

New and little known species of the genus *Carabus* Linnaeus, 1758 (Coleoptera: Carabidae) from the Tien Shan Mountains

Новые и малоизвестные виды рода *Carabus* Linnaeus, 1758 (Coleoptera: Carabidae) из Тянь-Шаня

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Carabidae, *Carabus*, таксономия, распространение, новые виды, Средняя Азия, Тянь-Шань.

ABSTRACT: Two new species of the genus *Carabus* L., 1758 are described from Central Asia: *C. (Semnocarabus) tekeliensis* sp.n. from the western extremity of the Dzhungarskiy Alatau Mt. Range (Kazakhstan) and *C. (Cratocechenus) tshistjakovae* sp.n. from the northern slope of the Narat Mt. Range (China, Xinjiang). A new name, *C. (Ophiocarabus) ernsti* Kabak, nom.n. is proposed for *C. (Ophiocarabus) striatulus* Géhin, 1885 (nec. Fabricius, 1781, nec. auct.) and the redescription of this species is given. *C. (Ophiocarabus) obscurior* Semenov, 1888 and *C. (Cyclocarabus) mniszzechi* Chaudoir, 1852 are redescribed and data of their distribution are given. *C. (Ophiocarabus) bogdoinus* Breuning, 1932 is synonymised with *C. (Ophiocarabus) obscurior* Semenov, 1888, syn. n. The lectotypes of *Carabus striatulus* var. *obscurior* Semenov, 1888 and *C. striatulus* var. *progressus* Semenov, 1888 are designated. *C. (Semnocarabus) kuldshaensis* Ballion, 1878 is regarded as a subspecies of *C. erosus* Motschulsky, 1865, stat. n.

РЕЗЮМЕ: Описаны два новых вида рода *Carabus* L., 1758 из Средней Азии: *C. (Semnocarabus) tekeliensis* sp.n. из западной оконечности хр. Джунгарский Алатау (Казахстан) и *C. (Cratocechenus) tshistjakovae* sp.n. с северных склонов хр. Нарат (Китай, Синьцзян). Для *C. (Ophiocarabus) striatulus* Géhin, 1885 (nec. Fabricius, 1781, nec. auct.) предложено замещающее название *C. (Ophiocarabus) ernsti* Kabak, nom.n., и дано переописание этого малоизвестного вида. Приведены переописания и данные о распространении *C. (Ophiocarabus) obscurior* Semenov, 1888 и *C. (Cyclocarabus) mniszzechi* Chaudoir, 1852. Установлена новая синонимия: *C. (Ophiocarabus) obscurior* Semenov, 1888 = *C. (Ophiocarabus) bogdoinus* Breuning, syn.n. Для *Carabus striatulus* var. *obscurior* Semenov, 1888 и *C. striatulus* var. *progressus* Semenov, 1888 обозначены лектотипы. *C. (Semnocarabus) kuldshaensis* Ballion, 1878 рассмат-

ривается в качестве подвида *C. erosus* Motschulsky, 1865, stat.n.

This publication contains descriptions of some new and little known *Carabus* Linnaeus, 1758 species, recently collected in the Tien Shan Mountains. The holotypes and some paratypes of the new taxa are kept in the collection of the Zoological Institute of Russian Academy of Sciences (St. Petersburg, ZISP).

The following measurements were taken: body length from the anterior margin of labrum to the elytral apex; head width across eyes; pronotal length along its median line; elytral length from the scutellum to the apex of elytra; width of both the pronotum and elytra at their broadest part.

The number of preparations of aedeagus (first digit) and endophallus (second digit) is given in parentheses after the number of specimens studied. The names for parts of endophallus follow those given by R. Ishikawa [1973, 1978, 1979], Y. Imura & K. Mizusawa [1996] and V. Shilenkov [1996].

Lectotype designations are made here to provide the objective standard of reference for the application of names.

Abbreviations used in the text are:

CAK — collection of A. Koval, St. Petersburg, Russia; CAP — collection of A. Putshkov, Kiev, Ukraine; CBB — collection of B. Březina, Praha, Czech Republic; CCA — collection of C. Auvray, St. Sulpice, France; CEK — collection of E. Komarov, Volgograd, Russia; CIB — collection of I. Belousov, St. Petersburg, Russia; CIK — collection of the author, St. Petersburg, Russia; CSM — collection of S. Murzin, Moscow, Russia; IZK — Institute of Zoology, Ministry of education and sciences of Kazakhstan, Almaty; MPU — Pedagogical University of Moscow, Russia; NHMW — Naturhistorisches Museum, Wien, Austria; ZISP — Zoological Institute of Russian Academy of Sciences, St. Petersburg, Russia; ZMAN — Zoologisch Museum Amsterdam, Nederland; ZMUO — Zoological Museum of University of Odessa, Ukraine.

EL — length of elytra; EW — width of elytra; HW — width of head; PL — length of pronotum; PW — width of pronotum; x^* — mean.

Carabus (Ophiocarabus) ernsti Kabak, **nom.n.**

Figs. 1–2, 18–19, 27, 37.

Carabus striatus Ballion, 1878: 258 (nec DeGeer, 1781) (Type locality — “Kuldsha”).

Carabus striatus: Kraatz, 1879: 398.

Carabus striatulus Géhin, 1885: 7 (nec Fabricius, 1781) (nom. nov. pro *Carabus striatus* Ballion).

Carabus striatulus auct. (part., nec Géhin, 1885).

Carabus (Ophiocarabus) obscurior: Lorenz, 1998: 76 (part.).

Type material examined: Holotype: 1 (1) ♂ (ZMUO), labelled: “Kuldsha”, “Bogdanov”, “*Carabus striatus* Ball.” (all are the manuscript of Ballion), “*C. (Ophiocarabus) striatulus* Géh. O. Kryzhanovskij det. 67”, “Holotypus”.

Further material: 78 (7, 4) ♂♂, 31 ♀♀ (ZISP, IZK, MPU, CAK, CAP, CBB, CEK, CIB, CIK, CCA, CSM), China, Xinjiang, S slope of Boro-Horo Mt. R., upper course of Kash River, right tributary of Saryk River, 3000–3400 m, 25–26.06.1999 (I. Belousov & I. Kabak), between 43°48'15"N / 83°44'30"E and 43°50'N / 83°46'15"E. — 21 (4, 2) ♂♂, 3 ♀♀ (CIB, CIK), same area, right tributary of Kash River, W of Saryk River, 1900–3100, 25.06.1999 (I. Belousov & I. Kabak), between 43°44'N / 83°40'30"E and 43°47'50"N / 83°44'E.

19 specimens measured.

NOTES. *Carabus striatus* Ballion, 1878 was described by for unique specimen from the region of Kuldzha without exact locality data [Ballion, 1878]. Being preoccupied, this name was replaced with *C. striatulus* by J. Géhin [1885]. The latter name, in its turn, has been shown by W. Lorenz [1998] to be also a junior homonym and was replaced with *C. obscurior* Semenov, 1888.

Studying the types of *Carabus striatus* Ball. (ZMUO) and *C. striatulus* var. *obscurior* Sem. (ZISP) has shown that they belong to two independent species.

The authors who gave the redescriptions of *C. striatulus* Géh. were dealing indeed with *C. obscurior* Sem. [Semenov, 1888; Lapouge, 1925; Breuning, 1932; Kryzhanovskij, 1953, etc]. All the described forms of “*C. striatulus*” or the taxa synonymised with it belong also to *C. obscurior* Sem. These are: *C. striatulus* var. *progressus* Semenov, 1888, *C. striatus* ssp. *issykensis* Lapouge, 1925, *C. striatus* ssp. *thianchanicus* Lapouge, 1925, *C. striatus* ssp. *harpaloides* Lapouge, 1925 and *C. striatus* ssp. *sericus* Lapouge, 1925, *C. johannisi* Reitter, 1896, *C. bogdoinus* Breuning, 1932, *C. scheerpeltzi* Mandl, 1955, *C. aeneolus* ssp. *uruktensis* Kabak, 1990. Thus the species described by E. Ballion has only two preoccupied names — *C. striatus* and *C. striatulus*. I propose to name this species *C. ernsti* Kabak, **nom.n.** in the memory of the Russian coleopterologist Ernst Ballion, who has discovered it.

DESCRIPTION. Medium-sized species with robust and convex habitus (Figs 1–2), body length 14.2–18.2 mm (on the average, females larger, $x^*=16.7$ mm vs. $x^*=16.2$ mm in males). Appendages comparatively short. Colour of upper-side bright, greenish-bronze or reddish-bronze, dorsal surface of head and pronotal disc sometimes black. Ventral surface of body black, abdominal sternites and distal portion of elytral epipleura reddish-brown. Mandibles black, basally reddish-brown; antennae, palpi, tibia and tarsi blackish-brown, femorae darker, base of antennomeres reddish.

Head rather wide, PW/HW = 1.47–1.61 ($x^*=1.55$). Forehead subconvex, frontal foveae deep, long, reaching about the middle of eyes. Frontal furrows and supraorbital area finely

punctate and superficially wrinkled, forehead usually smooth in middle. Eyes protruding, hemispheric, mandibles short. Median tooth of mentum wide, acute or obtuse at apex, in length equal to or shorter than lateral lobes. Submentum bisetose. Antennae surpassing the base of pronotum by 3–3.5 distal segments, antennomeres 2–4 slightly swollen distally.

Pronotum wide, subovate, PW/PL = 1.33–1.52 ($x^*=1.42$), broadest usually behind, seldom near midlength. Lateral margins strongly rounded throughout, not sinuate before hind angles. Anterior margin concave, considerably narrower than pronotal base, its border complete, anterior angles effaced. Basal margin slightly convex in the middle. Hind angles short, strongly rounded, slightly projecting backwards. Marginal bead narrow anteriorly, evenly dilated posteriorly, margins weakly reflexed. Basal foveae large, round, usually connected with marginal bead. Disc convex, smooth or with irregular superficial wrinkles, basal foveae and often marginal bead of pronotum roughly punctate and rugulose. Median line usually deep, weakly impressed posteriorly, reaching anterior border and slightly shortened near base; rarely median line very superficial. One marginal seta near base and one (sometimes 2, rarely 3–4) near midlength or slightly behind on each side.

Elytra convex, ovate, weakly converging towards shoulders, broadest near midlength or slightly behind, EL/EW = 1.36–1.52 ($x^*=1.45$), EW/PW = 1.30–1.42 ($x^*=1.37$), EL/PL = 2.67–2.95 ($x^*=2.80$). Shoulders rounded, moderately prominent. Sides of elytra widely rounded, sometimes straightened in basal third, distinctly incised before apex, especially in female, epipleura often angulate on tip (Fig. 37). Marginal bead wide throughout. Elytral striae superficial, comprised of distinct punctures. Intervals flat, complete, uniform, rarely primary ones a little wider.

