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Towards the Knowledge of the Genus *Morychus* Erichson (Coleoptera, Byrrhidae) in Russia

by S. Tshernyshev

Abstract: Two new species – *Morychus* (s.str.) *ostasiaticus* n.sp. (Siberia) and *M.* (s.str.) *dudkorum* n.sp. (Altai, Kosh-Agach) are described. New status – *M.* (s.str.) *subparallelus* Motschulsky n.stat. and genus *Arctobyrrhus* n.stat. are established. A distributional map, illustrations and key to species are given.

Keywords: Coleoptera, Byrrhidae – *Morychus* – *Arctobyrrhus* – new species – new status – zoogeography – key.

Of the genus *Morychus* Erichson of the Russian fauna two species were known, belonging to different subgenera: *Morychus* (s.str.) *aeneus* Fabricius and *M.* (*Arctobyrrhus*) *dovrensis* Münster. It was considered, that these species are widely spread in the Palaearctis and inhabit river banks and taiga landscapes. This is correct for the monotypic subgenus *Arctobyrrhus*, whose range extends from North Europe to Yakutia, and which occurs both in taiga and mountainous tundra landscapes. However, the situation with *M. aeneus* described from the European part is not the same. It was discovered by D.I. Berman that this species occurs also in North Siberia in very different landscapes – from the southern steppe to the northern tundra-steppe. Later, a species *M. rutilans*, described by Motschulsky as *Pedilophorus*, was transferred from *Byrrhobolus* (JOHNSON, 1985), and a new species, *M. viridis*, was described by KUZMINA & KOROTYAEV (1987) from Yakutia. But other specimens, collected in Siberia, were considered as *M. aeneus*. Treating the morphology and genitalia of all the *Morychus* of Russia, I found, that they are limited in their range and presented by the 6 separate species, of which two are new to science.

Reflects a special attention an interesting fact, that on the American continent spread 7 species of the *Morychus*, ranged: „in Central Canada and all of the United States except the Southeast (ARNETT, 1962)“.

Except of these, the treating of the *M.* (*A.*) *dovrensis* results to reestablish the genus *Arctobyrrhus* as an original monotypic taxon.

All these facts allow to conclude that *M. aeneus* is not a single species of *Morychus* s.str. spread in the Palaearctic as it was considered. A detailed investigation both of the genitalia and the external morphology confirms this conclusion and the result is, that at the present time

the genus *Morychus* in Russia includes 6 species limited in their range and different landscape preferences.

The description of the new species and notes on the previously known taxa are presented below.

All the material is kept in the following museums: SZM = Siberian Zoological Museum, Novosibirsk; NHMB = Naturhistorisches Museum, Basel.

List of species of the genera *Morychus* Erichson, 1847 and *Arctobyrrhus* Münster, 1902 of Russia:

Morychus Erichson, 1847 subgen. *Morychus* s.str.

1. *M. aeneus* (Fabricius, 1775)

M. modestus Kiesenwetter, 1850

2. *M. ostasiaticus* n.sp.

3. *M. subparallelus* Motschulsky, 1859 n.stat.

4. *M. dudkorum* n.sp.

5. *M. viridis* Kuzmina & Korotyaev, 1987

6. *M. rutilans* (Motschulsky, 1845)

Arctobyrrhus Münster, 1902 n.stat.

1. *A. dovrensis* Münster, 1902

A. speciosus (Sahlberg, 1903)

A key to *Arctobyrrhus* and *Morychus* species of Russia

1. Femora and tibia narrow, tibia twice as narrow as femora, not flattened, round (Figs 6,7), surface with double pubescence, dark strong erected and fine light-brownish adpressed hairs (gen. *Arctobyrrhus* Münster). Black, with slightly metallic luster. Phallus as in Fig. 26. Length 5.5–6 mm. **A. dovrensis** Münster
- Femora and tibia wide, tibia of the same width as femora, flattened, not round (Figs 1–5, 8). Surface with a single pubescence, thin adpressed white or brownish hairs, sometimes white hairs strong, but not erected. Surface with a distinct metallic luster (subgen. *Morychus* s.str.) .. 2
2. Scutellum covered with distinct white or light-brownish hairs; hind wings normal 4
- Scutellum covered with dark hairs; hind wings normal or atrophied 3
3. Hind wings atrophied. Surface sparsely covered with fine brownish hairs, in the flanks and near the elytral apex with very sparse white hairs. Shining, with a green or black-green metallic luster. Phallus as in Fig. 17. Length 4.2–5.0 mm. **M. viridis** Kuzmina & Korotyaev

- Hind wings normal. Surface sparsely covered with fine dark hairs, lacking white (but some times with light pubescence on scutellum and elytral sides). Shining, with copper-green or green metallic lustre. Phallus as in Fig. 32. Length 4.1–5.0 mm. **M. dudkorum** n.sp.
- 4. The third tarsal segment with large lamella (Fig. 1). Surface covered with sparse pubescence, the white hairs fine and noticeable on scutellum and on the elytral sides. The surface covered with bright green-metallic luster, shining. Phallus as in Fig. 21. Length 5.1–6.0 mm. **M. rutilans** (Motschulsky)
- The third tarsal segment with a small lamella or lacking it (Figs 2–6) 4
- 5. Tarsal lamella small, but good noticeable (Fig. 5). The upper surface sparsely covered with fine white and dark adpressed pubescence. Body elongate, parallel-oval. The surface dark with green-bronze luster. Setae on the fore tibia small, rounded. Length 5.6–5.8 mm. **M. subparallelus** (Motschulsky)
- Tarsal lamella small, hidden by a bunch of hairs, sometimes absent (Figs 2–4). The upper surface densely covered with fine dark-brownish adpressed pubescence and more strongly white adpressed hairs. Setae on the fore tibia long, pointed 5
- 6. White hairs strong, scale-form, cover the head densely, and also scutellum, elytral flanks and side ventral. Phallus long, with wide elongate lamella, paramere near apex strongly emarginate (Fig. 13). Length 3.8–4.5 mm. **M. aeneus** (Fabricius)
- White hairs fine, cover the head more sparsely, as scutellum, elytral flanks and side ventral. Phallus short, with narrow lamella, paramere near apex less emarginate (Fig. 9). Length 4.0–4.9 mm.

