Notes on Pselaphinae (Coleoptera: Staphylinidae) of the Sakhalin Region, Russia

Заметки об опущиках (Coleoptera: Staphylinidae) Сахалинской области

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Staphylinidae, Pselaphinae, Дальний Восток России, Сахалин, новые виды, новая синонимия.

ABSTRACT: The article provides descriptions of four species new to science: Ramussia captiosum sp.n. (Sakhalin), Ramussia lovtsovae sp.n. (Sakhalin), Ramussia svetlanae sp.n. (Kunashir), Leptoplectus perpe rus sp.n. (Sakhalin, Kunashir). Japanese species Batraxis kawaharai Maruyama et Sugaya, 2004 first recorded in Russia. The following synonymy is established: Leptoplectus illex Kurbatov, 1992 = Leptoplectus similis Kurbatov, 1991, syn.n.; Rybaxis korolevi Kurbatov, 1984 = Rybaxis nigrescens Jeannel, 1958, syn.n.; Trissemus pseudalienus Kurbatov, 1990 = Trissemus alienus (Sharp, 1874), syn.n.

РЕЗЮМЕ: В статье приводятся описания 4–х новых для науки видов: Ramussia captiosum sp.n. (Сахалин), Ramussia lovtsovae sp.n. (Сахалин), Ramussia svetlanae sp.n. (Кунашир), Leptoplectus perpperus sp.n. (Сахалин, Кунашир). Японский вид Batraxis kawaharai Maruyama et Sugaya, 2004 впервые отмечен на территории России. Установлена следующая синонимия: Leptoplectus illex Kurbatov, 1992 = Leptoplectus similis Kurbatov, 1991, syn.n.; Rybaxis korolevi Kurbatov, 1984 = Rybaxis nigrescens Jeannel, 1958, syn.n.; Trissemus pseudalienus Kurbatov, 1990 = Trissemus alienus (Sharp, 1874), syn.n.

Introduction

Until recently, the Pselaphinae fauna of the Sakhalin Island was practically unknown. The author’s trips to the southern part of the island in 2011 and especially in 2021 allowed to collect 17 species of this taxon. Among them there are several species new to science; their descriptions are given below. The studies of two newly discovered on Sakhalin (and described below) species of the genus Ramussia Kurbatov, 1991 showed the variability of some characters of this genus and made it possible to describe another species from Kunashir Island with a previously unclear taxonomic affinities. One species from Japan was first recorded for the territory of Russia. The three species previously described by the author are synonymized.

Material and Methods

The following acronyms of different museums and private collections are used in this article (relevant curators are listed in parentheses): MHNG — Muséum d’histoire naturelle, Geneva (G. Cuccodoro); MNHN — Muséum national d’histoire naturelle, Paris (A. Taghavian); NHM — Natural history museum, London (M. Barklay); PCSK — private collection of S. Kurbatov, Moscow; ZIN — Zoological Institute, Russian Academy of Science, St. Petersburg (A. Kirejtshuk); ZMUM — Zoological Museum, University of Moscow (A. Gusakov).

Measurements are defined as follows: body length is measured from the anterior outline of the head (i.e. apical margin of labrum) to the apex of the abdomen; length and width of body parts always imply maximum values; for instance, head length is measured from the clypeal margin to the middle of the occipital margin, head width is the distance between the outer outlines of eyes, length of elytra is measured along the elytral suture, and width of elytra is the maximum width of both elytra taken together. Abdominal tergites and sternites are numbered according to Chandler [2001] in Arabic (visible position) and Roman (morphological position) and are counted from tergite 1 (IV) and sternite 1 (III).
The aedeagi and other body parts illustrated here were mounted in Canada balsam on acetate slides, and drawn using a drawing tube mounted on a Zeiss Axioscope compound microscope. All pictures were modified and grouped using Adobe Photoshop CC.

**Taxonomy and nomenclature**

**Genus Ramussia Kurbatov, 1991**

Schülke and Smetana [2015: 385, 392] changed the gender of *Ramussia* Kurbatov, 1991, from neuter to feminine, in the framework of the Catalogue of Palaearctic Coleoptera. *Ramussia* was based on a single new species, *R. parabile* Kurbatov, 1991. Though its gender has not been specified originally, according to the ICZN, 1999, Art. 30.2.3. it indicated by the gender of adjectival species-group name originally included. Schülke and Smetana (l. c.) have possibly based their change on the following Art. 30.2.4 of the ICZN, which is not applicable in this case. Thus, original spelling *Ramussia parabile* (gender neuter) is correct.

