Entomologica Basiliensia et Collectionis Frey	31	37–40	2009	ISSN 1661–8041

Yola orientalis sp.nov. – an unexpected new species from Cambodia, south-eastern Asia (Coleoptera, Dytiscidae)

by **Jiří Hájek**

Abstract. *Yola orientalis* sp.nov. (*Y. bicarinata* species group) from Cambodia is described, illustrated and compared with related species. Collection of this species is especially interesting from the zoogeographical point of view, for it represents the first record of the genus from continental south-east Asia, and moves the limits of its distribution nearly 2000 km eastwards.

Key words. Coleoptera – Dytiscidae – *Yola* – new species – Cambodia – Oriental region

Introduction

The genus *Yola* Gozis, 1886 is classified in the tribe Bidessini of the subfamily Hydroporinae, characterized by the two- or three-segmented parameres of the aedeagus (BISTRÖM 1988). *Yola* may be easily distinguished from other genera in this tribe by the presence of a discal elytral keel, and by not having distinct rows of punctures between the discal keel and suture (BISTRÖM 1983). A taxonomical revision of *Yola* was published by BISTRÖM (1983), who recognized 38 species in six species group. Since this revision, six new taxa have been described by BISTRÖM (1987, 1991), BILARDO & ROCCHI (1999, 2008), ROCCHI (2000) and WEWALKA (2004), increasing the number of known species to 45. The genus is predominantly Afrotropical, ten species reaching the Palaearctic region in northern Africa and the Arabian peninsula. One species, *Yola bicarinata* (Latreille, 1804) also occurs in south-western Europe (see NILSSON 2003) and in the Oriental region only three species are known, from India (BISTRÖM 1983).

The single female specimen of *Yola* was collected in Cambodia by Jiří Mlíkovský (National Museum, Prague, Czech Republic) during a Czech biological expedition in 1999. Although it appears to belong to a species unknown to science, at first I hesitated to describe it because the alpha-classification of the genus is based largely on male external genitalia. However, mainly because (1) the occurrence of *Yola* in south-eastern Asia is interesting from a zoogeographical point of view; (2) characters such as elevation and length of elytral costae and body coloration allow clear identification of even a female; and (3) the collection of further specimens in Cambodia seems unlikely, I present this formal description of the new species.

Material and methods

In descriptions, I largely follow the style used in the revision of the genus mentioned above (BISTRÖM 1983). The habitus photograph was taken with an Olympus Camedia-5050 camera attached to an Olympus SZX-ILLK200 binocular microscope.

Exact label data are cited for the type specimen. A forward slash (/) separates different lines and a double slash (//) different labels of data. Additional remarks are to be found in square brackets.

The type is deposited in the collection of the National Museum, Prague, Czech Republic (NMPC).

Taxonomy

***Yola orientalis* sp.nov.** (Fig. 1)

Type locality. Cambodia, Stung Treng province, Stung Treng, ca. 13°32′N, 105°58′E

Type material. Holotype ♀ (NMPC): "NE CAMBODIA / Stung Treng 18.–22.4. / 13°32′N 105°58′E / J. Mlíkovský lgt. 1999 // HOLOTYPE / YOLA ♀ / orientalis sp.nov. / J. Hájek det. 2008 [red label]".

Description. Habitus almost globular. Body colouring testaceous; base of pronotum between striae, base of elytra between discal keels, elytral suture, elytral median transverse sinuous stripe and three subapical spots blackish (Fig. 1).

Measurements: length 1.9 mm, width 1.1 mm.

Head: Finely microsculptured, indistinctly and sparsely punctate. Punctation frontally fine, posteriorly coarser. Area posterior to cervical line impunctate. Clypeus rounded, medially somewhat straightened.

Pronotum: Lustrous, microsculpture almost lacking, visible only along anterior and lateral margins. Punctation fairly fine, coarsest between striae posteriad. Striae fairly weakly impressed. Pronotum broadest at posterior corners; sides almost straight, very slightly curved inwards at anterior corners. Angle between pronotum and elytra rather indistinct.

Elytra: Lustrous, microsculpture mainly lacking. Punctation fairly coarse, dense, posteriorly somewhat finer. Punctures not forming distinct rows. Each elytron with three keels. Discal keels somewhat elevated, distinct, descending evenly to elytron. Median keel distinct, but lower than discal keel. Lateral keel fairly moderately elevated, slightly indistinct. Epipleura coarsely punctate.

Ventral part: Lustrous, microsculpture absent. Punctation coarse, on abdomen except for apex of apical sternite somewhat finer. Prothorax almost impunctate. Metacoxal lines slightly raised, almost straight and parallel.

Male. Unknown.

Distribution. Known to date from only the type locality in north-eastern Cambodia.

Etymology. The specific epithet derives from the Latin word for "eastern" and refers to the fact that the new species is the most easterly-occurring species within the genus *Yola*.

