

## Notes on the genus *Grouvellinus* CHAMPION (Elmidae, Coleoptera)

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### Abstract

A lectotype is designated for *Grouvellinus caucasicus* MOTSCH. *Grouvellinus coyei* ALLARD is a synonym of *G. caucasicus* and *G. arius* JANSSENS is a synonym of *G. rioloides* REITTER. *Grouvellinus caucasicus* and *G. rioloides* are very closely related, they can only be distinguished by the parameres. The aedeagus of *G. rioloides* is very variable.

A number of problems concerning some Palaearctic species of the genus *Grouvellinus* CHAMPION (*caucasicus* MOTSCHULSKY, *arius* JANSSENS, *rioloides* REITTER, *coyei* ALLARD) were unsolved until today. Only recently I was able to study several types and a variety of specimens from different localities in Central Asia.

### Acknowledgement and Abbreviations

The material used for this study was borrowed from the following institutions and private collections (abbreviations are used to refer to collections in the text):

ISNB Institut National des Sciences Naturelles, Bruxelles (L. Baert)	ZIL Zoological Institute (Academy of Sciences), Leningrad (A. Kirejtshuk)
NMW Naturhistorisches Museum, Wien	ZML Zoological Museum, Lund (R. Danielsson)
TMB Természettudományi Múzeum, Budapest (O. Merkl, G. Szél)	ZMM Zoological Museum, Moscow (N. Nikitsky)

My sincere thanks are due to all persons mentioned above for sending material and valuable informations. I warmly thank Dr. P. Cate for reading the manuscript.

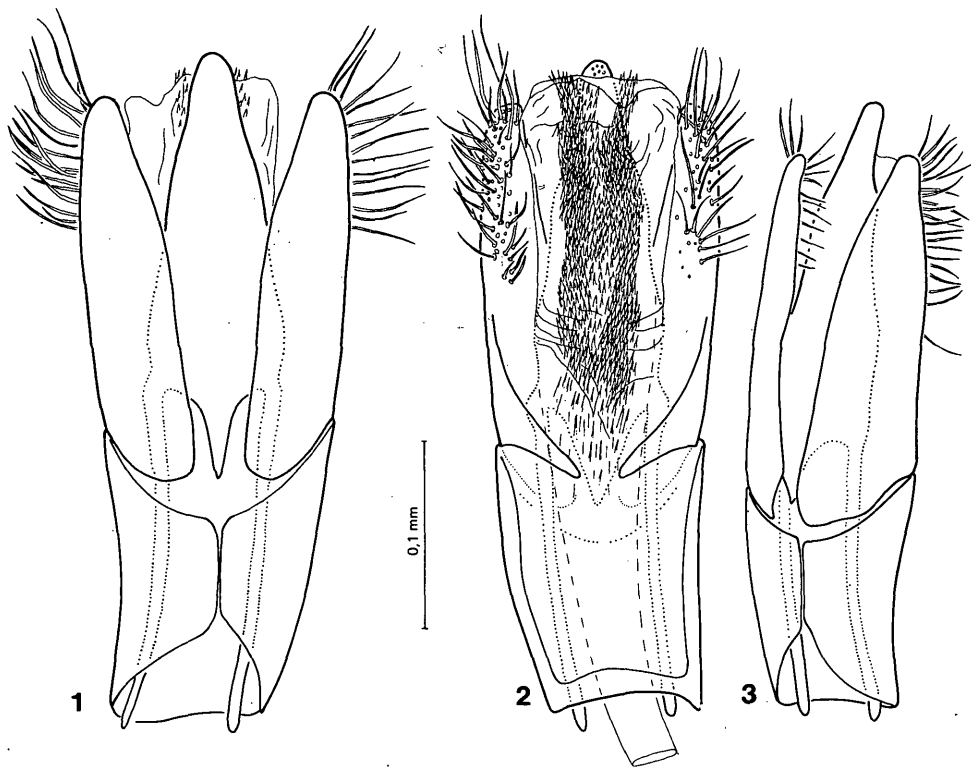
### *Grouvellinus caucasicus* (MOTSCHULSKY)

*Grouvellinus caucasicus* MOTSCHULSKY, 1839: 70 (described as *Macronychus*). – JÄCH, 1984, 1984a. *Grouvellinus coyei* ALLARD, 1869: 466 (described as *Elmis*) – DELEVE, 1967. – JÄCH, 1984a. – MOUBAYED, 1983. (= syn. nov.).

