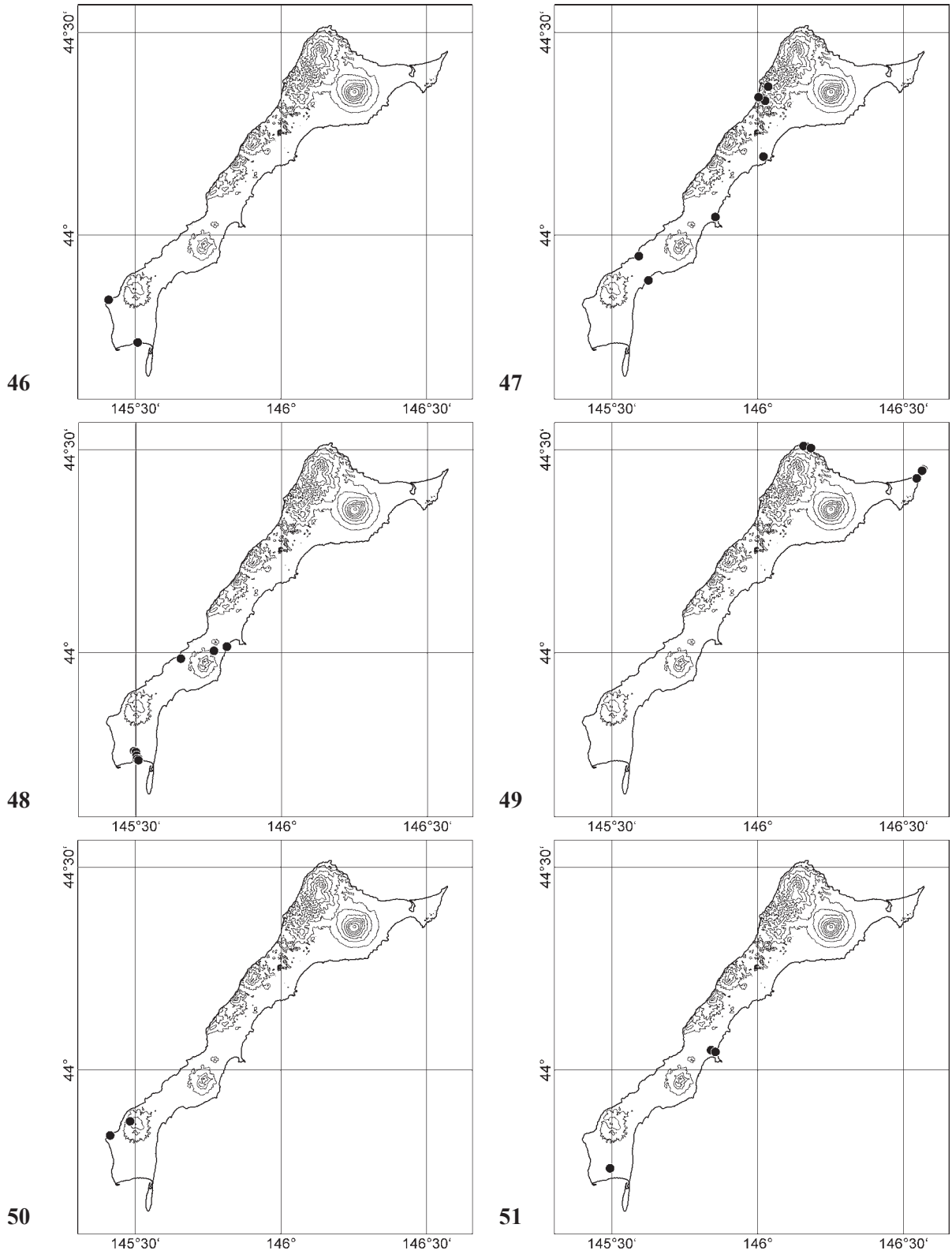
Maps 34–39. Distribution of ground beetles on Kunashir Island: 34 — *Synuchus* (*Synuchus*) *congruus* (A. Morawitz, 1862); 35 — *S.* (*S.*) *cycloderus* (Bates, 1873); 36 — *S.* (*S.*) *nitidus nitidus* (Motschulsky, 1861); 37 — *S.* (*S.*) *vivalis uenoi* Lindroth, 1956; 38 — *Agonum* (*Agonum*) *chalcomum* (Bates, 1873); 39 — *A.* (*Europhilus*) *gracile* Sturm, 1824.

