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## On some Central Asian species of the *Gabrius astutus* group (Insecta: Coleoptera: Staphylinidae)

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### Abstract

The paper deals with some members of the *Gabrius astutus* species group, mainly from Central Asia. *Gabrius lebedevi* (BERNHAEUER, 1910), *G. kuliabensis* (BERNHAEUER, 1915), *G. aureus* DRUGMAND 1990 and *G. armeniacus* COIFFAIT, 1966 are redescribed. *Gabrius lebedevi* ssp. *tschinganus* COIFFAIT, 1970 is placed in synonymy with *G. lebedevi*, a new record is provided for *G. aureus* and a new species is described from Tadzhikistan (*G. hissaricus* sp.n.).

**Key words:** Insecta, Coleoptera, Staphylinidae, Staphylininae, Philonthina, *Gabrius*, *astutus* species group, new species, new synonymy, new record, redescription, systematics, taxonomy, faunistics.

### Zusammenfassung

Die vorliegende Studie befasst sich mit einigen zentralasiatischen Arten der *Gabrius astutus* Gruppe. *Gabrius lebedevi* (BERNHAEUER, 1910), *G. kuliabensis* (BERNHAEUER, 1915), *G. aureus* DRUGMAND 1990 und *G. armeniacus* COIFFAIT, 1966 werden redeskribiert. *Gabrius lebedevi* ssp. *tschinganus* COIFFAIT, 1970 wird mit *G. lebedevi* synonymisiert. Ein neuer Nachweis für *G. aureus* wird angegeben und eine neue Art (*G. hissaricus* sp.n., Tadzhikistan) wird beschrieben.

### Introduction

The *Gabrius astutus* species group displays the greatest diversity of all species groups so far. In Central Asia and the adjacent parts of the Pamir, Karakorum and western Himalaya occurs a group of species which, except for *G. lebedevi*, seem to be exceedingly rare and, due to their overall similarity, difficult to identify (see SCHILLHAMMER 1997: 27-29. - *G. furtivus* CAMERON, *G. martialis* CAMERON, *G. martialoides* SCHILLHAMMER and *G. hazarahensis* TRONQUET). There has been some confusion about two species described by Bernhauer, *G. lebedevi* (BERNHAEUER, 1910) and *G. kuliabensis* (BERNHAEUER, 1915). Some light is shed on this problem herein. COIFFAIT (1970) described a subspecies of *G. lebedevi*, based on a different head shape, a character which is quite variable and does not justify such a step. Thus, *G. lebedevi* ssp. *tschinganus* COIFFAIT is synonymized with the nominate species. In addition, a new record for *G. aureus* DRUGMAND, 1990 is provided as well as a redescription of the species. Finally, a new species closely related to *G. armeniacus* COIFFAIT, 1966 is described. The latter is redescribed as well although it does not belong to the Central Asian fauna.

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CKP	coll. O. Kabakov (St. Petersburg)
CKY	coll. Khnzorian, Zoological Institute, Armenian Academy of Sciences, Yerevan (M. Kalashyan)
CSB	coll. M. Schülke, Berlin
DEI	Deutsches Entomologisches Institut, Eberswalde (L. Zerche)
FMC	Field Museum of Natural History, Chicago (P. Parillo, A. Newton)
ISNB	Institute Royal des Sciences Naturelle, Bruxelles (D. Drugmand)
MHNP	Muséum national d'Histoire naturelle, Paris (N. Berti)
NMW	Naturhistorisches Museum, Wien

I am indebted to all people who provided material for this study. I am particularly thankful to A. Smetana for lively disputes on the *G. kuliabensis* matter and for reviewing the manuscript.