Type locality: "Abas-Touman". I could not find this locality. It can be either in Armenia or in northeastern Turkey.

Type material: Lectotype ♂ (present design.): "1778 / Abas-Tuman / *Grouvelleus caucasicus* Motsch. / *Microdes caucasicus* Motsch. Armenia Abs. Tum", deposited in the ZMM. Number of syntypes unknown.

Synonyms: The types of *G. coyei* were examined by DELEVE (1967). There is no doubt that it is a synonym of *Grouvellinus caucasicus*.



Figs.1-3: Aedeagus of *Grouvellinus caucasicus*: Dorsal (1), ventral (2) and dorso-lateral (3) aspect.

Diagnosis: Externally this species is very similar to *G. rioloides* REITTER, from which it can hardly be distinguished without dissection of the aedeagus. Generally its surface is less smooth. Other characters (body shape, convexity of the third and fifth elytral interval, pronotal keels, shape of the penis, length of the ventral sac, denticulation of the ejaculatory duct) are very variable in both species. The only reliable and constant distinguishing feature is the shape of the parameres (see figs.3, 11). The parameres of *caucasicus* are short and wide, they are long and comparatively slender in *rioloides*. The denticulation of the ejaculatory duct is strongly developed and usually quite constant in *caucasicus*.

Distribution: Greece (Samos), Turkey, USSR (Armenia), western Iran, Iraq, Syria, Lebanon, northern Israel.

### *Grouvellinus rioloides* (REITTER)

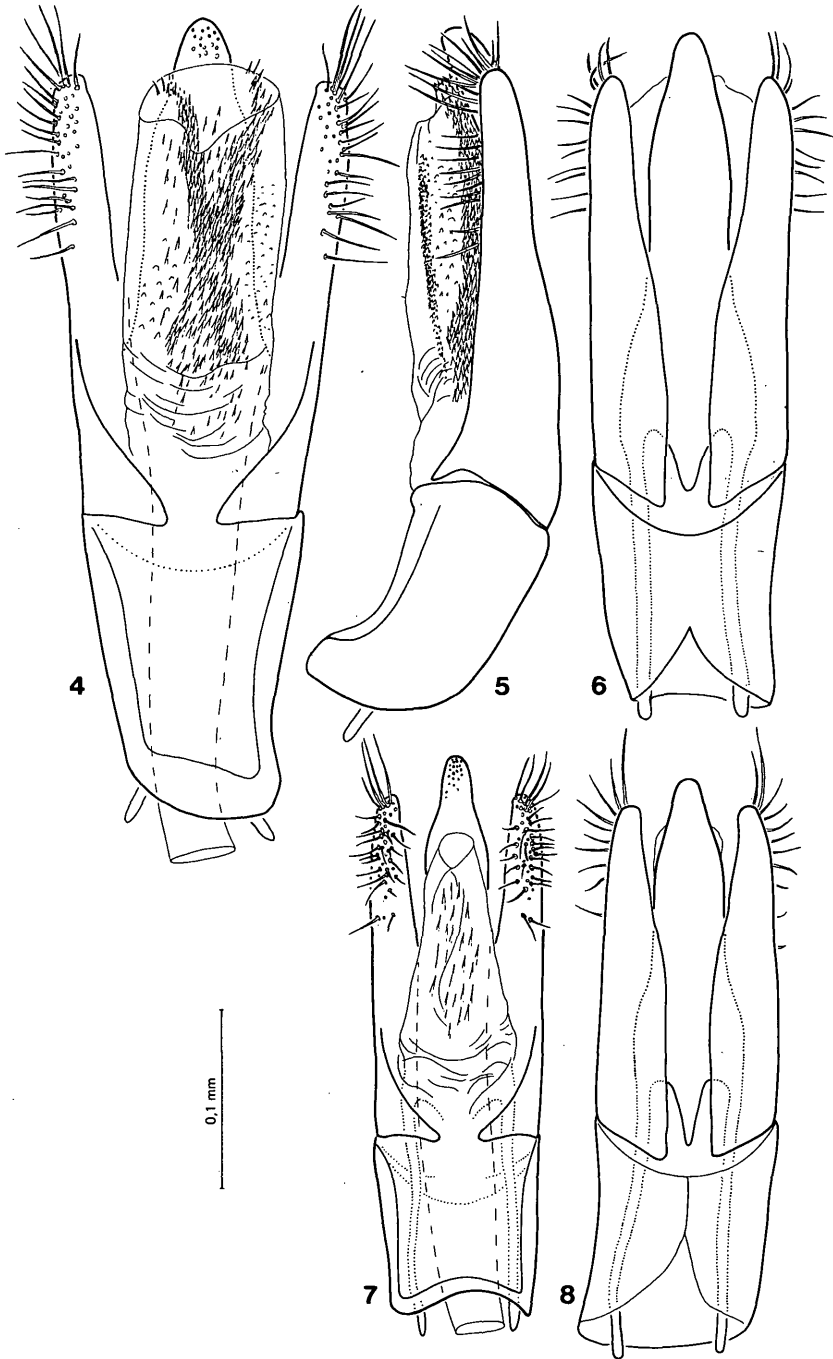
*Grouvellinus rioloides* REITTER, 1887: 259 (described as *Macronychus*). – JÄCH, 1984.

