The genus *Raiboscelis* Allard, 1876 (Coleoptera: Tenebrionidae): taxonomic history, nomenclature, morphology

Род *Raiboscelis* Allard, 1876 (Coleoptera: Tenebrionidae): таксономическая история, номенклатура, морфология

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Ключевые слова: Coleoptera, Tenebrionidae, Helopini, Raiboscelis, таксономия, номенклатура, морфология.

Abstract. The present paper reviews the history of taxonomy and nomenclature of the genus *Raiboscelis* Allard, 1876. The original spelling of this genus name is *Raibosceles*. While *Raibosceles* was rarely used, the spelling *Raiboscelis* was adopted by many authors and is in prevailing usage. Consequently, it should be used to denote this taxon [ICZN Art. 33.3.1, and also 33.2.3.1]. The genus *Hipponome* Laporte, 1840 was established for *Helops azureus* Brullé, 1832, a valid species known as *Raiboscelis azureus*. Thus, *Hipponome* is a senior synonym of *Raiboscelis*. As *Hipponome* was not used as valid after 1899 to our knowledge, it may be declared nomen oblitum. *Raiboscelis* Allard, 1876 is currently used and here declared nomen protectum. The required supporting references [ICZN Art. 23.9.1.2] are annexed. The genus *Raiboscelis* is redefined and the relevant taxonomic characters are illustrated.

Резюме. В статье рассматривается история таксономии и номенклатура рода *Raiboscelis* Allard, 1876. Первоначальное написание рода *Raibosceles*. Название *Raibosceles* редко использовалось, однако название *Raiboscelis* было адаптировано для большонства авторов и предлагается как валидное для рода *Raiboscelis* согласно статьям 33.3.1 и 33.2.3.1 Кодекса зоологической номенклатуры. Название *Hipponome* Laporte, 1840 было установлено для *Helops azureus* Brullé, 1832 (валидный вид, сейчас *Raiboscelis azureus*) и является старшим синонимом *Raiboscelis* согласно статье 12.2.5 Кодекса. Так как название *Hipponome* не использовалось как валидное после 1899 года, оно предлагается в качестве nomena oblita, а *Raiboscelis* в качестве nomen protectum согласно статье 23.9.1.2 Кодекса. В статье дается также морфологическая характеристика рода и иллюстрации таксономических и других важных признаков.

Raiboscelis Allard, 1876, originally spelled *Raibosceles*, is a well established Helopini genus currently including 15 valid species and subspecies, distributed in the Mediterranean region (Syria, Israel, Turkey, Greece, Albania, Cyprus, Italia – Sicily). Its type species, *Raiboscelis corvinus* (Küster, 1850), was designated by Gebien [1943].

Allard [1876] placed *Raiboscelis* in a group of genera possessing short metathorax (his second division). He compared *Raiboscelis* with *Diastixus* Allard, 1876, at present in synonymy with *Nesotes* Allard, 1876, on the basis of the shape of the pronotum which is not cordiform and has rounded angles. Allard [1876] originally included in the genus 7 species: *R. corvinus* (Küster, 1850), *R. tumidicollis* (Küster, 1850), *R. azureus* (Brullé, 1832), *R. cyprius* Allard, 1876, *R. coelestinus* (Waltl, 1838), *R. eleodinus* (Reiche, 1861), and *R. quadraticollis* (Küster, 1850). Subsequently, Allard [1877] compared *Raiboscelis* with *Helops* Fabricius, 1775. Seidlitz [1896], emended the spelling of the genus-group name to *Raiboscelis*, placed the group as a subgenus in *Helops* Fabricius, 1775, and added two more species: *R. saphyrinus* (Allard, 1876) (at present in *Entomogonus* Solier, 1848), and *R. latimargo* (Seidlitz, 1896). Reitter [1922] re-established the genus rank of *Raiboscelis* and added still *R. immargo* Reitter, 1922 and *R. iconiensis* (Pic, 1900). Gebien [1943] synonymized some the previously included taxa. He recognized within the genus 9 valid species.

The original spelling of the genus-group name is *Raibosceles* [Allard, 1876: 5], while Rye [1878: 69] proposed an unjustified emendation, *Rhaebosceles*. Since the work of Seidlitz [1896], almost all authors used the spelling *Raiboscelis* for this genus. While *Raibosceles* was used recently [e.g., Nabozhenko, Löbl, 2008], the spelling *Raiboscelis* was adopted by many authors and is in prevailing usage. Consequently, it should be used to denote this taxon [ICZN Art. 33.3.1, and also 33.2.3.1].