M. ostasiaticus n.sp.

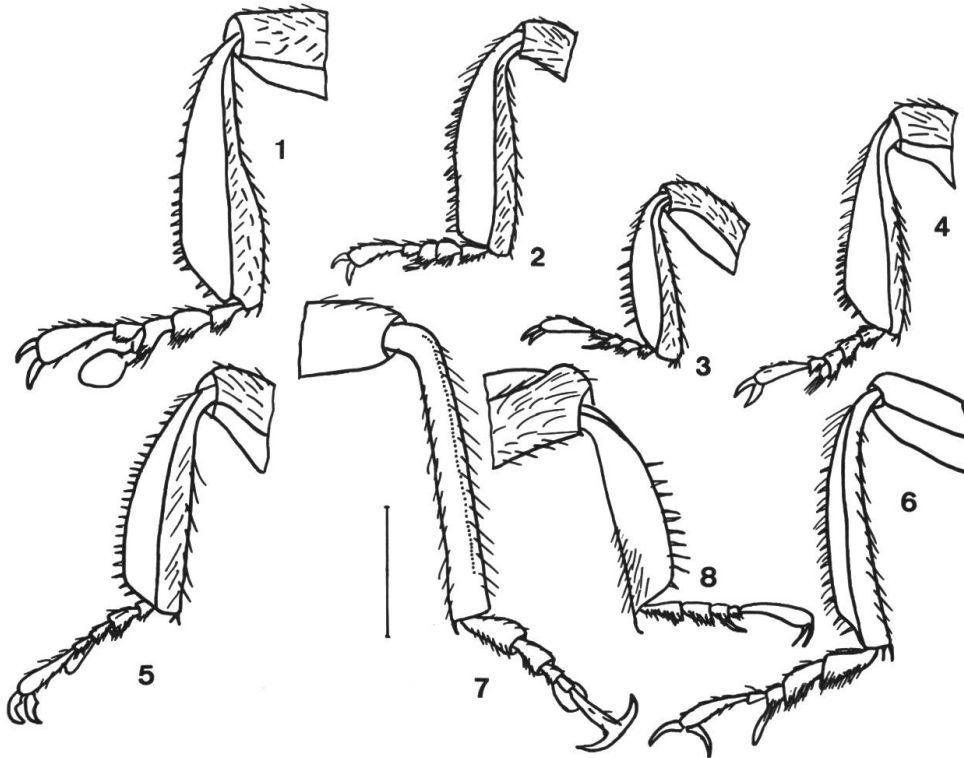
Morychus s.str. **aeneus** (Fabricius) Figs 2, 8, 13–16, 25 (O).

Byrrhus aeneus FABRICIUS, 1775, Syst. Ent.: 60.

M. modestus KIESENWETTER, 1850, Stett. Ent. Zeit. XI: 223.

Material: Russia: Nizhniy Novgorod (former Gorkyi) Region, Arsamas Town, 9–16.VI.1955, B.S.Pavlov-Veriovkina, 1♀ (SZM); the same locality, 3.VI.1964, B.S. Pavlov-Veriovkina, 1 (SZM); the same locality, 25–26.V.1979, B.S. Pavlov-Veriovkina, 1♂, 1♀ (SZM); the same locality, 24.V.1952, B.S. Pavlov-Veriovkina, 1♂ (SZM); Caucasus: North Osetia, Dzhaudzhikau Mt., sand near the river, 28.VI.1949, B.S. Pavlov-Veriovkina, 1♂ (SZM).

Diagnosis: From the closely related species differs by the following strong characters: White hairs in the surface strong, more or less scale-



Figs 1–8: *Morychus*, 1–6: front right leg: 1, *M. rutilans* (Motschulsky). 2, *M. aeneus* (Fabricius). 3, *M. ostasiaticus* n. sp. 4, *M. viridis* Kuzmina & Korotyayev. 5, *M. subparallelus* (Motschulsky). 6, *Arctobyrrhus dovrensis* Münster. 7–8: right middle leg: 7, *A. dovrensis*, 8, *M. aeneus*. Scale 0.5 mm.

-shaped, scutellum completely covered with strong white pubescence; head densely covered with white hairs; phallus as in Fig. 13.

Distribution: The species is ranged in the European part (Fig. 25, O) of the continent.

Habitat: Beetles occur in the sandy valleys of the rivers.