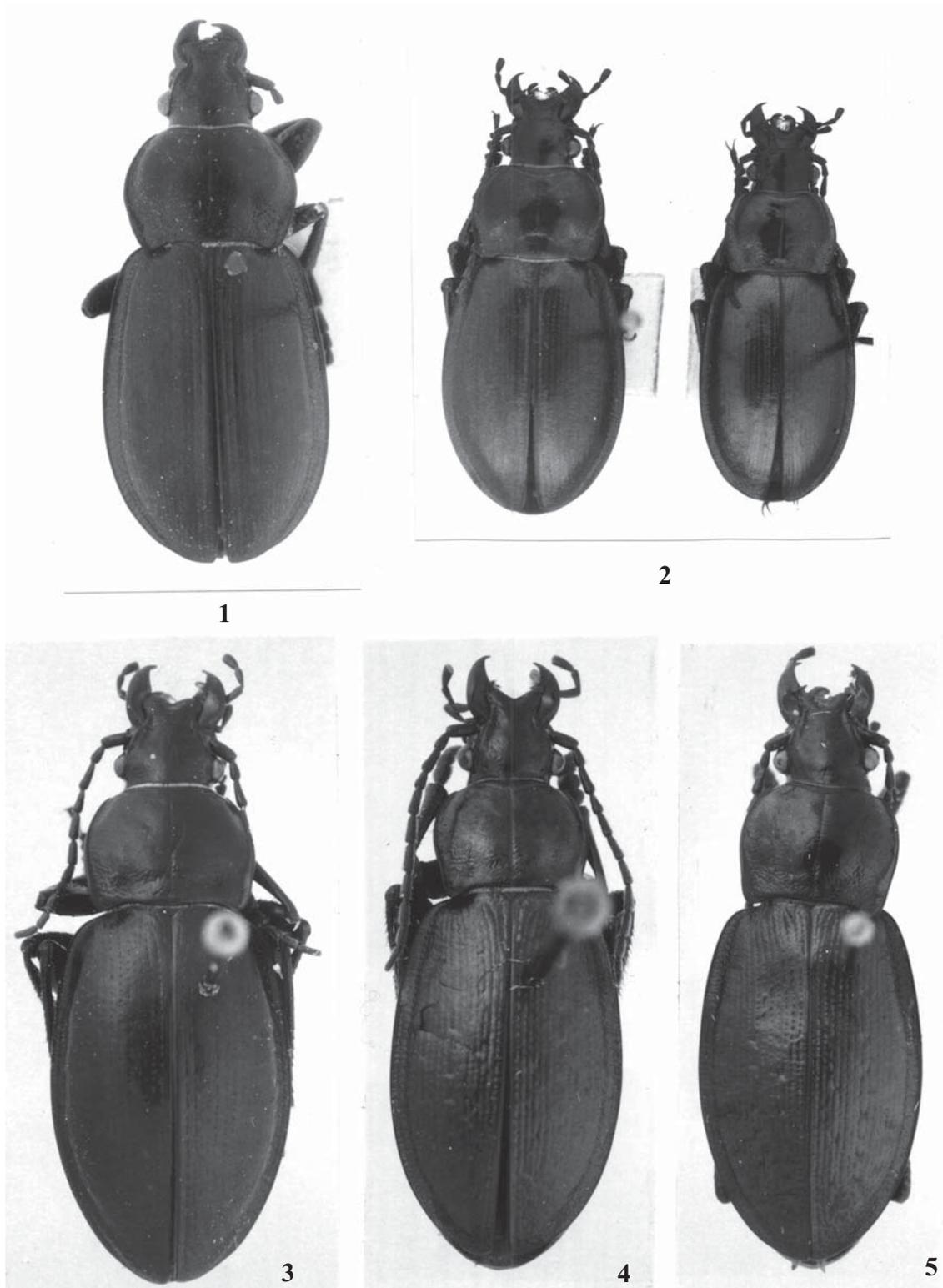
Prosternum smooth, abdominal sternites superficially wrinkled on sides, sternites 3–5 bisetose, abdominal sulci absent. Anal segment transversally rugulose posteriorly, with 2–4 pairs of setae along apical margin.

Protarsi of male with 4 segments dilated.

Median lobe of aedeagus (Figs 18–19) short, strongly and gradually arched, apical lamella very large, widely rounded at apex.

Endophallus (Fig. 27) with straight and short median lobe, basal portion of right basolateral lobe strongly convex. Pigmented spot and lacinia absent.

DIAGNOSIS. *C. ernsti* nom.n. belongs to a well-defined natural group of *C. (Ophiocarabus)*-species including also *C. variabilis* Ballion, 1878 and *C. rufocuprescens* Deuve, 1993 (nom. nov. pro *C. rufus* Breuning, 1933b, non Duft., 1812. This group may be named the *C. variabilis*-group after the first species described. Its members are distributed over the mountains of the Kash and Kunges basins (upper course of the Ili River). Species of the group are characterised by the following features: body rather robust, elytra distinctly incised before apex, especially in female, epipleura often angulate apically, median lobe of aedeagus regularly arched in posterior half, its apical lamella long and usually wide; endophallus axis subperpendicular to the plane of apical orifice, median lobe of endophallus straight, lacinia reduced. Doubtless, *C. ernsti* is most closely related morphologically and geographically to *C. rufocuprescens* Deuve, especially to *C. rufocuprescens* ssp. *chormaensis* Deuve, 1994b, known from the Artsitan-Gol Valley in the upper course of the Kash River and from the upper course of the Kunges River. In addition to the above characters of the *C. variabilis*-group, both taxa share the elytral sculpture strongly smoothed, the right wall of aedeagus not impressed and the wide apical



Figs 1–5. *Carabus* spp., habitus: 1 — *C. (Ophiocarabus) ernsti* Kabak (holotype of *C. striatus* Ballion); 2 — the same species, two males from the valley on the West from the Saryk River; 3 — *C. (Ophiocarabus) obscurior* Semenov (lectotype); 4 — the same species, lectotypus of *C. striatulus* var. *progressus* Semenov; 5 — the same form, holotype of *C. johannis* Reitter.

Рис. 1–5. *Carabus* spp., общий вид: 1 — *C. (Ophiocarabus) ernsti* Kabak (голотип *C. striatus* Ballion); 2 — этот же вид, два самца из долины к западу от р. Сарык; 3 — *C. (Ophiocarabus) obscurior* Semenov (лектотип); 4 — этот же вид, лектотип *C. striatulus* var. *progressus* Semenov; 5 — эта же форма, голотип *C. johannis* Reitter.

lamella of the latter. From all the above mentioned species, *C. ernsti* differs by its body more convex; sides of pronotum strongly rounded; anterior angles of pronotum completely effaced; its hind angles short and widely rounded; elytral intervals always flat and entire. Additionally, the species considered is characterised by the median lobe of aedeagus strongly arched throughout and apical lamella considerably larger. Its endophallus is distinct in having the following combination of characters: pigmented spot lacking, median lobe symmetric and comparatively short, praeputial pad weakly delimited; right basolateral lobe strongly convex proximally; right dorsolateral lobe large (Fig. 27).

C. obscurior Sem. differs readily from *C. ernsti* by the hind angles of pronotum longer; lateral margin of the latter always bisetose; elytra evenly rounded apically (Fig. 36), their marginal bead narrower; by the median lobe of aedeagus less curved; its apical lamella smaller as well as by the endophallus structure (Fig. 28). The median lobe of the latter is curved towards base and bifurcate distally, the lacinia is large, strongly sclerotised, visible even through the wall of the aedeagal tube.

DISTRIBUTION. *C. ernsti* was recently found on the southern slopes of the Boro-Horo Mountain Range (China, Xinjiang).

HABITAT. The species occurs mainly in meadows at elevations of 1900–3400 m.

Carabus (Ophiocarabus) obscurior Semenov, 1888
Figs. 3–11, 20–21, 28, 36.

Carabus striatulus var. *obscurior* Semenov, 1888: 210 (Type locality — “Montes ad fl. Ili”).

Carabus (Ophiocarabus) striatulus ssp. *obscurior*: Deuve, 1994a: 113, fig. 118.

Carabus (Ophiocarabus) obscurior: Lorenz, 1998: 76 (part.).

Carabus striatus: Semenov, 1887: 239 (non Ballion).

Carabus (Ophiocarabus) striatus: Reitter, 1896: 174 (non Ballion); Lapouge, 1925: 194 (non Ballion); Lapouge, 1929–1932: 664 (non Ballion).

Carabus striatulus: Semenov, 1888: 209 (non Géhin).

Carabus (Ophiocarabus) striatulus: Reitter, 1898: 55 (non Géhin); Jacobson, 1905–1916: 245 (part.); Winkler, 1924: 59 (part.); Csiki, 1927: 277 (part.); Breuning, 1932: 454 (non Géhin); 1934: 32 (non Géhin); Wu, 1937: 66 (part.); Kryzhanovskij, 1953: 33, 55, fig. 32 (non Géhin); Kabak, 1990: 114 (non Géhin); Darge, 1991: 12 (part.); Deuve, 1991: 52 (part.); 1994a: 113, fig. 118 (part.); 1997: 96 (part.); Březina, 1994: 23 (part.); 1999: 23 (part.); Kryzhanovskij et al., 1995: 41 (non Géhin); Schütze, Kleinfeld, 1995: 57 (part.); Imura & Mizusawa, 1996: 117, pl. 14 fig. 98 (1–3) (non Géhin); Ovtchinnikov, 1996: 94 (non Géhin); Schütze, Kleinfeld, 1997: 63 (part.); Kleinfeld & Schütze, 1998: 12 (part.).

Carabus striatulus var. *progressus* Semenov, 1888: 210 (Type locality — “Karakol ad lac. Issyk-kul”).

Carabus (Trachycarabus) striatulus m. *progressa*: Beheim & Breuning, 1943: 10

Carabus (Ophiocarabus) striatulus ssp. *progressus*: Deuve, 1994 a: 113.

Carabus (Ophiocarabus) johannis Reitter, 1898: 56 (Type locality — “Turkestan”).

Carabus (Ophiocarabus) striatus ssp. *issykensis* Lapouge, 1925: 195 (Type locality — “Issyk Koul, Terskyi Alatau”).

Carabus (Ophiocarabus) striatulus ssp. *issykensis*: Deuve, 1994a: 113.