Laporte [1840: 235] subdivided the genus *Helops* in several "divisions". Each of his divisions was defined and named, the third one, *Hipponome*, was established for *Helops azureus* Brullé, a valid species known at present as *Raiboscelis azureus*. Seidlitz [1896: 754, note] considered the Laporte's description insufficient and rejected the used of *Hipponome*. *Helops azureus* is the type species of

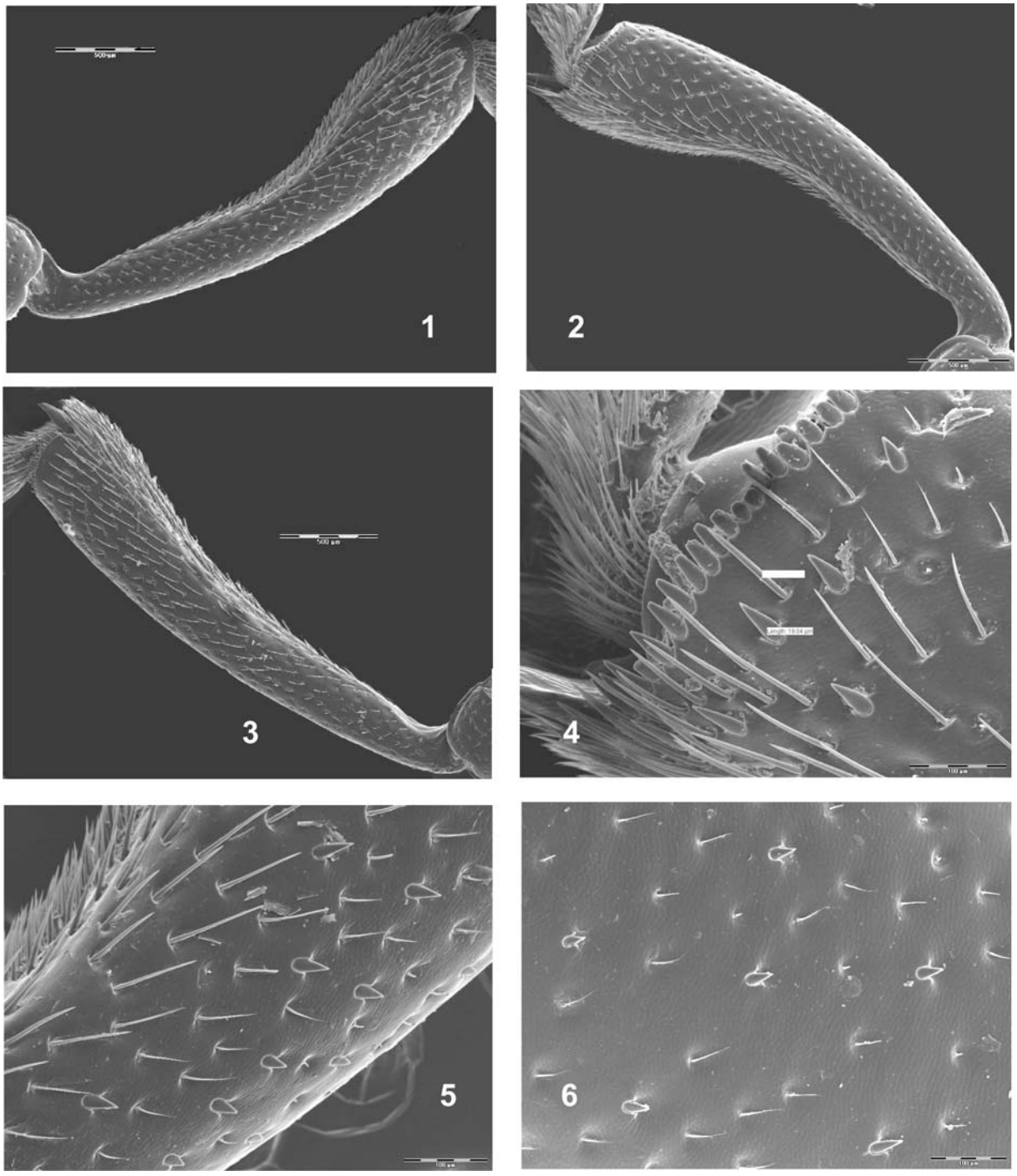

Fig. 1–6. *Raiboscelis coelestinus* (Waltl, 1838), male.
1 – protibia, dorsal view; 2 – protibia, ventral view; 3 – mesotibia; 4 – apical part of protibia; 5 – surface of tibia; 6 – surface of femora.
Рис. 1–6. *Raiboscelis coelestinus* (Waltl, 1838), детали строения самца.
1 – передняя голень сверху; 2 – передняя голень снизу; 3 – средняя голень; 4 – вершинная часть передней голени; 5 – поверхность голени; 6 – поверхность бедра.