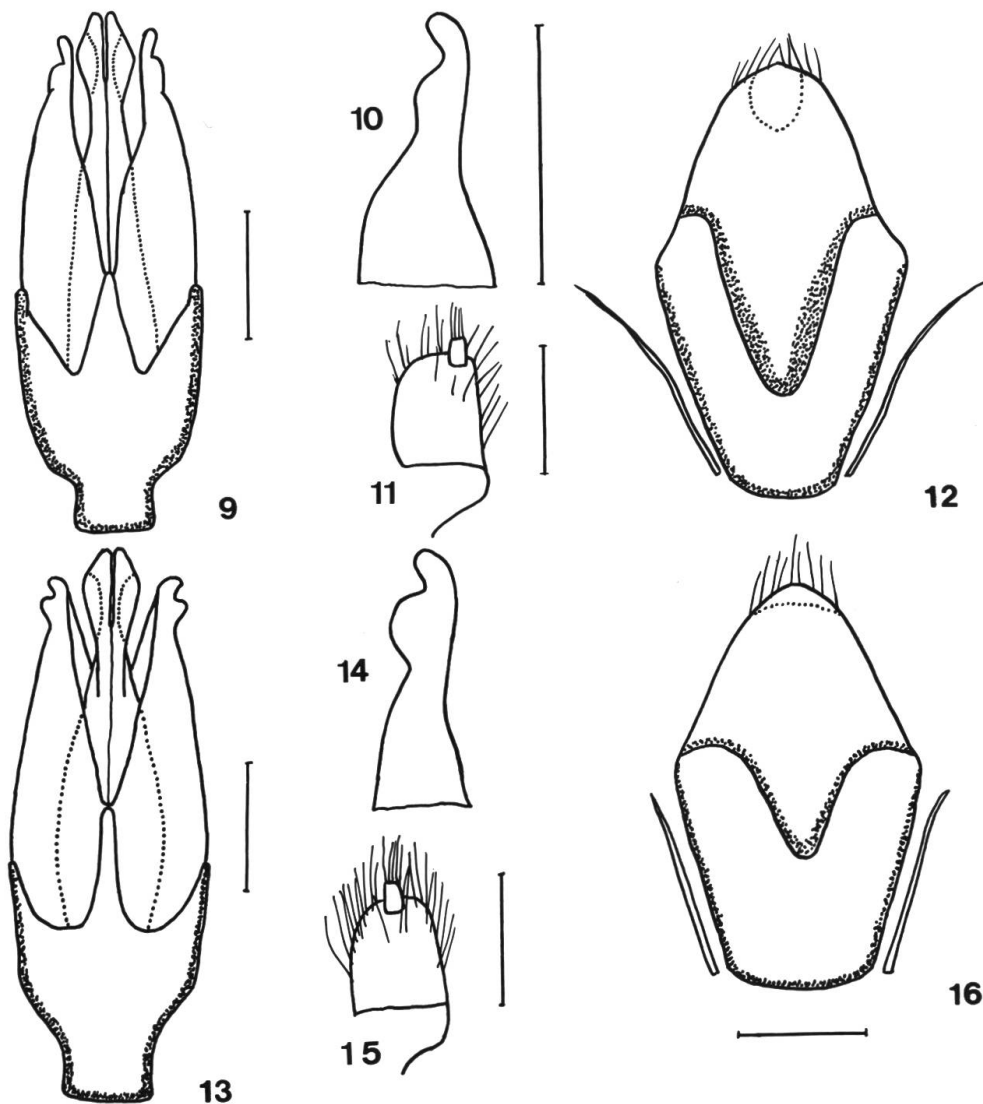
***Morychus* s.str. *ostasiaticus* n.sp.**

Figs 3, 9–12, 25 (X).

Description: Holotypus, male. Body elongate, oval. Antennae black-brown, maxillar palpi black-brown. Head, pronotum and elytra dark with a shining, but not bright green-bronze metallic luster. Scutellum black. Legs black. Side ventral dark-brown.

Head small, forehead evenly convex, clypeus not marginate, covered in the distal part with straight long white hairs, the distal part very slightly emarginate, with small angles. Labrum small, transverse, with widely rounded angles, densely punctate, covered with long, adpressed white hairs. Mandibles large, with carina at the base, the top of the

right mandibula with four dents, one of them, the lower, small, left mandibula bears the same dents as the right one. Maxillar palps 3-segmented, the joints more or less longitudinal, the apical segment is the largest, somewhat swollen, cut at the tip with a little angle in the middle. Eyes longitudinal, oval, with straight, not emarginate or protrudent flanks. Genae short and straight. Antennae clavate, 11-segmented, short, not reaching the basis of pronotum, the basal joint oval, swollen, but not large, 2 times larger than the second, 2nd round-oval, 3rd elon-



Figs 9–16: Genitalia: 9–12: *Morychus ostasiaticus* n.sp.: 9, phallus, dorsal. 10, top of right paramere. 11, right apical urite, female. 12, tegmen. Scale 0.25 mm. 13–16: *M. aeneus* (Fabricius): 13, phallus, dorsal. 14, top of right paramere. 15, right apical urite, female. 16, tegmen. Scale 0.25 mm.

gate, thin, 1.5 times as long as the previous, 4th twice shorter than the previous, cylindrical, 5th somewhat shorter and wider than the 4th, the 6th–10th moniliform, transverse, widening to the apex, apical joint pointed, shorter than the 9 and 10th taken together, all antennal segments bear long erected black hairs, the basal punctate, additionally covered with long sparse light hairs. As a whole, the surface of the head is densely punctate and covered with long adpressed white hairs, which are brownish in the middle.

Pronotum transverse, 2.14 times as broad (in the base) as long (in the middle), the sides distinctly depressed, marginate with a thin, somewhat elevated margin, the anterior and posterior parts are not marginate, basis of pronotum archely protrudent at the middle, posterior angles pointed, slightly curved and parallel, anterior angles acute, vertical. The disc of pronotum densely punctate, mostly lacking microsculpture, shining, covered with fine long white and brownish adpressed hairs.

Scutellum small, equilateral triangle shaped, sparsely punctate, covered with fine adpressed white hairs.

Elytra oval, slightly expanded at about the middle, the basis of elytra completely marginate with a very thin margin, surface not striate, densely punctate (but somewhat sparser than on the pronotum), without a distinct microsculpture, suture distinct, slightly elevate. Elytra evenly covered with thin adpressed pubescence, which is white in the flanks, and more brownish in the middle.

All tibia (Fig. 3) widened and flattened, almost of equal width as femora, rounded at the tip and bearing two sharp and curved short light spurs, of which the inner somewhat longer and wider, tarsi 5-segmented, with light-brown pubescence at the pedal part and a very fine and small lamella on the 3d joint (Fig. 3), claws without dents at the base. External sides of tibia bearing strong sharp setae and covered with dense white pubescence.

Side ventral black-brown, densely covered with thin, long adpressed white hairs, thorax densely punctate, shining, abdomen granulate.

Hind wings normally developed.

Phallus (Fig. 9) with parameres evenly narrowed and a narrowly rounded appendage near the tip (Fig. 10), lamellae of the aedeagus laterally widened, oval. Tegmen narrow, with long thin laterals (Fig. 12).

Female. Similar to male, except the following characters: Body wider; antennae somewhat longer, almost reaching the basis of the pronotum, the joints narrower. Apical right urite as in Fig. 11.

Length (holotype, without head) 4.1 mm, width: the widest part of elytra – 2.4 mm, at the base of elytra – 2.0 mm. Female, length 4.9 mm, the widest part of elytra – 2.8 mm, at the base – 2.4 mm.

