

NEW SYNONYMIES AND NEW SPECIES OF THE GENUS
HEDYPHANES FISCHER VON WALDHEIM, 1822
(COLEOPTERA, TENEBRIONIDAE: HELOPINI)

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Two new synonyms are established in the genus *Hedyphanes*: *Hedyphanes tagenioides* FALDERMANN in MÉNÉTRIÉS, 1832 = *Hedyphanes pubiventris* REITTER, 1914, syn. n.; *Hedyphanes* FISCHER VON WALDHEIM, 1822 = *Coelophanes* IABLOKOFF-KHNZORIAN, 1964, syn. n., *Hedyphanes mesopotamicus* sp. n. (from Iraq) and *Hedyphanes semnanicus* sp. n. (from Iran) are described.

Key words: Coleoptera, Tenebrionidae, Helopini, *Hedyphanes*, new synonymy, new species

INTRODUCTION

In previous works (NABOZHENKO 2002a, b), based on the collection of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg) a review of the genus *Hedyphanes* FISCHER VON WALDHEIM, 1822 from the Caucasus including synonymy of some names, was presented. After examination of some type specimens of the Caucasian *Hedyphanes* and S. M. YABLOKOV-KHNZORYAN's works, additional new synonymies are established.

Two new species are described in this paper: *Hedyphanes mesopotamicus* sp. n. from Iraq and *H. semnanicus* sp. n. from Iran. *H. mesopotamicus* sp. n. is the first representative of the genus in the fauna of Iraq, and the second species of Helopini known from this country. With the inclusion of *H. semnanicus* from the arid areas of Northern Iran, 12 species of *Hedyphanes* are known to occur in Iran.

The acronyms indicate the following collections: DEI = Deutsche Entomologisches Institut, Müncheberg, Germany; HNHM = Hungarian Natural History Museum, Budapest, Hungary; ZIN = Zoological Institute of the Russian Academy of Sciences, Sankt-Petersburg, Russia.

Transliteration of the the name of the late S. M. YABLOKOV-KHNZORYAN is different in English and German. YABLOKOV-KHNZORYAN is English spelling of the Cyrillic version of his name, while he used IABLOKOFF-KHNZORIAN in his papers written in German.

RESULTS

REITTER (1914, 1922) in his papers on the genus *Hedyphanes* described a number of species from Iran, Central Asia and the Caucasus. He described *Hedyphanes pubiventris* REITTER, 1914 from Nukha (now Sheki, Azerbaijan), based on the material collected by E. KOENIG from the Caucasus. After studying two syntypes from DEI (one male with the labels: "Caucasus. Kreis-Nucha E. Koenig", "*Hedyphanes pubiventris* m. Type", "Syntypus" and one female with the labels "Caucasus. Kreis-Nucha E. Koenig", "Syntypus") it was obvious that *Hedyphanes pubiventris* REITTER is the junior synonym of *Hedyphanes tagenioides* FALDERMANN in MÉNÉTRIÉS, 1832. The male syntype has the form of penis with sharply bordered and pointed apical part, which is characteristic for *Hedyphanes tagenioides*. Specimens of *Hedyphanes pubiventris* differ from the typical form of *Hedyphanes tagenioides* in the absence of hairs at the apex of elytra, and less expressed grooves of elytra, and also in the less expressed bordering in the middle of pronotum. However, these characters vary even within one population. All transitions of these character states can be seen if big series of specimens are examined. Thus, *Hedyphanes tagenioides* FALDERMANN in MÉNÉTRIÉS, 1832 = *Hedyphanes pubiventris* REITTER, 1914, **syn. n.**

