

Synopsis of the genus *Micragasma* SAHLBERG, 1900 (Insecta: Coleoptera: Hydraenidae)

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Abstract

The genus *Micragasma* SAHLBERG, 1900, is reviewed. *Ochthebius substrigosus* REITTER, 1897, is transferred to *Micragasma*.

Key words: Coleoptera, Hydraenidae, *Micragasma*, taxonomy, new combination.

Zusammenfassung

Die Gattung *Micragasma* SAHLBERG, 1900, wird revidiert. *Ochthebius substrigosus* REITTER, 1897, wird zu *Micragasma* transferiert.

Introduction

The genus *Micragasma* SAHLBERG, 1900, is one of the least known and one of the rarest genera of Hydraenidae. HANSEN (1991) provided a brief redescription of the genus. In the present paper, additional diagnostic characters are described for the genus *Micragasma*, and one species is transferred to *Micragasma* from *Ochthebius* LEACH, 1815.

Acknowledgements and Acronyms

The material used for this study is deposited in the following institutions (in the text abbreviations are used to refer to collections):

- DEI Deutsches Entomologisches Institut, Eberswalde (L. Zerche)
- HUB Museum der Alexander Humboldt Universität, Berlin (F. Hieke)
- MHNP Muséum national d'Histoire naturelle, Paris (Y. Cambefort)
- MNS Staatliches Museum für Naturkunde, Stuttgart (W. Schawaller)
- NMW Naturhistorisches Museum, Wien
- TMB Természettudományi Múzeum, Budapest [= Hungarian Natural History Museum] (O. Merkl, G. Szél)
- ZIL Zoological Institute (Academy of Sciences), St. Petersburg (Leningrad) (A. Kirejtshuk)
- ZMH Eläinmuseo (Zoologiska museet), Helsinki (O. Biström, H. Silfverberg)

My sincere thanks are due to all curators named above for the loan of material. I am indebted to J. Kodada for the habitus illustration. I am grateful to F. Angelini for the gift of three specimens of *Micragasma paradoxum* SAHLBERG from Italy. I wish to thank M.J.D. Brendell and R.T. Thompson for their kind suggestions concerning the manuscript.

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***Micragasma* SAHLBERG**

Micragasma SAHLBERG, 1900: 201. - KNISCH 1924. - SILFVERBERG 1987. - HANSEN 1991. - FERRO & al. 1996.

Micragasma ZAITZEV, 1908: 336 (unjustified emendation).

Type species: *Micragasma paradoxum* SAHLBERG, by monotypy.

Diagnosis: The genus *Micragasma* is characterized by the combination of the following characters: 1) Labrum strongly deflexed, more or less vertical, transverse; 2) clypeus becoming wider posteriorly; 3) frons widely explanate, with a distinct median gibbosity; 4) clypeus and frons moderately densely covered with small, setiferous tubercles; 5) eyes, viewed from above, small, protruding; separated by 5 - 6 times eye diameter; viewed from below, elongate; 6) antennae as described below for *M. paradoxum*; 7) lateral margins of pronotum widely explanate, subparallel, more or less abruptly constricted near basal 0.3; lateral angle of excision acute; 8) pronotal disc convex, groove and at least posterior foveae well impressed; 9) elytra with 10 rows of punctures; 10) hypomera with antennal grooves; 11) metasternum entirely pubescent, short, approximately as long as or slightly longer than mesosternum; 12) ventrites I - V pubescent; 13) legs rather short; tarsi about 0.5 times as long as width of frons between eyes; 14) aedeagus (Figs. 2 - 3): main piece with subapical setae; parameres symmetrical, inserted near phallobase, setiferous apically, not separated from main piece.

Distribution: So far known only from Italy, Greece and Azerbaydzhan. The Indian species mentioned by FERRO & al. (1996, p. 3: "Jäch, in litteris, 1995") belong in fact to *Aulacochthebius* KUWERT, 1887, or an undescribed, closely related (sub)genus.

***Micragasma paradoxum* SAHLBERG**

Micragasma paradoxum SAHLBERG, 1900: 201. - SAHLBERG 1903. - KNISCH 1924. - SILFVERBERG 1987. - HANSEN 1991. - FERRO & al. 1996.

Micragasma paradoxum: ZAITZEV 1908.

