

Revision of the subgenus *Merodiscus* of the genus *Ptomaphagus*
(Coleoptera, Leiodidae, Cholevinae)

Jan RŮŽIČKA

Department of Ecology, Faculty of Forestry, Agricultural University,
Kamýcká 957, CZ-165 21 Praha 6, Czech Republic

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Abstract. The subgenus *Merodiscus* of the genus *Ptomaphagus* is revised. Two species, *P. validus* (Kraatz) and *P. biharicus* Jeannel, are recognized. A key for identification is given, both species are redescribed and illustrated. Differences are found in the shape of the anterior part of spermatheca and of the mesopraesternum, and in proportions of antennal segments. Lectotype is designated for *P. validus*. All available distributional data are presented, the known distributional range of both species is extended.

Subgenus *Merodiscus* was erected by Jeannel (1934) for three species: *Ptomaphagus validus* (Kraatz, 1854) and *P. biharicus* Jeannel, 1934 from Rumania and Yugoslavia, and *P. forticornis* Matthews, 1888 from Mexico. This subgenus was described and distinguished from the remaining two subgenera *Ptomaphagus* s.str. and *Adelops* Tellkamp, 1844 in a short key based mainly on antennal structure (l.c., p. 162). The same key was used by Jeannel (1936).

A separate subgenus *Tupania* was later erected by Szymczakowski (1961) for the species *P. forticornis*. In the same paper the restricted status of the subgenus *Merodiscus* was proposed, containing only the species *P. validus* and *P. biharicus*. The key to all four subgenera of *Ptomaphagus* was given (l.c., pp. 147-148), Peck (1973) also adopted this key in his paper.

A series of papers by Peck (1973, 1977, 1984 etc.) concerning the subgenera *Adelops* and *Tupania* showed that characters for recognition of the species of *Ptomaphagus* are mainly on male and/or female genitalia and medial part of mesosternum. Because the distribution of the subgenus *Merodiscus* is wider than given by Jeannel (1936) and Peck (1973), the revision of the available material is presented.

MATERIAL AND METHODS

Location of old geographic names was found in Andrees Allgemeiner Handatlas, 6. Auflage, Von Velhagen et Klasing Verlag, Bielefeld u. Leipzig 1914, 224 + 532 pp.

Dissections and mountings of the male and/or female genitalia follow the procedure described by Peck (1973).

The material was studied with the aid of a Meopta stereoscopic microscope (magnification up to 100 x) and a Meopta compound microscope (magnification up to 200 x). All measurements were made using an ocular micrometer. A drawing arm was used for all the figures with the exception of male genitalia drawn on Visopan projection microscope (Reichert).

Explanation of abbreviations used throughout the text: CJR - author's collection; CRR - collection R. Rous,

Prague; MHK - Krajské muzeum východních Čech, Hradec Králové; MNHNP - Muséum National d'Histoire Naturelle, Paris; NMP - Národní muzeum, Praha; SNMB - Slovenské národné múzeum, Bratislava; TMB - Természettudományi Múzeum, Budapest; ZIP - Zoological Institute, Russian Academy of Sciences, Petersburg; ZMB - Zoologisches Museum, Berlin.

Subgenus *Merodiscus* Jeannel, 1934

Jeannel, 1934: 162; Jeannel, 1936: 69-70; Szymczakowski, 1961: 146-148, restricted status; Peck, 1973: 57-58

Type species: *Catops validus* Kraatz, 1852 (by original designation)

The members of this subgenus are defined by the antennal segment III 2.0 - 2.5 times longer than segment II.

KEY TO SPECIES

1. Antennal segment III about 2,5 times longer than segment II. Segment IV only slightly wider than long (Fig. 21). Mesopraesternum posteriorly forming right or obtuse angle in lateral view (Figs 15-17). Spermatheca with oblong excavated knob at anterior end (Figs 8,10), forming a sharp angle with shaft when viewed from side (Figs 7,9). Length 5.0 - 6.8 mm. *P. validus*
- Antennal segment III about 2 times longer than segment II. Segment IV distinctly wider than long (Fig. 20). Mesopraesternum posteriorly forming sharp angle in lateral view (Figs 13,14). Spermatheca with round flattened knob at anterior end (Figs. 1,3,5), forming an obtuse angle with shaft when viewed from side (Figs 2,4). Length 3.8 - 4.6 mm *P. biharicus*

SURVEY OF SPECIES

Ptomaphagus (Merodiscus) validus (Kraatz, 1852) (Figs 7-11, 15-19, 21-25)

Catops validus Kraatz, 1852: 441

Redescription:

Body length 5.0 - 6.8 mm. A robust species (Fig. 11). Head, pronotum and elytra reddish brown, antennae and legs reddish, apical half of antennal segment XI yellowish. Dorsal body surface covered with short, very dense, yellow hairs.