### *Gabrius lebedevi* (BERNHAEUER)

*Philonthus lebedevi* BERNHAUER 1910: 72

*Gabrius lebedevi* ssp. *tschinganus* COIFFAIT 1970: 145 **syn.n.**

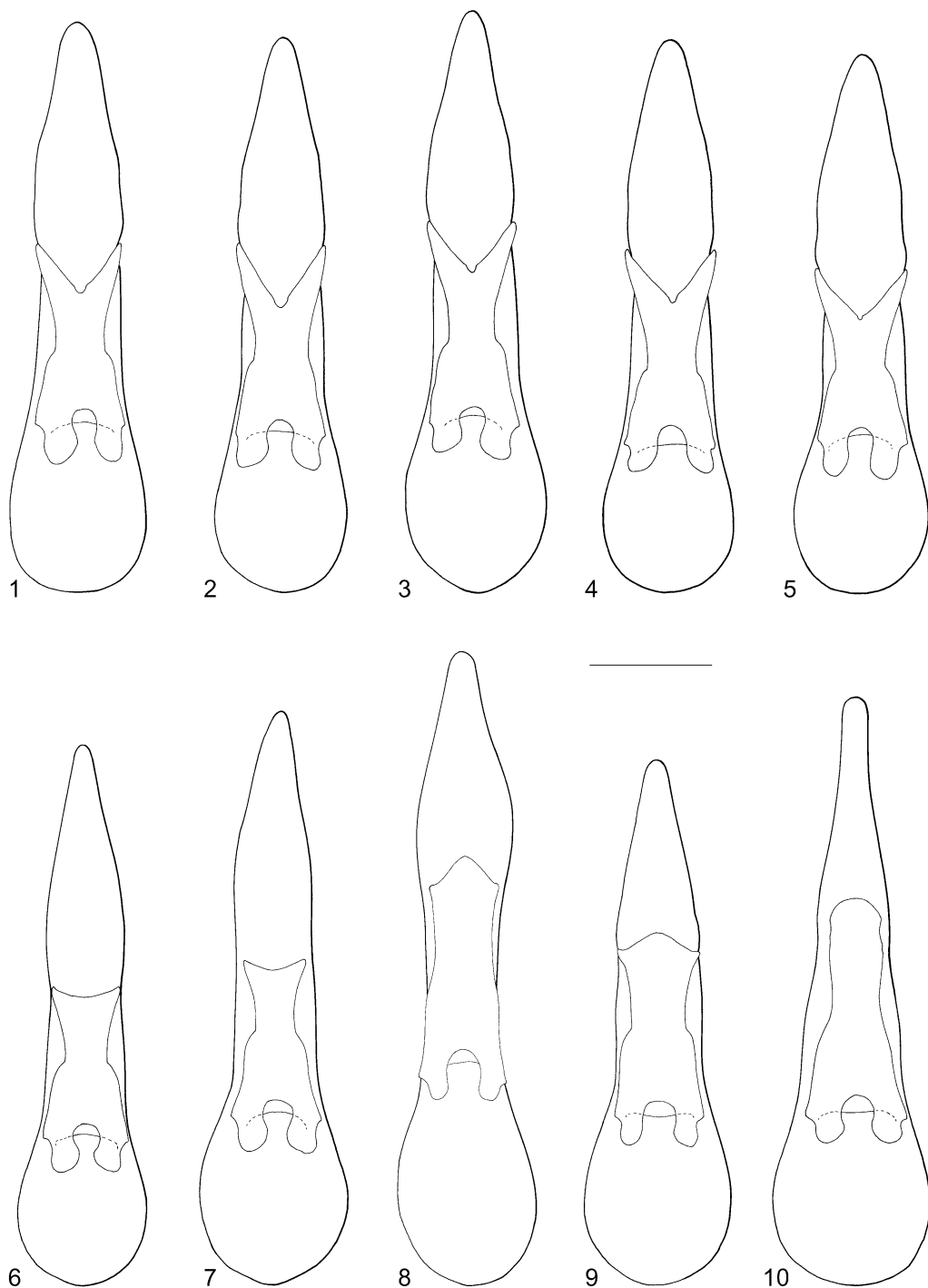
*Gabrius kuliabensis*: SMETANA, 1973: 131 (fig.), 135; COIFFAIT, 1974: 42 (fig.), 80.

