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DARKLING BEETLES OF THE TRIBE HELOPINI (COLEOPTERA: TENEBRIONIDAE) OF JORDAN

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Summary. A list of six Jordanian species of the darkling beetles of the tribe Helopini is given. *Entomogonus (Delonurops) amri* Nabozhenko et Tichý, **sp. n.** is described from Jordan and Syria. Two new synonyms are proposed: *Catomus* (s. str.) *acutipennis* (Reiche et Saulcy, 1857) = *Catomus laenoides* Reitter, 1922, **syn. n.**; *Catomus* (s. str.) *hesperides* (Reiche, 1861) = *Catomus lepidus* Reitter, 1922, **syn. n.** *Odocnemis valgus* (Baudi di Selve, 1881) is recorded for Jordan for the first time. A key to Jordanian species of Helopini is provided.

Key words: Coleoptera, Tenebrionidae, Helopini, taxonomy, new species, new synonymy, fauna, Western Asia.

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Резюме. Приводится список 6 видов чернотелок трибы Helopini фауны Иордании. Описан новый для науки вид *Entomogonus (Delonurops) amri* Nabozhenko et Tichý, **sp. n.** Установлена новая синонимия: *Catomus* (s. str.) *acutipennis* (Reiche et Saulcy, 1857) = *Catomus laenoides* Reitter, 1922, **syn. n.**; *Catomus* (s. str.) *hesperides* (Reiche, 1861) = *Catomus lepidus* Reitter, 1922, **syn. n.** Впервые для Иордании приводится *Odocnemis valgus* (Baudi di Selve, 1881). Составлена определительная таблица иорданских видов трибы Helopini.

INTRODUCTION

Darkling beetles of the tribe Helopini of Jordan are poorly studied. Since XIX century only four species from the genera *Catomus* Allard, 1876 and *Odocnemis* Allard, 1876 had been recorded for this country (Sahlberg, 1908; Reitter, 1922; Katbeh-Bader, 1996; Waitzbauer *et al.*, 2004; Nabozhenko & Löbl, 2008). Below we add summarized information about Helopini of Jordan including the description of one new species of the genus *Entomogonus* Solier, 1848. In total, six species of this tenebrionid group is known from the country.

MATERIAL AND METHODS

The study is based on the examination of adult beetles from the following institutions, museums, and private collections: SDEI – Senckenberg Deutsches Entomologisches Institut (Müncheberg, Germany); NMB – Naturhistorisches Museum Basel (Basel, Switzerland); MNHN – Muséum national d'Histoire naturelle (Paris, France); NHML – Natural history Museum (London, United Kingdom); NHMH – Natural History Museum of Helsinki (Helsinki, Finland); CVT – private collection of Vladimír Tichý (Brno, Czech Republic); collection materials of Wolfgang Waitzbauer (University of Vienna, Austria). Holotype of the new species will be deposited in ZIN – Zoological Institute of the Russian Academy of Science (St Petersburg, Russia); CRG – private collection of Roland Grimm (Neuenbürg, Germany).

LIST OF THE SPECIES OF THE TRIBE HELOPINI FROM JORDAN

Subtribe Helopina

Catomus (s. str.) *acutipennis* (Reiche et Saulcy, 1857)

Helops acutipennis Reiche et Saulcy, 1857: 269 (type locality: bank of Jordan River).

Catomus laenoides Reitter, 1922: 11 (type locality: Jordan), **syn. n.**

TYPE MATERIAL. Types of *Catomus acutipennis* were not found in MNHN and are probably lost. Four specimens of *C. acutipennis* from Damascus with curator's labels "Syntype" are deposited in MNHN, but these specimens don't belong to the type series, because the type locality of the species is "bank of Jordan River".

Holotype of *Catomus laenoides* (NMB), male, with labels: “Arabri V.W. Ma’an” [Jordan, Ma’an], “Peyerimnof”, “Reitter det.”, “*laenoides*”, “TYPUS” (press, pink).

DISTRIBUTION. Western Syria (Allard, 1876, 1877; Seidlitz, 1896; Reitter, 1922), Israel (Reiche, 1861), Jordan (Nabozhenko & Löbl, 2008).