Holotypus ♂ (SZM): W Siberia: Novosibirsk Region, Toguchin Distr., near Zavialovo Vill., sweeping on the grass near the rail ways, 26.VI.1985, Yu. Chekanov; E Siberia: Krasnojarsk Region, near Nasarovo and Vladimirovka vill., mining dump near Chernoe Lake, 4–9.VIII.1983, V.G. Mordkovich, paratypes 10♂, 10♀ (SZM); idem, 18–22.VII.1984, V.G. Mordkovich paratypes 3♂, 2♀ (SZM); idem, 23.VI–27.VII.1985, V.G. Mordkovich, paratypes 1♂, 1♀ (SZM), paratypes 1♂, 1♀ (NHMB); Tuva, Chagytai Lake, 9–13.VII.1984, V.G. Mordkovich, paratypus 1♂ (SZM); Tuva, 20 km W of Erzin Vill., Tes–Hem Riv., 900 m, 13.VIII.1989, D. Logunov, paratypus 1♀ (SZM); Altai: 8 km NW of Kokoria Vill., valley of Kyzylshyn, 1900 m, under Salix sp., 16.VII.1996, A. et R. Dudko, paratypus 1♂ (SZM).

Diagnosis: Similar to *Morychus aeneus*, and can be separated by the following characters: Very fine and more sparse white pubescence of the surface (including scutellum); the shape of the phallus (cf. Figs 9, 13) and its lamella; the shape of the apical urite in female (cf. Figs 11, 15).

Distribution: The species is ranged in the East-Asian part of Eurasia, from West Siberia to Tuva, Altai (Kosh-Agach), and, probably, spread into Mongolia (Fig. 25, X).

Habitat: Slopes and valleys near rivers and lakes, mainly with a steppe landscape.

Etymology: The species is named „ostasiaticus“ to reflect its distribution – East Asian part of the continent, where it is probably limited in its range.

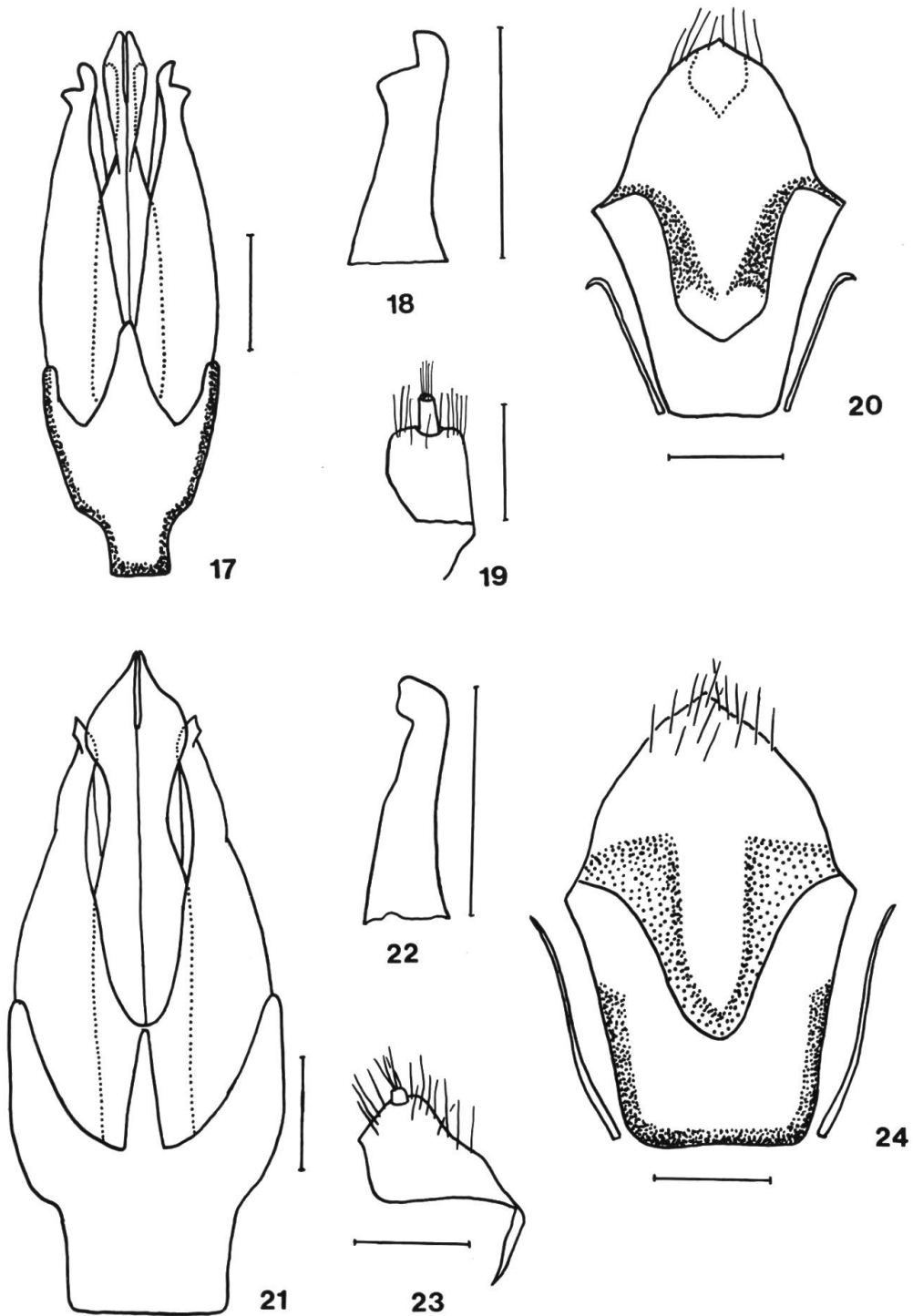
***Morychus* s.str. *subparallelus* Motschulsky, n.stat.**

Figs 5, 25 (Z), 30, 31.

Pedilophorus subparallelus MOTSCHULSKY, 1859, Bull. Ac. St. Petersburg, XVII, col. Melang. Biol. III: 231.