Antennae (Fig. 21): segment III about 2.5 times longer than segment II. Segment IV only slightly wider than long, narrower than base of segment VII. Segment VI about 2.5 times wider than long.

Pronotum 1.5-1.7 times wider than head, 1.4-1.5 times wider than long. Elytra 1.3-1.5 times longer than wide. Wings normal. Mesosternal carina low, mesopraesternum posteriorly with right or obtuse angle in lateral view (Figs 15-17).

Spermatheca (Figs 8,10) simple, with oblong, excavated knob at anterior end, forming a sharp angle with shaft when viewed from side (Figs 7,9). Central shaft narrow or slightly curved, posterior end with wide knob.

Stylus (Fig. 19) apically with 2 - 3 long setae, subapically with one smaller seta on each side. Apical two thirds of stylus furnished with small, recurved hooklets (Fig. 19).

Valvifer bearing a dense fringe of about 25-30 setae.

Aedeagus (Fig. 23) in profile straight, relatively robust, gradually tapering, ending with a small downcurved tooth, tip (Fig. 25) broadly rounded dorsally, with a terminal point, from below with a row of 8 small setae on each side. Stylet and internal structure of the aedeagus as on Fig. 22. Each paramere with one small seta apically and two longer ones subapically (Fig. 24). Spiculum gastrale and genital plate normal (Fig. 18).

Variation:

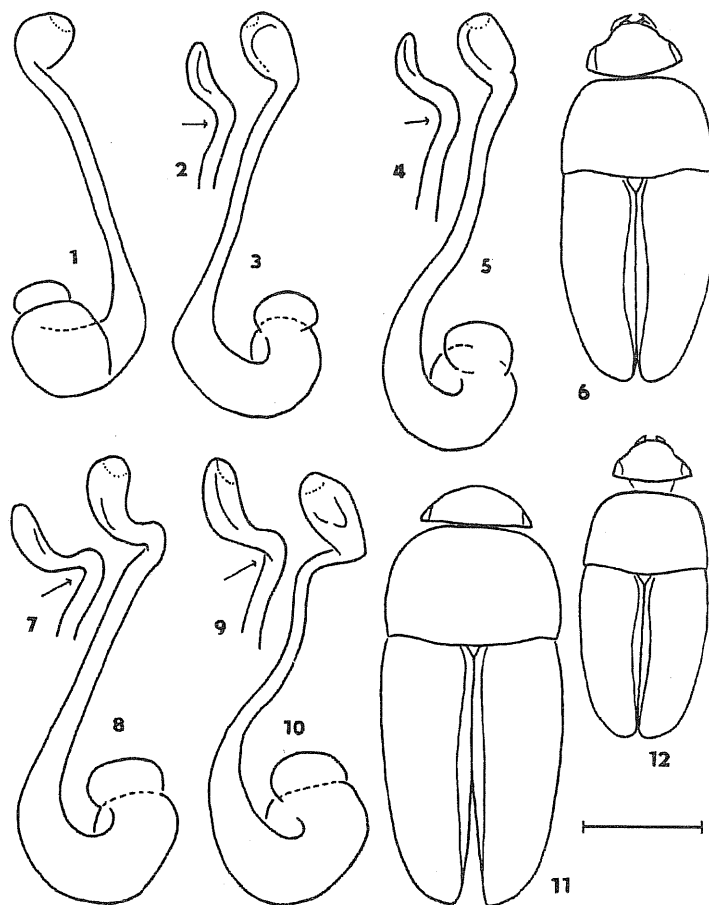
The spermatheca varies slightly in bending of central shaft, in a specimen from Serbia (Fig. 9,10) the central shaft is strongly curved and thinner than in the lectotype, and the angle between

the shaft and the knob on anterior end is less sharp when viewed from side.

Material studied:

Type material: lectotype ♀ (presently designated), labelled: "Hungaria, Stentz [Igt., Nr. 7443; Type; Umpräpariert xii.34 K.Sokolowski - Hbg.; Zool. Mus. Berlin" (ZMB); paralectotype ♂, labelled: "Hung., Stentz [Igt., validus Kraatz; 7443; Type; Umpräpariert xii.34 K.Sokolowski - Hbg.; Zool. Mus. Berlin" (ZMB).