**Type material:** **Holotype** ♂ (by monotypy): "A'a Tau. Syr.D. 6.08 \ A. LEBEDEV. \ Lebedevi Brh. Typus. \ Chicago NHMus M.Bernhauer Collection" (FMC).

*Gabrius lebedevi* ssp. *tschinganus* COIFFAIT: **Holotype** ♂: "Ouzbekistan, Monts Tschingan, 1500 m environ, Juillet 1968" (MHNP). – According to the original description, there are 49 paratypes, which I have not studied.

**Description:** 5.0 – 6.2 mm long (2.7 – 3.1 mm, abdomen excluded). – Black, very shining; elytra variably colored, in most specimens reddish to ferrugineous, but specimens with either black or brown elytra frequently occur; antennae black, with basal two or (rarely) three segments at least slightly lighter, dark brown to dark reddish-brown; mandibles dark reddish-brown; palpi brown to pale yellowish-brown; legs pale yellowish-brown, medial faces of hind tibiae infuscate.

Head rounded quadrangular to broadly ovoid, 1.05 – 1.11 as long as wide (sexual dimorphism not noticeable); tempora subparallel to slightly divergent, 1.46 – 1.53 (males) or 1.38 – 1.42 (females) as long as eyes; interocular depression variable, usually a shallow groove but frequently even forming a very fine sulcus; antennae with segment 4 inconspicuously oblong, segment 5 likewise or as long as wide, segments 7 – 10 weakly transverse; pronotum 1.30 – 1.34 (males) or 1.25 – 1.28 (females) as long as wide, as wide as (males) or slightly wider (females) than head, sides subparallel or slightly convergent toward base; dorsal rows each usually with six punctures (rarely with five or seven punctures unilaterally); microsculpture of head profound, composed of dense, short, transverse and oblique meshes, becoming somewhat confused and almost isodiametrical along midline of head; microsculpture of pronotum long-meshed, very fine, laterally almost obsolete in most cases; elytra finely, moderately densely punctate, pubescence golden-yellow to greyish-yellow; punctation of scutellum as dense as that on elytra but punctures slightly asperate; first three visible tergites with two basal lines, elevated area between basal lines with a single row of moderately dense punctures, row somewhat irregular on second visible tergite; remaining surface on all tergites rather finely but densely punctate, surface between punctures with very dense and distinct microstriae; posterior margin of tergite VIII subtruncate; female tergite X (Fig. 21) with slightly emarginate posterior margin, with conspicuous subapical patch of dark pigmentation.



Figs. 1 - 10: Aedeagus in ventral view of (1 - 5) *Gabrius lebedevi*; (6) *G. aureus* (holotype); (7) *G. aureus* (Tian Shan); (8) *G. armeniacus*; (9) *G. hissaricus*; (10) *G. tirolensis*. Scale bar: 0.2 mm.

Aedeagus (Figs. 1 - 5) with very variably shaped median lobe; paramere (Figs. 11 - 15) bifurcate, also very variable in furcation angle and furcation depth.

**Additional material examined:**

UZBEKISTAN: "Usbekistan Tienschan Mt. Tschingan b. Taschkent 2500 m 12.VII.1984 leg. Wrase" (CSB); "Usbekistan Tienschan Aktasch b. Taschkent 2000 m 13.VII.1984 leg. Wrase" (CSB); "SU-Uzbekistan 1989 Fergana/Chamsaabad (Schachimardan) leg. H. Rietzsch 14.7." (CSB); similar data but "leg. Wrase" (CSB).

KYRGYZSTAN: "SW Kyrgyzstan, 1992 S Chatkal ridge, 2300 m Terek-Say, J. Kalab leg. 4.-10.5." (NMW).

