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A new species of *Metaporus* GUIGNOT from southern Iran (Coleoptera: Dytiscidae)

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Abstract

Metaporus orientalis sp.n. (Coleoptera: Dytiscidae) from southern Iran is the second species of a genus, originally believed to be restricted to the western Mediterranean. The two species are separated by a wide geographical area, and this discovery poses interesting questions on the biogeography and evolutionary history of *Metaporus*. The new species is described here and compared with *M. meridionalis* (AUBÉ). Illustrations of habitus and male characters are given for both taxa.

Key words: Coleoptera, Dytiscidae, *Metaporus*, new species, Iran.

Introduction

Numerous papers in recent decades have improved the knowledge of Dytiscidae in Iran (e.g. NILSSON 1989; FERY & HOSSEINIE 1998; WEWALKA & BISTRÖM 1998), giving new distributional records and describing taxa new to the science. Some of these new findings are of interest since they point to the importance of this territory for the biogeography of the Palearctic water beetles. Striking examples include the amazing discovery of *Agabetes svetlanae* NILSSON, 1989 – the second species of a genus previously believed to be exclusively Nearctic – and the description of the new genus *Glareadessus* WEWALKA & BISTRÖM, 1998, at present known from two species of poorly specialised subterranean bidessine, from Oman and Iran. In a similar vein we were surprised when we recognised amongst a series of small *Graptodytes*-looking Hydroporini the second known species of the genus *Metaporus* GUIGNOT, up to now considered monobasic. The new species, which we describe below, is very distinctive and somewhat peculiar in body shape. It also extends the range of *Metaporus* considerably, and its recognition opens important questions regarding the biogeography and phylogeny of the genus.

Acronyms

CBSU Collection of the Department of Biology, Shiraz University, Iran
DBP Collection David T. Bilton, Plymouth, UK
HFB Collection Hans Fery, Berlin, Germany
MTB Collection Mario Toledo, Brescia, Italy
NMW Naturhistorisches Museum, Wien, Austria
PMB Collection Paolo Mazzoldi, Brescia, Italy

Metaporus orientalis sp.n.

TYPE LOCALITY: Road Borazjan – Bandar-é Genavéh, 60 km north of Borazjan, Bushehr Province, Iran.

