

## Species of the subgenus *Diocarabus* Reitter (Coleoptera, Carabidae) from Siberia

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**Abstract** — Subgenus *Diocarabus* REITT. includes 6 species, one of them from Transbaikal region (*Carabus dorogostaiskii* sp. n.) described as new. Subgeneric name *Allocarabus* LAP. reduced to synonym. 6 photographs of all species, 36 figures of genital organs and identification key to species are given.

The species of the subgenus *Diocarabus* REITT. are distributed in Siberia from the Ural Mts. to Sakhalin Isl. and from Yakutiya and Magadan district to Northern Mongolia, Northern China and Northern Korea. They inhabit wooded and mountainous territories, some of them live in subalpine zone or in mountainous tundra.

The intention of this article is a taxonomical review of the species, moreover new data on distribution and ecology are given. I wish to express my hearty thanks to all the colleagues and friends, who helped me in this study by supporting the work or giving specimens: Dr. O. L. KRYZHANOVSKIJ, Dr. Z. KASZAB, Dr. V. G. MORDKOVITSCH, Dr. J. P. KORSHUNOV, Dr. V. K. DMITRIJENKO, Dr. B. A. KOROTYAEV, Dr. O. N. KABAKOV, Dr. V. G. DOLIN, Dr. E. P. BESSOLITZYNA, Mr. E. J. BERLOV.

A b b r e v i a t i o n s used in this article are: ZIL = Zoological Institute Academy of Sciences, Leningrad; HNHM = Hungarian Natural History Museum, Budapest; ISU = = Irkutsk State University, coll. V. G. Shilenkov; FK = Institute of Forestry and Wood, Krasnoyarsk; BIN = Biological Institute, Academy of Sciences, Novosibirsk.

### Subgenus *Diocarabus* REITT.

*Diocarabus* REITTER, 1896: 185. — *Allocarabus* LAPOUGE, 1921, Misc. Ent., 25: 121, **syn. n.**

Type-species of subgenus: *Carabus loschnikovi* FISCHER VON WALDHEIM.

Section *Diocarabus* was established by REITTER for *Carabus loschnikovi* F.-W. and *C. massagetus* MOTSCH. (*C. dohrni* REITT., non GEBL.). Later A. SEMENOW (1898: 539) included in this section *C. loschnikovi* F.-W., *C. truncaticollis* ESCHSCH., *C. aurocinctus* MOTSCH. and *C. massagetus* MOTSCH. (*C. dohrni* SEM. nec GEBL.). In the catalogue of JAKOBSON (1906: 251) to these species were added *C. polaris* POPP. and *C. slovtzovi* MNNH. *C. massagetus* MOTSCH. was ranged among the section *Apostocarabus* REITT. In 1921 LAPOUGE allocated *C. aurocinctus* MOTSCH. to the section *Allocarabus* on the basis of such morphological characters as multisetose labial palpi and strong reduction of quaternaries. The first character is only misunderstanding, and the second cannot be adopted as satisfactory reason for the erection of a distinct subgenus. I include in the subgenus *Diocarabus* REITT. the following species: *C. loschnikovi* F.-W., *C. massagetus* MOTSCH., *C. slovtzovi* MNNH., *C. dorogostaiskii* sp. n., *C. beybienkoi* KRYZH. and *C. aurocinctus* MOTSCH.

D i a g n o s i s. — Species of small and middle sizes. Apical segments of palpi in male and female hardly dilated, labial palpi bisetose. Mentum tooth sharp and narrow, equal or somewhat shorter than lobes, mentum not thickened, submentum with 2 pores. Antennae short, reaching to basal third of elytra, their intermediate segments simple in male. Pronotum with 2 (rarely with 3–4) lateral setae, sides narrow bordered, not flattened and reflexed, hind angles slightly produced backwards and rounded. Elytra convex, hardly emarginate before apex, between two rows of large foveae situated 5 intervals, rarely quaternaries strongly reduced. Sternites smooth or with trace of transverse wrinkles. Hind tibiae from above with distinct longitudinal grooves.

*C. truncaticollis* ESCHSCH. with subspecies *polaris* POPP. have 7 intervals between two rows of foveae (in ssp. *polaris* POPP. sometimes the number of intervals reduced to 5 or even to 3), in male intermediate segments of antennae thickened at apex and with naked emargination from below, hind tibiae from above smooth, without grooves, penis (Fig. 13) larger, more robust and thickened at the middle. For these reasons this species must be excluded from *Diocarabus*. BREUNING (1933: 775, 777) included *C. truncaticollis* and *C. polaris* in the section *Orinocarabus*, but that seems to be unnatural grouping. Probably this species must be placed in a distinct subgenus.

#### IDENTIFICATION KEY TO THE SPECIES

1 (10) Quaternaries well developed, therefore 5 intervals situated between two rows of foveae.