Type locality: Corfu, western Greece.

Material examined:

Lectotype: ♂, by present designation (NMW): "Corfu \ J.Sahlb. \ Spec.typ. \ 203 \ *Micragasma paradoxum* J.Sahlb". **paralectotypes:** 32 exs. deposited in the following collections: NMW (6 exs.), MHNP (6 exs.), MNS (1 ex.), HUB (4 exs.), TMB (5 exs.), ZIL (1 ex.), DEI (4 exs.) and ZMH (5 exs.).

Additional material: Italy: 3 exs., Taranto: Circummarpiccolo, II.1995, leg. Angelini (NMW).

Description: 1.40 - 1.55 mm long. **Habitus:** Fig. 1. Coloration brown to dark brown, appendages usually paler brown.

Labrum vertical, or even bent backwards, transverse; anterior margin not excised; surface sparsely covered with small granules, interstices more or less glabrous. Clypeus moderately densely covered with setiferous tubercles; interstices glabrous; anterior margin evenly arched, medially deflexed, laterally produced; fronto-clypeal suture gently bisinuous, moderately deeply impressed. Dorsal surface of frons moderately densely covered with setiferous tubercles; interstices glabrous; lateral margins of frons widely explanate in front of eyes and produced; middle of frons strongly gibbous; interocular foveae shallow; ocelli absent. Eyes, viewed from above, small, protruding; separated by

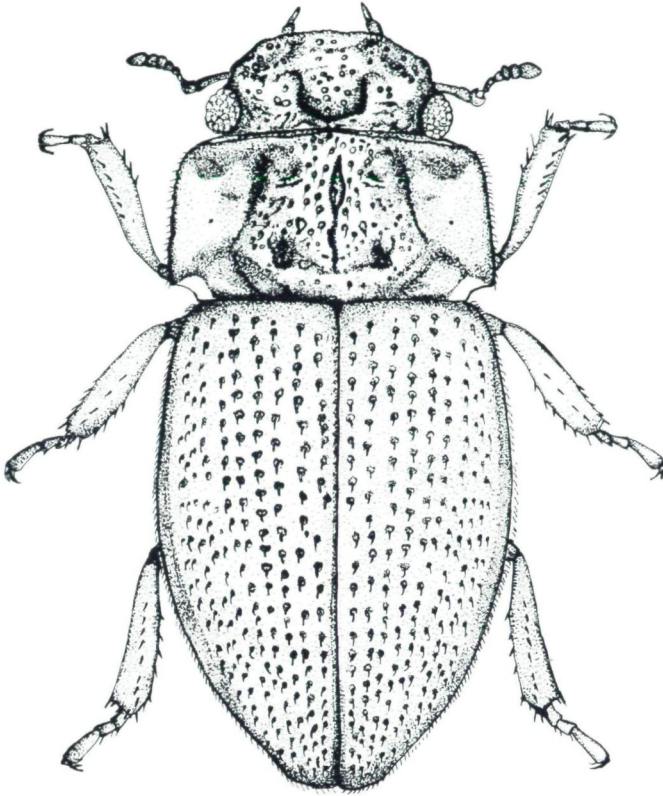


Fig. 1: *Micragasma paradoxum*, habitus.

6 times eye diameter; in ventral view, eyes oblique, elongate, surrounded by a sharply defined ridge. Antennae: segment 2 short, subglobose; segment 3 short, ca. 0.5 times as long as segment 2; segment 4 (cupule) very small, not strongly asymmetrical; segment 5 slightly longer than segment 6; segments 6 - 8 very short and distinctly asymmetrical; segment 9 large and globose (Fig. 4). Last segment of labial palpi rather long and slender, ca. 0.8 times as long as penultimate one.

Pronotum very wide, ca. 1.5 times as wide as long; lateral margins widely explanate, slightly deflexed, subparallel, abruptly excised near basal 0.3 (excision more or less semicircular, thus its anterior angle acute); pronotal disc and lateral rim of explanate margins moderately densely covered with small, setiferous tubercles, interstices smooth. Pronotal disc very strongly convex (in cross section); median groove deeply impressed and moderately wide near anterior and posterior 0.3, but only superficially impressed near posterior 0.4, effaced before anterior and posterior pronotal margin; anterior discal fovea shallowly impressed or more or less effaced; posterior discal fovea elongate, oblique, shallowly or deeply impressed, its margins not sharply defined. Postocular tooth absent. Pronotal membrane narrowly bordering anterior and posterior margin, and covering postero-lateral excision.