Carabus (Ophiocarabus) striatus ssp. *harpaloides* Lapouge, 1925: 196 (Type locality — “Issyk Koul, Terski”).

Carabus (Ophiocarabus) striatulus ssp. *harpaloides*: Deuve, 1994a: 113.

Carabus (Ophiocarabus) striatus ssp. *sericus* Lapouge, 1925: 196 (Type locality — “vallée d’Aksou en Kaschgarié”).

Carabus (Ophiocarabus) striatulus ssp. *sericus*: Deuve, 1994a: 113.

Carabus (Ophiocarabus) aeneolus: Reitter, 1898: 56 (non Morawitz).

Carabus (Ophiocarabus) bogdoinus Breuning, 1932: 456, **syn.n.** (Type locality — “Chinesische Dsungarei, Bogdo-Gebirge”).

Carabus (Ophiocarabus) imperfectus ssp. *bogdoinus*: Deuve, 1994a: 114; 1997: 97; Březina, 1999: 23.

Carabus (Trachycarabus) scheerpeltzi Mandl, 1955: 242, Abb. 3 (Type locality — “Kirgis-sai, Semirjetschensk”).

Carabus (Semnocarabus) scheerpeltzi: Deuve, 1991: 92.

Carabus (Ophiocarabus) obscurior ssp. *thianchanicus* Lapouge, 1925
Figs. 10–11.

Carabus (Ophiocarabus) striatus ssp. *thianchanicus* Lapouge, 1925: 194 (Type locality — “Thian Chan”).

Carabus (Ophiocarabus) striatulus var. *thianchanicus*: Csiki, 1927: 277; Wu, 1937: 67.

Carabus (Ophiocarabus) striatulus ssp. *thianchanicus*: Březina, 1994: 23; Kabak, 1994: 18, fig. 19; Kryzhanovskij et al., 1995: 41; Ovtchinnikov, 1996: 94; Březina, 1999: 23.

Carabus (Ophiocarabus) aeneolus ssp. *thianchanicus*: Deuve, 1994: 113.

Carabus (Ophiocarabus) obscurior ssp. *thianchanicus*: Lorenz, 1998: 76.

Carabus (Ophiocarabus) aeneolus ssp. *uruktensis* Kabak, 1990: 113 (Type locality — “Kunghey Alatau, Tshon-Uriuky Valley”).

Type material examined:

C. obscurior Sem. Lectotype (present designation, Fig. 3): 1 ♀ (ZISP), with a small gold round, labelled: “*striatus* Ball. v. *obscurior* m. A. Semenow” (manuscript of A. Semenov), “coll. Semenov-Tian-Shansky”, “Lectotypus *Carabus striatulus* var. *obscurior* Sem. design. I. Kabak, 2001”.

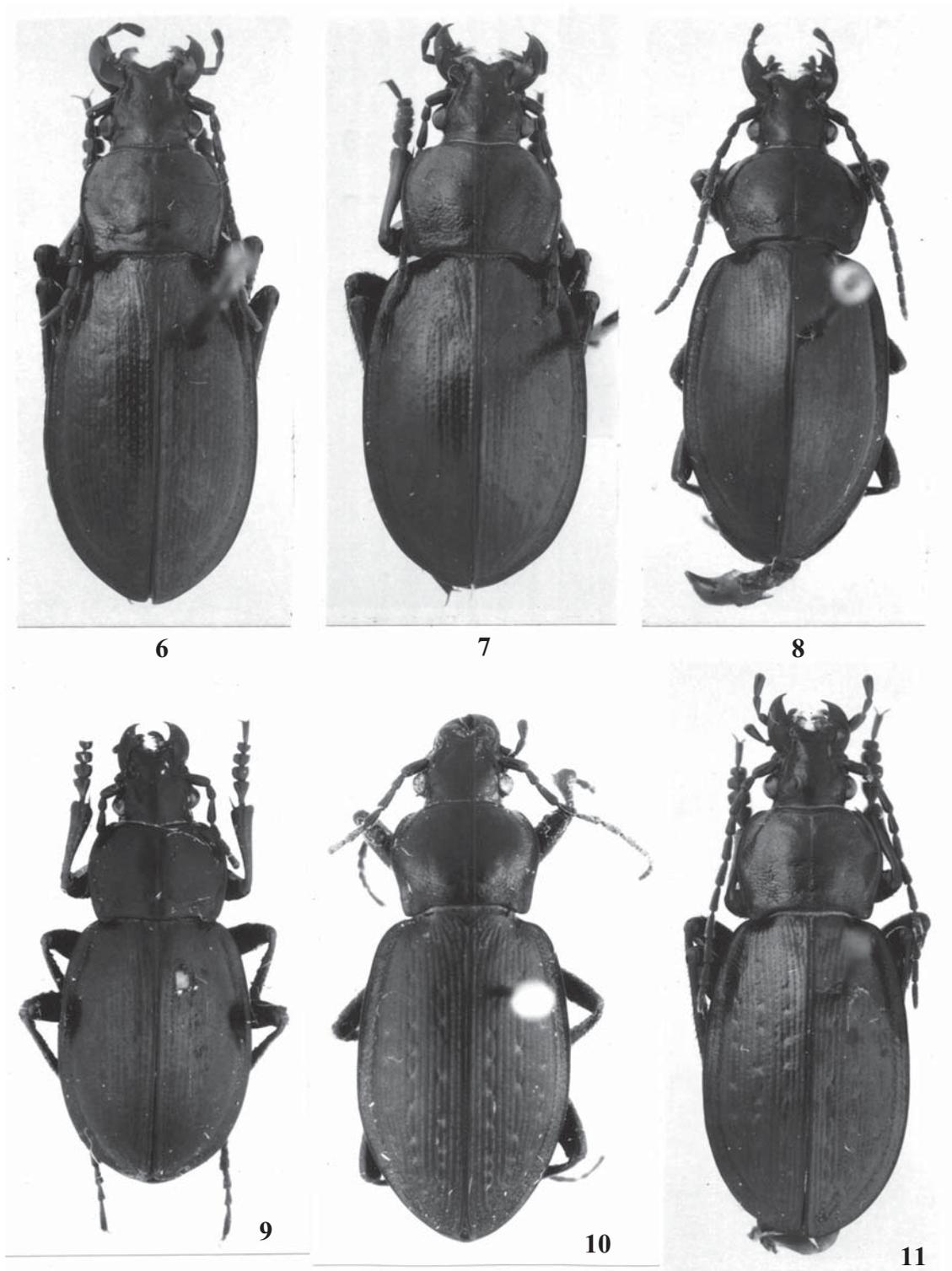
C. obscurior var. *progressus* Sem. Lectotype (present designation, Fig. 4): 1 ♂ (ZISP), with a small gold round, labelled: “*Striolatus* Géh. v. *progressus* m. Typ. male. A. Semenow” (manuscript of A. Semenov), “Karakol [in Russian] coll. Semenov-Tian-Shansky”, “Lectotypus *Carabus striatulus* var. *progressus* Sem. design. I. Kabak, 1992”.

Paralectotypes all with small gold rounds: 1 ♀ (ZISP), labelled: “*Striolatus* Géh. v. *progressus* m. typ. A. Semenow” (manuscript of A. Semenov), “coll. Semenov-Tian-Shansky”, “Paralectotypus *Carabus striatulus* var. *progressus* Sem. design. I. Kabak, 1992”. — 1 (1) ♂ (ZISP), labelled: “Karakol? from Krasnov 86” [in Russian], “*Striolatus* Ball. v. *progressus* m. A. Semenow” (manuscript of A. Semenov), “coll. Semenov-Tian-Shansky”, “Paralectotypus *Carabus striatulus* var. *progressus* Sem. design. I. Kabak, 1992”. — 1 ♀ (ZISP), labelled: “*Striolatus* Ball. v. *progressus* m.” (manuscript of A. Semenov), “coll. Semenov-Tian-Shansky”, “Paralectotypus *Carabus striatulus* var. *progressus* Sem. design. I. Kabak, 1992”. — 1 ♂ (ZISP), labelled: “Ignatovitsh Karakol 1887” [in Russian], “*Striolatus* Ball. v. *progressus* m. A. Semenov 12.XI.87” (manuscript of A. Semenov), “coll. Semenov-Tian-Shansky”, “Paralectotypus *Carabus striatulus* var. *progressus* Sem. design. I. Kabak, 1992”.

C. johannis Reitt. Holotype (Fig. 5) 1 ♀ (ZMAN), labelled: “*Car. johannis* m. Typ. 1898”, “..(unreadable) Roeschke”, “*Car. aeneolus* Moraw.”, “Roeschke c.”, “Collecte C. & O. Vogt Acq. 1960”, “*Carabus (Araeocarabus) johannis* Reitter, 1898 ZMAN type COLE.0175.1”.

C. bogdoinus Breun. Holotype (Fig. 8) 1 (1) ♂ (ZMAN), labelled: “E. v. Bodemeyer Bogdo-Gbge. Süd-Dschungarei”, “Typus”, “*bogdoinus* = *striatulus* t. Breuning c.”, “Collecte C. & O. Vogt Acq. 1960”, “*Trachycarabus bogdoinus* Breuning, 1932 ZMAN type COLE.0043.1”.

C. scheerpeltzi Mandl. Lectotypus (Fig. 9) 1 (1) ♂ (NHMW), labelled: “Kirgis-sai Semirjetschensk coll. Winkler”, “Typus C. (*Trachyc.*) *Scheerpeltzi* Mandl”, “*Carabus Scheerpeltzi* m. Typus det. Ing. K. Mandl”, “Lectotypus”, “C. (*Trachycarabus*) *scheerpeltzi* Mandl Matejiček design. 1991” (not published), “=*Carabus*



Figs 6–11. *Carabus* spp., habitus: 6 — *C. (Ophiocarabus) obscurior* Semenov (“*C. striatus* ssp. *harpaloides* Lapouge”) from the Meridionalnyi Mountain Range; 7 — the same species, “*C. striatus* ssp. *sericus* Lapouge” from the Dzhergalan Valley; 8 — the same form, holotype of *C. bogdoinus* Breuning; 9 — the same form, holotype of *C. scheerpeltzi* Mandl; 10 — *C. (Ophiocarabus) obscurior* ssp. *thianchanicus* Lapouge (holotype); 11 — the same subspecies, holotype of *C. aeneolus* ssp. *uruktensis* Kabak).