2 (3) Femora, tibiae and 4 basal segments of antennae red. Upper surface greenish bronze, copper reddish, brilliant green or dark bronze, pronotum and elytra of dark specimens with brighter sides. Disk of pronotum with dense and coarse punctures, but not wrinkled, sculpture of elytra uniform, ridges weak and strongly flattened. The apex of penis (Figs 18—21) narrow and long. 13.5—17.0 mm, Fig. 2

#### *C. slovtzovi* MNNH.

3 (2) Legs and 4 basal segments of antennae dark, if red, then colour and sculpture of pronotum and elytra different.

4 (5) The disk of pronotum only with sparse and coarse punctures. Sculpture of elytra uniform, consisting of flattened intervals, often secondaries and tertiaries almost not interrupted by punctures. Black, elytra as a rule dark bronze with violet rarely bronze sides, bases of 2—4 segments of antennae reddish brown, legs dark piceous, tibiae as a rule paler. The apex of penis (Figs 14—17) very short and wide. 17.0—21.0 mm. Fig. 1

#### *C. massagetus* MOTSCH.

5 (4) The disk of pronotum densely and coarsely punctate or rugulose. Sculpture of elytra often irregular, consisting of prominent ridges, interrupted by punctures to short links and tubercles.

6 (7) Sides of pronotum before hind angles strongly sinuated. Legs and antennae pitchy black, pronotum and elytra reddish copper or violet, rarely bronze. Disk of pronotum densely and rather coarsely rugulose punctate. The apex of aedeagus (Figs 34—36) long and narrow. 15.0—20.0 mm. Fig. 5

#### *C. beybienkoi* KRYZH.

7 (6) Sides of pronotum before hind angles hardly sinuated. At least bases of 3—4. segments of antennae and tibiae piceous.

8 (9) Head and disk of pronotum strongly rugulose punctate. Upper surface black, shiny, lateral sides of pronotum and elytra violet, rarely pale greenish bronze, foveae violet on the bottom. Legs dark piceous, tibiae paler, bases of 1—4. segments of antennae piceous reddish, rarely legs entirely and 4 basal segments of antennae dark red. Sculpture of elytra consists of prominent, often confluent ridges, interrupted by punctures to short links. The apex of aedeagus (Figs 22—25) rather short and wide. 15.0—18.0 mm Fig. 4

#### *D. loschnikovi* F.-W.

9 (8) Head and disk of pronotum rather densely and coarsely punctate, but not wrinkled or only slightly rugulose. Elytra blackish bronze or bronze reddish with brilliant green or more rarely reddish bronze at sides. Legs black with piceous tibiae infuscated at apex. Bases of antennal segments 3—4 dark red. Sculpture of elytra more uniform, intervals less prominent. The apex of aedeagus (Figs 26—29) narrow and long. 14.3—18.0 mm. Fig. 3