TADZHIKISTAN: "SU: Tads.: Pamir: Muksu-Gebiet b. Kishlak Kandou, \ 2800 m, VII.1990, leg. Schmidt" (DEI); same locality data, but "VIII.1989" (DEI, NMW); "Asia centr. Tadsch. Dschirgatali Raj. Sukran-Schlucht, 2590 m \ Burs-Gletscher-Fuß VIII.1989 leg. Schmidt" (DEI, NMW); "Turkestan Mts. Ghissar F. Hauser 1898" (NMW); "Mts. Karateghin Sary-pul 1482 m f. Hauser 1898" (NMW); "Mts. Karateghin Baldschuan 924 m F. Hauser 1898" (NMW); "Asia cent. Dushanbe Tad. Warsob-Tal \ Hissar Geb. 2000-2500 m 19.VII.1984 leg. Behne" (DEI, CSB, NMW); similar data but "leg. Wrase" (CSB); "USSR Asia centr. Tadjikistan Pamir-Alai, Hissar Mts. \ Adshuk-cleft near Warsob 1200 m, 1.-3.VII.1990 leg. Schülke & Wrase" (CSB); "USSR Asia centr. Tadjikistan Pamir-Alai, Hissar Mts. \ Warsob Valley, 1800 m Snowfieldedge at km 55 28.VI.1990 Schülke/Wrase" (CSB); "USSR Asia centr. Tadjikistan Pamir-Alai, Hissar Mts. \ Ansob-Pass 3200 – 3600 m, 5.-9.VII.1990 leg. Schülke & Wrase" (CSB); "Tadjikistan: 23.4.1992 Hissar range, N-slope riv. Sarymay leg. V. Grebennikov" (NMW); "Tadjikistan Romit-Schlucht b. Duschambe 18.VII.1984 leg. Wrase" (CSB); "Tadjikistan 1989 W-Serawschan-Geb. Safron 2000 – 2300 m 22.VII. Müller-M." (DEI); "USSR Asia centr. Tadjikistan Pamir-Alai, Servshan Mts. \ Zavron Valley [see also "Safron" of preceding locality] 2100 – 3000 m, 12./13.VII. 1990 leg. Schülke & Wrase" (CSB, NMW).

AFGHANISTAN: "Afghanistan, Baghlan, SW Banu, 2000 m, 6.VIII.1972, leg. Kabakov" (CKP); "Afghanistan, Baghlan, SE Khenjan, 2500 m, 7.VIII.1972, leg. Kabakov" (CKP); "Afghanistan, Baghlan, Banu, 1600 m, 14.VIII.1972, leg. Kabakov" (CKP).

**Distribution:** The species is at present known from the mountainous areas of Uzbekistan, Kyrgyzstan, Tadjikistan and Afghanistan.