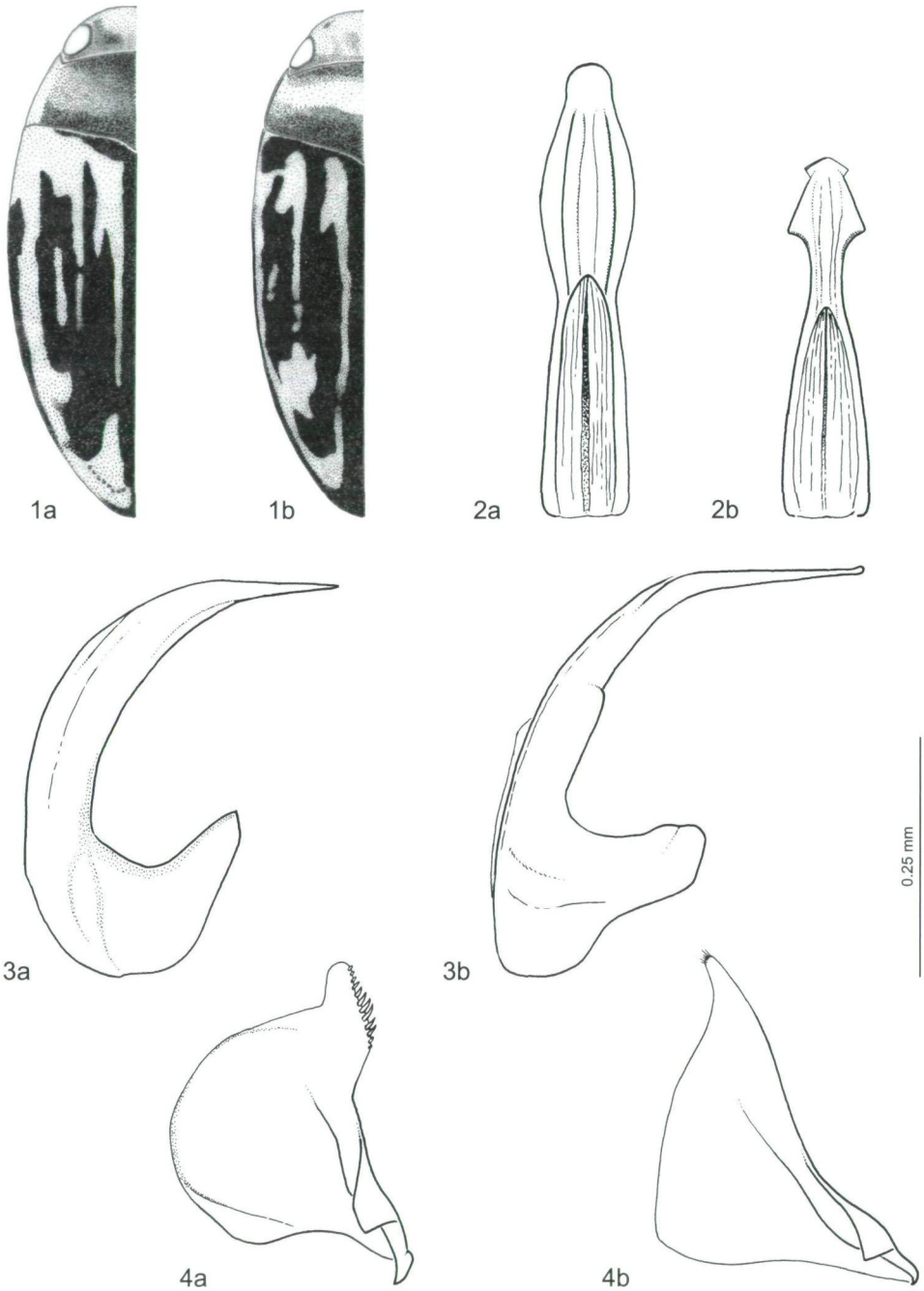


Fig. 1: Body outlines (left half), a) *Metaporus meridionalis*; b) *M. orientalis* sp.n.
 Figs. 2 - 4: Aedeagus, a) *Metaporus orientalis* sp.n., b) *M. meridionalis*, 2) dorsal view of penis,
 3) lateral view of penis, 4) left paramere.

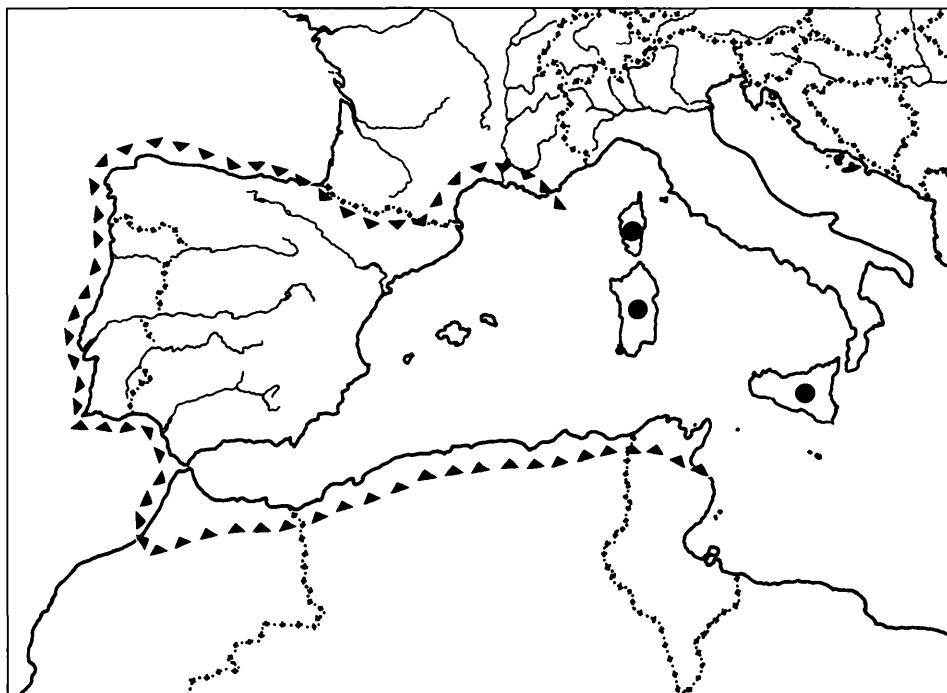


Fig. 5: Geographical distribution of *Metaporus meridionalis*.