#### *C. dorogostaiskii* sp. n.

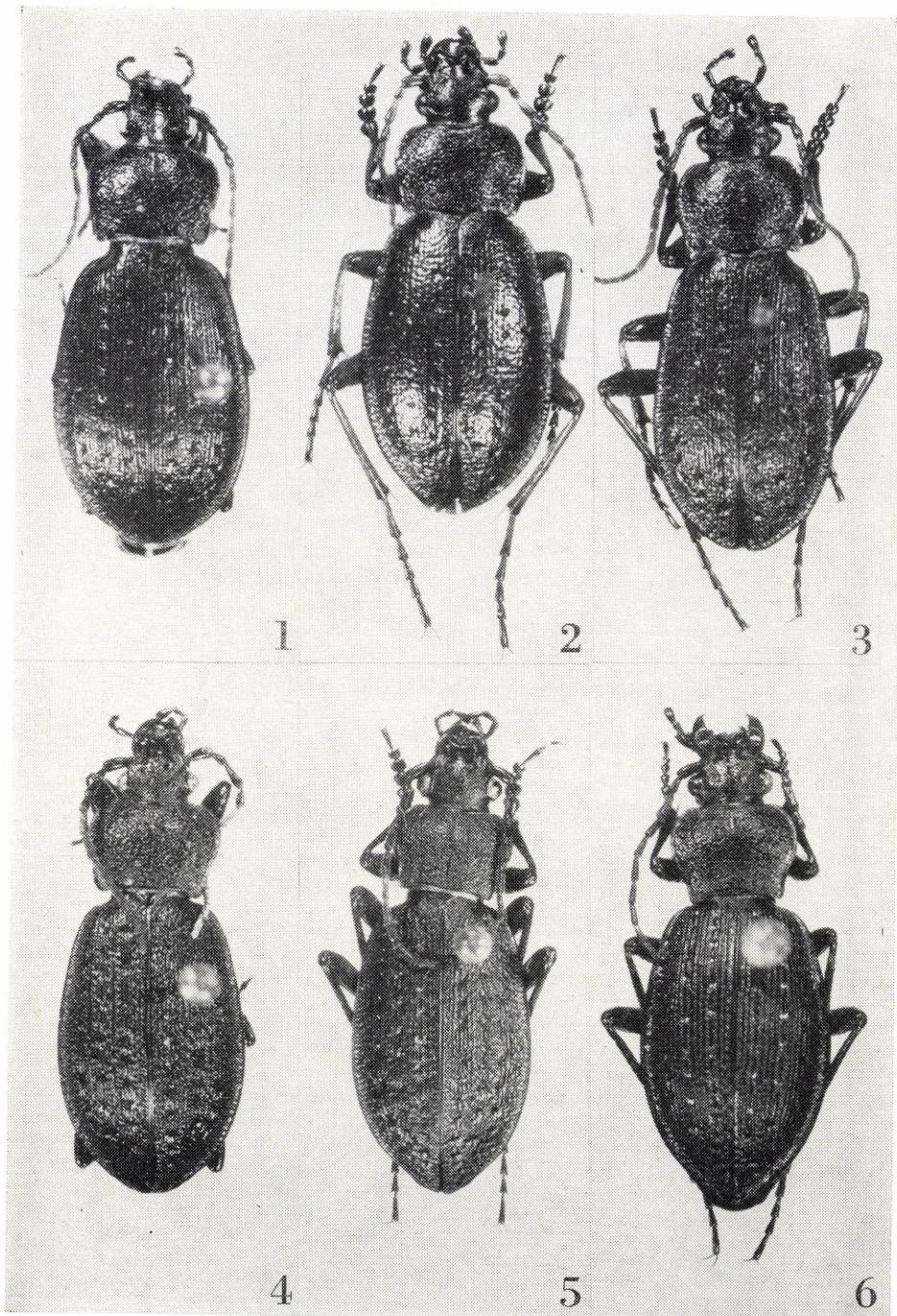


Fig. 1. *Carabus massagetus* MOTSCH., Mongolia, Chövsgöl aimak, 18.0 mm. — Fig. 2. *C. slovtzovi* MNNH., Sajan, Khulugaisha Mt., 13.5 mm. — Fig. 3. *C. dorogostaiskii* sp. n., paratype, Kust-Kemda, 15.0 mm. — Fig. 4. *C. loschnikovi* F.—W., Mongolia, Bulgan aimak, 16.5 mm. — Fig. 5. *C. beybienkoi* KRYZH., Sakhalin, 16.0 mm. — Fig. 6. *C. aurocinctus* MOTSCH., Amur district, Giluj river, 17.0 mm

- 10 (1) Quaternaries strongly reduced, therefore only 3 intervals distinctly situated between two rows of foveae. Pronotum cordiform, sinuate at sides before hind angles. Body black, lateral margins of pronotum and elytra, as well as foveae bright golden green. Sculpture of elytra consisting of uniform narrow ridges, interrupted by punctures only in apical part, only trace of quaternaries forming indistinct rows of small tubercles near primaries. Apical part of aedeagus (Figs 30—33) distinctly widened. 15.0—17.0 mm. Fig. 6

**C. aurocinctus MOTSCH.**

*Carabus (Diocarabus) loschnikovi* F.-W. (Figs 4, 8, 22—25)

*Carabus Loschnikovii* FISCHER VON WALDHEIM, 1824, Entomogr. Imp. Ross., **2**: 78, tabl. 45, fig. 3 (type locality: Sibiria, Kolywan)

*Carabus Loschnikovii*: MOTSCHULSKY, 1844: 101

*Carabus Loschnikovii*: GEBLER, 1847: 293

*Carabus Loschnikovii*: MOTSCHILSKY, 1850: 82

*Carabus (Diocarabus) Loschnikovi*: REITTER, 1896: 185

*Carabus (Diocarabus) loschnikowi*: SEMENOV, 1898: 539, 540

*Carabus (Diocarabus) loschnikovi*: JAKOBSON, 1906: 251, tabl. 7, fig. 5

*Carabus (Diocarabus) Loschnikovi*: CSIKI, 1927: 259

*Carabus (Eucarabus) loschnikovi*: BREUNING, 1932: 308

Distribution — Arkhangelsk district, Kirov district, Komi ASSR, Altaiskij kraj, Tuvinian ASSR, southern parts of Krasnoyarsk district, Irkutsk district and Buryat ASSR, Northern Mongolia.

Ecology — In conifer forests, first of all those consisting of *Larix*, more rarely in silver fir and mixed forests. Apparently connected with mountains, in the East Sajan found at 2500—2600 altitude, near upper border of forest.