Hipponome by monotypy. Hence, *Hipponome* is a senior synonym of *Raiboscelis* (and *Raibosceles*).

As the name *Hipponome* was not been used as valid after 1899 to our knowledge, it complies with the conditions required for nomina oblita [ICZN, Art. 23.9.1.1]. The references required to support the preservation of *Raiboscelis* Allard, 1876 as a nomen protectum [ICZN Art. 23.9.1.2] are given in the Appendix.

The genus *Raiboscelis* is a member of the helopioid group of genera of the subtribe Helopina. The morphological diagnosis of the genus is given below (type species of the genus *Raiboscelis coelestinus* with all subspecies was described and figured in a paper of Picka [1984]).

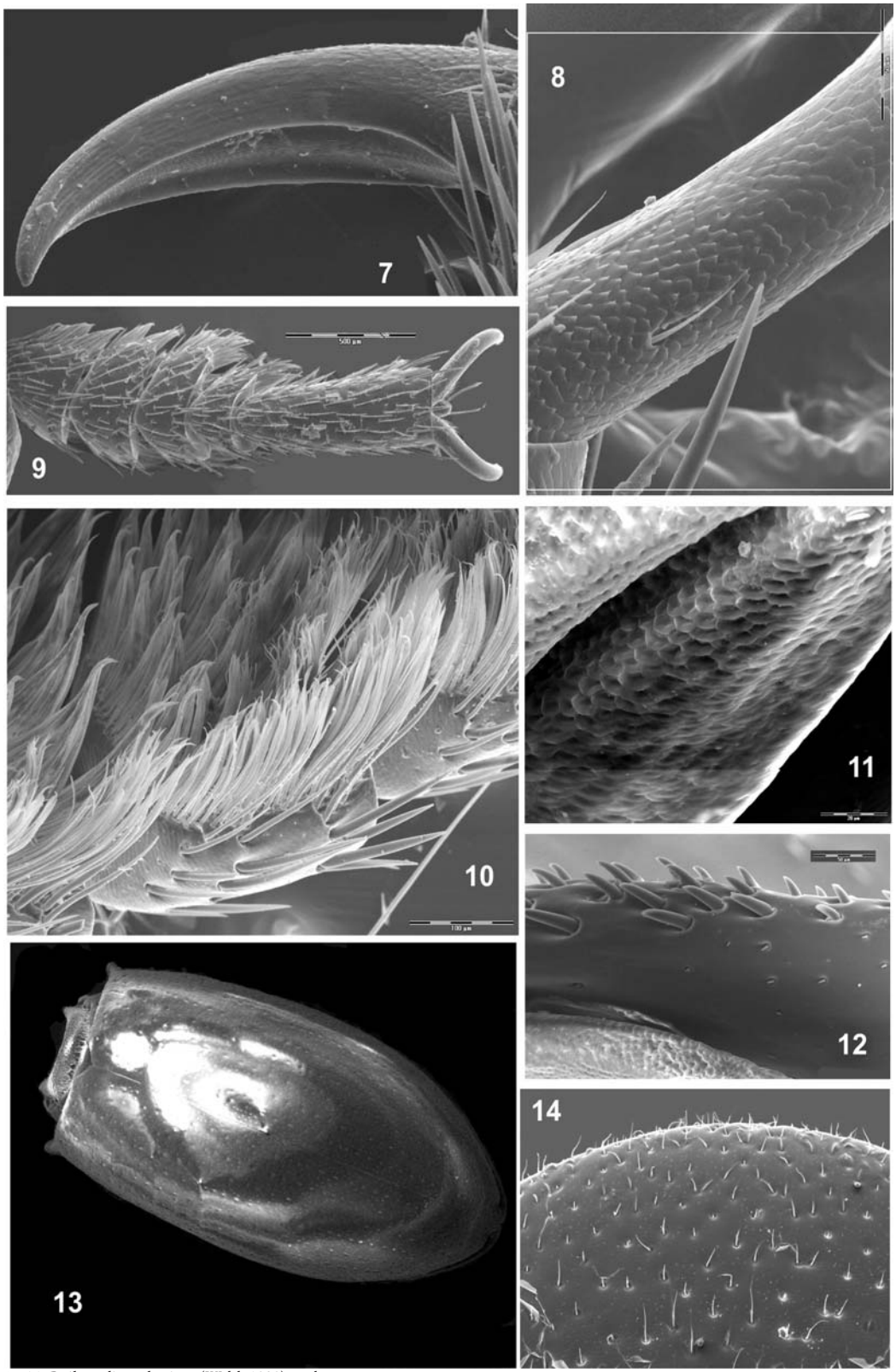

Fig. 7–14. *Raiboscelis coelestinus* (Waltl, 1838), male.