Material: Jakutia: Oimiakonsky Mautainous chain, Silap Riv., 2–5.VII.1990, V. Zinchenko, 1 ♀(SZM); Transbaikalia: Stanovoie upland, Kodar Mt. Range, the upper stream of the Chara Riv., 50 km WSW of Novaia Chara Vill., 1300 m, 24.VII.1995, A. et R. Dudko, D. Lomakin, 1 ♀ (SZM).

Diagnosis: Differs from the similar *M. rutilans* by the smaller and more parallel body and by the absence of the bright metallic coloration;



Figs 17–24: Genitalia: 17–20: *Morychus viridis* Kuzmina & Korotyaev: 17, phallus, dorsal. 18, top of right paramere. 19, right apical urite, female. 20, tegmen. Scale 0.25 mm. 21–24: *M. rutilans* (Motschulsky): 21, phallus, dorsal. 22, top of right paramere. 23, right apical urite, female. 24, tegmen. Scale 0.25 mm.

from *M. ostasiaticus* it strongly differs by the bodies shape and pubescence, which is more sparse and fine; from both species it differs also by the shape of the apical urite in female (Fig. 30).

Distribution: According KUZMINA & KOROTYAEV (1987), the species is spread in North Siberia, from Jakutia to Chukotka, Jamal peninsula, and, probably, in Kamchatka and Sakhalin.

Habitat: Beetles were collected under stones near the mountainous rivers – landscape, including salix-grass-stony origin.

Remarks: Taxon was described from Jakutia and has been synonymised later with *M. aeneus*. But the characters, mentioned under the diagnosis of the *M. subparallelus* allow to reestablish it as a good species.

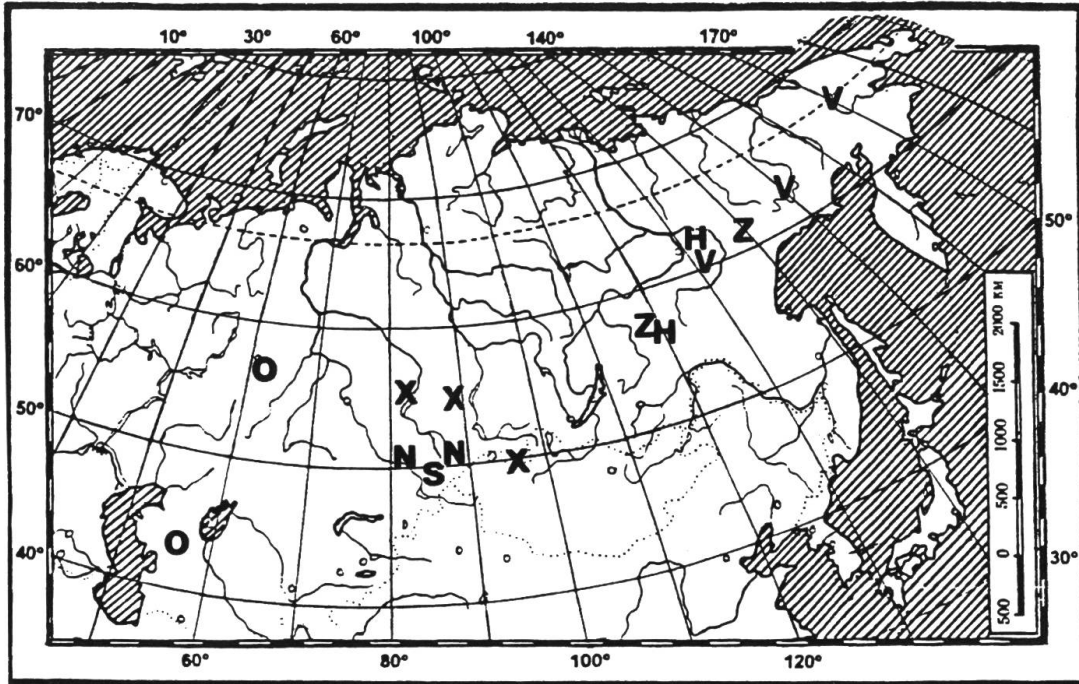
Morychus s.str. dudkorum n.sp.

Figs 32–35, 25 (S).

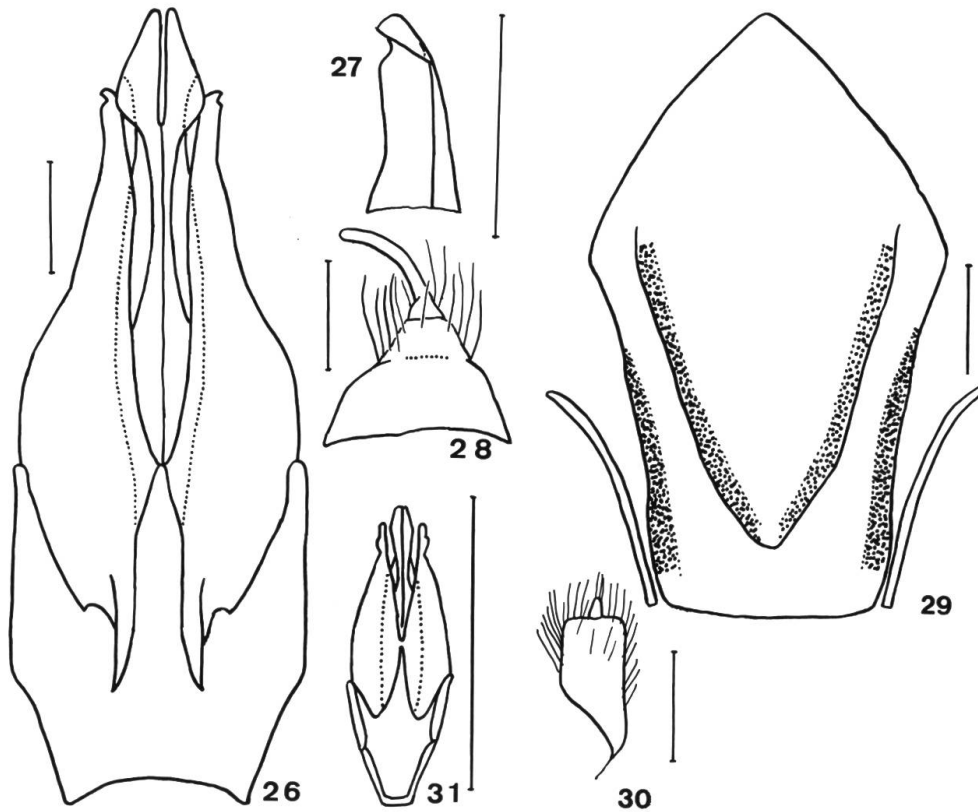
Description: Holotype, male. Body elongate, oval. Antennae black, maxillar palpi black-brown. Head, pronotum and elytra dark with bright green-bronze metallic luster (in some females it is green). Scutellum black. Legs almost black, but femora black-brown. Body dark-brown.