The system of the genus was discussed by S. M. YABLOKOV-KHNZORYAN (YABLOKOV-KHNZORYAN 1957, IABLOKOFF-KHNZORIAN 1964). This author suggested to unite the genera *Hedyphanes* and *Entomogonus* SOLIER, 1848 on the basis of the structure of epipleura (epipleura thickened and reaching the apex of elytra) (IABLOKOFF-KHNZORIAN 1964). At the same time, subgenera *Eutelogonus* REITTER, 1922, *Delonurops* REITTER, 1922, *Coelophanes* IABLOKOFF-KHNZORIAN, 1964 and the nominative subgenus should be allocated in the genus *Hedyphanes*. YABLOKOV-KHNZORYAN distinguished a new subgenus *Coelophanes*, with the type species *Hedyphanes impressicollis* FALDERMANN, 1837 (junior synonym of *Hedyphanes laticollis* FISCHER VON WALDHEIM in MÉNÉTRIÉS, 1832), which differs from *Hedyphanes* sensu stricto by the presence of humeral angles, formed by the edge of epipleura. However, this character cannot be used for the supra-specific classification in the genus *Hedyphanes*, as it is variable even within one population of the same species. Also expressed, but to a different degree, humeral angles can be observed on some Central Asian species of the genus, not closely related to the Caucasian species (for example, *Hedyphanes kiritchenkoi* MEDVEDEV, 1978, some females of *H. seidlitzi* REITTER, 1914), some specimens of the Iranian species of *Hedyphanes* (for example, *H. gebieni* REITTER, 1914). Presence of the more or less expressed humeral angles at *Hedyphanes* could be a taxonomically significant character at the species level. Therefore, in this case this character does

not give the basis to distinguish a separate subgenus. The name *Coelophanes* must be synonymized with *Hedyphanes*: *Hedyphanes* FISCHER VON WALDHEIM, 1822 = *Coelophanes* IABLOKOFF-KHNZORIAN, 1964, **syn. n.**

***Hedyphanes mesopotamicus* sp. n.**

(Figs 1–4)

Type material – Holotype (♂) with labels: “Mesopotamia, Mosul”, “*Hedyphanes* sp. det. Kaszab” (HNHM).

Description – Male (Fig 1). Body black, moderately shining. Elytra with bronze sheen. Meso- and metaventrites, meso- and metanotum, epipleura and abdominal ventrites dark fuscous. Tibiae and antennae reddish fuscous. Length 6.9 mm, width 2 mm.

Head widest at the level of eyes. Eyes large, convex. Genae widely rounded. Temples straight in dorsal view. Lateral margin of head at the junction of gena and clypeus widely emarginate. Frons weakly convex. Head with shallow transverse depression along frontoclypeal suture. Anterior margin of clypeus straight. Punctuation of head coarse, moderately dense (intervals between punctures on frons subequal to puncture diameter). Antennae long, with 3 apical segments extending beyond base of pronotum.

Pronotum 1.06 as long as wide, widest slightly anterior from middle. Pronotum weakly convex, slightly rounded at sides; anterior and posterior angles slightly obtuse, widely rounded. All sides of pronotum not margined (slightly margined only near anterior and posterior angles). Punctuation on centre of pronotal disc coarse and moderately dense (spaces between punctures subequal to puncture diameter); punctuation on margins finer and sparser. Propleura smooth, with sparse round punctures.

Elytra very convex, smooth; strial punctures very small, round, barely visible; interstriae flat, with fine and sparse punctation; punctures on interstriae larger than in striae. Humeral angles absent. Epipleura smooth, without microsculpture, not reaching to elytral apex. Meso- and metasterna with fine and sparse punctation.