NOTES. *Catomus acutipennis* distinctly differs from other species of the genus *Catomus* Allard, 1876 from the Levantine geographic region by the pubescent body. Reitter’s pubescent species *C. laenoides* is conspecific to *C. acutipennis*. Thus, the new synonym is proposed: *Helops acutipennis* Reiche et Saulcy, 1857 = *Catomus laenoides* Reitter, 1922, **syn. n.**

***Catomus* (s. str.) *hesperides* (Reiche, 1861)**

Helops hesperides Reiche, 1861: 7 (type localities: Beirut and Turkey: Mersin).

Isopedes berytensis Kraatz, 1880: 299 (type locality: Beirut); synonymized by Seidlitz (1896).

Catomus lepidus Reitter, 1922: 10 (type locality: Syria), **syn. n.**

TYPE MATERIAL. Types of *Helops hesperides* were not found and probably lost. Two specimens from MNHN with labels “Syntypes” “*Catomus hesperides* Beyrouth” are not types because Reiche described this species as *Helops* Fabricius, 1775 and his handwritten labels are absent. Type locality: “Berytam Syriae et Mersinam Caramaniae” (Beirut and Mersin) (Reiche, 1861). Holotype of *Isopedes berytensis* (DEI), female, with labels: “Beirut (Zach)”, “Krtz typ.”, “*berytensis* Kraatz, 1880”, “DEI Müncheberg Col-02802”. Holotype of *Catomus lepidus* (NMB), female, with labels: “Aleppo Syrien” (press), “Staud.”, “*lepidus*”, “Reitt. det.”, “TYPUS” (press, pink).

DISTRIBUTION. Turkey (Taurus and Amanos mountains) (Reiche, 1861), Western Syria (Reiche, 1861; Allard, 1876, 1877; Seidlitz, 1896; Reitter, 1922), Lebanon, Israel (Seidlitz, 1896), Jordan (Nabozhenko & Löbl, 2008).

NOTES. *Catomus lepidus* has weakly sinuated lateral margins of pronotum and wrinkled (without punctures) prohypomera. These combination of female characters can be found within many populations of *Catomus hesperides* from Amanos Mountains and Northern Syria. Punctuation of pronotum also can be variable even in one population, females often have sparser punctuation, than males. So, differential characters used by Reitter (1922) for *C. lepidus* is only case of variability of widespread *C. hesperides*. As a result a new synonymy is proposed: *Catomus* (s. str.) *hesperides* (Reiche, 1861) = *Catomus lepidus* Reitter, 1922, **syn. n.**

***Entomogonus* (*Delonurops*) *amri* Nabozhenko et Tichý, sp. n.**

Figs 1–6, 8, 9

TYPE MATERIAL. Holotype: ♂, **Jordan**: Mugayyir as Sirhan, 32°47’N, 36°20’E, 30.IV 1988, leg. Suhail (ZIN). Paratypes: **Jordan**: Al-Mafraq, 32°22’N, 36°15’E, 14.III 1984, 1♀, leg. Stw. (ZIN); S of Tafila, 27–30.III 2013, 1♀, leg. M.

Snížek (CVT); CN Amman, Al Amiriyya, 13.IV 2002, 1♂, 1♀, leg. M. Snížek (CVT); Hamada, Wadi Butm, 500 m near to Qusair Amra, 41°43'N, 36°27'E, 7.IV 1998, 1♀, leg. W. Waitzbauer (ZIN); Jordanien C, Al Qatrana Saliya, Wadi Mujib env., 15.IV 2002, 1♀, leg. M. Snížek (CVT); **Syria**: District Palmyra, Jabal Abu Rujmayn, 34°35.33'N, 38°10.56'E, 515 m, at light, 29.IV 2002, 1♂, 2♀, leg. Barries, Dostal & Preiss (CRG).