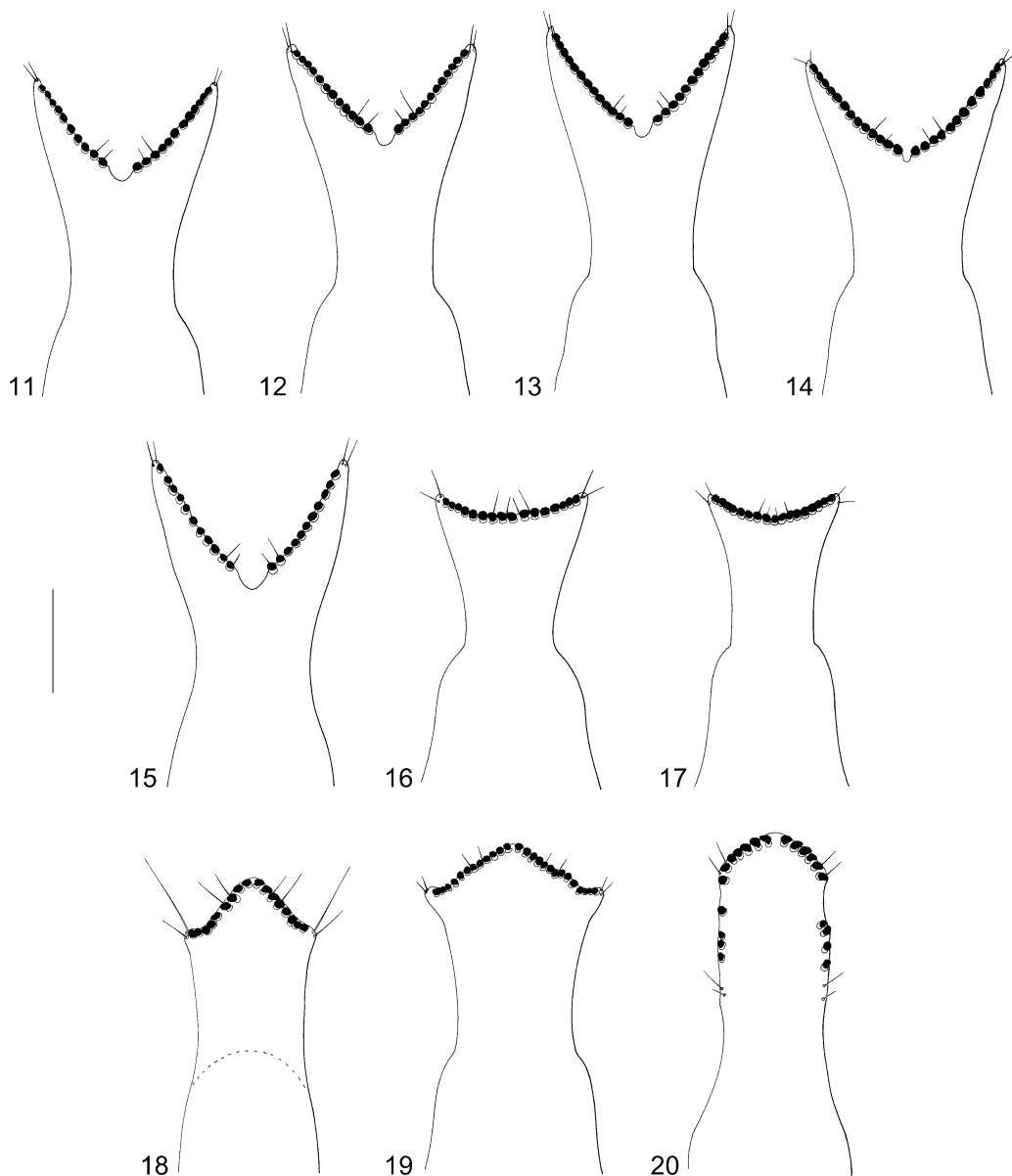
***Gabrius kuliabensis* (BERNHAEUER)**

*Philonthus kuliabensis* BERNHAUER 1915: 71

**Type material:** **Holotype** ♀ (by monotypy): "PROV. KULIAB Ak-sou-Thal F.Hauser 1898 \ Kuliabensis Brh. Typ. unic. \ Kuliabensis Bernh. Typus unic. \ Chicago NHMus M.Bernhauer Collection" (FMC).

**Description:** 5.7 mm long (2.8 mm, abdomen excluded). – Black to black-brown, shining; head black with clypeus dark reddish-brown, mandibles dark reddish-testaceous, palpi pale reddish-yellow, antennae dark reddish-brown with basal two segments and proximal half of segment 3 pale reddish-yellow; elytra yellowish-brown with darker base; abdominal tergites dark brown to black-brown, posterior margins obscurely reddish-brown; legs pale yellowish-brown with slightly darker tibiae.