Other material: Rumania: "Herkulesf., Mihók, 908 II/25" 1 ♀ (NMP); "Herkulesfürdő, leg. Pável, 1880; 569,607" 1 ♂ (TMB); "Süd Ungarn, Herkulesbad, v. Bodemeyer Igt." 1 ♀ (MHK); "Banat, Herkulesbad, v. Bodemeyer Igt." 1 ♂ (MHK); "Banat Hung., Petra Semenica, viii.1929; det. Hlisnikovský x.1932" 1 ♀ (NMP); "Bannat, Abeille de Perrin" 1 spec. (MNHNP); "Hungaria merid.; Ptomaphagus validus Kr., coll. Reitter" 1 ♀ (TMB); "Hungaria; coll. Wendler, Mus. Pragense" 1 ♂ (NMP); "Nemét Bogsán, Merkl (Hung.); coll. Roubal" 1 ♂ (SNMB); Yugoslavia: "Serbien, Merkl; coll. Apfelbeck" 1 ♀ (TMB); "Carniola, Reitter" 1 ♀ (CRR); "Serbien, Zebe, Grouvelle, coll. Reitter" 1 spec. (MNHNP); Ukraine: Purkary Akkerman. u. Bessarab., Černavin, 16.iv.911" 1 ♀ (ZIP); dtto, but "10.vi.911; Pt. validus Kr., Jeannel det." 1 ♀ (ZIP).



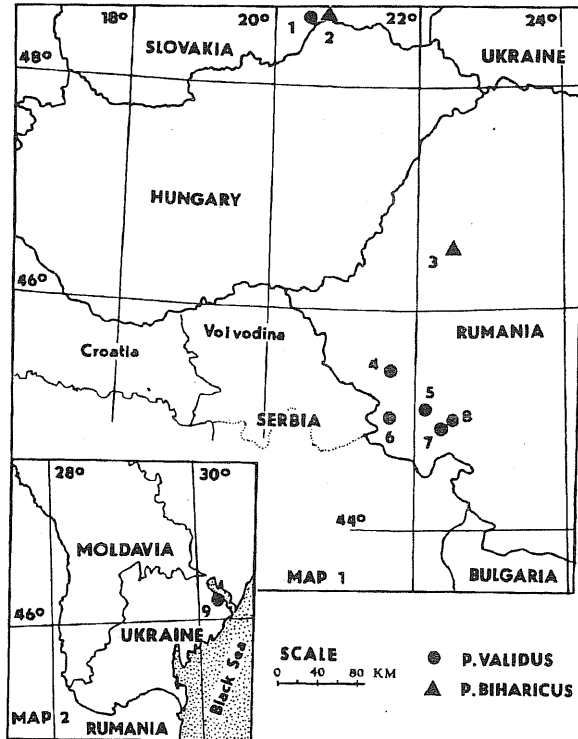
Figs 1-12. 1-3,12 - *Ptomaphagus biharicus* ♀, Dolný vrch; 4-6 - *P. biharicus* ♀, type; 7-8,11 - *P. validus* ♀, lectotype; 9-10 - *P. validus* ♀, Serbia, Merkl leg.; 1 - spermatheca dorsally; 3,5,8,10 - dtto laterally; 2,4,7,9 - posterior part of spermatheca ventrally; 6,11,12 - habitus dorsally. (Scale 0.15 mm for Figs 1-5, 7-10; 1.5 mm for Figs 6,11,12).

References:

Rumania: Nagy Bogsán, near Resita (Jeannel,1936); Oravicza; Mons Domoglet; Rumunyst (all Kuthy,1918); Yugoslavia: Banat Serbe (Jeannel,1936); Slovakia: Slovenský kras, Slavec - Gombasek (Gottwald,1982).

Distribution (Maps 1,2):

Rumania: southwestern part (formely a part of Hungary, therefore older material was labelled and referred to as from "Hungaria"); Yugoslavia: Serbia; Slovakia; Ukraine (first record for this area).



Map 1,2. Distribution of *Ptomaphagus (Merodiscus)* species: 1 - Slov. kras, Slavec - Gombasek; 2 - Slov. kras, Dolný vrch; 3 - Bihor, Mt. Detunata; 4 - Német Bogsán; 5 - Banat, Petra Semenica; 6 - Oravita; 7 - Herkulesfürdő; 8 - Mons Domoglet; 9 - Ukraine, Akkerman, Purkary.