DESCRIPTION. Male. Head. Body dark-blue, slender, subcylindrical. Anterior margin of head weakly widely rounded; head widest at eye level; head width 1.6–1.63× wider than interocular space; genae strongly rounded, weakly angulate; lateral margin of head without sinuation between anterior side and gena; anterior surface of head (frontoclypeus) depressed, with sparse and fine punctation (puncture diameter 2× wider than interpuncture distance); frons and genal surface with coarse and dense punctation of deep round punctures (puncture diameter subequal or longer than interpuncture distance); frons with unclear longitudinal elevation near eyes. Antennae moderately long, with 3 apical antennomeres extended beyond base of pronotum. Comparative length : width of antennomeres 2–11 as following: 0.9:0.8, 3.6:1, 2:1, 2.1:1, 2:1, 2.4:1.1, 2.4:1.3, 2.:1.5, 2:1.5, 3.2:1.2. Head ventrally with very coarse and dense merged punctures, mentum strongly transverse.

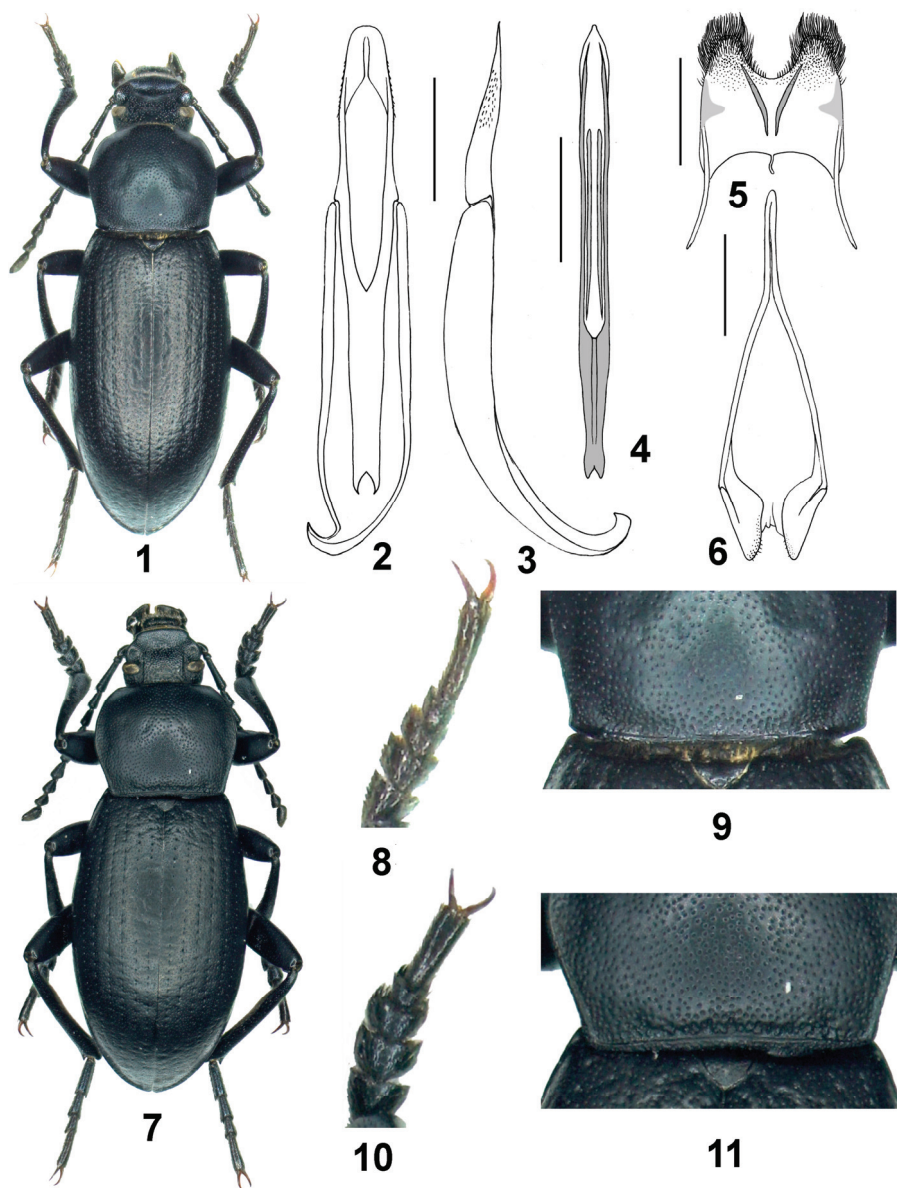
Prothorax. Pronotum weakly transverse (1.15–1.18 times as wide as long), weakly cordiform, widest little before middle, 1.56–1.59 times as wide as head; lateral margins weakly rounded, weakly widely emarginate near base; anterior margin straight or weakly rounded; base straight at middle or evenly weakly rounded; anterior and posterior angles distinct, obtuse; disc moderately convex, sometimes with two round impression at middle, with oblique transverse impressions at sides of basal margin (Fig. 9); all margins beaded, except for middle of anterior margin; prothoracic hypomera with large smoothed irregular wrinkles and small sparse granules in lower part; prosternal process convex, projected.