*Grouvellinus rioloides* var. *flavibasis* REITTER, 1887: 260. – JÄCH, 1984.

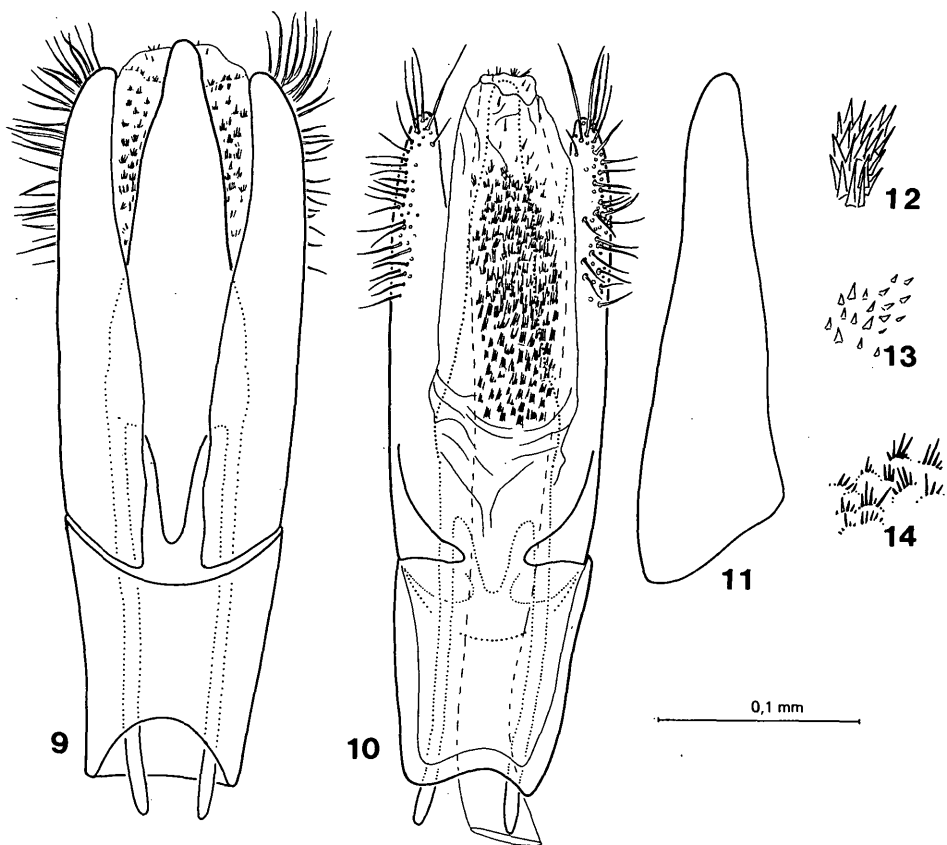
*Grouvellinus arius* JANSSENS, 1959: 3 (described as *Macronychus*). – JANSSENS, 1961. – JÄCH, 1984. (= syn. nov.)

Type locality: Tamga river, Dzshambul, Kazakhstan, Soviet Union.

Type material: Lectotype ♂: „Turkestan, Aulie Fluß Tanga leg. König“ and 4 paralectotypes are deposited in the TMB. One male paralectotype is housed in the NMW. Number of syntypes unknown.



Figs.4-8: Aedeagus of *Grouvellinus rioloides* from (4) Kazakhstan, Dzhambul (ventral aspect), (5) Kirgizia, Issyk-Kul (lateral aspect), (6) Uzbekistan, Pskem (dorsal aspect), (7, 8) Kazakhstan, Dzhambul (dorsal and ventral aspect, paratype).