Рис. 6–11. *Carabus* spp., общий вид: 6 — *C. (Ophiocarabus) obscurior* Semenov (“*C. striatus* ssp. *harpaloides* Lapouge”) из Меридионального хребта; 7 — этот же вид, “*C. striatus* ssp. *sericus* Lapouge” из ущелья р. Джергалан; 8 — эта же форма, голотип *C. bogdoinus* Breuning; 9 — эта же форма, голотип *C. scheerpeltzi* Mandl; 10 — *C. (Ophiocarabus) obscurior* ssp. *thianchanicus* Lapouge (голотип); 11 — этот же подвид, голотип *C. aeneolus* ssp. *uruktensis* Kabak).

striatulus Géhin, Th. Deuve det. 1994"; 1 male (NHMW), labelled: "Sari-dias: Ken-su Semirjetschensk coll. Winkler", "*Carabus Scheerpeltzi* m. Cotypus det. Ing. K. Mandl", "Cotypus", "Paralectotypus" (manuscript of J. Matejůnek).

NOTES. *Carabus obscurior* Semenov, 1888 is rather variable in size, colour, body shape and elytral sculpture. However, the structure of the median lobe of aedeagus and the conformation of endophallus are characteristic enough to easily separate *C. obscurior* Sem. from its consubgenera. The median lobe of aedeagus (Figs 20–21) is straight medially, its ventral margin usually weakly convex in basal half and gradually arched apically; apical lamella short, more or less acute at tip. The endophallus (Fig. 28) is characterised by the median lobe curved towards base and bifurcate distally, absence of pigmented spot and by the lacinia strongly developed, visible even through the wall of aedeagal tube.

The infraspecific structure of *C. obscurior* remains unclear due to the high individual variation and often vague geographic ranges of different forms. This problem will be discussed in detail elsewhere. The known geographic forms are briefly characterised below.

A. Semenov [1888] was the first who gave the redescription of *C. striatulus* Géh. Since the type specimen of *C. striatus* Ball. was unavailable to him, he recognised as *C. striatulus* another species from the region of the Issyk-Kul Lake. According to A. Semenov, *C. striatulus striatulus* has the elongate body and the plan and entire elytral intervals. *C. obscurior* Sem. was described as a variety of *C. striatulus* (sensu Semenov) for black coloured specimens. The type locality ("Montes ad fl. Ili") and the features given in the description suggest the provenance of the types from the Ketmen Mountain Range. This form occurs also in the Zailiyskiy Alatau Mountain Range and Kuluktau Ridge. *C. scheerpeltzi* Mandl, 1955 from the Ketmen Mountain Range is a junior synonym of *C. obscurior obscurior* Sem.

C. striatulus var. *progressus* Semenov, 1888 was described for the population having subconvex elytral intervals and moderately deep primary foveae (Figs 4–5). This form is met with in the central portion of the Terskey Alatau (from the Dzhety-Oguz to Arasan valleys) and eastern part of the Kunghey Alatau Mountain Ranges. *C. johannis* Reitter, 1898 and *C. striatus* ssp. *issykensis* Lapouge, 1925 are the junior synonyms of *C. striatulus* var. *progressus* Sem.

C. striatus ssp. *harpaloides* Lapouge, 1925 was described for two specimens from the region of the Issyk-Kul Lake. According to the original description, this form has narrow and subparallel body, subconvex elytral intervals and small primary foveae. Since the types seem to be lost, it is very difficult to determine the taxonomic status and exact provenance of this form. However, the populations with the characters matching those in the initial description (Fig. 6) occur in the eastern part of the Terskey Alatau Mountain Range (the Ulken-Kokpak and Baiankol valleys) and in the upper course of the Sary-Dzhaz River between the Adyrtor and Ashutor rivers. The geographic boundary between *harpaloides* and *obscurior* s.str. is unclear.

C. striatus ssp. *sericus* Lapouge, 1925 was described from the region of the Aksu Village in Xinjiang. This form is characterised by the body robust and convex as well as by the elytral sculpture smooth (Figs 7–9). Beside the area of description, *sericus* is met with in the Terskey Alatau Mountain Range: the Kopyl Ridge and mountains between the Tiurghen-Aksu and Kokzhar Valleys on the northern slope; between the Ottuk River and the mouth of Adyrtor River on the southern slope. The form considered is known also from the northern slope of the Sary-Dzhaz Mountain Range west of the

Adyrtor Valley. The boundary between the areas of *sericus* and *harpaloides* is clearly delimited. The subspecific status of *sericus* seems to be likely.

C. bogdoinus Breuning, 1932 (Fig. 8) has been described from the Bogdo-Ola Mountain Range. Later, this author has synonymised it with *C. obscurior* (= *C. striatulus* sensu Breuning, 1934). Th. Deuve [1997] considered *C. bogdoinus* Breun. as a subspecies of *C. imperfectus* Semenov, 1887. Based on the male genitalia structure of the type specimen (apical lamella without sharp bent and lacinia strongly developed) one can conclude that the Breuning's synonymisation is correct. The robust and convex body of the type of *C. bogdoinus* allows us to classify it into *C. striatus sericus* Lap.

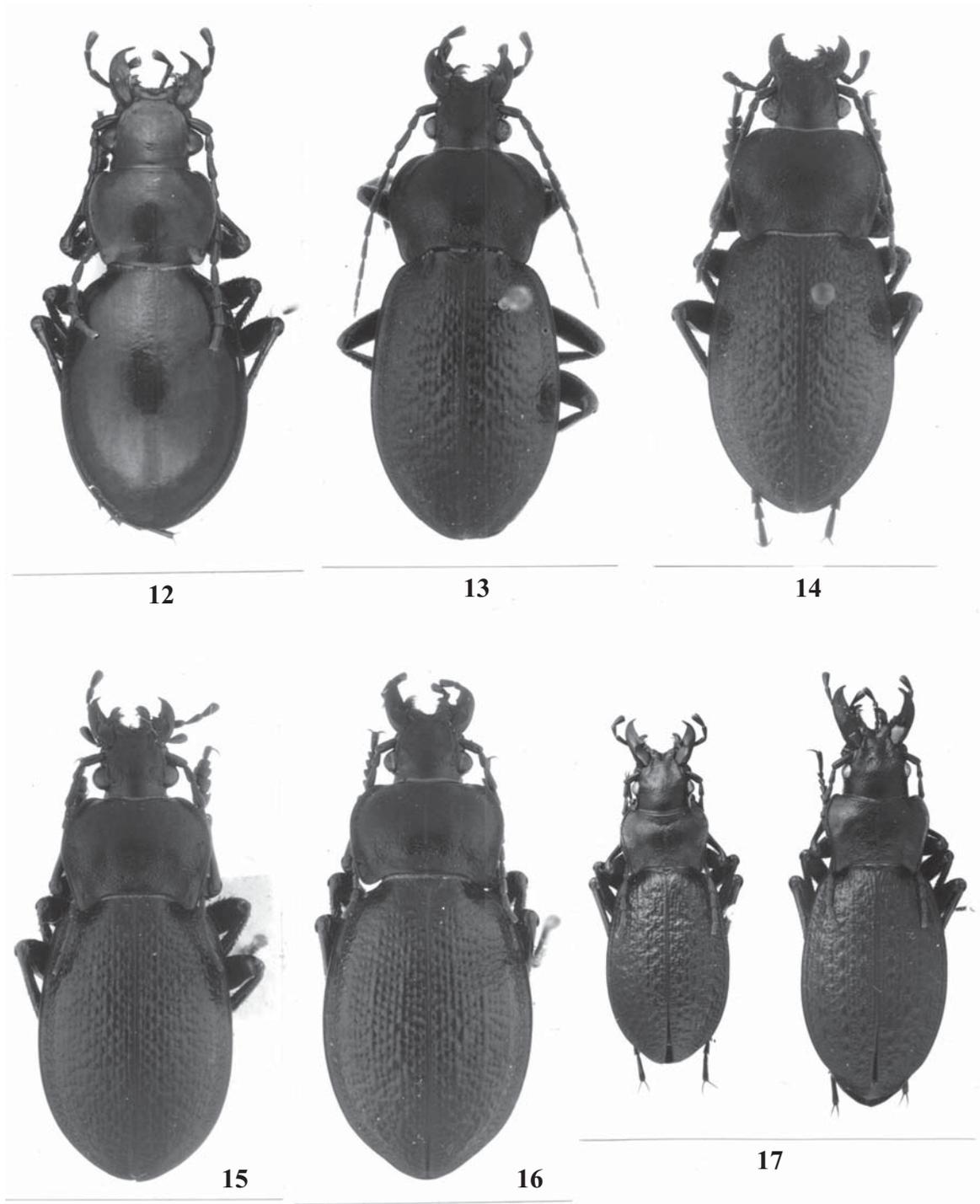
C. obscurior ssp. *thianchanicus* Lapouge, 1925 is characterised by the convex elytral intervals and large primary foveae (Figs 10–11). V. Lapouge assumed the provenance of this subspecies to be the Chinese part of Tien Shan, but it was described later as *C. aeneolus* ssp. *uruktensis* Kabak, 1990, from the southern slope of the Kunghey Alatau Mountain Range (the Tshon-Uriukty Valley). This form occupies the western extremity of the species' range. The populations with the characters intermediate between *thianchanicus* and *C. obscurior* s.str. occur in the eastern portion of the Kunghey Alatau Mountain Range (*C. striatulus* var. *progressus* Sem.).

DISTRIBUTION. *C. obscurior* Sem. is widespread through the Northern Tien Shan mountains: the Ketmen, Karatau, Kuluktau and Meridionalnyi ranges, the South-eastern portion of the Zailiyskiy Alatau Mountain Range (eastwards from the Turghen Valley, except for the northern slope of the Karash Ridge), eastern portion of the Kunghey Alatau Mountain Range (the Kurmetty, Kulsai, Karabulak and Orta-Merke valleys on the northern slope, Tshon- and Kitshi-Uriukty and Sary-Bulak valleys on the southern slope) and over the eastern half of the Terskey Alatau Mountain Range (to the Dzhuka Valley in the west) including the eastern spurs: the Elshinbuyriuk, Basulytau and Kopyl mountains. The species is known also from Central Tien Shan: the Terskey Alatau Mountain Range eastwards from the Ottuk River and the northern slope of the Sary-Dzhaz Mountain Range, as well as from the Aksu Valley on the southern slopes of Tien Shan.

The record for Dzharkent [Breuning, 1932] belongs indeed to the Ketmen Mountain Range (early included in the Dzharkent district). The record for the Kok-Teke Mountain Range [Breuning, 1932] is doubtful. The records for the Kirghizskiy (=Alexander) Mountain Range [Breuning, 1932], Son-Kul Lake [Kryzhanovskij, 1953, Kabak, 1990] and for the region of the Kazarman Village (=Togus Tjurae) on the Naryn River [Lapouge, 1925] are wrong. The record for the Bogdo-Ola Mountain Range and the region of the Turfan City [Breuning, 1932] are unlikely.