Head not large, forehead evenly convex, clypeus not marginate, sparsely covered in the distal part with straight yellowish hairs, its anterior part straight, with small angles. Labrum small, transverse, with widely rounded angles, densely punctate, covered with long, erected light hairs. Mandibles large, with carina at the base, the apex of the right mandibula with three dents of equal length, left mandibula with three not sharp small dents of which the inner is shortest. Maxillar palps 3-segmented, joints more or less longitudinal, the apical segment widened and cut at the tip. Eyes longitudinal, oval, with straight margins. Genae short and straight. Antennae clavate, 11-segmented, reaching 2/3 of the pronotum, the basal joint oval, swollen, elongate, 3 times larger than the second, 2d oval, 3d elongate, thin, 1.5 times as long as the previous, 4th the same length as 2d, somewhat widened, 5th shorter than the 4th, 6th–10th moniliform, transverse, widening to the apex, the apical segment rounded, shorter, than the 9th and 10th taken together, all antennal segments bear short erected light hairs at the apex. The surface of the head densely punctate and sparsely covered with fine brownish adpressed hairs.

Pronotum transverse, 2.18 times as broad (in the base) as long (in the middle), sides very slightly depressed, rounded, marginate with



25



a thin, slightly elevated margin, the anterior and posterior parts are not marginate, basis archely, but widely protrudent at the middle, posterior angles pointed and slightly curved, anterior angles acute, vertical, disc densely punctate, with distinct microsculpture, shining, sparsely covered with brownish adpressed fine hairs.

Scutellum small, equilateral triangle shaped, with microsculpture, covered with thin dark adpressed hairs, white pubescence lacking.

Elytra parallel, slightly expanded at about the apical third, the basis completely marginate with a narrow margin, surface not striate, densely punctate, with a distinct microsculpture, suture distinct, slightly depressed, surface evenly, sparsely covered with thin adpressed brownish hairs lacking white pubescence.

All tibia widened and flattened, of almost equal width as femora, or somewhat narrower, rounded at the tip, bearing two sharp and short straight dark spurs, of almost equal length. Tarsi 5-segmented, with yellow pubescence at the pedal part, 3d joint with a distinct lamella, claws with a very little dent near the base, external sides of tibia bearing strong sharp setae and sparsely covered with short goldish hairs.

Surface of body black- brown, sparsely covered with thin, adpressed goldish hairs, punctate, shining effect, because of smooth microsculpture.

Hind wings normal.

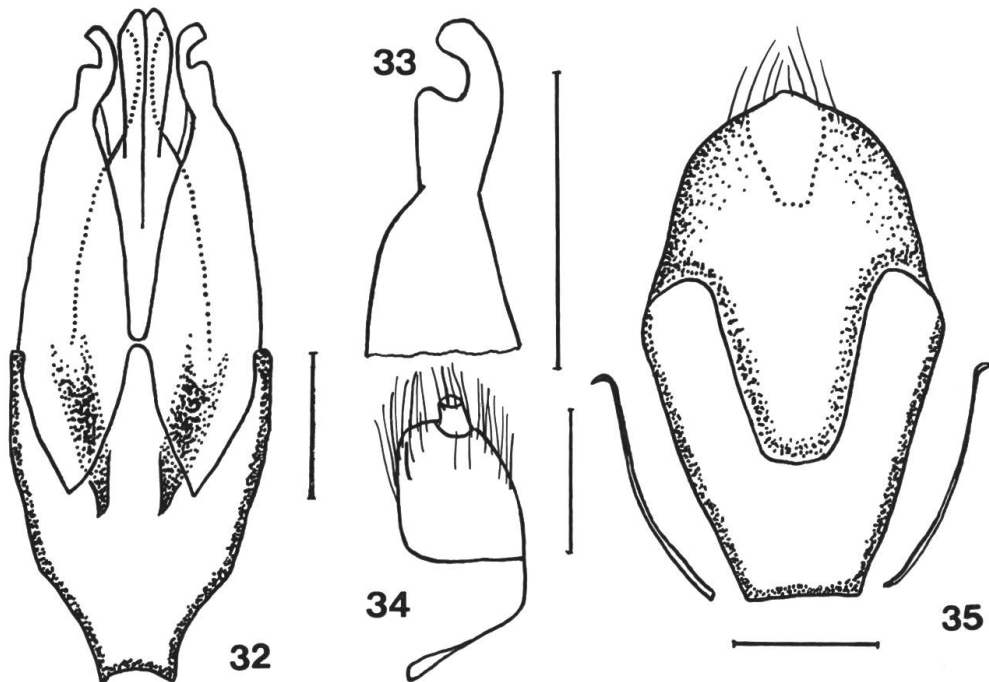
Phallus parameres (Fig. 32) with evenly narrowed and strongly curved apex (Fig. 18), lamellae of the aedeagus narrow, parallel. Tegmen narrowed to the base, with short thin laterals (Fig. 35).

Female. Similar to male, except as follows: Body more strongly widened. Antennae longer, almost reaching the basis of pronotum, joints forming smaller clava. Body with very sparse pubescence or lacking it. Claws narrow, without dent at base. Apical right urite (Fig. 34).