Material — Altaiskij kraj: Lake Teletzkoje (Kolgar river; Alynty Mt.; Kokshi river); Chulyshmanskij mountain ridge, Tulumok river; Kurajskaya hollow; Barlyk river; Kurajskij ridge, vicinity of Aktash, 2200 m (ZIL). Tuvinian ASSR: northern slope of Tannu-Ola, vicinity of Shurmak; Lake Dzhuljukol; Naryn river, vicinity of Khondeya; Mugur-Aksy (ZIL, ISU, BIN). Krasnoyarsk district: Bolshaya Murozhnaya river, tributary of Angara; Chula river, tributary of Bolshije Ury (ISU, FK). Irkutsk district: Malaya Bystraya river, tributary of Irkut (ISU). Buryat ASSR: East Sajan Mts. (Usharanga river, tributary of Kitoj; Sagan-Khar river, tributary of Kitoj; Khaigus river, tributary of Oka; Gargan river, tributary of Oka; Soroka river, tributary of Oka; Tissa river, tributary of Oka; Lake Taglej; Okinskij pass; Nukhu-Daban pass in the source of Irkut; Lake Susernor in the source of Irkut; Belij Irkut river, tributary of Irkut; Mondy; Orlik; Khara-Khuzhir; Arshan); Hamar-Daban Mts. (Pereemnaya river; Temnik river; Samkhat river); NW shore of Baikal (Tiya bay; Davan pass); Vitimskoje plateau, source of Amalat river (ZIL, ISU, BIN, FK). Chitinskaya district: Charskaya hollow (Kust-Kemda; Sulumatiskij porog) (ISU). Mongolia: Archangaj aimak, Tevshrulekh, VII. 1977, leg. SHEVTZOV, 31 ex. (BIN); Chövsgöl aimak, Chövsgöl nuur, Ardagjin-gol, *Larix* forest, 21—25. VII. 1977, leg. V. SHILENKOV, 25 ex.; Chövsgöl nuur, Khesen-gol, *Larix* forest, 27. VII. 1977, leg.: V. SHILENKOV, 1 ex.; Chövsgöl nuur, Ongolig-gol, *Larix* forest, 3. VIII. 1977, leg. V. SHILENKOV, 7 ex. (ISZ). (Bulgan aimak, Archangaj aimak — MANDL 1973, KASZAB 1977).

*Carabus (Diocarabus) massagetus* MOTSCH. (Figs 1, 7, 14—17)

*Carabus massagetus* MOTSCHULSKY, 1844: 97 (type locality: Altai, Smeinogorsk)

*Carabus massagetus*: GEBLER, 1847: 305

*Carabus altaicus* GEBLER, 1847: 258 (type locality: Altai, Chuja)

*Carabus altaicus*: MOTSCHULSKY, 1847: 220

*Carabus massagetus*: MOTSCHULSKY, 1850: 78

*Carabus lineolatus* A. MORAWITZ, 1862, Bull. Acad. Sc. St. Petersb., **4**: 195 (type locality: North Baikal)

*Carabus (Diocarabus) Dohrni* REITTER, 1896: 185 (non GEBL.)

*Carabus (Diocarabus) dohrni* SEMENOW, 1898: 539 (non GEBL.)

*Carabus (Apostocarabus) massagetus*: JAKOBSON, 1906: 245

*Carabus (Diocarabus) massagetus*: CSIKI, 1927: 260

*Carabus (Eucarabus) massagetus*: BREUNING, 1932: 304

Distribution — Altajskij kraj, Tuvinian ASSR, southern parts of Krasnoyarsk and Irkutsk districts, south-western part of Buryat ASSR, Northern Mongolia.

Ecology — Restricted to mountainous taiga. Often found together with *C. loschnikovi*, but more xerophilous. Fairly common in open dry *Larix* forests or in mixed *Betula* and *Larix* forests.

Material — Krasnoyarsk district: West Sajan, Bolshije Ury river; environs of Minusinsk (Boteni; Tuba river, Tesj); Lake Itkul; Krasnoyarsk; Khakassiya, Birikchui (ZIL, ISU, FK, BIN). Altajskij kraj: Ust-Kamenogorsk (ZIL). Tuvinian ASSR: Tannu-Ola Mts. (Torgalyk; Shurmak; Naryn river, Khondeya; Tere-Khol Lake) (ZIL, FK, ISU). Irkutsk district: Tibelti; Baikal, Olkhon Isl. (ISU, BIN). Buryat ASSR: East Sajan Mts. (Khojur-Gorkhon river, tributary of Irkut; Nukhu-Daban pass; Arshan; Mondy; Khulugaisha Mt.; Kosaya Step); Hamar-Daban Mts. (Lake Tagle); environs of Dzhida, Khatyn-Ula Mt.; environs of Troitzkosavsk (ZIL, ISU). Mongolia: Orkhon river, 30 km from Kiakhta, 16 V 1902, leg. MIKHNO, 1 ex. (ZIL); NW Mongolia, Kobdo-Ulankom, 21 VII 1903, leg. GRUM-GRZYMAŁO, 3 ex. (ZIL); SE Khangaj, Lamyn-Gegen, 16-22 VII 1926, leg. KIRITSHENKO, 4 ex. (ZIL); NW Mongolia, Lake Ubsa, 12 VII 1914, leg. TOMASHINSKIJ, 1 ex. (ZIL); Chövsgöl aimak, Chövsgöl nuur, Ongolig-gol, pitfall traps in the meadow, 3. VIII. 1977, leg. V. SHILENKOV, 1 ex. (ISU); Chövsgöl nuur, Khesen-gol, *Larix* forest, 27 VII 1977, leg. V. SHILENKOV, 1 ex. (ISU); Archangaj aimak, Tevshrulekh, VII 1977, leg. SHVETZOV, 1 ex. (BIN). Chövsgöl, Bulgan, Zavchan aimaks (MANDL 1973, as *C. massagetus slovtzovi* MNNH.).