Head rounded quadrangular, 1.04 as long as wide; tempora parallel for about half length behind eyes, 1.76 as long as very small eyes, broadly rounded toward base of head; frons with rather wide but shallow depression between eyes; antennae with segments 4 and 5 moderately oblong, segments 6 and 7 about as long as wide, segments 8 – 10 slightly transverse; pronotum long and slender, 1.38 as long as wide, about as wide as head, widest at level of large lateral seta, weakly narrowed toward base in shallow concave arc; dorsal rows with 6 (left) and 5 (right; third puncture missing) punctures; head with dense and profound microsculpture of long transverse meshes, meshes becoming shorter and more confused toward midline; microsculpture of pronotum slightly finer than on



Figs. 11 - 20: Apical portion of paramere of (11 - 15) *Gabrius lebedevi*; (16) *G. aureus* (holotype); (17) *G. aureus* (Tian Shan); (18) *G. armeniacus*; (19) *G. hissaricus*; (20) *G. tirolensis*. Scale bar: 0.1 mm.

head but quite as dense; elytra along sides slightly longer than pronotum, moderately densely punctate, pubescence yellowish, darker at base of elytra; scutellum finely and sparingly punctate; first three visible tergites with two basal lines, elevated area between them with a row of numerous but fine punctures, identical on all three tergites; remaining

surface on all tergites rather densely punctate; posterior margin of female tergite VIII markedly truncate; female tergite X (Fig. 22) conspicuously differing from that of *G. lebedevi*, weakly pigmented, posterior margin with deeper medio-apical emargination.

Male unknown.

**Additional material examined:**

I have studied three females which match the type specimen very closely (female tergite X: Fig. 23), but a positive identification has to wait until at least one male specimen from the closer vicinity of the type locality becomes available. Label data: "SU: Tads.: Pamir: Muksu Gebiet, b. Kishlak Kandou, \ 2800m, VII.1990 leg. Schmidt" (DEI).

**Distribution:** The species is with certainty known only from the type locality in south-eastern Tadjikistan.

**Comments:** The species has been repeatedly confused with *G. lebedevi*, from which it differs clearly by the much smaller eyes and the distinctly longer pronotum. The shape and pigmentation of the female tergite X somehow resembles that of *G. tirolensis* LUZE, 1903 (Fig. 24), which also occurs in Central Asia (aedeagus: Figs. 10, 20). This fact influenced one of my previous tentative speculations, the type specimen of *G. kuliabensis* might be a very small female of *G. tirolensis*, from which, however, it differs by the distinctly less oblong head and the more slender pronotum. Since C-Asia and the areas influenced by the western portion of the Himalaya (NE-Afghanistan, N-Pakistan, NW-India) seem to be a hotspot for species of this lineage (with additional new species to be expected), no further attempt for an interpretation has been taken. Consequently, *G. kuliabensis* remains the only Palearctic *Gabrius* species of which the male is not yet known.

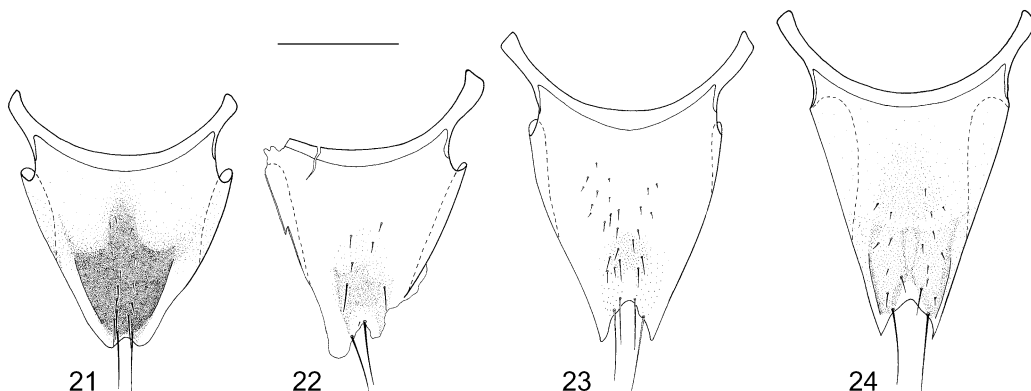
### *Gabrius aureus* DRUGMAND

*Gabrius aureus* DRUGMAND 1990: 209

**Type material:** **Holotype** ♂ (by monotypy): "Turkmenistan Repetek 8-10.V.1952 \ Holotype \ D.Drugmand det. 1987 *Gabrius aureus* n.sp." (ISNB).