Length (holotype, without head) 4.2 mm, width: the widest part of elytra – 2.7 mm, at the base of elytra – 2.4 mm. Female, length 5.0, the widest part of elytra – 2.9 mm, at the base – 2.6 mm.



Figs 25–31: 25, Distributional map with localities of the *Morychus* and *Arctobyrrhus* of Russia: O = *M. aeneus* (Fabricius); X = *M. ostasiaticus* n.sp.; Z = *M. subparallelus* (Motschulsky); V = *M. viridis* Kuzmina & Korytyaev; N = *M. rutilans* (Motschulsky); S = *M. dudkorum* n.sp.; H = *A. dovrensis*. 26–29: *A. dovrensis* Münster; 26, phallus, dorsal. 27, the top of right paramere. 28, right apical urite, female. 29, tegmen. Scale 0.25 mm. 30–31: *M. subparallelus* (Motschulsky); 30, right apical urite, female. Scale 0.25 mm. 31, phallus, dorsal. Scale 1 mm (according Kuzmina & Korotyayev, 1987).



Figs 32–35: Genitalia of *Morychus dudkorum* n.sp.: 32, phallus, dorsal. 33, top of right paramere. 34, right apical urite, female. 35, tegmen. Scale 0.25 mm.

Holotype ♂, 2 paratypes ♀ (SZM), and paratypus ♀ (NHMB): Altai: 50 km E of Kosh-Agach Vill., 7 km NNW of Sailugem Mt. Range, valley of Buguzun riv., 13.VII.1996, A. et R. Dudko (SZM); 8 km NW of Kokoria Vill., valley of Kyzylshyn, 1900 m, under *Salix* sp., 16.VII.1996, A. et R. Dudko, 6 paratypes ♀ (SZM); 50 km E of Kosh-Agach Vill., valley of Buguzun Riv., 9.VII.1996, A. et R. Dudko, 2 paratypes ♀ (SZM).

Diagnosis: Similar to *Morychus ostasiaticus*, but can be distinguished by the very fine pubescens, almost lacking white hairs on the pronotum and elytra, long hairs on the body surface and both the shape of phallus (cf. Figs 9, 32) and apical urite in female (cf. Figs 11, 34).

Habitat: Beetles were collected in steppe landscape, on the banks of the rivers with salix-grass origin.

Etimology: The species is named after the brothers: Andrei and Roman Dudko, who found the beetles in Altai.

Morychus* s.str. *viridis Kuzmina et Korotyaev Figs 4, 17–20, 25 (V).

Morychus viridis KUZMINA & KOROTYAEV, 1987, Rev. d'Entom. LXVI(2): 344.

Material: N Siberia: on the Upper stream of the Kolyma River, in front of the El'genia Rivers delta, 20.VII.1992, D.I. Berman, 6♂, 3♀ (SZM), 1♂, 1♀ (NHMB).

Diagnosis: Similar to *Morychus aeneus*, but the following characters, allows to define the species: Very sparse dark pubescence of the body, and brownish, lack of white hairs on scutellum; the shape of the phallus (cf. Figs 13, 17); the shape of the apical urite in female (cf. Figs 15, 19) etc. It can also be distinguished by the separated range and the tundra-landscape preference.

Remarks: A description is given of the species because the original description is very short and was presented as diagnosis.

Description: Body elongate, oval. Antennae black-brown, maxillar palps light-brown. Head, pronotum and elytra dark with bright green metallic lustre (in some females it is dark green-bronze). Scutellum black. Legs almost black, but femora black-brown. Bottom dark-brown.

Head not large, forehead evenly convex, clypeus not marginate, covered in the distal part with straight yellowish hairs, its anterior part not emarginate, straight, with small angles. Labrum small, transverse, with widely rounded angles, densely punctate, covered with long, erected light hairs. Mandibles large, with carina at the base, apex of the right mandibula with four dents, one of them, in the middle, very small, and a little tooth at the base, left one with three sharp dents of equal length and a small one at the base. Maxillar palpi 3-segmented, the joints more or less longitudinal, the apical segment large, somewhat swollen, cut at the tip. Eyes longitudinal, with straight, not emarginate or protrudent sides. Genae short and straight. Antennae clavate, 11-segmented, short, reaching only the middle of the pronotum, basal joint oval, swollen, 3 times larger than the second, 2d round, 3d elongate, thin, 1.5 times as long as the previous, 4th 1.5 shorter than the previous, cylindrical, 5th somewhat shorter and wider than the 4th, 6th–10th moniliform, transverse, widening to the apex, the apical one pointed, shorter than 9 and 10th taken together, all antennal segments bear long erected black hairs at the apex, the basal punctate, in addition covered with long sparse light hairs. As a whole, the surface of the head densely punctate and covered with sparse brownish adpressed hairs.

Pronotum transverse, 2.25 times as broad (at the base) as long (in the middle), sides slightly depressed, but marginate at the base with a thin, somewhat elevate margin, the anterior and posterior parts are not marginate, basis archely protrudent at the middle, posterior angles pointed and slightly curved, anterior angles acute, vertical, disc densely punctate, on the sides with microsculpture, in the middle lacking it, shining, covered with brownish adpressed thin and very sparse hairs.

Scutellum small, equilateral triangle shaped, sparsely punctate, covered with short thin brownish adpressed hairs, white pubescence lacking.

Elytra parallel, slightly expanded at about the apical third, the basis completely marginate with a narrow margin, surface not striate, densely punctate (but somewhat sparser than on the pronotum), with a distinct microsculpture, suture distinct, slightly elevated, surface evenly, very sparsely covered with thin adpressed brownish hairs and more densely at the sides near the apex with white pubescence.

All tibia (Fig. 4) widened and flattened, of almost equal width as femora, rounded at the tip, bearing two sharp and short spurs, of which the inner somewhat longer. Tarsi 5-segmented, with light-brown pubescence at the pedal part, the 3d joint with a little lamella (Fig. 4), claws with a little dent near the base, external sides of tibia bearing strong sharp setae and covered with small light pubescence.