Pterothorax. Elytra elongate (1.56–1.65 times as long as wide), widest at middle, 1.95–2.02 times as wide as head, 1.23–1.31 times as wide and 2.4 times as long as pronotum; punctures is striae well expressed, elongate, 3–4 times larger than those in interstriae; striae sometimes weakly impressed, not expressed in apical third, where strial and interstitial punctures subequal; interstriae with fine sparse punctation; elytral apex not bifurcate, weakly convex along suture; epipleura with very fine and sparse raduliform punctures in base; mesoventrite granulated in anterior part; mesepisterna with raduliform wrinkles; mesepimera and metepisterna with simple coarse and dense punctation; metaventrite with coarse raduliform punctation (each puncture with small granule near anterior margin).

Abdomen. Abdominal ventrites 1–4 with raduliform punctation, 1st and 2nd ones with distinct granules near punctures, 3rd and 4th ones with weak granules; ventrite 5 with simple dense punctation.

Legs. Pro- and mesotibiae weakly curved; inner side of pro- and mesotibiae with strong reddish setae (but these setae not don't form very dense narrow line) protarsi

transverse, but weakly widened, not wider than tibiae at apex; comparative width : length of protarsomeres 1–4 as following: 2.9:2.3, 3:2, 2.5:1.5, 2:1.1.



Figs. 1–11. *Entomogonus (Delonurops)* spp., male, habitus and details of structure. 1–6, 8, 9 – *E. amri* sp. n.; 7, 10, 11 – *E. saphyrinus* Allard, 1876. 1, 7 – male, habitus; 2 – aedeagus ventrally; 3 – aedeagus laterally; 4 – median lobe of aedeagus; 5 – VIII sternite; 6 – gastral spicula; 8, 10 – protarsus; 9, 11 – base of pronotum.

Male genitalia (Figs 2–6) are typical for the genus, apical lobe with spines in apical third, median lobe with one acute apex and additional inner baculi, male sternite VIII with very dense long brown hairs and additional sclerotized “spicules” at middle; gastral spicula without lateral processes, lobes with additional sclerotization at middle.

Body length 10.8–13.5 mm, width 4–4.6 mm.

Female. Body more robust; antennae shorter, reaching base of pronotum; tibiae straight; protarsi not widened; lateral sides of pronotal disc very weakly depressed; meso- and metatibiae with distinct elongate impression on lower side of apical third. Body length 12.1–17.2 mm, width 4.9–6.9 mm.

COMPARATIVE DIAGNOSIS. The new species is most similar to Anatolian *Entomogonus saphyrinus* Allard, 1876 (Figs 7, 10, 11) by the granulated punctuation of the metaventrite and partly prohypomera (Nabozhenko *et al.*, 2018), but differs by the structure of male apical antennomere (elongate, not triangle as in *E. saphyrinus*), the granulated prosternum, not granulated metepisterna, prothoracic hypomera with small granules only in lower part, pro- and mesotibiae with reddish (not black) setae on inner side, weakly widened pro- and mesotarsi, not impressed and not wrinkled pronotal disc along base, metatibiae without very dense narrow line of suberected strong setae and narrow (not widened) protarsi of male.

ETYMOLOGY. The species is named in honour of Prof. Zuhair Amr (Jordan University of Science and Technology), who made a great contribution to zoological studies of the Middle East.

Subtribe Cylindrinotina

Odocnemis (s. str.) *praelongus* (Baudi di Selve, 1876)

Odocnemis caudatus Allard, 1876: 36 (type locality: Syria).