It should be noted that during the recent collecting trips in the Bogdo-Ola and Karlyk-Tag mountain ranges, no trace of *Carabus* species (including the larvae, remains etc) has been found. *C. imperfectus* Semenov, 1887, *C. variabilis* Ball., *C. iteratus* Breun., *C. bogdoinus* Breun., *C. perminimus* Deuve, 1994, and *C. sororius* A. Morawit, 1886 recorded from this mountains seemed to be mislabelled.

HABITAT. The species occurs in a wide belt of elevations from 1800 to 3800 m, mostly in the meadows, seldom in the mountain steppes. Among the species of the subgenus *Ophiocarabus*, *C. obscurior* co-exists only with *C. succesor* Reitter, 1896 in the eastern portion of the Terskey Alatau Mountain Range (from the Orta-Kokpak to the Baiankol valleys).



Figs 12–17. *Carabus* spp., habitus: 12 — *C. (Cyclocarabus) mniszewi* Chaudoir from the Sary-Ozek Village; 13 — *C. (Semnocarabus) erosus* ssp. *kuldshaensis* Ballion (holotype); 14 — the same taxon from the Ak-Terek River; 15 — the same taxon from the Ili River; 16 — *C. (Semnocarabus) tekeliensis* sp.n. from the Tekeli Town; 17 — *C. (Cratocebenus) tsbistjakovae* sp.n., male and female from the Mountain “3189”.

Рис. 12–17. *Carabus* spp., общий вид: 12 — *C. (Cyclocarabus) mniszewi* Chaudoir из окрестностей пос. Сары-Озек; 13 — *C. (Semnocarabus) erosus* ssp. *kuldshaensis* Ballion (голотип); 14 — этот же таксон из долины р. Ак-Терек; 15 — этот же таксон из долины р. Или; 16 — *C. (Semnocarabus) tekeliensis* sp.n. из окрестностей г. Текели; 17 — *C. (Cratocebenus) tsbistjakovae* sp.n., самец и самка с горы “3189”.

Carabus (Cyclocarabus) mniszeczhii Chaudoir, 1852
Figs. 12, 22, 29.

Carabus mniszeczhii Chaudoir, 1852: 94 (Type locality — “Norsaisan dans l’Asie Centrale”).

Carabus (Cyclocarabus) mniszeczhii: Lorenz, 1998: 76.

Carabus mniszecchi: Gemminger et Harold, 1868: 70; Géhin, 1885: 7; A. Morawitz, 1886: 80; Heyden, 1887: 309 (part.).

Carabus (Cyclocarabus) mniszecchi: Reitter, 1896: 169 (part.); Jacobson, 1905–1916: 212; Winkler, 1924: 19; Csiki, 1927: 59; Lapouge, 1929–1932: 532 (part.); Darge, 1991: 17; Deuve, 1991: 56; 1994a: 117; Kryzhanovskij et al., 1995: 41; Schütze & Kleinfeld, 1997: 48; Kleinfeld & Schütze, 1998: 13; Březina, 1999: 24.

?*Carabus (Cyclocarabus) mniszecchi*: Semenov-Tian-Shanskij & Znojko, 1932: 66; Breuning, 1933a: 688; Kryzhanovskij, 1953: 82.

Material examined: 1 ♀ (ZMUO), labelled: “Sergiopol”, “*Carabus Mniszechi*”, “*C. (Cyclocarabus) mniszecchi* Chd. O. Kryzhanovskij det. 67”. — 1 ♂ (ZISP), labelled: “Kapal Dshungar”, “ex coll. Zolotarew, Patria dubia” (manuscript of O. Kryzhanovskij), ca. 45°10’N / 79°03’E. — 1 ♂ (ZISP), labelled: “vc. of Taldy-Kurgan Station, Kazakhst. 21.V.1937 (Lukjanovitsh)” (in Russian), ca. 45°00’N / 78°25’E. — 18 (5, 2) ♂♂, 11 ♀♀ (IZK, MPU, CBB, CIB, CIK, CCA, CEK), SE Kazakhstan, S slope of Altyn-Emel Mt. R., 7 km E of Sary-Ozek Vill., 970 m, 20–22.04.1999 (R. Kadyrbekov), 44°22’12”N / 78°04’35”E. — 1 ♀ (CIK), same locality, 1996 (E. Ishkov). — 3 ♂♂, 1 ♀ (IZK), same locality, 6–7.05.2001 (R. Kadyrbekov). — 1 ♂, 2 ♀♀ (IZK), same locality, 15.05.2001 (R. Kadyrbekov). — 3 ♂♂, 5 ♀♀ (IZK), same locality, 19.05.2001 (R. Kadyrbekov).

14 specimens measured.

NOTES. *Carabus mniszecchi* Chaudoir, 1852 was described for a specimen collected by A. Schrenk near the Zaisan Lake, now Eastern Kazakhstan. The type seems to be lost. For many years, no *Carabus* species corresponding to the Chaudoir’s description had been found in this region. The characters indicated in the description are shared by some members of the subgenus *Cyclocarabus* Reitter, 1896. For these reasons, some authors suggested that *C. mniszecchi* originates from the Western Tien Shan mountains and is identical with *C. namanganensis* Heyden, 1886 [Heyden, 1887; Reitter, 1896; Kryzhanovskij, 1953; Deuve, 1994a; Kleinfeld & Schütze, 1998]. However, the year of description proves that *C. mniszecchi* could not be found in Western Tien Shan: this region was then on the territory of the Kokand khanate and remained inaccessible for the European voyagers. The first ground-beetles endemic for this mountains had been described only twenty years later. In fact, the type specimen of *C. mniszecchi* is likely to originate from the Dzhungarskiy Alatau Mountain Range, where A. Schrenk voyaged in the 40th years of the XIX century.

A species of the subgenus *Cyclocarabus* has been recently found in the western foothills of the Dzhungarskiy Alatau Mountain Range. This species corresponds well to the M. Chaudoir’s original description. The redescription and the diagnosis of *C. mniszecchi* are given below.

DESCRIPTION. Small-sized and convex species (Fig. 12), body length 11.6–14.5 mm (on average, males larger, $x^*=13.0$ mm vs. $x^*=11.1$ mm in females). Appendages rather short. Colour of upperside black, labrum, clypeus, sides of pronotum and elytra blackish-brown. Mandibles and appendages reddish-brown, femorae darkened. Ventral surface reddish-brown, sides of sternum obscured.

Head usual in width, PW/HW = 1.21–1.30 ($x^*=1.23$). Anterior margin of labrum slightly convex and notched medially. Forehead subconvex, frontal foveae moderately deep, very short, reaching the level of scape. Supraorbital area longitudinally striate, forehead and vertex shallowly and irregularly wrinkled and sometimes superficially punctate. Eyes hemispheric, strongly protruding. Median tooth of mentum narrow, acute, shorter than lateral lobes. Submentum bisetose. Antennae surpassing the base of pronotum by 3.5–4 distal segments.

Pronotum convex, PW/PL = 1.23–1.34 ($x^*=1.27$), broadest near anterior third. Lateral margins evenly rounded anteriorly, straightened or widely and not deeply sinuate behind midlength. Anterior margin almost straight, barely concave in the middle, its border wide, often more or less obliterate, rarely complete. Basal margin usually convex, rarely almost straight. Hind angles widely rounded, not projecting backwards, rarely developed in short lobes. Marginal bead moderately wide, vaguely outlined, margins weakly reflexed. Basal foveae small, round, superficial. Disc with irregular superficial wrinkles, median line fine, not impressed, slightly shortened anteriorly and posteriorly. One marginal seta before hind angle and one (sometimes 2) near midlength on each side.

Elytra wide, convex, ovate, broadest near midlength, EL/EW = 1.37–1.44 ($x^*=1.40$), EW/PW = 1.41–1.52 ($x^*=1.47$), EL/PL = 2.51–2.68 ($x^*=2.60$). Shoulders oblique and widely rounded. Sides of elytra rounded throughout. Marginal bead very narrow. Elytral striae superficial, comprised of small punctures, shallowed laterally and apically. Intervals flat, complete and uniform.

Microsculpture very superficial, comprised of isodiametric meshes on both vertex and elytra and of weakly transverse meshes on pronotum.

Prosternum smooth, abdominal sternites superficially wrinkled on sides, sternites 3–5 bisetose, anal segment with 2–3 pairs of setae along apical margin. Abdominal sulci sharp.

Protarsi of male with 4 segments dilated, ventral adhesive vestiture of segment 4 complete. Foretibia grooved dorsally.

Median lobe of aedeagus (Fig. 22) short, gradually arched, apical lamella rather short, rounded at apex, praeputial orifice large, its basal margin reaching about midlength of aedeagal tube.

Endophallus (Fig. 29) as in *C. namanganensis* Heyd.

DIAGNOSIS. *Carabus mniszeczhii* Chaudoir belongs to the subgenus *Cyclocarabus* Reitter, 1896. This species is most closely related to *C. namanganensis* Heyd., especially to *C. namanganensis* ssp. *vernus* Semenov-Tian-Shanskij & Znojko, 1932 from the Talass Alatau Mountain Range. Both taxa share the small and convex body, arched median lobe of aedeagus and the same endophallus shape (Figs 29 and 30). *C. namanganensis* ssp. *vernus* differs by the wider median tooth of mentum, deeper anterior border of pronotum, narrower marginal bead of the latter and longer elytra: EL/EW = 1.44–1.52 ($x^*=1.47$) (vs. 1.37–1.44 ($x^*=1.40$) in *C. mniszeczhii*), the mean of the ratio EL/PL is 2.67 vs. 2.60 in the counterpart. Additionally, the median lobe of aedeagus in *C. namanganensis* ssp. *vernus* is a little narrower medially. The close relationships of *C. mniszeczhii* and *C. namanganensis* and the great variation of the latter suggest only the subspecific status of the mentioned taxa. However they seem to be widely isolated since

Figs 18–26 — *Carabus* spp. median lobe of aedeagus, a — lateral view, b — dorsal view: 18 — *C. (Ophiocarabus) ernsti* Kabak (holotype of *C. striatus* Ballion); 19 — the same species from the valley on the West from the Saryk River; 20 — *C. (Ophiocarabus) obscurior* Sem., (lectotype of *C. scheerpeltzi* Mandl); 21 — the same species from the Etshkilitash Valley; 22 — *C. (Cyclocarabus) mniszecchi* Chaudoir from the Taldy-Kurgan City; 23 — *C. (Semnocarabus) erosus* ssp. *kuldsbaensis* Ballion (holotype); 24 — *C. (Semnocarabus) tekeliensis* sp. n. from the Tekeli Town; 25 — *C. (Semnocarabus) bogdanowi* Ballion from the Bayankol Valley; 26 — *C. (Cratocheenus) tsbistjakovae* sp. n. from the Kshi-Kushtai River. Scale — 1 mm.