Elytra elongate, strongly convex in cross section, acuminate apically; with 10 distinct rows of punctures; all rows more or less straight; scutellary stria absent; punctures rather distinctly impressed, small, setiferous; intervals more or less flat, glabrous. Lateral margins only moderately widely explanate, effaced near posterior 0.3; lateral rim with a fringe of densely arranged, short setae.

Antennal grooves of hypomera comparatively short, effaced near middle; strongly widening anteriorly (for reception of eyes); secondary external ridge (sensu BEUTEL & JÄCH 1995) demarcated by a membrane. Metasternum entirely pubescent, short, approximately as long as mesosternum; metasternal disc somewhat flattened. Epipleura relatively wide anteriorly, progressively tapering towards apex, effaced near apical 0.13; pubescence confined to narrow antero-medial strip.

Ventrites I - V pubescent; ventrites VI and VII glabrous. Apical margin of last abdominal tergite of female with a fringe of stiff bristles.

Legs rather short; tarsi about 0.5 times as long as width of frons between eyes.

Aedeagus (Fig. 2): Main piece short, stout, strongly curved (lateral view); with a group of short, subapical setae; phallobase asymmetrical, hiatus very narrow; distal lobe very long, moderately wide, slightly sinuous; parameres very short, stout, symmetrical, with some short, apical setae.

Variation: Elytra of syntypes from Corfu more strongly acuminate apically than in the Italian specimens.

Ecology: According to SAHLBERG (1900, 1903) this species was collected in inundated littoral meadows ("pratis inundatis littoralibus") and in the water between grass ("in aqua inter gramina") during the winter months. FERRO & al. (1996) reported that their specimens were collected close to the sea, by removing vegetable debris, and by sifting sandy mud overgrown by marsh samphire (*Salicornia europaea*).

This species is probably able to live amphibious in coastal marshes. The specimens collected by F. Angelini were found only four (!) metres from the sea (F. Angelini, letter of 1.IV.1996).

Distribution: So far known only from western Greece (Corfu) and southern Italy (Taranto). Probably more widely distributed around the Ionian and Adriatic Sea being probably confined to undisturbed coastal habitats.

***Micragasma substrigosum* (REITTER) comb.n.**

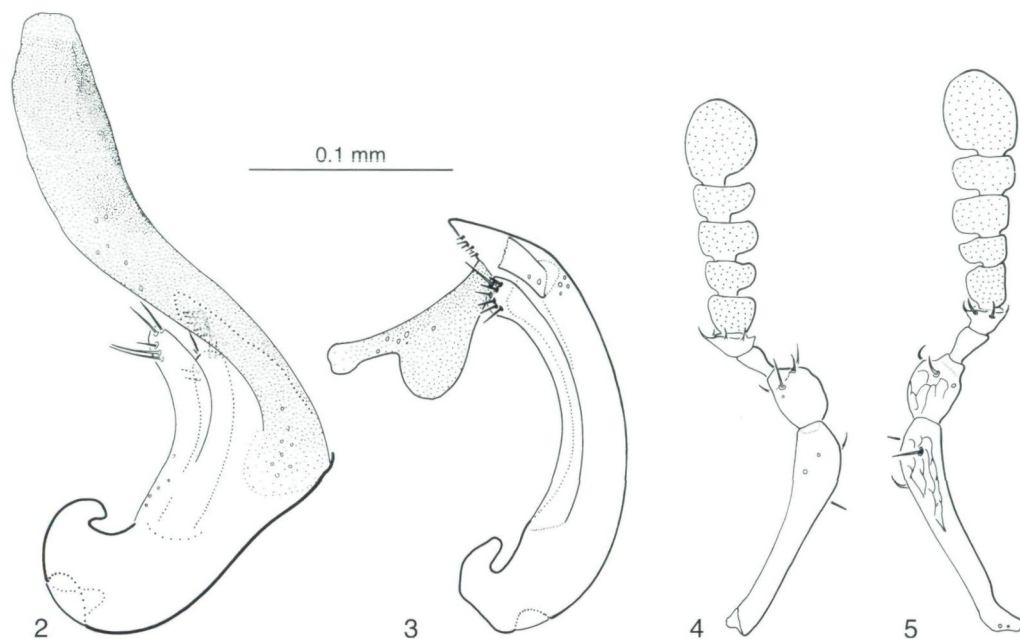
Ochthebius substrigosus REITTER, 1897: 209 (described in subgen. *Chirochthebius* (= *Aulacochthebius*)). - KNISCH 1924.