**Description:** 5.6 – 5.7 mm long (2.7 – 2.9 mm, abdomen excluded). – Black, shining; elytra reddish-testaceous; abdominal tergites dark brown to dark reddish-brown, posterior margins paler reddish-brown; antennae dark brown with basal three segments reddish; legs pale reddish-brown, palpi pale yellowish-brown. The holotype is generally paler due to slightly faded colors.

Head rounded rectangular (holotype) to subquadrate, 1.08 – 1.15 as long as wide; tempora inconspicuously convergent (holotype) to parallel, 1.58 (holotype) – 1.81 as long as eyes; antennae with segments 4 and 5 about as long as wide, segments 8 – 10 weakly transverse; pronotum subparallel-sided, inconspicuously narrowed toward base, 1.31 – 1.33 as long as wide, dorsal rows each with six moderately impressed punctures; head and pronotum with dense and distinct microsculpture of transverse meshes, meshes becoming shorter medially on head, almost obsolete medially on pronotum; elytra along suture (from basal line of scutellum to sutural angle) slightly longer than pronotum, rather densely punctate, punctures separated in transverse direction by 1 – 2 puncture diameters; pubescence greyish-golden; first three visible abdominal tergites with two basal lines, elevated area between basal lines moderately densely punctate, with a very sparse transverse row on first visible tergite; remaining surface of all tergites rather densely, uni-



Figs. 21 - 24: Female tergite X of (21) *Gabrius lebedevi*; (22) *G. kuliabensis* (holotype); (23) *G. cf. kuliabensis*; (24) *G. tirolensis*. Scale bar: 0.2 mm.

formly punctate, with dense microstriae between punctures; male tergite VIII with subtruncate posterior margin; male sternite VIII with rather deep and narrow medio-apical emargination, posterior margin with dense row of rather long setae, semi-membranous extension weakly developed, confined to very base of emargination.

Aedeagus (Figs. 6, 7) with almost flame-shaped apical portion of median lobe; paramere (Figs. 16, 17 distinctly widened toward apex, as wide as or slightly narrower than median lobe, apical margin shallowly concave, furnished with dense row of peg setae.

Female unknown.

**Remark:** The two specimens differ slightly in the shape of the head, the ratio of eyes and tempora and in the shape of the aedeagus. However, these characters may to some extent be explained by intraspecific variability. The differences are not pronounced enough to describe a distinct species, although members of this lineage usually have a rather restricted distribution. Until more material becomes available I will treat both specimens as conspecific.

**Additional material examined:**

1 ♂: "USSR, Kirghizia Tian shan Mts., 3500m Terskej Alatau Ridge \ 30km SW of Przhevalsk Jeti Oguz, 13.-19.7.1991, Petr Cechovský lgt." (NMW).

**Distribution:** The species is at present known from two rather widely separated places in Turkmenistan and Kyrgyzstan.

### *Gabrius armeniacus* COIFFAIT

*Gabrius armeniacus* COIFFAIT 1966: 506

**Type material:** **Holotype** ♂ (by monotypy): "Yerevan Arabkir ASSR-15-4-51 \ HOLOTYPE \ *Gabrius armeniacus* Coiff. H. Coiffait det. 1966" (CKY).

**Description:** 6 mm long (2.9 mm, abdomen excluded). – Black to dark brown; pronotum dark reddish-brown; elytra reddish-testaceous, somewhat darker basally; abdominal tergites dark reddish-brown with posterior margins markedly paler; antennae reddish brown,

gradually becoming somewhat paler distally, middle segments inconspicuously darkened; legs entirely reddish-yellow; palpi yellowish. The color of the body might be different in fresh material, the colors of the holotype seem to have slightly faded.