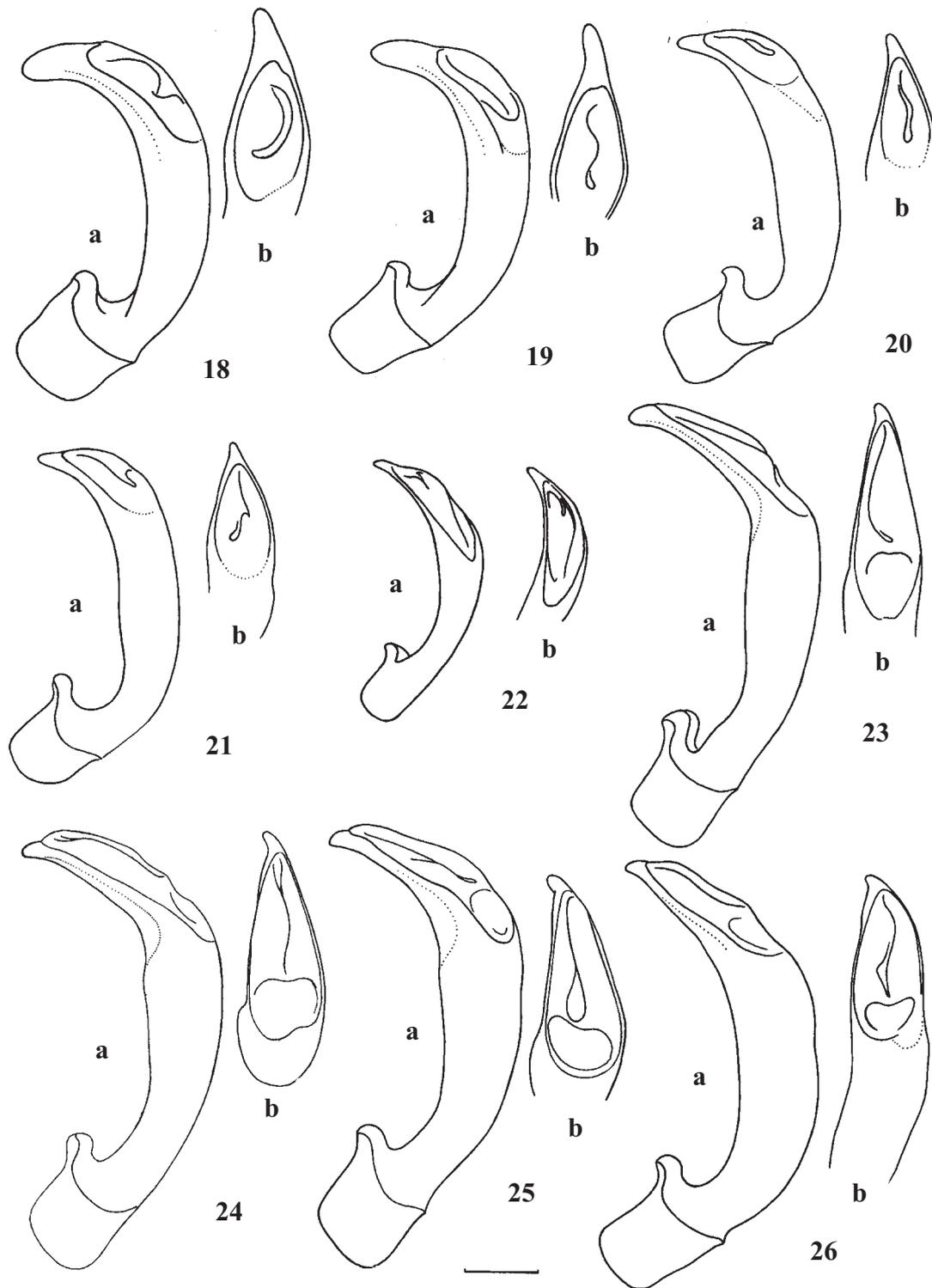


Рис. 18–26 — *Carabus* spp. медиальная доля эдеагуса, а — вид сбоку, б — вид сверху: 18 — *C. (Ophiocarabus) ernsti* Kabak (голотип *C. striatus* Ballion); 19 — этот же вид из долины к западу от р. Сарык; 20 — *C. (Ophiocarabus) obscurior* Sem., (лектотип *C. scheerpeltzi* Mandl); 21 — этот же вид из долины р. Эчкилиташ; 22 — *C. (Cyclocarabus) mniszcehi* Chaudoir из окрестностей г. Тады-Курган; 23 — *C. (Sennocarabus) erosus* ssp. *kuldshaensis* Ballion (голотип); 24 — *C. (Sennocarabus) tekeliensis* sp. n. из окрестностей г. Текели; 25 — *C. (Sennocarabus) bogdanowi* Ballion из долины р. Баянкол; 26 — *C. (Cratocebenus) tshistjakovae* sp. n. из долины р. Кши-Куштай. Масштаб — 1 мм.

till now, no specimen of *Cyclocarabus* has been collected on the well-explored semiarid plains and hills along the northern slopes of the Zailiyskiy and Kirghizskiy mountain ranges.

DISTRIBUTION. *C. mniszeczii* Chd. is known from the western foothills of the Dzhungarskiy Alatau Mountain Range near the Taldy-Kurgan City, the Kapal, and Sary-Ozek villages (Kazakhstan). The record of this species (ZMUO) as well as of *Carabus guerini* Fischer, 1842 [Kryzhanovskij, 1953] and *Callisthenes breuningi* Mandl, 1954 [Mandl, 1954; Obyedov, 1998] for Ajaguz (=Sergiopol) must be referred to the northern slopes of the Dzhungarskiy Alatau Mountain Range, earlier included in the Ajaguz district.

HABITAT. The species occurs in semiarid stations at elevation of 900–1000 m.

Carabus (Semnocarabus) erosus kuldshaensis Ballion, 1878, **stat.n.**

Figs. 13–15, 23, 31.

Carabus kuldshaensis Ballion, 1878: 262 (Type locality — “Kuldsha”).

Carabus kuldshaensis Kraatz, 1879: 398.

Carabus (Zoocarabus) kuldshaensis: Reitter, 1896: 175 (part.); Semenov, 1896: 228; Jacobson, 1905–1916: 246 (part.).

Carabus (Anthracocarabus) erosus ssp. *kuldshaensis*: Kryzhanovskij, 1953: 51 (part.).

Carabus (Semnocarabus) erosus ssp. *kuldshaensis*: Březina, 1994: 40.

Carabus bogdanowi var. *kuldshaensis*: Heyden & Kraatz, 1885: 273.

Carabus (Anthracocarabus) bogdanovi kuldshaensis: Lapouge, 1918: 94 (part.); 1929–1932: 669 (part.).

Carabus (Trachycarabus) bogdanowi m. *kuldshaensis*: Breuning, 1932: 474 (part.).

Carabus (Semnocarabus) bogdanowi ssp. *kuldshaensis*: Deuve, 1994a: 151 (part.); 1997: 107 (part.); Kryzhanovskij et al., 1995: 46 (part.); Lorenz, 1998: 81 (part.); Březina, 1999: 35 (part.).

Type material examined: Holotype (Fig. 13): 1 (1, 1) ♂ (ZMUO), labelled: “Kuldsha”, “*Carabus kuldshaensis* Ball. ? Obwieht male von *Bogdanowi*” (both — manuscript of E. Ballion), “Holotypus”.

NOTES. *Carabus kuldshaensis* was described by E. Ballion from the region of Kuldsha without exact locality data [Ballion, 1878]. Studying the type of this taxon kept in ZMUO has shown that it belong to *C. erosus* Motschulsky, 1865. Both taxa share the similar aedeagus shape (Fig. 23) and the same endophallus conformation (Fig. 31): large praeputial pad and absence of sclerotised structures. However *C. kuldshaensis* differs readily from *C. erosus* ssp. *erosus* Motsch. by the narrower and subparallel body and by the regular elytral sculpture with short and convex tubercles (Figs 13–15). Thus *C. kuldshaensis* Ball. must be regarded as a subspecies of *C. erosus* Motsch. The populations with the same habitus as the type of *C. kuldshaensis* occur in the eastern part of the Tshu-Ili Mountains (the Ak-Terek River) and in the lower course of the Ili River (Ush-Zharma, Bakanas, Tamgaly-Tas). The records for the Chinese part of Tien Shan [Ballion, 1878, Lapouge, 1918, Breuning, 1932, Kryzhanovskij, 1953] seem doubtful.

Carabus (Semnocarabus) tekeliensis Kabak, **sp.n.**

Figs. 16, 24, 32.

Holotype: ♂ (ZISP), Dzhungarskiy Alatau Mt. R., Tekeli env., 06.1992 (A. Saldaitis leg.), ca. 44°46'N / 78°53'E.

Paratypes: 2 (2, 1) ♂♂, 1 ♀ (ZISP, cIK, cAP), collected together with holotype. — 1 (1, 1) ♂, same area, Koksuy River, Rudnichnyi env., 18–23.05.1991 (V. Beneš), 44°42'35"N /

78°54'E. — 1 ♀ (ZISP), “nr. Koksuiskaia Station, 12.07.1916 (N. Karat.)” (in Russian). — 2 (2, 2) ♂♂ (ZISP, cIK), S slope of Toksanbay Mt. R., N of Araltobe Village, 1700 m, 16.07.2000 (R. Kadyrbekov), 44°36'15"N / 79°06'E. — 1 ♀ (cIK), S slope of Dzhungarskiy Alatau Mt. R., 10 km E of Rudnichnyi Village, 1700 m, 14.07.2000 (R. Kadyrbekov), 44°42'N / 78°58'E.

6 specimens measured.

DESCRIPTION. Medium-sized species with elongate and subconvex habitus (Fig. 16), body length 19.1–21.2 ($x^*=20.5$) mm. Appendages average in size. Upperside entirely black, moderately shiny.