#### *Carabus (Diocarabus) slovtzovi* MNNH. (Figs 2, 9, 18-21)

*Carabus Slovtzovii* MANNERHEIM, 1849: 229 (type locality: "Dauriae alpe Schibet")

*Diocarabus aurocinctus* ssp. *Angelinus* REITTER, 1899: 194 (type locality: Südost-Sibirien)

*Carabus* (?*Diocarabus*) *slovtzovi*: JAKOBSON, 1906: 251

*Carabus massagetus* var. *pusillus* LAPOUGE, 1915, Misc. Ent., 23: 57 (type locality: "Tunkun Sajan")

*Carabus (Diocarabus) massagetus* var. *Slovtzovi*: CSIKI, 1927: 260

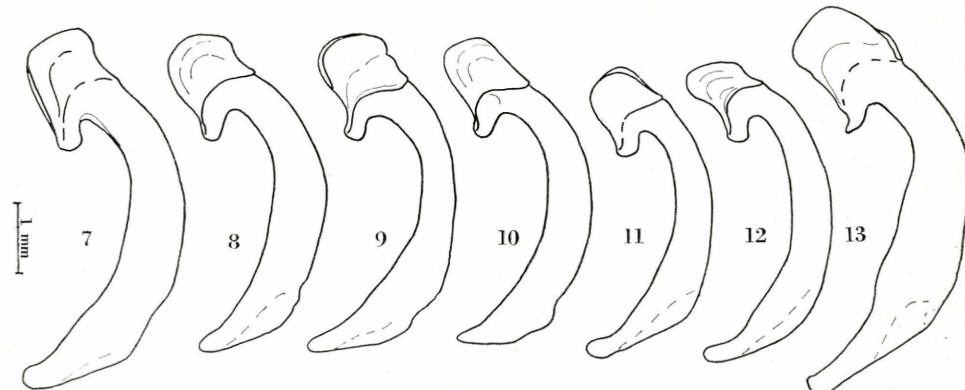
*Carabus (Allocarabus) aurocinctus* ssp. *angelinus*: SEMENOV-TIAN-SHANSKIJ, 1927: 231

*Carabus (Eucarabus) massagetus* m. *slovtzowi*: BREUNING, 1932: 304, 306

Distribution — So far known only from East Sajan and Hamar-Daban Mts. The specimens mentioned by MANDL (1973) from Mongolia are in fact *C. massagetus* MOTSCH.

Ecology — Confined to mountainous tundra, where it is found under stones. Rather xerophilous, not taken near glaciers and streams. Diurnal activity was observed.

Material. Buryat ASSR: source of Irkut, Lake Suser-nor, 1940 m, 13-14 VI 1915, leg. S. RODIONOFF, 13 ex. (ZIL); source of Irkut, Nukhu-Daban pass, 2400 m, 10 VI 1915, leg. S. RODIONOFF, 3 ex. (ZIL); Belij Irkut river, tributary of Irkut, 2 VII 1914, leg. S. RODIONOFF, 2 ex. (ZIL); environs of Mondy, Khulugaisha Mt., 2700-3000 m, mountainous tundra, 26 VI-1 VII 1974, leg. V. SHILENKOV, E. BERLOV, 35 ex. (ISU, coll. E. BERLOV); Tunkinskije goltzy Mts., source of Tubota



Figs 7-13. Aedeagus, left lateral view: 7 = *Carabus massagetus* MOTSCH., 8 = *C. loschnikovi* F.—W., 9 = *C. slovtzovi* MNNH., 10 = *C. dorogostaskii* sp. n., 11 = *C. aurocinctus* MOTSCH., 12 = *C. beybienkoi* KRYZH., 13 = *C. truncaticollis polaris* POPP.

river, 2000 m, 27–28 VII 1974, 24 ex. (BIN); Tubota Mt., 22 VII 1963, leg. A. PLESHANOV, 1 ex. (ISU); Hamar-Daban Mts., source of Levij Abiduj river, 18 VII 1973, leg. GALKINA, 1 ex. (ISU); source of Abiduj river, mountainous tundra, 1 VIII 1979, leg. N. MOROSHENKO, 2 ex. (ISU).