Карты 34–39. Распространение жужелиц на острове Кунашир: 34 — *Synuchus* (*Synuchus*) *congruus* (A. Morawitz, 1862); 35 — *S.* (*S.*) *cycloderus* (Bates, 1873); 36 — *S.* (*S.*) *nitidus nitidus* (Motschulsky, 1861); 37 — *S.* (*S.*) *vivalis uenoi* Lindroth, 1956; 38 — *Agonum* (*Agonum*) *chalcomum* (Bates, 1873); 39 — *A.* (*Europhilus*) *gracile* Sturm, 1824.



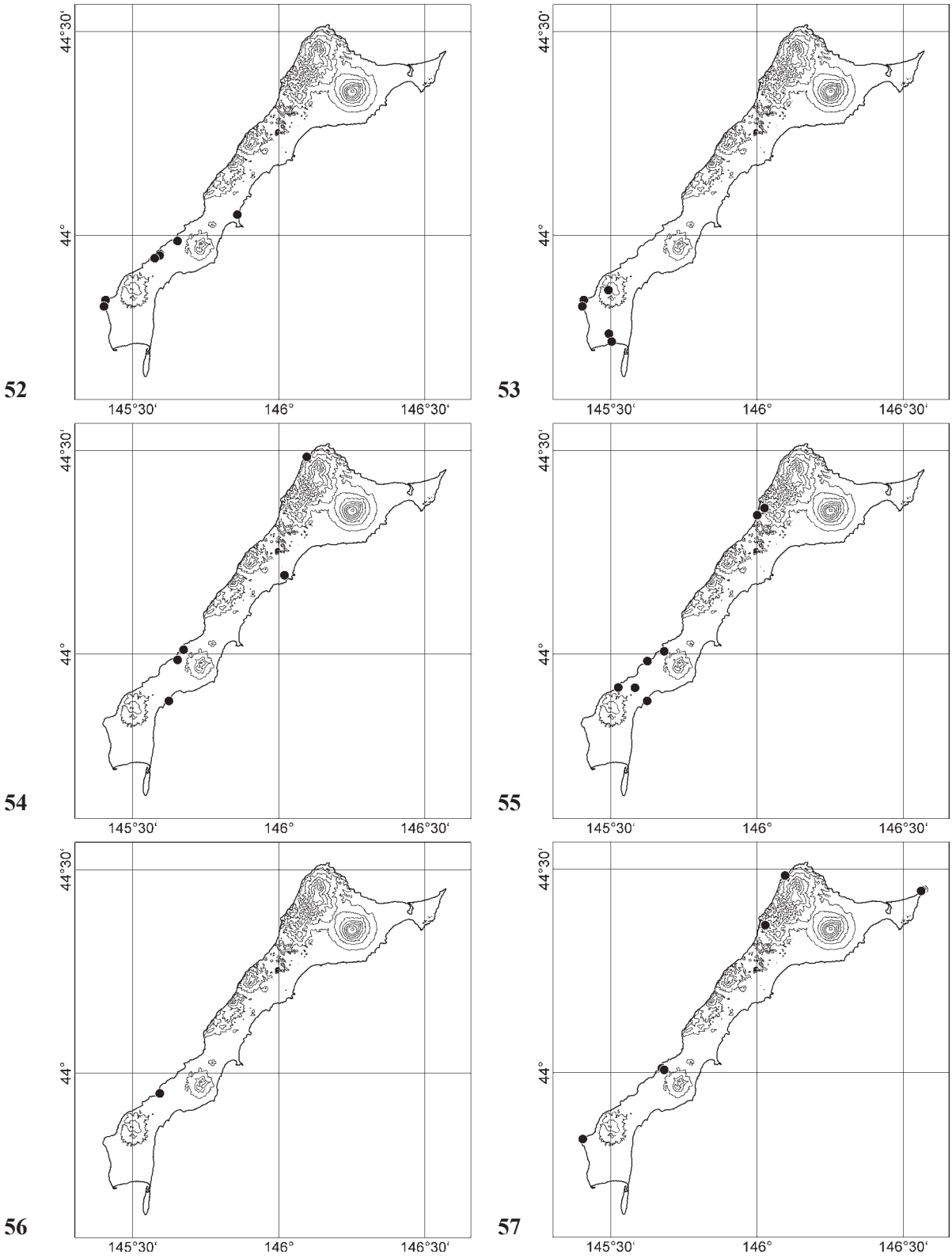
Maps 40–45. Distribution of ground beetles on Kunashir Island: 40 — *A*. (*E*.) *jurecekianum* Jedlička, 1952; 41 — *A*. (*Olisares*) *dolens* (C.R. Sahlberg, 1827); 42 — *Agonum* (*Olisares*) *sculptipes* (Bates, 1883); 43 — *A*. (*Glaucagonum*) *sylphis stichai* (Jedlička, 1935); 44 — *Limodromus assimilis* (Paykull, 1790); 45 — *Metacolpodes buchannani* (Hope, 1831).