Head not wide, PW/HW = 1.04–1.10 ($x^*=1.07$). Forehead gradually convex, frontal foveae sharply engraved anteriorly, rather superficial posteriorly, usually not reaching the level of anterior margin of eyes. Punctures on dorsal surface of head variable, often not rough, forehead smooth medially and rugulose peripherically. Eyes protruding, hemispheric. Median tooth of mentum narrow, acute, equal to lateral lobes in length. Antennae surpassing the base of pronotum by 2.5–3.5 distal segments.

Pronotum wide, PW/PL = 1.46–1.60 ($x^*=1.52$), broadest a little before midlength. Lateral margins gradually rounded throughout or almost rectilinear posteriorly, not sinuate before hind angles. Anterior margin concave, weakly narrower than pronotal base, its border distinct. Basal margin slightly protruding in the middle. Hind angles large, usually lobed, sometimes subtriangular in shape, rounded at apices, projecting backwards. Marginal bead narrow anteriorly, moderately dilated posteriorly, sides weakly reflexed. Basal foveae superficial, vaguely outlined. Disc subconvex, basal surface flattened. Median line fine, not reaching both anterior and posterior margins of pronotum. Punctures and wrinkles on disc usual fine, rarely deep, marginal bead and basal surface more roughly punctate and densely rugulose. 2–4 marginal setae on each side: one near base and 1–3 (often 2) in anterior half.

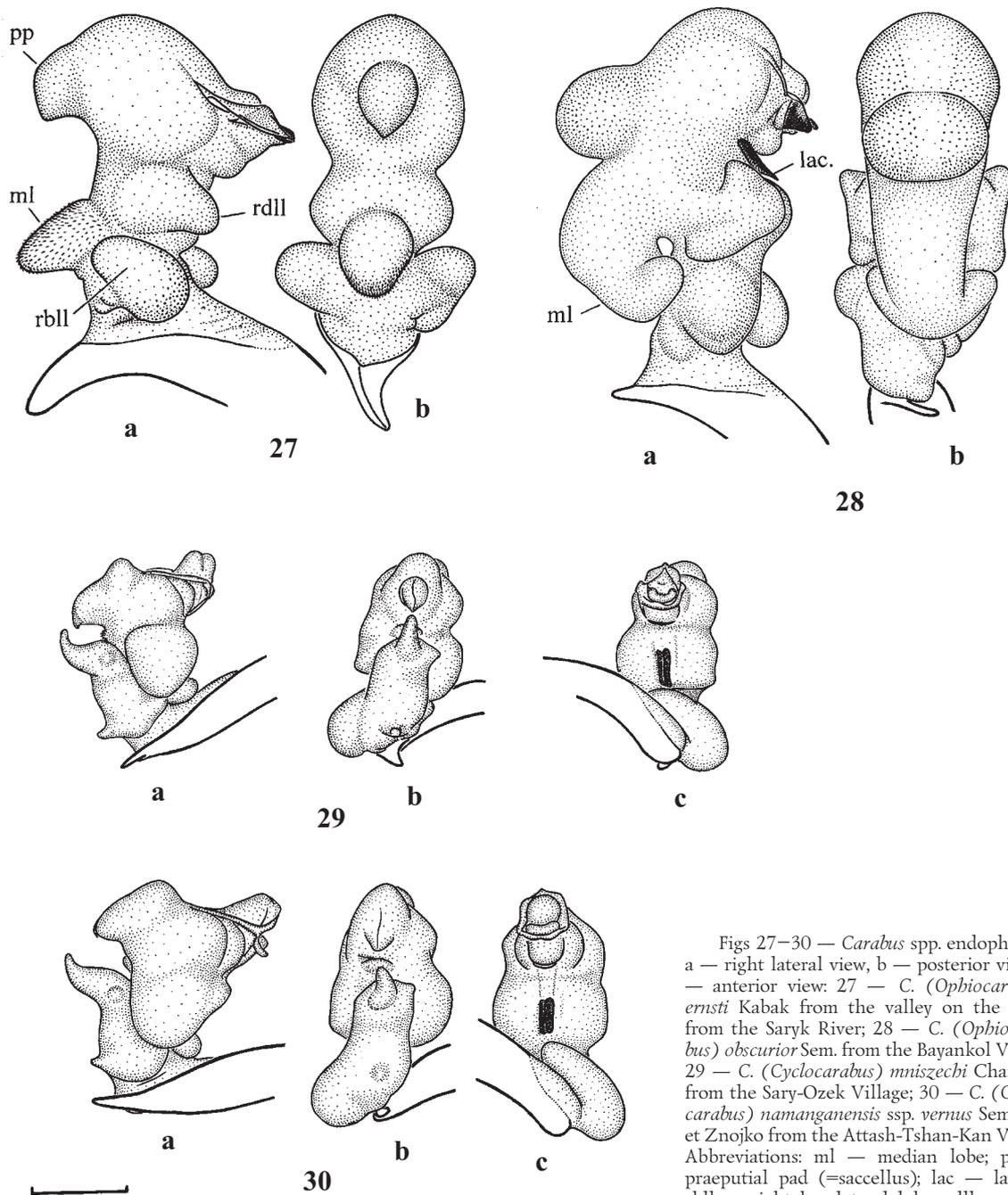
Elytra elongate and ovate, broadest near midlength or slightly behind, EL/EW = 1.41–1.48 ($x^*=1.44$), EW/PW = 1.29–1.38 ($x^*=1.33$), EL/PL = 2.83–3.06 ($x^*=2.93$). Shoulders rounded, moderately prominent. Disc subconvex or convex. Marginal bead narrow, sides near base distinctly explanate, in apical part weakly reflexed. Elytral sculpture homodynamic, intervals convex, usually uniform, developed as rows of short segments, rarely primary tubercles larger and more convex. Foveae of intervals thin, anastomosing and forming short transverse furrows.

Prosternum smooth, abdominal sternites superficially rugulose on sides, abdominal sulci sharp. Anal segment roughly rugulose posteriorly, with a row of setae along apical margin.

Median lobe of aedeagus (Fig. 24) almost step-like bent, its ventral border swollen at middle, apical lamella rather short. Endophallus strongly bent backwards, its praeputial pad bears well-developed conjugate subtriangular sclerit (Fig. 32).

DIAGNOSIS. Doubtless the new species is most closely related to *C. (Semnocarabus) bogdanowi* Ballion, 1878, known from the foothills of the eastern part of the Terskey Alatau Mountain Range and the adjacent plains, from the southern slopes of the Ketmen Mountain Range and from the northern slopes of the Narat Mountain Ranges. Both species share the similar aedeagus (Figs 24 and 25) and endophallus shape as well as the conformation of sclerit on the praeputial pad. Nevertheless *C. tekeliensis* sp.n. is readily distinguished by the convex elytral intervals and especially by the endophallus shape: the right basolateral lobe of the latter is smaller, the sclerit on the praeputial pad is larger (Figs 32 and 33).

By the body shape and elytral sculpture, the new species is very similar to *C. erosus* ssp. *kuldshaensis* Ballion and *C.*



Figs 27–30 — *Carabus* spp. endophallus, a — right lateral view, b — posterior view, c — anterior view: 27 — *C. (Ophiocarabus) ernsti* Kabak from the valley on the West from the Saryk River; 28 — *C. (Ophiocarabus) obscurior* Sem. from the Bayankol Valley; 29 — *C. (Cyclocarabus) mniszewski* Chaudoir from the Sary-Ozek Village; 30 — *C. (Cyclocarabus) namanganensis* ssp. *vernus* Semenov et Znojko from the Attash-Tshan-Kan Valley. Abbreviations: ml — median lobe; pp — praeputial pad (=sacculus); lac — lacinia; rbl — right basolateral lobe; rdl — right dorsolateral lobe. Scale — 1 mm.

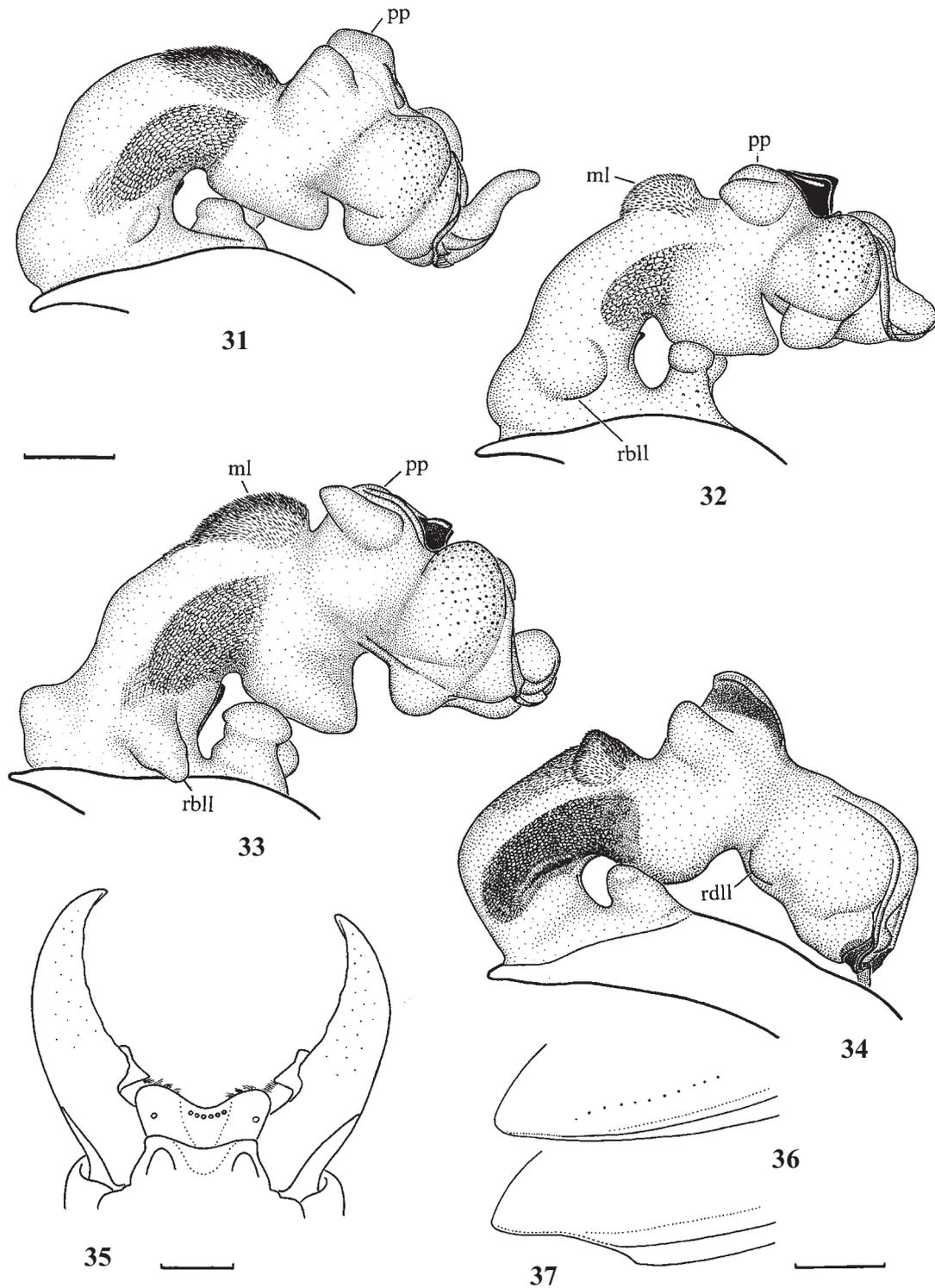
Рис. 27–30 — *Carabus* spp. внутренний мешок эдеагуса, а — вид справа, б — вид сзади, с — вид спереди: 27 — *C. (Ophiocarabus) ernsti* Kabak из долины к западу от р. Сарык; 28 — *C. (Ophiocarabus) obscurior* Sem. из долины р. Баянкол; 29 — *C. (Cyclocarabus) mniszewski* Chaudoir из окрестностей пос. Сары-Озек; 30 — *C. (Cyclocarabus) namanganensis* ssp. *vernus* Semenov et Znojko из долины р. Атташ-Чан-Кан. Сокращения: ml — медиальный бугор; pp — препуциальный бугор (=sacculus); lac — лагиния; rbl — правый базолатеральный бугор; rdl — правый дорзолатеральный бугор. Масштаб — 1 мм.