As to the previously ungiven etymology of *Ramussia*, the name is formed from letters used in the words “Russia”, “USSR”, “Amur” and “Ussuri” to produce a sound similar to that of the closely related *Ramecia* Casey, 1893 (an anagram for America).

**Figs 1–14. Details of the Ramussia spp:** 2, 5, 7–8, 10–11, 14 — *R. parabile*; 1, 3–4, 6, 9, 12–13 — *R. lovtsovae* sp.n.; 1–2 — mandibles; 3, 8 — labrum; 4–5 — maxillary palpi; 6–7 — mentum with labial palpi; 9–10 — antennae; 11–12 — profemora; 13–14 — metaventrite.

**Рис. 1–14. Детали строения Ramussia spp:** 2, 5, 7–8, 10–11, 14 — *R. parabile*; 1, 3–4, 6, 9, 12–13 — *R. lovtsovae* sp.n.; 1–2 — мандибулы; 3, 8 — верхняя губа; 4–5 — нижнечелюстные щупики; 6–7 — подбородок с нижнегубными щупиками; 9–10 — антенны; 11–12 — передние бёдра; 13–14 — метавентрит.
Ramussia captiosum Kurbatov, sp.n.
Figs 21–22, 26.

MATERIAL. Holotype ♂: SW Sakhalin, 14 km East of Nevelsk, 46°44′33.8″N 142°03′04.5″E, rotten *Picea*, 22.07.2021, S. Kurbatov (ZIN). Paratypes: 3 ♀ with holotype; 1 ♂, SW Sakhalin, 15 km East of Nevelsk, 46°44′37.5″N 142°03′35.0″E, rotten *Abies*, 24.07.2021, S. Kurbatov (MHNG, ZIN, ZMUM, PCSK).

DESCRIPTION. Body 1.35–1.4 mm long, light brown, in fairly fine, dense decumbent pubescence.

Head 0.21 mm long, 0.27–0.29 mm wide. Vertexal foveae quite large, distance between them slightly greater than distance from edge of fovea to inner edge of eye at this level. Frontal sulcus intermediate between U- and V-shaped. Anterior edge of the front angular. Eyes large, convex, their diameter in lateral view slightly longer than length of temples. Temples widely rounded. Head dorsally with some minute punctures on frontal anterior edge and on lateral edge above eyes. Antennal tubercles weakly protruding. Antennae with scape subcylindrical; pedicel 1.5 times as long as wide, hardly narrower than scape; antennomeres 3–8 subequally wide, distinctly narrower than pedicel; antennomere 3 slightly longer than wide; antennomeres 4–8 subequal, hardly wider than long, sometimes antennomere 4 as long as wide; antennomere 9 transverse, distinctly wider and hardly longer than wide; antennomeres 4–8 subequal.

Frontal sulcus intermediate between U- and V-shaped. Anterior edge of the front angular. Eyes large, convex, their diameter in lateral view slightly longer than length of temples. Temples widely rounded. Head dorsally with some minute punctures on frontal anterior edge and on lateral edge above eyes. Antennal tubercles weakly protruding. Antennae with scape subcylindrical; pedicel 1.5 times as long as wide, hardly narrower than scape; antennomeres 3–8 subequally wide, distinctly narrower than pedicel; antennomere 3 slightly longer than wide; antennomeres 4–8 subequal, hardly wider than long, sometimes antennomere 4 as long as wide; antennomere 9 transverse, distinctly wider and hardly longer than wide; antennomeres 4–8 subequal.
than 8; antennomere 10 transverse, more than twice as wide as long, barely longer and wider than 9; antennomere 11 more or less conical, wider than 10, longer than 8–10 combined.

Pronotum more or less as long as wide (0.29/0.30 mm), widest between anterior third and quarter length. Disc variable, either with thin shallow median longitudinal sulcus (in this case pronotal punctuation fine) or without sulcus (then there are several large points there). Short oblique, indistinct sulcus anteriorly from lateral fovea reaching pronotal middle-length.

Elytra (0.39–0.40/0.43–0.47 mm) with three basal foveae; discal stria not reaching elytral mid-length.