Карты 40–45. Распространение жужелиц на острове Кунашир: 40 — *A*. (*E*.) *jurecekianum* Jedlička, 1952; 41 — *A*. (*Olisares*) *dolens* (C.R. Sahlberg, 1827); 42 — *Agonum* (*Olisares*) *sculptipes* (Bates, 1883); 43 — *A*. (*Glaucagonum*) *sylphis stichai* (Jedlička, 1935); 44 — *Limodromus assimilis* (Paykull, 1790); 45 — *Metacolpodes buchannani* (Hope, 1831).



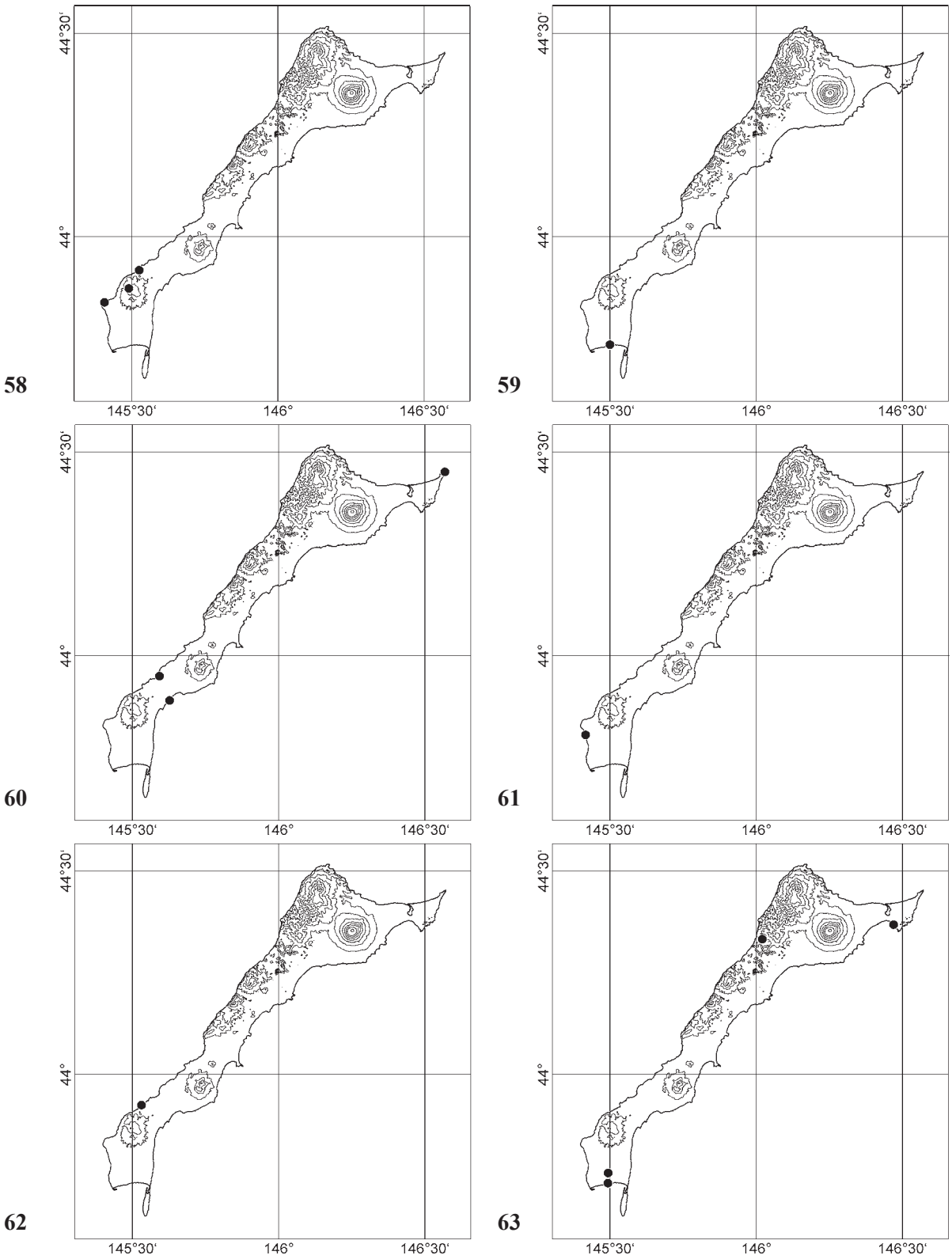
Maps 46–51. Distribution of ground beetles on Kunashir Island:46 — *Amara* (*Amara*) *obscuripes* Bates, 1873; 47 — *A*. (*A*.) *ovata* (Fabricius, 1792); 48 — *A*. (*Reductocelia*) *chalcophaea chalcophaea* Bates, 1873; 49 — *A*. (*Celia*) *iturupensis* Lafer, 1978; 50 — *Bradycellus* (*Tachycellus*) *glabratus* Reitter, 1894; 51 — *Dicheirotrichus* (*Trichocellus*) *tenuimanus tenuimanus* Bates, 1873.