erosus ssp. *auliensis* Lapouge, 1916, but easily differs by the stouter aedeagal tube and by the conformation of endophallus. In *C. erosus* Motschulsky, 1865 and its geographic forms, the median lobe of aedeagus is more gradually arched, the endophallus is characterised by the reduction of right basolateral lobe, large praeputial pad and absence of sclerotised structures (Fig. 31).

DISTRIBUTION. The new species is known from the western extremities of the Dzhungarskiy Alatau and Toksanbay mountain ranges (Kazakhstan).

HABITAT. The species was found at 2200–2400 m. elevations.

DERIVATIO NOMINIS. The new species is named after the Tekeli Town.



Figs 31–37 — *Carabus* spp.: 31–34 — endophallus, right lateral view; 35 — Mandibles; 36–37 — Elytral apex in female, lateral view. 31 — *C. (Semnocarabus) erosus* ssp. *kuldsbaensis* Ballion (holotype); 32 — *C. (Semnocarabus) tekeliensis* sp. n. from the Tekeli Town; 33 — *C. (Semnocarabus) bogdanowi* Ballion from the Kustai River; 34–35 — *C. (Cratocechenus) tshistjakovae* sp. n. from the right tributary of the Sary-Tur River; 36 — *C. (Ophiocarabus) obscurior* Semenov from the Assy Valley; 37 — *C. (Ophiocarabus) ernsti* Kabak from the valley on the West from the Saryk River. Abbreviations: ml — median lobe; pp — praeputial pad (=sacculus); rbll — right basolateral lobe; rdll — right dorsolateral lobe. Scale — 1 mm.

Carabus(*Cratocechenus*) *tshistjakovae* Kabak, sp.n.
Figs. 17, 26, 34–35.

Holotype: ♂ (ZISP), China, Xinjiang, Narat Mt. R., right tributary of Sarytur River (right tributary of Koeksu River), SSE of Tekes Village, 2850–2900 m, 14.06.1999 (I. Belousov & I. Kabak), 42°49'30"N / 81°58'40"E.

Paratypes: 4 (4, 3) ♂♂, 3 ♀♀ (IZK, MPU, CBB, CIB, CIK, CCA), collected together with holotype. — 1 (1) ♂, 1 ♀ (CIB, CIK), same area, right tributary of Koeksu River, N of Mt. "3189", SSE of Tekes Village, 2400–2800 m, forest, 12.06.1999 (I. Belousov & I. Kabak), between 42°54'30"N / 81°58'30"E and 42°54'N / 81°58'15"E. — 2 ♀♀ (CIB, CIK), same area, cresp between Koeksu and Kshi-Kushtai rivers, Mt. "3189", SSE of Tekes Village, 3000–3100 m, forest, 13.06.1999 (I. Belousov & I. Kabak), 42°53'N / 81°58'E. — 1 (1) ♂, same area, Kshi-Kushtai River, SSE of Tekes Village, 2200–2300 m, 15.06.1999 (I. Belousov & I. Kabak), 42°52'N / 82°03'E.

13 specimens measured.

DESCRIPTION. Relatively large-sized species with wide and flattened habitus (Fig. 17), body length 19.6–24.9 mm (on the average, females larger, $x^*=23.2$ mm vs. $x^*=20.7$ mm in males). Appendages long and slender. Black, base and sides of pronotum, sometimes punctures on forehead and rarely primary foveae with metallic green and violet lustre, brighter in basal foveae of pronotum. Base of mandibles and three basal articles of antennae reddish-brown. Antennal segment 4, femorae and tibia, sometimes also palpi and tarsi, as well as margins and apex of elytra brownish-black.

Head thick, PW/HW = 1.34–1.50 (in males larger, $x^*=1.37$ vs. $x^*=1.42$ in females). Frontal foveae deep anteriorly, shallowing posteriorly, on forehead often hardly visible, reaching the level of anterior margin of eyes. Dorsal surface of head rugulose and punctate, clypeus and forehead almost smooth. Eyes subconvex, mandibles slender, slightly curved (Fig. 35). Median tooth of mentum massive, slightly rounded at apex, longer than lateral lobes. Submentum bisetose, penultimate segment of labial palpi usually with 3, sometimes 4, rarely 5 setae. Antennae long, surpassing the hind angles of pronotum by 4–4.5 distal segments; antennomere 4 pubescent apically.

Pronotum subrectangular, wide, broadest at anterior quarter, PW/PL = 1.52–1.71 (in females pronotum shorter, $x^*=1.65$ vs. $x^*=1.58$ in males). Lateral margins rounded anteriorly, distinctly sinuate in basal third, weakly narrowed, subparallel or even a little divergent before hind angles. Anterior margin concave, as wide as pronotal base, its border smoothed or distinct. Basal margin straight or slightly convex in middle. Hind angles large, subtriangularly shaped, distinctly rounded at apices, projecting backwards. Marginal bead moderately wide throughout, sides of pronotum narrowly reflexed, lateral margins notched. Basal foveae deep, narrow, reaching basal margin near hind angles; basal transverse impression distinct, subparallel to posterior margin. Anterior transverse impression from hardly visible to distinct, almost straight laterally. Disc flattened, median line fine and superficial, shortened apically and basally. Surface of pronotum roughly rugulose and punctate, sculpture on disc usually more or less smoothed. One pair of marginal setae near base and one, rarely two pairs before midlength.

Elytra wide, flattened, broadest behind midlength, EL/EW = 1.54–1.62 ($x^*=1.58$), EW/PW = 1.38–1.50 ($x^*=1.43$), EL/PL =

3.46–3.91 (in male $x^*=3.55$, in female $x^*=3.75$). Sides gradually rounded in posterior half, subrectilinear in basal third, shoulders rounded, distinctly prominent. Marginal bead narrow, sides weakly explanate. Elytral sculpture often weakly developed: striae indistinguishable; primary and secondary intervals uniformly subconvex, their foveae usually flat, indiscernible against background of elytra, rarely deeper; primary tubercles larger than secondary ones; tertiary intervals reduced. Sometimes elytral sculpture more regular, with distinct striae and well-defined tertiary intervals. Interradial intervals confused.

Sternum and abdominal sternites superficially rugulose on sides. Abdominal sternites 3–5 with 1–2 setae on each side, anal sternit with 3–4 pairs of setae along apical margin. Abdominal sulci absent.

Protarsi of male with 4 segments dilated, ventral adhesive vestiture of segment 4 complete.

Median lobe of aedeagus (Fig. 26) stout, apical lamella comparatively short. Endophallus as in other members of the subgenus *Cratocechenus* Rtt. (Fig. 34).

DIAGNOSIS. Doubtless *C. tshistjakovae* sp.n. is most closely related to *C. (Cratocechenus) akinini* Morawitz, 1886 sharing the similarly shaped aedeagus and endophallus. Within the ambit of *C. akinini*, the new species is most similar to *C. akinini* ssp. *elisabethae* Semenov, 1908 from the Zailiyskiy Alatau Mountain Range in having the elongate and flattened body and the same elytral sculpture. Nevertheless the new species is readily distinguished from all known geographic forms of *C. akinini* A. Mor. by the long and slender mandibles and small dorsolateral lobes of endophallus. It is worth noting that the new species is separated from similar *C. akinini* ssp. *elisabethae* by the mountains populated by *C. akinini* ssp. *musartianus* Gottwald, 1987 and *C. akinini* ssp. *puellus* Lapouge, 1924 which are strikingly different in the body small, robust and convex and in the elytral sculpture more developed.

DISTRIBUTION. This species was found on northern slopes of the Narat Mountain Range between the Koeksu and Kshi-Kushtai rivers, southeast of the Tekes Village (China, Xinjiang).

HABITAT. The species occurs in the *Picea* forest and alpine zones at 2200–3100 m elevations and seems to be associated with screes.

DERIVATIO NOMINIS. The new species is named after Mistress A. Tshistjakova, an elder and experienced worker of the Coleoptera department of ZISP.

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Рис. 31–37 — *Carabus* spp.: 31–34 — внутренний мешок эдеагуса, вид справа; 35 — Мандибулы; 36–37 — Вершина надкрылий самок, вид сбоку. 31 — *C. (Semnocarabus) erosus* ssp. *kuldshaensis* Ballion (голотип); 32 — *C. (Semnocarabus) tekeliensis* sp. n. из окрестностей г. Текели; 33 — *C. (Semnocarabus) bogdanowi* Ballion из долины р. Куштай; 34–35 — *C. (Cratocechenus) tshistjakovae* sp. n. из долины правого притока р. Сарытур; 36 — *C. (Ophiocarabus) obscurior* Semenov из долины р. Ассы; 37 — *C. (Ophiocarabus) ernsti* Kabak из долины к западу от р. Сарык. Сокращения: ml — медиальный бугор; pr — препуциальный бугор (=sacculus); rbl — правый базолатеральный бугор; rdll — правый дорзолатеральный бугор. Масштаб 1 мм.

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