Head subquadrate, 1.08 as long as wide, tempora subparallel, 1.46 as long as eyes; antennae moderately long, segments 4 and 5 weakly oblong, segments 6 and 7 about as long as wide, segments 8 – 10 inconspicuously transverse; pronotum 1.32 as long as wide, sides weakly sinuately narrowed toward base; dorsal rows each with five punctures, arrangement of punctures slightly asymmetrical; head and pronotum with very strong and dense, transverse (medially) and oblique (laterally), long-meshed microsculpture; elytra distinctly widened toward apex, along suture (from basal line of scutellum to sutural angle) about as long as pronotum; punctation rather dense, punctures separated by 1.5 – 2 puncture diameters; pubescence greyish-yellow; scutellum finely and sparingly punctate; abdominal tergites finely and rather densely, almost uniformly punctate and pubescent; first three visible tergites with two basal lines, elevated are between basal lines finely but densely punctate; male tergite VIII with posterior margin slightly produced medially, subtruncate; male sternite VIII with shallow medio-apical emargination, with weakly developed semi-membranous extension; male sternite IX of typical "*astutus* group" shape.

Aedeagus (Fig. 8) with flame-shaped apical portion of median lobe, apex rather obtusely pointed; paramere (Fig. 18) weakly widened subapically, narrower than median lobe, distinctly produced medio-apically, peg setae densely arranged along apical margin; medial seta of lateral pair of setae very long. **Remark:** The aedeagus was in a rather bad state – the top of the median lobe was almost broken off. The illustration shows the best possible reconstruction.

Female unknown.

**Distribution:** The species is at present known only from the type locality.

### *Gabrius hissaricus* sp.n.

**Holotype** ♂: "USSR Asia cent. Tadzhikistan Pamir-Alai Hissar Mts. \ Warsob Valley, 1800m Snowfieldedge at km 55 28.VI.1990 Schülke/Wrase" (CSB).

**Description:** 6.3 mm long (3.0 mm long, abdomen excluded). – The species is very similar to *G. armeniacus* in all respects but differs as follows: head less angulate, parallel portion of tempora shorter, hind angles more widely convex, eyes smaller, tempora 1.82 as long as eyes; pronotum 1.29 as long as wide, less parallel-sided, more distinctly narrowed toward base in almost straight line; dorsal rows with 6 (left) and 5 (right), more strongly impressed punctures; microsculpture of head and pronotum as dense as that of *G. armeniacus* but somewhat finer; punctation of abdominal tergites less dense, fourth visible tergite with fine rudiment of second basal line; posterior margin of male tergite VIII almost evenly convex.

Aedeagus (Fig. 9) similar to that of *G. armeniacus* but apical portion of median lobe shorter, narrowed toward apex in almost straight line; paramere (Fig. 19) distinctly widened subapically, as wide as median lobe, peg setae more numerous, both setae of lateral pair of setae of equal length.

Female unknown.

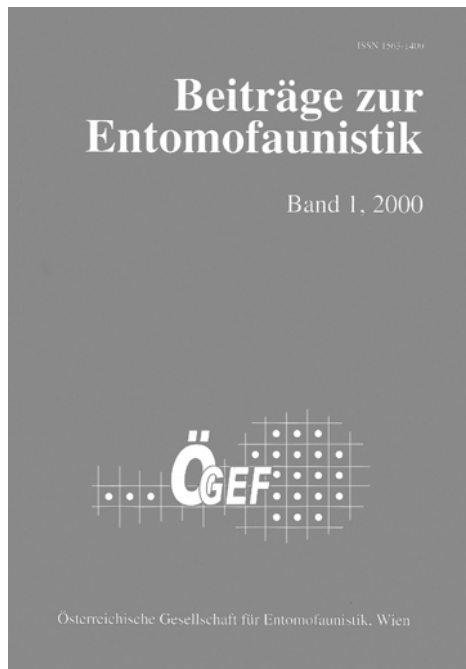


**Distribution:** The species is at present known only from the type locality.

**Etymology:** The species is named after the type locality.

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