Карты 46–51. Распространение жужелиц на острове Кунашир: 46 — *Amara* (*Amara*) *obscuripes* Bates, 1873; 47 — *A*. (*A*.) *ovata* (Fabricius, 1792); 48 — *A*. (*Reductocelia*) *chalcophaea chalcophaea* Bates, 1873; 49 — *A*. (*Celia*) *iturupensis* Lafer, 1978; 50 — *Bradycellus* (*Tachycellus*) *glabratus* Reitter, 1894; 51 — *Dicheirotrichus* (*Trichocellus*) *tenuimanus tenuimanus* Bates, 1873.



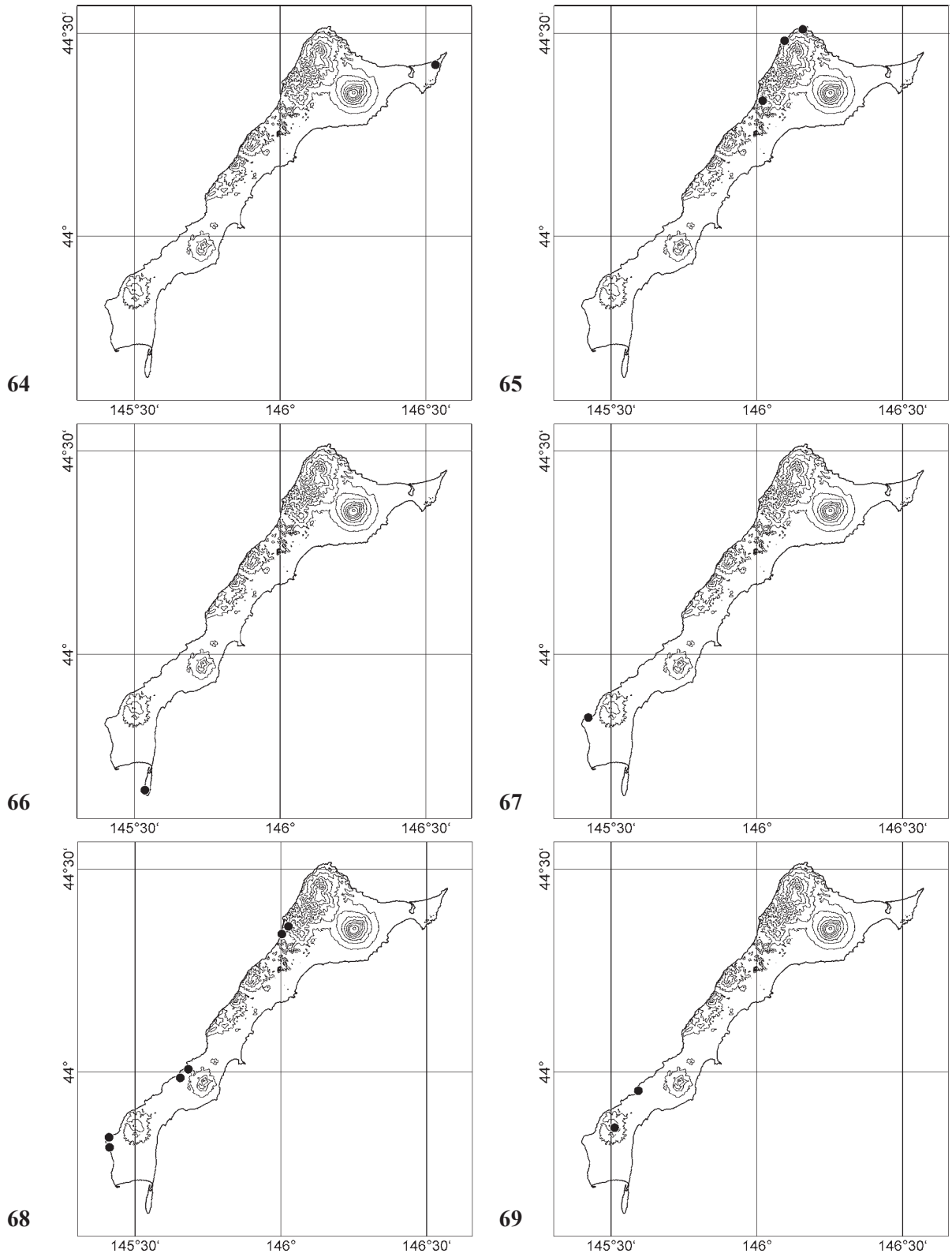
Maps 52–57. Distribution of ground beetles on Kunashir Island: 52 — *Acupalpus* (*Acupalpus*) *inouyei* Habu, 1980; 53 — *A.* (*Setacupalpus*) *hilaris* Tschitschérine, 1899; 54 — *Trichotichnus* (*Trichotichnus*) *longitarsis longitarsis* A. Morawitz, 1863; 55 — *Harpalus* (*Harpalus*) *laevipes* Zetterstedt, 1828; 56 — *H.* (*H.*) *tarsalis* Mannerheim, 1825; 57 — *H.* (*H.*) *xanthopus xanthopus* Gemminger et Harold, 1868.

Карты 52–57. Распространение жужелиц на острове Кунашир: 52 — *Acupalpus* (*Acupalpus*) *inouyei* Habu, 1980; 53 — *A.* (*Setacupalpus*) *hilaris* Tschitschérine, 1899; 54 — *Trichotichnus* (*Trichotichnus*) *longitarsis longitarsis* A. Morawitz, 1863; 55 — *Harpalus* (*Harpalus*) *laevipes* Zetterstedt, 1828; 56 — *H.* (*H.*) *tarsalis* Mannerheim, 1825; 57 — *H.* (*H.*) *xanthopus xanthopus* Gemminger et Harold, 1868.