**Taxonomical remarks** — The species was described from “Dauriae alpe Shcibet” based on the collection of D. SEDAKOFF. Probably the material originated from Hamar-Daban Mts., where post station Shibetskaya was situated in the source of Snezhnaya river, near Khan-Ula Mt. BREUNING regards *C. slovtzovi* as a mountainous morpha of *C. massagetus*. In spite of this opinion I rehabilitate the specific independence of *C. slovtzovi* owing its great morphological differences from *C. massagetus* and it is strongly segregated from it ecologically.

#### *Carabus (Diocarabus) dorogostaiskii* sp.n. (Figs 3, 10, 26–29)

Head and disk of pronotum black, elytra blackish bronze, rarely reddish bronze, lateral margins of pronotum and elytra bright green, rarely bronze red, legs black with piceous tibiae infuscated at apex, bases of antennal segments 3–4 usually dark red.

Head not thickened, with strongly prominent eyes, frontal furrows shallow, extending on clypeus and deepened here. Upper surface with rather dense and coarse punctures, at sides and behind eyes rugulose punctate. Antennae rather long and slender, extending beyond base of pronotum in male by 4 apical segments, in female by 3 ones.

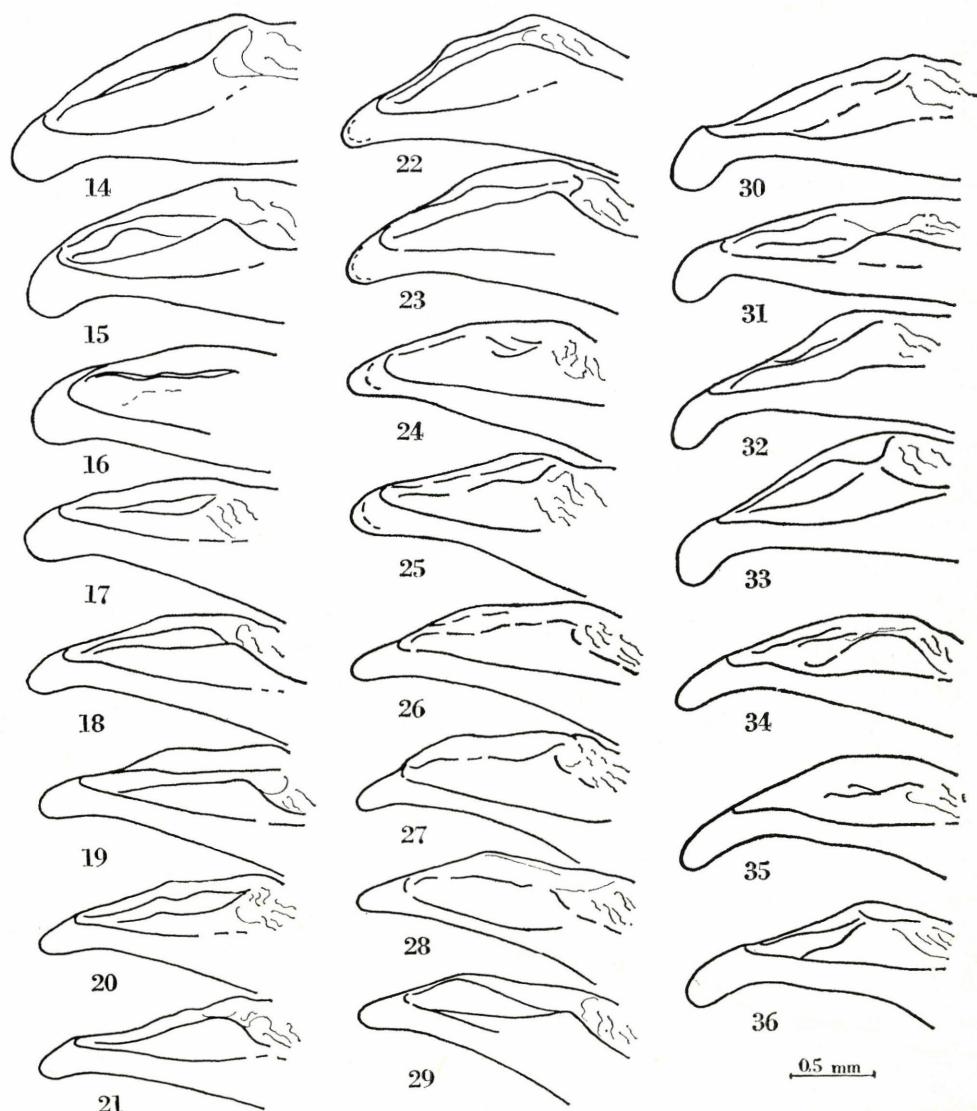
Pronotum moderately convex, 1.38–1.57 times as wide as long, widest just before middle, its base not narrower than apex, at sides hardly sinuated before short, slightly prominent hind angles. Median line distinct but weak, disappearing near basal rand, basal foveae very small. Disk of pronotum densely and coarsely punctate. Sides with 2 (rarely with 3–4) lateral setae.