7 – tarsal claw, inner side; 8 – tarsal claw, surface; 9 – protarsus, dorsal view; 10 – protarsus, entire surface; 11 – microsculptur of penis; 12 – ventral surface of paramera; 13 – elytra; 14 – apical abdominal sternit, surface of apical part.

Рис. 7–14. *Raiboscelis coelestinus* (Waltl, 1838), детали строения самца.

7 – коготок лапки, внутренняя сторона; 8 – коготок лапки, поверхность; 9 – передняя лапка, вид сверху; 10 – передняя лапка, подошвенная сторона; 11 – микроскульптура пениса; 12 – вентральная поверхность парамер; 13 – надкрылья; 14 – анальный стернит брюшка, поверхность вершинной части.

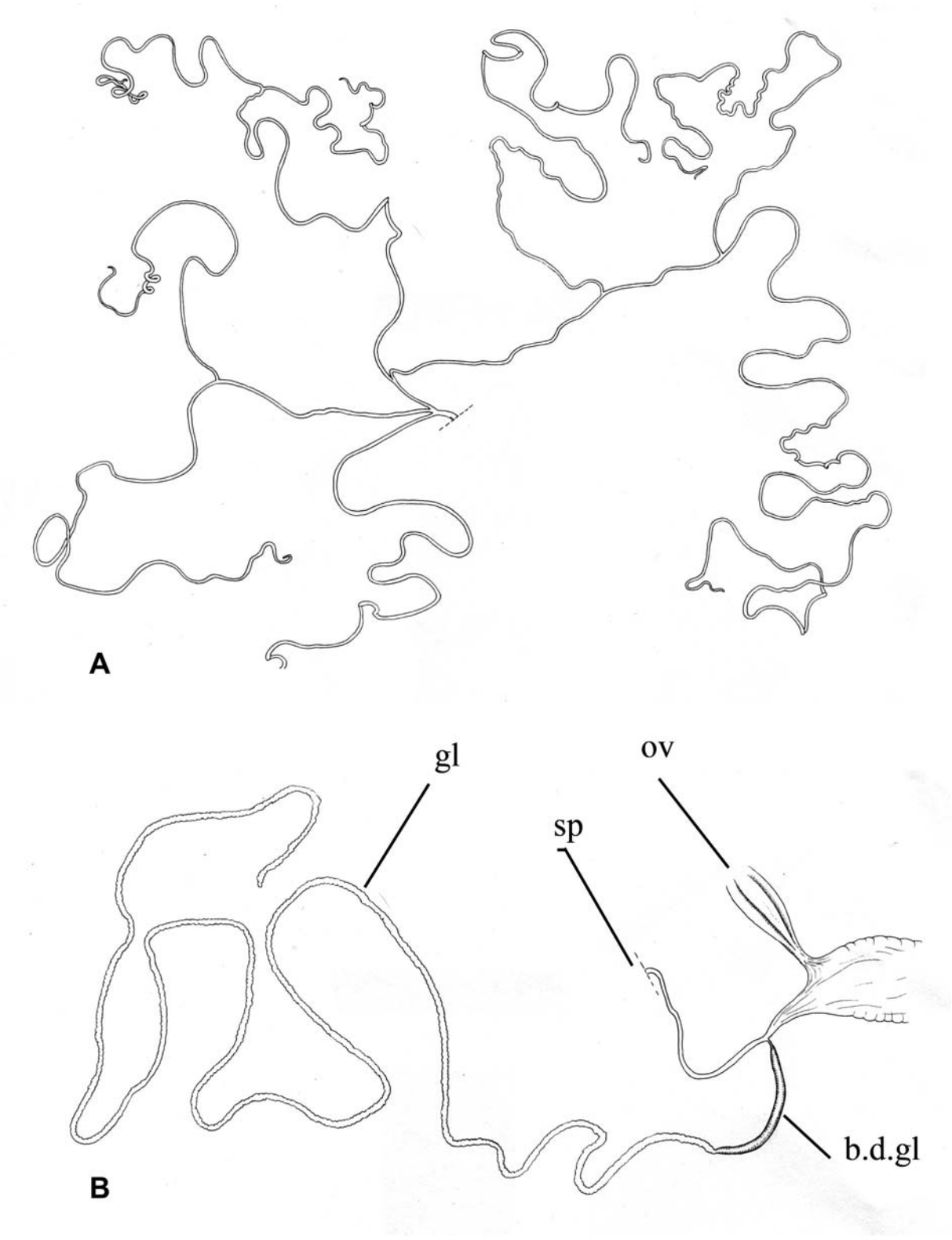

Fig. 15. *Raiboscelis coelestinus* (Waltl, 1838), sexual ducts of female.
A – spermatheca; B – gland and apical part of vagina.
gl – gland of spermatheca; sp – spermatheca; ov – oviduct; b.d.gl. – basal duct of gland.
Рис. 15. *Raiboscelis coelestinus* (Waltl, 1838), половые протоки самки.
A – сперматека; B – железа и апикальная часть вагины.
gl – железа сперматеки; sp – сперматека; ov – яйцевод; b.d.gl. – базальный проток железы.

Morphological characteristic of *Raiboscelis* (figured only *R. coelestinus*)
(Fig. 1–15)

Body glabrous, cylindrical or oval-cylindrical, black, lacking microsculpture and with dark blue, violet or green shine (also legs and apical part of head may have dark blue shine), or with alveolate microsculpture and dull.

Head with coarse puncturation consisting of round, rarely elongated punctures. Anterior margin of clypeus straight. Transverse depression along frontoclypeal suture inconspicuous. Eyes strongly elongated in lateral view. Antennae not very long, with 3 apical segments (in male) or 1–2 apical segments (in female) projecting beyond base of pronotum. antennomeres 8–11 not elongated, triangular, flattened. Antennomere 11 in male rounded-triangular, strongly asymmetrical, as long as slightly longer than antennomere 10. Antennomere 11 in female very short, shorter than antennomere 10, round or oval.

Pronotum rectangular or square, posterior angles narrowly rounded, weekly obtuse or rectangular, not acute. Margins of pronotum widely margined. Disc of pronotum not or, very rarely, weekly flattened on laterally. Propleura not flattened laterally, wriggled and punctuate, or only punctuate. Prosternal process visibly projected, acute in lateral view.

Elytra elongate, cylindrical or subcylindrical, with acute, projected humera (fig. 13). Vertically inclined basal margin distinct. Punctures large, round, not merged in rows. Epipleura not reaching elytral apex, with shaft-like edge. Apex with deep sulcus formed by impressed, fused punctures, situated between dorsal margin of epipleura and surface of elytra; sulcus extending onto stria between 1st and 2nd elytral intervals.