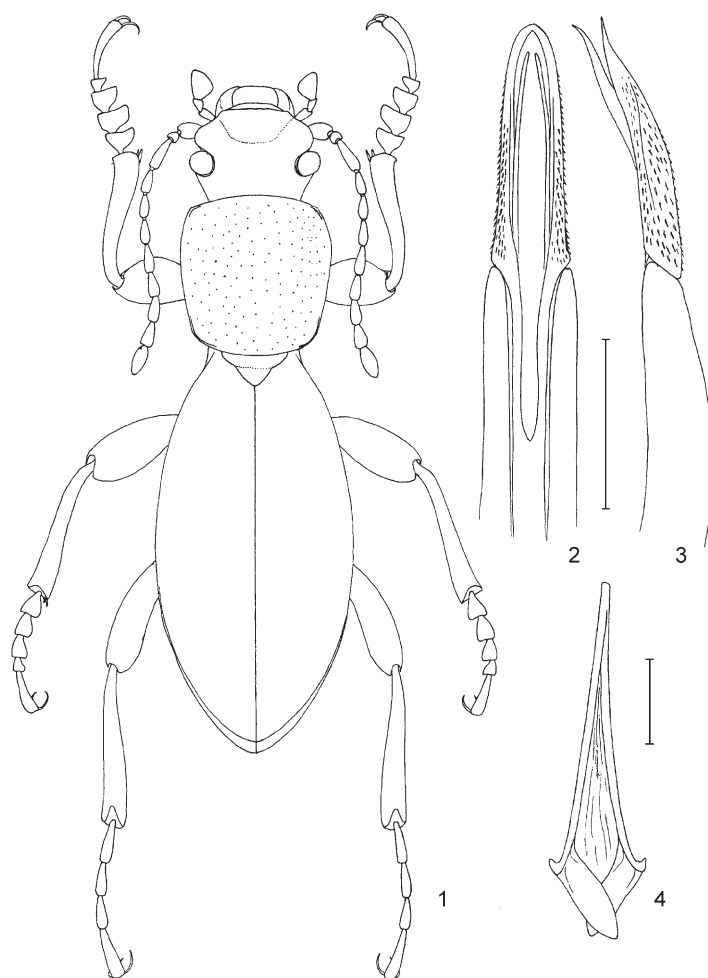
Abdominal ventrites very finely and sparsely punctate, and with short sparse recumbent hairs. Aedeagus: Figs 2–3. Spiculum gastrale: Fig. 4.

Tibiae straight. Dorsal side of hind tibia gently chopped. Anterior tarsi strongly widened (segments 1–4 transverse), with dense hairbrush on ventral surface.

Diagnosis – This species is similar to *Hedyphanes tagenioides* FALDERMANN in MÉNÉTRIÉS, 1832 from which it can be separated by the metallic lustre of elytra, the reddish brown legs and antennae, the emargination of pronotum, the pronotal and elytral puncturation, the form of the parameres and penis.

Hedyphanes semnanicus sp. n.
(Figs 5–10)

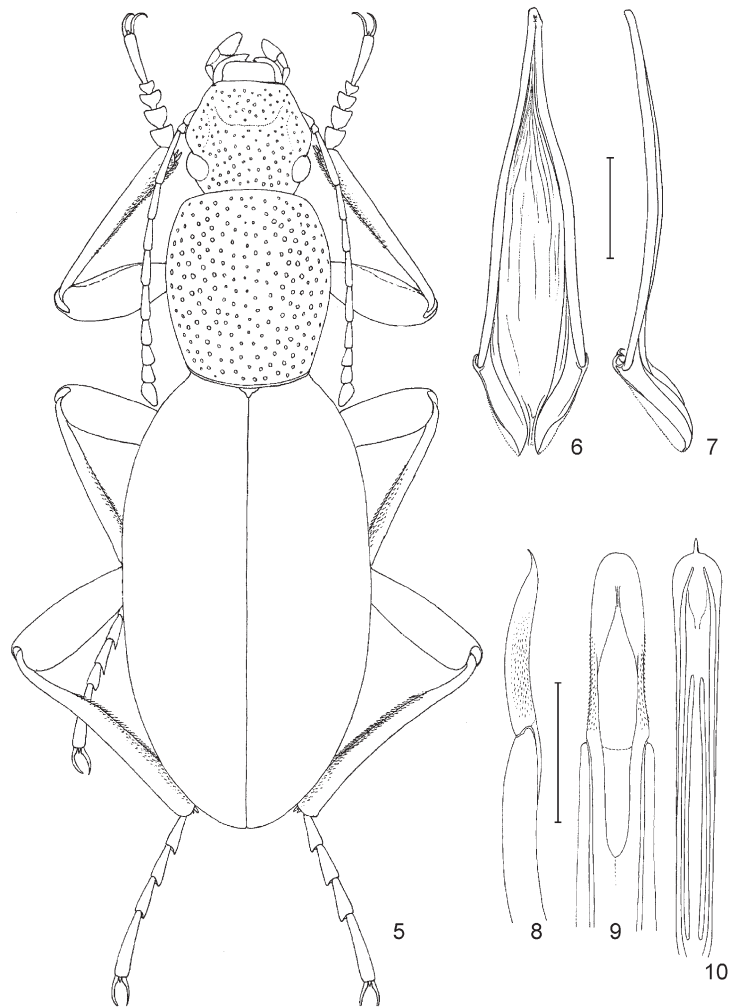
Type material – Holotype (♂) is with the following labels: “IRAN, prov. Semnan, Byarjamand, 1000 m. 55°49'20"E,36°15'11"N, 25.IV.1999”; “leg. Gy. Fábián, L. Náday, Z. Rahmé & K. Székely” (HNHM). Paratype (♀) is with the following label: “IRAN, Prov Semnan Byarjaman, 1000 m 25. IV. 1999 leg. N. Rahmé” (HNHM). (The names [ZOLTÁN] and [NIKOLA] RAHMÉ refer to the same person.)