Elytra elongate ovate, convex, with slightly prominent shoulders, sculpture rather uniform, between two rows of foveae 5 ridges situated, interrupted by punctures to short links or tubercles, primary somewhat wider and hardly more protruded than others, at sides and apex intervals confluent with each other and sculpture consisting of granules and tubercles; foveae large and brighter coloured at bottom than elytra, interrupting not only primary, but as well as 2 adjoining quaternary intervals.

Ventral surface smooth, sternal furrows absent. Sternits 3–5. with 4–8 setae on hind margin, anal sternit with 20–30 setae. Metaepisterna as wide as long. Aedeagus (Fig. 10) slender, moderately curved, with narrow apex (Figs 26–29). Length 14.3–18.0 mm.

In old collections this species was confused with *C. loschnikovi*, *C. massagetus* and *C. slovtzovi*. From *C. loschnikovi* differs by more bright brilliant green lateral margins of elytra, no rugulose disk of pronotum, more uniform and flattened sculpture of elytra with more sparsely interrupted intervals, greatly differs from *C. loschnikovi* and *C. massagetus* by narrow apex of aedeagus, from *C. slovtzovi* differs by colour and sculpture of elytra.

**Holotype** : ♂, Buryat ASSR, Vitim plateau, source of Bolshoj Amalat river, 20 VII 1968, leg. O. KABAKOV. — **Paratypes** : 3 ♀, the same locality, 20 VII–16 VIII 1968, leg. O. KABAKOV; 2 ♂ 5 ♀, middle part of Bolshoj Amalat river, 25 VI–25 VII 1968, leg. O. KABAKOV; 1 ♂ 3 ♀, Chita district, Chara hollow, Kust-Kemda, 22 VII 1975, leg. E. BESSOLITZYNA; 1 ♂, 1 ♀, the same locality, sedge marsh, 13 VI 1975, leg. E. BESSOLITZYNA; 1 ♂ 1 ♀, the same locality, sparse birch forest, 7 VI 1975, leg. E. BESSOLITZYNA; 2 ♂ 1 ♀, the same locality, cereals meadow and mixed *Larix-Pinus-Betula* forest, 11 VII 1975, leg. E. BESSOLITZYNA; 1 ♀, the same locality, sparse birch forest, 6 VII 1975, leg. E. BESSOLITZYNA; 5 ♂ 4 ♀, the same locality, cereals meadow, birch bush, sparse birch forest, *Larix* forest, 3 VII–8 VIII 1975, leg. E. BESSOLITZYNA; 1 ♂, way from Kust-Kemda to Chara, 26 VII 1975, leg. E. BESSOLITZYNA; 1 ♀, Sulumatskij porog, 10–11 VII 1975, leg. E. BESSOLITZYNA; 1 ♂ 3 ♀, Yablonovij khrebet, Anamkidyak river, 10–11 VI 1914, leg. V. DOROGOSTAISKIJ; 1 ♀, confluence of Anamkidyak and Tok rivers, 11 VI 1914, leg. V. DOROGOSTAISKIJ; 1 ♂, “goletz Yablonovogo khrebeta”, 21 VI 1914, leg. V. DOROGOSTAISKIJ; 1 ♀, Yablonovij mountain ridge, source of Okonon river, 21 VI 1914, leg. V. DOROGOSTAISKIJ; 1 ♀, Lake Okonon, 22–23 VI. 1914, leg. V. DOROGOSTAISKIJ; 1 ♀, Yablonovij mountain ridge, source of Bolshaya Tuksenj river, 9–10 VII 1914, leg. V. DOROGOSTAISKIJ; 1 ♂, Transbaikal, Yamarovka, 2 VII 1905, leg. MIKHNO; 1 ♂ 1 ♀, “Irkutsk, 1891, LEDER”, 1 ♀, “Transbaikalien, LEDER, REITTER”; 2 ♂, “Jakutsk, 1891, LEDER”, 1 ♀, “Jakutsk, Khaikau”; 1 ♂, Olekma-Al-dan, 3 VII 1899, leg. PODYAKONOV; 1 ♂, Bolshoj Khingan, 18 VII 1928, leg. OBOLENSKIJ et STEGMAN; 1 ♀, “Jenisejskaya guberniya, Turukhanskij kraj, stantia Voltshanka, tundra”, 1908, leg. RYCHKOV; 1 ♂, “North Mongolia”, leg. KASHKAROV.