Surface of body black-brown, covered with thin, long adpressed light-goldish hairs, punctate, shining effect, because of smooth microsculpture.

Hind wings almost atrophied.

Phallus parameres (Fig. 17) evenly narrowed, with triangle appendage near the tip (Fig. 18), lamellae of aedeagus narrow, oval, tegmen narrowed to the base, with short thin laterals (Fig. 20).

Female. Similar to male, except as follows: Body more strongly widened. Antennae longer, almost reaching the basis of pronotum, antennal joints forming smaller clava. Claws narrow, without dent at base. Apical right urite (Fig. 19).

Length: Male. 4.1 mm, width: the widest part of elytra – 2.5 mm, at the base of elytra – 2.2 mm. Female, 4.4 mm, the widest part of elytra – 2.9 mm, at the base – 2.3 mm.

Habitat: Beetles were collected with pitfall traps at the bank of Kolyma river, with a tundra landscape and in the steppes of North Siberia.

Morychus s.str. rutilans (Motschulsky) Figs 1, 21–24, 25 (N).

Pedilophorus rutilans MOTSCHULSKY, 1854, Bull. Soc. Nat. Moscou, I: 51.

Chrysobryrrhulus rutilans (MOTSCHULSKY) – JACOBSON, 1905–1911, Beetles of Russia and Western Europe: 835.

Morychus rutilans (MOTSCHULSKY) – JOHNSON, 1985, Coleopterist Bull. 39(3): 197–199.

Material: Sajany Mts.: Krasnojarsk Reg., Ermakovsky Distr., 35–40 km SW of Oiskoie Lake, 1700 m, „stony town“, 11.VII.1990, S.Tshernyshev, 1♂, 1♀ (SZM); Altai Mts.: N bank of Teletskoie Lake, env. of Yailu Vill., pitfall trap, 15–16.VI.1994, D.E.

Lomakin, 1♂ (SZM); env. of Teletskoie Lake, upper stream of Chelush Riv., 600 m, 4.VI.1994, A.Yu.Dudko, 1♂(SZM); Chulyshman Upland, Kurkure Mt. Range, upper stream of Malaya Kurkure Riv., 2300 m, 28.VI.1994, D.E. Lomakin, 1♀(SZM); idem, 28–28.VI.1994, A et R. Dudko, 1♂(SZM), 1, 1♀(NHMB); Northern part of Chulyshman Upland, Aiukel Mt., near the snow, 2420, 2.VII.1993, D.E. Lomakin, 1♀(SZM); NE Altai, Southern part of Abakan Mt. Range, upper stream of Erinat Riv., 2200 m, 9.VII.1994, A. et R. Dudko, 1♂(SZM); Abakan Mt. Range, 2 km NE of the pike of Kosbazhi Mt., 1950–2100 m, 11.VII.1994, A. et R. Dudko, 1♂(SZM); Elbektularartyr Mt. Range, upper stream of Ekinchisu Riv., bank of the Lake, 2350 m, 5.VII.1994, A. et R. Dudko, 1♂(SZM).

Diagnosis: The main character which separates this species from the others of the genus is the very large lamella on the 3d tarsal joint. Apart of this, the following characters could be used: surface covered with a fine, brownish and white, sparse pubescence, scutellum sparsely covered with thin, adpressed, white hairs; surface of bright green colour with metallic luster; phallus (Fig. 21).

Distribution: The species occurs in the Altai-Sajan Mountainous System, where it is found in the mountainous tundra (Fig. 25, N).

Habitat: The beetles were collected under the stones in the mountainous tundra (goltsy) and also in pitfall traps at the same locality.

Remarks: During a long period, the species was placed in the genera *Chrysobryrrhulus* or *Byrrhobolus*. Examining specimens from Altai and Sajany I found that beetles from both localities belong to only one species and to the genus *Morychus*: Metathorax lacks transversal grooves for the middle tibiae, while in the *Chrysobryrrhulus* this character is present.

Arctobryrrhus Münster, n.stat.

Arctobryrrhus dovrensis Münster

Figs 6, 7, 25 (H), 26–29.

Arctobryrrhus dovrensis MÜNSTER, 1902, Verh. Zool.-Bot. Ges., LII: 87–91.

Pedilophorus speciosus J.R. SAHLBERG, 1903, Öfvers. Finska Fürh. XLV, 10: 20.

Material: Altai: 50 km E of Kosh-Agach Vill., valley of Buguzun Riv., 9.VII.1996, A. et R. Dudko, 1♀ (SZM); Jakutia: 180 km ENE of Handyga Vill., the Upper stream of Handyga Riv. 9.VII.1985, V.Dubatolov, 1♀ (SZM); 232 km of the road Handyga-Magadan, Sumtar-Haiat Mt. Range, the upper stream of the Vostochnaia Handyga Riv., 8.VII.1986, L. Popova, 1♀ (SZM); Transbaikalia: Stanovoie upland, Kodar Mt. Range, the upper stream of the Chara Riv., 50 km WSW of Novaia Chara Vill., h ~ 1300 m, 24.VII.1995, A. et R. Dudko, D. Lomakin, 1♂ (SZM).

Diagnosis: As single representative of the genus *Arctobryrrhus* this species strongly differs from the others by the characters given in the key under number 1 and discussed below, under remarks.

Remarks: The species strongly differs from the other representatives of the genus *Morychus* by the body shape, which is flattened, with double pubescence on the top, adpressed and erected, and narrow, round tibiae. These characters allowed MÜNSTER (1902) to describe the new genus *Arctobyrrhus*, which was later synonymised with *Morychus* as a subgenus. I found, that the shape of the apical urite in female is more similar to the same structure in *Lamprobyrrhus* and very different from *Morychus*. The shape of the top in the phallus is close to some representatives of *Byrrhus*, but strongly differs from *Byrrhus* and *Morychus* by the shape of the phallobase. The study of the material allowed to reestablish *Arctobyrrhus* as a good monotypic genus.

Habitat: Forest-taiga and tundra landscapes in the North of Europe and Asia.

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