Figs 1–4. *Hedyphanes mesopotamicus* sp. n.: 1 = habitus of male, 2 = aedeagus, ventral view, 3 = aedeagus, lateral view, 4 = spiculum gastrale, ventral view. Scale bars = 1 mm

Description – Male (Fig. 5). Body slender, black, with greasy sheen. Length 16 mm, width 6.3 mm.

Head widest at level of eyes. Eyes large, convex. Ratio of head width at level of eyes to distance between eyes 1.6. Anterior margin of clypeus straight. Lateral margin of head at junction of gena and clypeus with weak emargination. Genae weakly rounded. Frons weakly convex. Head without transverse depression along frontal suture. Punctuation of head coarse, moderately dense (intervals between punctures on frons subequal to puncture diameter). Antennae long, with 3 apical segments



Figs 5–10. *Hedyphanes semmanicus* sp. n.: 5 = habitus of male, 6 = spiculum gastrale, ventral view, 7 = spiculum gastrale, lateral view, 8 = parameres, lateral view, 9 = parameres, ventral view, 10 = penis, ventral view. Scale bars = 1 mm

extending beyond base of pronotum. Segments 9–11 filiform, flattened, asymmetric. Length to width ratio of segments 2–11: 1, 4.9, 2.4, 2.3, 2.3, 2.4, 2.2, 1.6, 1.3, 1.7. 3rd segment of antennae 2 times as long as 4th. Segment 11 1.3 times as long as 10th.

Pronotum weakly transverse, widest at middle. Disc of pronotum strongly convex. Outer margins of pronotum emarginated only near angles. All margins of pronotum weakly rounded. Lateral sides of pronotum finely margined near angles; anterior margin and base very finely margined. Punctuation of pronotum moderately coarse, diameter of punctures on the middle of disc about equal to distance between them; diameter of punctures on sides larger than distance between them. Propleura with coarse, not rasp-formed punctuation; punctuation on lateral portion sparser. Prosternal process weakly projecting.

Elytra oblong-oval. Disc of elytra moderately convex, only narrowly depressed near suture. Striae of punctures weak; interstrial punctuation almost the same as punctures in striae. Elytra with transverse wrinkles.

Abdominal ventrites with fine punctuation. Spiculum gastrale: Figs 6–7. Parameres: Figs 8–9. Penis: Fig. 10.

Legs long; anterior and middle tibiae straight, posterior tibiae weakly curved inside in basal third. Anterior tarsi of male widened, its segments 1–2 transverse. Middle tarsi weakly widened, with transverse segments. All tarsi with dense rufous hairs.

Body length 13 mm, body width 4 mm.

Female. Body wider and more robust. Antennae shorter, when posteriorly extended reaching beyond base of pronotum with one segment. Elytra without transverse wrinkles. Tarsi not widened.

Diagnosis – The new species is closely related to *Hedyphanes besseri* FALDERMANN, 1837, but differs from it in the more widened body and the absence of emarginations on the outer margins of pronotum. Except *H. besseri*, which has rectangular and transversal tarsomeres 1–4, only *H. semnanicus* sp. n. has transversal head-shaped tarsomeres 1–3. But *H. semnanicus* sp. n. also differs from *H. besseri* by the structure of 11th antennal segment, the later having more elongate and less asymmetric 11th antennal segment.

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