Abdominal sternites glabrous or with very short, narrow setae (fig. 14). Apical sternite lacking coarse, long, erected hairs. All 5 exposed abdominal sternites widely margined laterally. Inner sternite entirely margined.

Protibiae (fig. 1, 2) in male strongly curved, weekly clubbed, widened at apex, with very dense brush of dark reddish-brown or brown setae. Mesotibiae curved (fig. 3), gradually widened toward apex. Metatibia weekly curved. All tibiae with long thin setae and short robust spines (fig. 4–6). Pro- and mesotarsi widened, in male with dense hair-brush on entire surface (fig. 9, 10). In female pro- and middle tibiae only weekly curved, tarsi not widened. Tarsal claws large and strongly curved, with distinct microsculpture on outer and inner side (fig. 7, 8).

Genitalia of male. Parameres typical for genera of helopioid complex [Nabozhenko, 2006]. Parameres and phallobase strongly sclerotized. Parameres with short, robust spines on dorsal and lateral sides and with very short and small spines on ventral side (fig. 12). Ventral processes of parameres fused and covering penis on ventral side of aedeagus, along entire length of phallobase, attached to margins of phallobase by membrane. Parameres ventrally mobile relative to phallobase, simplifying movement of penis forward during copulation. Penis strongly elongated, reinforced by 2 sclerites, acute at apex. Surface of penis with impressed alveolate microsculpture (fig. 11), which is enable to stretch and covers penis during copulation due to pressure of hemolymph.

Spiculum gastrale is also of typical helopioid structure [Nabozhenko, 2005]: baculiform sclerites of spiculum gastrale approximate, not curved outwards in dorsal view, straight in lateral view, frequently prolonged into pseudo-common shaft at apex, not entirely fused except for its apical part connected by membrane. Inner sternite VIII strongly sclerotized, densely pubescent, with rugose surface on ventral side.

Genitalia of female. Oviduct typical for Helopini, long, with 4 lobes, gonostyli cylindrical, with 2 setae on apex.

Sexual ducts of female (fig. 15). Spermatheca with 4 branches, 3 of which very long and divided into 3–4 branches. Gland of spermatheca without valve, entering into duct of spermatheca by sclerotized, thickened duct. Vagina with transversal sclerotized structures.

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Appendix

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