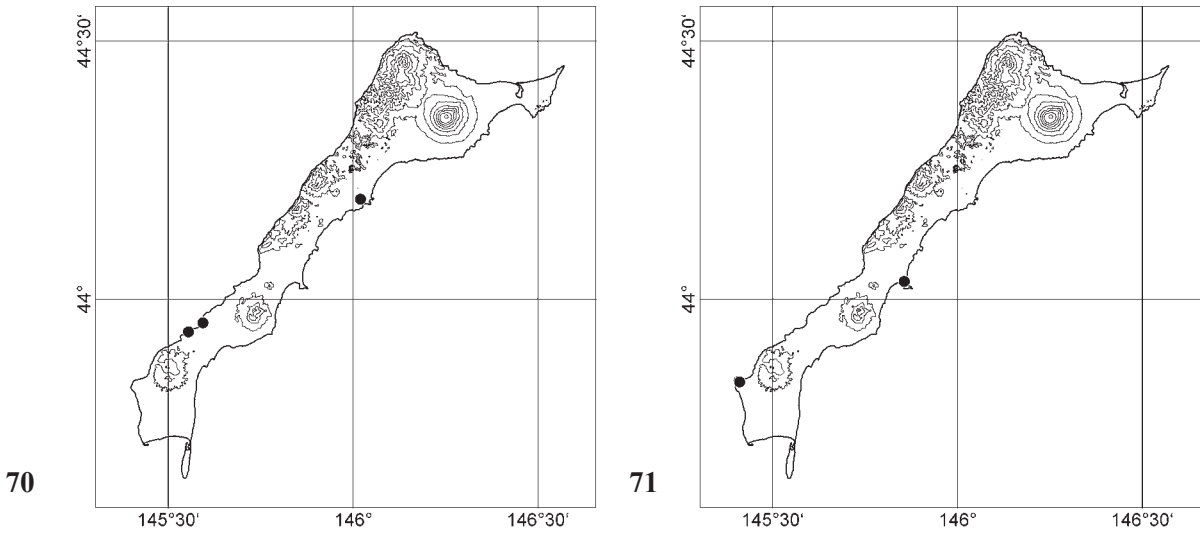
Maps 58–63. Distribution of ground beetles on Kunashir Island:58 — *Perigona* (*Perigona*) *exigua* (A. Morawitz, 1863); 59 — *Panagaeus* (*Panagaeus*) *japonicus* Chaudoir, 1861; 60 — *P.* (*P.*) *robustus* A. Morawitz, 1862; 61 — *Chlaenius* (*Chlaeniellus*) *inops* Chaudoir, 1856; 62 — *Oodes integer* Semenov, 1889; 63 — *Badister* (*Badister*) *lacertosus lacertosus* Sturm, 1815.

Карты 58–63. Распространение жужелиц на острове Кунашир: 58 — *Perigona* (*Perigona*) *exigua* (A. Morawitz, 1863); 59 — *Panagaeus* (*Panagaeus*) *japonicus* Chaudoir, 1861; 60 — *P.* (*P.*) *robustus* A. Morawitz, 1862; 61 — *Chlaenius* (*Chlaeniellus*) *inops* Chaudoir, 1856; 62 — *Oodes integer* Semenov, 1889; 63 — *Badister* (*Badister*) *lacertosus lacertosus* Sturm, 1815.



Maps 64–69. Distribution of ground beetles on Kunashir Island: 64 — *B*. (*Baudia*) *ussuriensis* Jedlièka, 1937; 65 — *Pentagonica angulosa* Bates, 1883; 66 — *Odacantha* (*Odacantha*) *puziloi* Solsky 1875; 67 — *Lachnolebia cribricollis* (A. Morawitz, 1862); 68 — *Lebia* (*Poecilothais*) *bifenestrata* A. Morawitz, 1862; 69 — *Dromius* (*Dromius*) *angusticollis* J.R. Sahlberg, 1880.

Карты 64–69. Распространение жужелиц на острове Кунашир: 64 — *B*. (*Baudia*) *ussuriensis* Jedliика, 1937; 65 — *Pentagonica angulosa* Bates, 1883; 66 — *Odacantha* (*Odacantha*) *puziloi* Solsky 1875; 67 — *Lachnolebia cribricollis* (A. Morawitz, 1862); 68 — *Lebia* (*Poecilothais*) *bifenestrata* A. Morawitz, 1862; 69 — *Dromius* (*Dromius*) *angusticollis* J.R. Sahlberg, 1880.



Maps 70–71. Distribution of ground beetles on Kunashir Island: 70 — *Dromius* (*Dromius*) *matsudai* Habu, 1952; 71 — *Cymindis* (*Tarus*) *vaporariorum* (Linnaeus, 1758).

Карты 70–71. Распространение жужелиц на острове Кунашир: 70 — *Dromius* (*Dromius*) *matsudai* Habu, 1952; 71 — *Cymindis* (*Tarus*) *vaporariorum* (Linnaeus, 1758).

kaido, seems to lie in the exceptionally uneven environmental conditions due to two climatic gradients superimposed on each other (one from north to south, the other from the Okhotian to Pacific coast), coupled with the quite complex relief [Grishin, 2008: 11] and the relatively high warmth supply. A detailed analysis of the distribution of individual species and faunal complexes of Carabidae on Kunashir will be dealt with elsewhere.

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