Figs 14-36. Apex of aedeagus, right lateral view: 14-17 = *Carabus massagetus* MOTSCH. (14 = Minusinsk, 15 = Ust-Kamenogorsk, 16 = Baikal, Olkhon Isl., 17 = Khulugaisha Mt.); 18-21 = *C. slovtzovi* MNNH. (18 = Tsagan-Geltij, East Sajan, 19 = Suser-nor, 20 = Nukhu-Daban pass, 21 = Khulugaisha Mt.); 22-25 = *C. loschnikovi* F. W. (22 = Kanin, 23 = Altaj, Chulyshman, 24 = Tuvinian ASSR, Mugur-Aksy, 25 = Khulugaisha Mt.); 26-29 = *C. dorogostaiskii* sp. n. (26 = Bolshoi Amalat river, 27 = source of Bolshoi Amalat river, 28 = Olekma-Aldan, 29 = Bolshoi Khingan Mts.), 30-33 = *C. aurocinctus* MOTSCH. (30 = Magadan, 31 = De Kastri bay, 32 = Yakutsk, 33 = Oldoj river, Amur district); 34-36 = *C. beybienkoi* KRYZH., Sakhalin, Chekhov Mt.

Holotype and paratypes are deposited in ZIL, some paratypes in ISU, HNHM, coll. O. KABAKOV.

**Distribution.** Widely distributed in the mountains of Transbaikal region (not found in Hamar-Daban Mts.), extending to Yakutsk in the North and Northern Mongolia in the South, Bolshoj Khingan Mts. to the East. A doubtful record from Krasnoyarskij district (Turukhanskij kraj) must be confirmed.

**Ecology.** — The species inhabits different types of biotopes at medium altitudes of mountains: *Larix* and *Betula* forests, bushes, meadows and sedge marshes.

#### **Carabus (Diocarabus) beybienkoi KRYZH. (Figs 5, 12, 34–36)**

*Carabus (Diocarabus) beybienkoi KRYZHANOVSKIJ*, 1973: 71 (type locality: South Sakhalin)

**Distribution.** — Endemic of Sakhalin Isl.

**Material** — Sakhalin Isl., Chekhov Mt., 700 m, zone of kurile bamboo (*Sasa kurilensis*), 8 VII 1973, leg. V. DOLIN, 7 ex. (ISU).

#### **Carabus (Diocarabus) aurocinctus MOTSCH. (Figs 6, 11, 30–33)**

*Carabus aurocinctus MOTSCHULSKY*, 1844: 113, tabl. 4, fig. 11 (type locality: "montagnes de Nertschinsk").

*Carabus Klugii MANNERHEIM*, 1849: 228 (type locality: Nertschinsk).

*Carabus aurocinctus*: MOTSCHULSKY, 1850: 81.

*Carabus aurocinctus*: SOLSKY, 1875: 262.

*Carabus aurocinctus*: KRAATZ, 1878, D. ent. Zeit., 22: 251.

*Carabus (Diocarabus) aurocinctus*: SEMENOW, 1898: 539.

*Carabus (Diocarabus) aurocinctus*: JAKOBSON, 1906: 251.

*Carabus (Allocarabus) aurocinctus*: LAPOUGE, 1921. Misc. Ent., 25: 121.

*Carabus (Allocarabus) aurocinctus*: SEMENOV-TIAN-SHANSKIJ, 1927: 231.

*Carabus (Allocarabus) aurocinctus*: CSIKI, 1927: 261.

*Carabus (Eucarabus) aurocinctus*: BREUNING, 1932: 302.

**Distribution** — Yakutskaya ASSR, Magadan district, Chita district, Amur district, Primorskij kraj, North-East China, Northern Korea.

**Ecology** — Connected with mountainous forests, in the north (Magadan district) taken in lowland forests in the valleys of rivers.

**Material** — Yakutskaya ASSR: Yakutsk, leg. P. YURINSKIJ, 1 ex. (ZIL). Amur district: Malk-Dzhugdzher, Ajan-Nelkan, 18 VII 1903, leg. POPOV, 1 ex. (ZIL); Ajan, VII–VIII 1896, leg. N. SLUNIN, 1 ex. (ZIL); "fl. Amur ad. fl. Zeja", VI 1872, leg. PUZILO, 1 ex. (ZIL); Listvyanaya river, 1–2 VIII 1909, leg. RADKEVICH, 2 ex. (ZIL); De Kastri bay, 1885, leg. L. GRINEVSKIJ, 4 ex. (ZIL); source of Oldjoj river, 2–3 VIII 1961, leg. O. KABAKOV, 3. ex. (ZIL); Magd mountain ridge, S from Ubinskij bay, 10 VIII 1975, leg. O. KABAKOV, 2 ex. (ZIL); Zeja district, Rakindra river, 19 VII 1977, leg. L. MOROZOVA, 15 ex. (ISU, BIN). Korea: Yalu river basin, from village Tagin-pet to Tsagan-jen pass, 25–27 VI 1897, leg. V. KOMAROV, 1 ex. (ZIL); Prov. Khamgen Pukdo, Lake Pektusan, 21 VIII 1950, leg. BORKHSENIUS, 1 ex. (ZIL).

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