Male secondary sexual characters on head and legs not expressed. Sternite 6 (VIII) emarginate at apex, notch covered by penial plate (IX sternite), 0.130 mm long (Fig. 26).

Aedeagus (Figs 21–22) 0.230–0.235 mm long.

COMMENTS. The new species differs from *R. parabile* in the proportions of the 9–10 antennomeres, which are at least twice as wide as long (less than twice as wide as long in *parabile*), in the absence of pronounced secondary sexual characters on the front and legs (present in *parabile*), in the shape of penial plate (Figs 25–26) and of aedeagus (Figs 19–22). Another species, *Ramussia camponotus* (Lea, 1912), transferred to this genus by Chandler and unknown to us is easily distinguished by the shape of the aedeagus [see Chandler, 2001, P.217–220, Fig. 85].

*Ramussia lovtsovae* Kurbatov, sp.n.

Figs 1, 3–4, 6, 9, 12–13, 15–16, 23.

MATERIAL. Holotype ♀: SW Sakhalin, 14 km East of Nevelsk, 46°44’33.8”N 142°03’04.5”E, rotten *Picea*, 22.07.2021, S. Kurbatov (ZIN). Paratypes: 6 ♀♂ with holotype (1 specimen is dismembered) (MHNG, ZIN, ZMUM, PCSK).

DESCRIPTION. Body 1.25–1.35 mm long, light brown, in fairly fine, dense decumbent pubescence.

Head 0.19–0.20 mm long, 0.26–0.27 mm wide. Vertexal foveae quite large, distance between them slightly greater than distance from edge of fovea to inner edge of eye at this level. Frontal sulcus rather V-shaped. Anterior edge of the front rounded. Eyes large, convex, their diameter in lateral view slightly longer than length of temples. Temples widely rounded. Head in anterior half with fine punctures except smooth antennal tubercles weakly protruding, rest of the head without pronounced punctuation. Antennae (Fig. 9) about the same as the previous species, but antennomeres 9 and 10 can be more than twice or less than twice as wide as length.

Pronotum more or less as long as wide (0.29/0.30 mm), widest at its anterior third. Median longitudinal sulcus always present, not connected to the median antebasal fovea. No sulcus present anteriorly of lateral fovea. Punctuation very indistinct.

Elytra (0.37–0.40/0.43–0.44 mm) with two basal foveae; discal stria not reaching elytral mid-length.

Male secondary sexual characters on head and legs not expressed. Sternite 6 (VIII) emarginate at apex, notch covered by penial plate (IX sternite) 0.115–0.120 mm long (Fig. 24).

Aedeagus (Figs 15–16) 0.200–0.215 mm long.

ETYMOLOGY. This species is named after my wife Svetlana Kurbatova, who always helps me a lot both during field work and in processing material.

COMMENTS. The new species is close to *R. lovtsovae* sp.n. due to the presence of median longitudinal pronotal sulcus and two basal elytral foveae. The differences between species are observed in the proportions of antennomeres 3–5; presence of distinct, though fine punctuation of pronotum and especially structure of aedeagus. See also Comments under *R. lovtsovae* sp.n.
Thus, after the discovery of three new species of the genus *Ramussia* in the Far East of Russia and the transfer to this genus of the Australian representative [see Chandler, 2001, P.217–220], we make some changes in the description of the genus, namely: mouthparts as in Figs 1–8; pronotum with or without median longitudinal sulcus; elytra with two or three basal foveae; male secondary sexual characters can be localized on the front, abdominal sternites, and legs.

There are currently four species from the Russian Far East and one from Australia, namely: *Ramussia parabile* Kurbatov, 1991 (Primorye); *R. captiosum* sp.n. (Sakhalin), *R. lovtsovae* sp.n. (Sakhalin); *R. svetlanae* sp.n. (Kunashir), *R. camponoti* (Lea, 1912) (*Limoniates*) (New South Wales).

In addition, several species not yet described are known to the author from China, and Chandler [2001, P.219] has seen several species from Australia (including Christmas Island), New Britain Island, and Philippines.

**Genus Leptoplectus** Casey, 1908

The occurrence of several dozens of representatives of this genus on Sakhalin and in other areas of the Russian Far East has allowed to make a more detailed study of the genus. As a result, one species is synonymized, and another, previously identified as *L. spinolae* (Aubé, 1944), is described as new.

*Leptoplectus similis* Kurbatov, 1991

Figs 30–39.