Type-material: **Holotype** ♂ (NMW), dissected, "Southern Iran, Bushehr Prov., road Borazjan to Bandar-é Genavéh, 60 km N Borazjan, 4.II.2000, wide stream (mild), air 16°C, Water 14°C, 20m a.s.l., leg. Elmi K. (#2327)".
Paratypes: same data (34 exs. in CBSU, DBP, NMW, MTB, PMB, HFB); "SW Iran, Fars Prov., Zarghan, 30 km N Shiraz, 16.VI.1969, Marshland, leg. Elmi & Hosseinie (#17)" (1 ex. in CBSU); same data, but: "29.V.1972, air 26°C, Water 20°C, leg. Elmi & Hosseinie (#130)" (2 exs. in CBSU); "SW Iran, Fars Prov., Hosseinabad to Bezein, 21 km NW Shiraz, 22.V.1974, Stream-pond, air 27°C, Water 26°C, leg. Elmi & Hosseinie (#195)" (1 ex. in CBSU).

DESCRIPTION: Length 2.5 – 2.8 mm. Body outline oblong-oval, somewhat flat, an angle between pronotum and elytra is hardly visible; colour reddish-yellow on head and pronotum, pitch-brown on elytra, with yellow longitudinal markings.

Head evenly reddish-yellow or with two darker spots on front. Surface visibly covered by a reticulation of rounded, polygonal cells and with few, small and fine dots. Underside reddish-yellow, mouthparts and antennae evenly testaceous.

Pronotum with lateral margins poorly converging inwards, slightly rounded especially near the hind angles, finely bordered. Dorsal reticulation as on head and with quite impressed dots, scattered on disc, more dense and regular along the fore side. Coloration reddish-yellow, with a darker band on anterior and posterior margin, more or less extended towards the disc.

Elytra oblong, poorly rounded laterally and with maximum width just before the middle of their length. Dorsal reticulation as on pronotum; surface almost regularly covered by scattered dots, slightly larger than those on pronotum. Color pattern as in Fig. 1: two longitudinal yellow lines – one parasutural and one discal – and a wider lateral band running along the whole side of each

elytron. The former two lines are very thick at the shoulders and then abruptly narrowed: the discal one stops with a large postmedial spot, the parasutural one runs almost up to the apex of each elytron before turning to the lateral side. An elongated spot is present between the discal line and the lateral band. This pattern is apparently constant in the specimens examined.

Underside reddish-yellow, slightly darker on sternites, which have a strong reticulation. Even if apparently mature, all the dried specimens we have been able to see – all previously preserved in ethanol – have the sternites deformed in the characteristic way of teneral specimens. Perhaps weak sclerotisation of the abdomen, even in mature individuals, is a characteristic of this species.

Legs evenly testaceous.

♂: claws of fore tarsi clearly different in length: the inner one $\frac{2}{3}$ times as long as the outer, and a little more robust and curved. Median lobe of aedeagus peculiar (Figs. 2, 3): seen from dorsal side the apex has the shape of a double arrow, with a quite rounded tip; laterally it is curved, with the apex thin and straight. Parameres subequal, wide, with vertex protruding from its outline, bearing a file of short tooth-like setae on its front sight (Fig. 4a).

♀: similar to male.

HABITAT: Most of the specimens of the type series were collected in a slow-flowing stream in February. All the other collecting sites are a pond made by a stream and a large marshland (Fig. 6). This suggests that this species could be related to diverse kinds of static or lotic waters.

DISTRIBUTION (Fig. 7): Southern Iran.

DERIVATIO NOMINIS: The name refers to the geographical distribution of the new species, which is, at present, the easternmost member of the genus.