Type locality: Mouth of Kura River, Azerbaydzhan.

Material examined:

Lectotype: ♂, by present designation (TMB): "Caucasus Leder.Reitter. \ coll.Reitter \ O.substrigosus m. 1897.". **paralectotypes:** (2 ♀♀) with similar labels in TMB and NMW. According to the original description there should be a fourth syntype.

Diagnosis: In general appearance, antennal morphology (Fig. 5) and size (ca. 1.5 mm long), *Micragasma substrigosum* is rather similar to *M. paradoxum*. The following



Figs 2 - 5: (2, 3) Aedeagus of (2) *Micragasma paradoxum* and (3) *M. substrigosum*, lectotype, distal lobe broken. (4, 5) Antenna of (4) *M. paradoxum* and (5) *M. substrigosum*.

characters distinguish these two species: 1) anterior margin of labrum deeply excised; excision semicircular, covered partly by a membrane; 2) clypeus and frons much less widely explanate; 3) fronto-clypeal suture more evenly arched; 4) middle of frons less strongly gibbous, but interocular foveae more deeply impressed; 5) ocelli present; 6) eyes separated by ca. 5 times eye diameter; 7) last segment of labial palpi shorter, ca. 0.6 times as long as penultimate one; 8) median groove of pronotum more narrow; 9) discal pronotal foveae more sharply defined; 10) ridge surrounding eye less apparent; 11) hypomer al antennal grooves less strongly widening anteriorly; 12) metasternum slightly longer than mesosternum; 13) aedeagus (Fig. 3): more primitive, main piece more evenly curved; distal lobe shorter, strongly dilated ventrally; parameres more elongate.

Distribution: Known only from the type locality.

Discussion

If we take into account that *Ochthebius substrigosus* must be included in *Micragasma* there seems only one autapomorphy left for the genus *Micragasma*: i.e. the presence of tubercles on head and pronotum.

Other typical characters of *Micragasma* occur also in other groups of Ochthebiinae, though often less strongly pronounced: e.g., the deflexed labrum (*Ochthebius kosiensis* CHAMPION, 1920, and several species of *Asiobates* THOMSON, 1859), the explanate clypeus and frons (*O. kosiensis*, some species of *Aulacochthebius*), the widely explanate pronotum with abruptly and acutely excised hind angles (*O. atricapillus* REITTER, 1901),

the widely separated eyes (*Neochthebius* d'ORCHYMONT, 1932), the rather short metasternum (*Protochthebius jagthanae* CHAMPION, 1921) and the stout legs (*O. kosiensis*, *P. jagthanae*). The antennae of *Micragasma* do not present any outstanding peculiarities.

Micragasma paradoxum is definitely the more evolved species and presents some deviating apomorphies, absent in *M. substrigosum*: absence of ocelli, hypomeral antennal grooves widening anteriorly, metasternum not longer than mesosternum, main piece of aedeagus strongly curved, distal lobe longer than main piece, parameres short and stout.

Micragasma has been treated as a distinct genus by HANSEN (1991). With the inclusion of *Ochthebius substrigosus* in *Micragasma*, the distinction between *Ochthebius* and *Micragasma* becomes less apparent. There is no doubt that *Micragasma paradoxum* and *M. substrigosum* form a monophyletic unit within Ochthebiinae. The question whether *Micragasma* should be treated as a distinct genus or as a subgenus of *Ochthebius* can be solved only after thorough phylogenetic studies.

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Jahr/Year: 1997

Band/Volume: [99B](#)

Autor(en)/Author(s): Jäch Manfred A.

Artikel/Article: [Synopsis of the genus Micragasma SAHLBERG, 1900 \(Insecta: Coleoptera: Hydraenidae\). 313-318](#)