Figs. 9-14: Aedeagus of *Grouvellinus rioloides*: Dorsal (9) and ventral (10) view (Afghanistan, Do-Shak); (11) dorso-lateral view of paramere (Uzbekistan, Pskem); different spines of ejaculatory duct: (12, 13) Kirgizia, Issyk-Kul and (14) Afghanistan (different localities).

Synonyms: One female paralectotype of *rioloides* is labeled: "flavibasis m Aulie Turkest". This specimen has brown elytra, but it certainly belongs to the same species.

As usual with species described by JANSSENS, much confusion exists about the type-material of *Grouvellinus arius*. In the original description he mentions 6 specimens: "1 ex. comme *Ochthebius caucasicus* (voir plus haut, 1°) [ . . . Doab (Hindou-Kouch), alt. 1.450 m, . . . ]" and "5 ex. (dont le type) de Bend-Amir (Hézaradjat, à l'est de Bamian), alt. 3.190 m, au bord du lac Bend-Ghambar." Inquiries at the ISNB and the ZML revealed 6 specimens from at least 3 different localities: 1♂ + 1♀ (ZML) and 1♂ + 1♀ (ISNB) from the type locality; 1♀ (ZML) from the second locality (Doab) mentioned in the description and 1♂ (ZML): "Qal'éh Chaharak (Hézaradjat) 200 km E. de Hérat. 20. VIII. 1957. Alt. 2360 m.", which also carries a type label. As I have seen only 4 (instead of 5) specimens from the type-locality I cannot decide which specimen JANSSENS intended to designate as holotype. The microscopic slide of the aedeagus of the single male from the ISNB is probably lost (L. BAERT, pers. comm.). I could see only one microscopic slide ("Afghanistan Lindberg A.334 Pr. no 2411586 *Macronychus arius* Em. Janssens"; ZML), which might belong to one of the types. Unfortunately the number 2411586 does not appear on any of the types from the ISNB and ZML, but the second male from the type

locality (ZML) carries a small handwritten label saying "A 334". The other specimens from the ZML have similar labels, but with different numbers. This aedeagus seems to have been depicted in the original description (JANSSENS, 1959), as it is prepared in dorsal view, just like the one in the original description. It agrees very well with the aedeagus of the lectotype of *G. rioloides* as the ejaculatory duct lacks any denticules. The apical hairs on the penis, which are shown in the original description, are the pleats of the ventral sac.

Diagnosis: This species is very similar to *G. caucasicus*, from which it differs only by the shape of the parameres, which are always long and slender. The shape of the penis, the length of the ventral sac and especially the denticulation of the ductus ejaculatorius are very variable. These denticules may be more or less reduced (type specimens of *rioloides* and *arius*), they may consist of composed spinules (several specimens from Afghanistan) or they may be very well developed and strong (Kazakhstan, Usbekistan, Kirgizia). More material must be examined to find out if these differences are of any taxonomic value.

#### Additional material:

Afghanistan: Behsud, w Kabul, 3000 m, 10. VII. 1971, leg. Kabakov (ZIL, NMW); Upper Helmand river, 3000 m, 9. VIII. 1971, leg. Kabakov (ZIL); Pagman Mts, 2400 m, 6. VII. 1952, leg. Klapperich (TMB, NMW); Do-Shak, 2500 m, Khinjantal, 1. X. 1952, leg. Klapperich (TMB, NMW); Badakshan, Shiva plain, 2800 m, 12. VII. 1953, leg. Klapperich (TMB, NMW); Mazanah, 2100 m, 13. V. 1959, leg. K. Lindberg (ISNB).

Soviet Union: Uzbekistan: Pskem river, Ogalo Cay, 9. VIII. 1953, leg. Sibirtzeva (ZIL, NMW); Kazakhstan: Ugam river nr Khumsan, 31. VII. 1954 and 9. VIII. 1954, leg. Sibirtzeva (ZIL); Kirgizia: Kara-su, Issyk Kul, 5. VIII. 1928, leg. Lindberg (ZIL).

Distribution: Afghanistan, USSR (Kazakhstan, Kirgizia, Uzbekistan).

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Band/Volume: [42](#)

Autor(en)/Author(s): Jäch Manfred A.

Artikel/Article: [Notes on the genus Grouvellinus Champion \(Elmidae, Coleoptera\). 39-43](#)