The difference between *Leptoplectus similis* and *L. illex* Kurbatov, 1992 actually is represented only in the inversion of the aedeagus (Figs 30–31). However, no geographical isolation between the two species has been detected. Studies on Sakhalin have shown that these species can coexist not only in the same geographical location but even in the same substrate sample. At the same time, the study of aedeagus of 24 males of these species from Sakhalin, Kunashir and continental Far East has shown, that apical lobe of aedeagus varies in its form, without giving clear correlation with geographical distribution. The figures (Figs 32–39) demonstrate the variability in the apical lobe of *L. similis*. The difference in length and shape of the lateral spine is largely apparent: in different specimens, the spine is curved differently towards the observer. A similar variability in the apical lobe exists in *L. illex*. Thus, I see no reason for maintaining two species and synonymize *Leptoplectus illex* Kurbatov, 1992 with *Leptoplectus similis* Kurbatov, 1991 (syn.n.).

*Leptoplectus perperus* Kurbatov, sp.n.

**Fig. 27.**

MATERIAL. Holotype ♂: SW Sakhalin, 7 km NNE of Nevelsk, near Yasnomorskoye, rotten Betula, 18.07.2021, S. Kurbatov (ZIN).

Figs 27–39. Details of the *Leptoplectus* spp: 27 — *L. perperus* sp.n.; 28 — *L. spinolae*; 29 — *L. falcifer*; 30, 32–39 — *L. similis*; 31 — *L. illex*; 27–31 — aedeagi; 32–39 — variability of the apical lobe of the aedeagus (32 — Vladivostok, S Primorye; 33 — Kholmsk, Sakhalin Isl.; 34 — Venevitinovo, S Primorye; 35–37, 39 — Nevelsk, Sakhalin Isl.; 38 — Mendeleevo, Kunashir Isl.).

Рис. 27–39. Детали строения *Leptoplectus* spp: 27 — *L. perperus* sp.n.; 28 — *L. spinolae*; 29 — *L. falcifer*; 30, 32–39 — *L. similis*; 31 — *L. illex*; 27–31 — аедеагус; 32–39 — изменчивость вершинной доли аедеагуса (32 — Владивосток, Ю Приморье; 33 — Холмск, о. Сахалин; 34 — Веневитиново, Ю Приморье; 35–37, 39 — Невельск, о. Сахалин; 38 — Менделеево, о. Кунашир).
on the other side of the apical lobe (Figs 27–28). There is a minute denticle on the same spot of the apical lobe. When the author examined the collection of MHNG, he also revealed the absence of a denticle in this location. Examination of other males of this species did not show any denticle. Examination of other males of this species revealed the absence of a denticle in this location. No any denticle. Examination of other males of this species also showed a minute denticle on the same spot of the apical lobe of the aedeagus, which in addition to the long spike (as in L. spinolae) has an additional long acute denticle. The above difference between the two species seems relatively insignificant. However, on the one hand, it is stable and there is not even a hint of the existence of transitional forms. One species is distributed in Western Europe, the other occurs only in the insular part of the Far East (Sakhalin and Kunashir). In addition, the significance of this difference is indicated by another Far Eastern species Leptoplectus falcifer Kurباتов, 1992, which is very close to the two compared species. The male of this species has a characteristic peculiar modification of the frontal sulcus, which immediately allows to recognize this species. Its aedeagus is very similar to that of the two compared species, having a slight difference in the structure of the same part of the apical lobe of the aedeagus (Fig. 29).

Tribe Brachyglutini

Batraxis kawaharai Maruyama et Sugaya, 2004

MATERIAL. 1♂: S Sakhalin, nr. Yuzhno-Sakhalinsk, Khamlovskoye, rotten Larix stump, 14.07.2011, S. Kurbatov.

NOTE. This Japanese species was recorded in Russia for the first time.

Rybox nigrescens Jeannel, 1958

The study of type material of this species (1♂ and 1♀, Japan, Nikko, 18 juin 1909) from the collection of MNHN showed that it is identical to the later described Rybox korovlevi Kurباتов, 1984 from Kunashir Island (syn.n.).

Trissemus alienus (Sharp, 1874)

The study of the holotype and one paratype of this species stored in NHM showed that Trissemus pseudalienus Kurباتов, 1990, described from Kunashir Island, belongs to the same species (syn.n.).

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