Fig. 6: Habitat of *Metaporus orientalis* sp.n.; marshes near Zarghan (Fars, southwestern Iran).

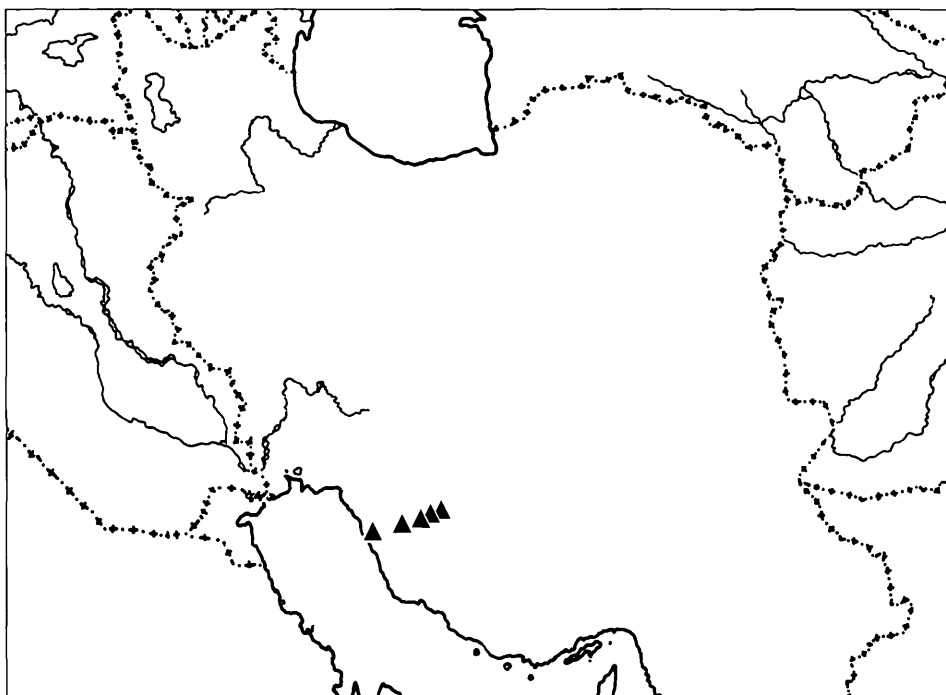


Fig. 7: Geographical distribution of *Metaporus orientalis* sp.n.

Taxonomic and biogeographic remarks

The new species clearly belongs to the genus *Metaporus* GUIGNOT, being generally similar to its type-species, *M. meridionalis* (AUBÉ, 1836). It lacks sublateral impressions on the pronotum, a character which separates this genus from *Graptodytes* ZIMMERMANN. On the other hand, *M. orientalis* is clearly distinguishable from *M. meridionalis* by the more elongate and flat body, with a slightly visible angle between pronotum and elytra – not visible in *M. meridionalis* – and by the stronger punctation, specially on the pronotum. Male characters are sharply distinctive: the foreclaws, clearly unequal in the new species, are almost of the same length in *M. meridionalis*; the parameres are very different and the median lobe of the aedeagus of *M. orientalis* sp.n. is unmistakable for its peculiar "double arrow-like" apex (see Figs. 2-4).

In light of this new finding, *Metaporus* becomes dibasic and the ranges of the two species of this genus are now geographically separated by a wide gap. *Metaporus meridionalis* is a Western-Mediterranean beetle (Fig. 5), known from southern France, the Iberian Peninsula, Corsica, Sardinia, Sicily, Morocco, Algeria and Tunisia (GUIGNOT 1947: 124; 1959: 411; FRANCISCOLO 1979: 413); eastwards of this area the genus *Metaporus* was unknown previously. Such a disjunction, together with the strong differentiation of these two taxa, suggests a relict distribution for a genus, which may have been more speciose in the past. The close relationship, both taxonomic and ecological, of *Metaporus* with *Graptodytes*, suggests a common origin for these two taxa. Judging, then, by the above considerations on geographic distribution, and the

apparently more advanced characters of *Graptodytes*, it is possible to suppose an older age for the genus *Metaporus*, and a past diversity which may have been similar to that known for *Graptodytes* today.

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