Ptomaphagus (Merodiscus) biharicus Jeannel,1934
Ptomaphagus (Merodiscus) biharicus Jeannel,1934: 163

(Figs 1-6,12-14,20)

Redescription:

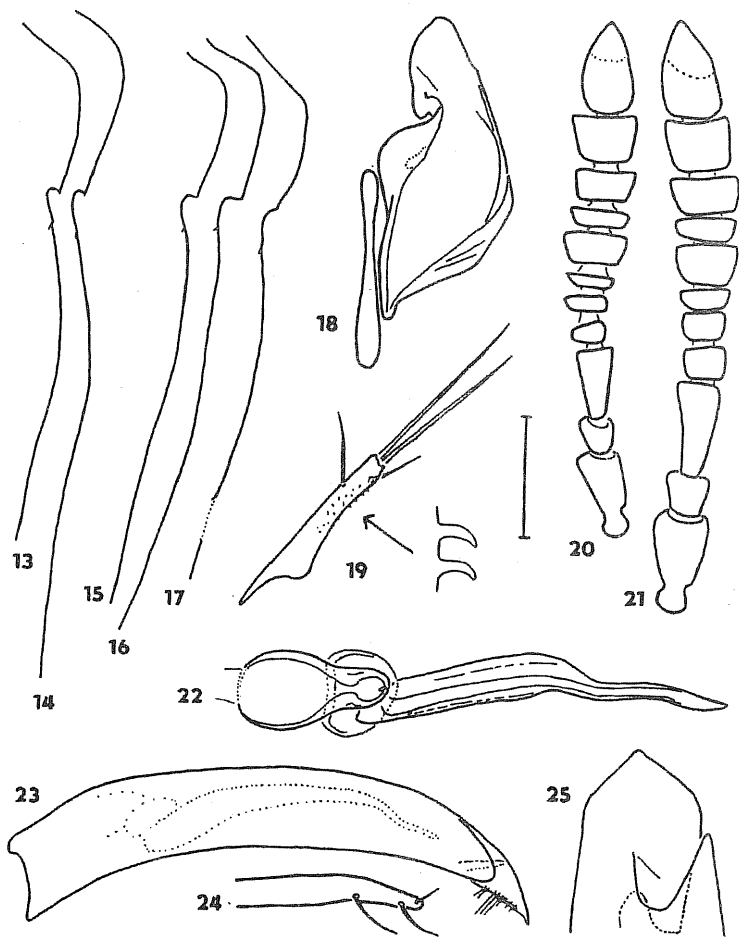
Body length 3.8 and 4.6 mm. A minute species (Figs 6,12). Head, pronotum and elytra reddish brown to dark brown, antennae and legs reddish, apical half of antenal segment XI yellowish. Dorsal surface of body covered with short, dense, yellow hairs.

Antennae (Fig. 20): Segment III about 2.0 times longer than segment II. Segment IV distinctly wider than long, narrower than base of segment VII. Segment VI about 3.5 times wider than long.

Pronotum 1.5 times wider than head, 1.5 times wider than long. Elytra 1.3 and 1.4 times longer than wide. Wings normal. Mesosternal carina low, mesopraesternum posteriorly with sharp angle in lateral view (Figs 13,14).

Spermatheca (Figs 1,3,5) simple, with round flattened knob at anterior end, forming an obtuse angle with shaft when viewed from side (Figs 2,4). Central shaft slightly curved, posterior end with wide knob.

Stylus apically with 2 long setae, subapically with one smaller seta on each side. Apical half of stylus furnished with small, recurved hooklets.



Figs 13-25. 13 - *Ptomaphagus biharicus* ♀, Dolný vrch; 14,20 - *P. biharicus* ♀, type; 15 - *P. validus* ♀, Serbia, Merkl leg.; 16 - *P. validus* ♀, Banat, Petra Semenici; 17 - *P. validus* ♀, Herkulesfürdő, Mihók leg.; 18,22-25 - *P. validus* ♂, "Hungaria", coll. Wendler; 19,21 - *P. validus* ♀, lectotype; 13-17 - medial part of mesosternum laterally; 18 - genital segment dorsally; 19 - stylus laterally, detail: hooklets on distal part; 20-21 - right antenna dorsally; 22 - stylet and internal structure of aedeagus dorsally; 23 - aedeagus laterally; 24 - distal part of right paramera laterally; 25 - tip of aedeagus dorsally. (Scale 0.15 mm for Figs 13,14,19,22,24,25; 0.25 mm for Figs 15-18, 23; 0.4 mm for Figs 20,21).

Valvifer bearing a dense fringe of about 25 setae.
Male unknown.

Material studied:

Type material: holotype ♀, labelled: "Detunata, Buscum, R. Jeannel, Trans. vi.25; Type; Muséum Paris, Coll. R. Jeannel, 1931" (MNHNP)

Other material: "Slovakia mer. centr., Slovenský kras, Dolný vrch, 48.46°N 20.69°E, 28.v.1986, R. Mlejnek lgt., mixed forest, under big stone in the sinkhole" 1 ♀ (CJR).

Distribution (Map 1):

Rumania: Bihor; Slovakia (first record for this region and central Europe).

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