TYPE MATERIAL. Types of *Helops praelongus* Baudi di Selve were not studied. Holotype of *Odocnemis caudatus* (NHML), male, with labels: “Syria”, “*Odocnemis caudatus*”, “*Odocnemis caudatus* type All.”, “F. Bates Coll. 81–19”.

MATERIAL. **Jordan**: 10 km N, NE of Jerash, 20.IV 2002, 1♀, leg. M. Snížek. (CVT).

DISTRIBUTION. Syria, Lebanon, Israel, Jordan (Katbeh-Bader, 1996; Waitzbauer *et al.*, 2004; Nabozhenko & Löbl, 2008).

NOTES. This species was twice described in 1876, by Baudi di Selve (1876) from Damascus and by Allard (1876) from Syria. Allard (1877) later recognized the priority of Baudi’s taxon. This species is distinctly differs from all Middle East *Odocnemis* Allard, 1876 by the presence of the large caudal projection (mucron) at the elytral apex. Both Baudi’s and Allard’s descriptions include this clear character. Seidlitz (1896) didn’t study type specimens and distinguished these taxa by long (*O. praelongus*) or very short (*O. caudatus*) caudal projection and sparse (*O. praelongus*)

or dense (*O. caudatus*) hair brush on male abdominal ventrite 1. But Seidlitz erroneously interpreted characters of *O. caudatus*. Reitter (1922) repeated Seidlitz's key. The holotype of *O. caudatus* has long caudal projection; density of male abdominal hair brush is variable in different populations. So, both these taxa are conspecific. These two taxa are listed under the name *O. praelongus* by Nabozhenko and Keskin (2016). Here we again confirm that *Odocnemis caudatus* Allard, 1876 is not a distinct species but must be considered as synonym of *Odocnemis praelongus* (Baudi di Selve, 1876).

***Odocnemis* (s. str.) *valgus* (Baudi di Selve, 1881)**

MATERIAL. **Jordan:** Petra env., 9.IV 2009, 1♀, leg. M. Snížek (CVT); N of Petra, 31.III 2013, 2♂, 1♀, leg. M. Snížek (CVT).

DISTRIBUTION. Syria (Baudi di Selve, 1881, Seidlitz, 1896, Reitter, 1922), Israel (Seidlitz, 1896; Chikatunov *et al.*, 1997; Nabozhenko & Löbl, 2008), Jordan (the first record for the country).

***Odocnemis* (s. str.) *moabiticus* (J.R. Sahlberg, 1908)**

TYPE MATERIAL. Holotype (NHMH), male, with labels: "Jordan", "J. Sahlb.", "spec. type", "Mus. Zool. H:fors Sp. type, *Helops moabiticus* J-Sb).

DISTRIBUTION. Jordan (Sahlberg, 1908, Reitter, 1922; Nabozhenko & Löbl, 2008).

Key to Helopini species of Jordan

- 1(6) Abdominal ventrite 5 with strong dorsal bead along outer margin. Elytra without granules.
- 2(5) Humeral angles absent, body small (not more than 8 mm), brown.
- 3(4) Elytra with sparse subrecumbent setation at apical third. Prohypomera with sparse punctures *Catomus acutipennis*
- 4(3) Elytra glabrous. Prohypomera with wrinkles or wrinkles and sparse elongate punctures *Catomus hesperides*
- 5(2) Humeral angles well expressed, body large (more than 10 mm), black or blue-black *Entomogonus amri*
- 6(1) Dorsal surface of abdominal ventrite 5 not beaded. Elytra with granules.
- 7(8) Male metatibiae with multiple small round granules. Pronotum with very weakly rounded lateral margins, not sinuated near base *Odocnemis moabiticus*
- 8(7) Male metatibiae without granules. Pronotum weakly cordiform, with moderately rounded lateral margins, sinuated near base.
- 9(10) Elytra sinuated near apex and form clear caudal pojection. Male metatibiae without dense line of hair brush on inner side *Odocnemis praelongus*
- 10(9) Elytra not sinuated near apex, without caudal projection. Male metatibiae with very dense line of suberected yellow hair brush *Odocnemis valgus*

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