Differential diagnosis. Based on the presence of three elytral keels evenly descending to elytra, the new species undoubtedly belongs to the *Yola bicarinata* species group *sensu* BISTRÖM (1983). Within the species in this group *Y. orientalis* sp.nov. can be separated on the basis of lustrous, non-microsculptured elytra, weak discal elytral costae reaching *c.* 60% of elytral length, and by the reduced dark body pattern. In these characters the new species is similar to the European *Y. bicarinata*. Both the most

Fig 1. *Yola orientalis* sp.nov., habitus.

closely-occurring Indian species *Y. consanguinea* (Régimbart, 1892) and *Y. indica* Biström, 1983 have females with microsculptured elytra (BISTRÖM 1983; J. Hájek, unpublished data), discal elytral costae more elevated and reaching *c.* 70% of elytral length, with dark body pattern much more extensive (see BISTRÖM 1983).

Collection circumstances. Collected at light (J. Mlíkovský, pers. comm.). The new species was associated in the sample with *Copelatus tenebrosus* Régimbart, 1880, *Hydrovatus acuminatus* Motschulsky, 1859, *H. seminarius* Motschulsky, 1859, *Laccophilus parvulus obtusus* Sharp, 1882, *L. uniformis* Motschulsky, 1859, and *Sandracottus mixtus* (Blanchard, 1843) (all Dytiscidae).

Discussion

The finding of *Yola orientalis* sp.nov. in Cambodia represents the first record of *Yola* from continental south-east Asia, and considerably extends the distributional area of the genus, by nearly 2000 km east. Although *Yola* is most probably a genus of

Afrotropical origin, the present finding supports the hypothesis of a former (Miocene) continuous distribution of water beetle taxa in the "Old World tropics" from sub-Saharan Africa through the Arabian peninsula, southern Iran and Pakistan to India and south-east Asia, and presumably interchanges of tropical faunas took place, as has already been suggested in BALKE (1995) or HÁJEK (2006).

Acknowledgements

I am obliged to Martin Fikáček (Národní muzeum, Prague, Czech Republic) for the habitus photograph. I am very grateful to Olof Biström (Zoological Museum, University of Helsinki, Denmark) and Jaroslav Šťastný (Liberec, Czech Republic) for their help and valuable comments on the manuscript. This study was partly supported by Ministry of Culture of the Czech Republic grant MK00002327201.

References

BALKE M. (1995): *Revision of the Afrotropical-Oriental Rhantus rugulosus-clade (Coleoptera: Dytiscidae).* Entomologica Scandinavica **26:** 229–239.

BILARDO A. & ROCCHI S. (1999): *Haliplidae e Dytiscidae (Coleoptera) del Gabon (Parte terza).* Atti della Societa Italiana di Scienze Naturali e del Museo Civico di Storia Naturale in Milano **140:** 215–236.

BILARDO A. & ROCCHI S. (2008): *Haliplidae, Noteridae, Dytiscidae (Coleoptera) du Gabon (6čme partie). Parc National des Plateaux Batéké (missions 2005 et 2006).* Atti della Societa Italiana di Scienze Naturali e del Museo Civico di Storia Naturale in Milano **149:** 195–238.

BISTRÖM O. (1983): *Revision of the genera Yola Des Gozis and Yolina Guignot (Coleoptera, Dytiscidae).* Acta Zoologica Fennica **176:** 1–67.

BISTRÖM O. (1987): *Yola deviata sp. n. and Y. ferruginea sp. n., and new taxonomic and faunistic records of the genus (Coleoptera, Dytiscidae).* Revue Française d'Entomologie (N.S.) **9:** 95–99.

BISTRÖM O. (1988): *Generic review of the Bidessini (Coleoptera, Dytiscidae).* Acta Zoologica Fennica **184:** 1–41.

BISTRÖM O. (1991): *Yola counselli n. sp., described from Cameroon (Coleoptera Dytiscidae).* Tropical Zoology **4:** 99–101.

HÁJEK J. (2006): *The westernmost record of Oriental Neptosternus circumductus, and the review of Dytiscidae (Coleoptera) of Baluchistan (Iran, Pakistan).* Acta Entomologica Musei Nationalis Pragae **46:** 43–56.

NILSSON A. N. (2003): *Family Dytiscidae Leach, 1815.* Pp 35–78. In: LÖBL I. & SMETANA A. (eds): *Catalogue of Palaearctic Coleoptera, 1. Archostemata – Myxophaga – Adephaga.* Apollo Books, Sternstrup, 819 pp.

ROCCHI S. (2000): *Contributio alla conoscenza dei Ditiscidi di Guinea noc descrizione di due nuove specie (Coleoptera, Dytiscidae).* Fragmenta Entomologica **32:** 11–33.

WEWALKA G. (2004): *Dytiscidae (Insecta: Coleoptera) of the Socotra Archipelago, with descriptions of two new species.* Fauna of Arabia **20:** 463–472.

Author's address:

Dr. Jiří Hájek
Department of Entomology
National Museum
Kunratice 1
CZ-148 00 Praha 4
CZECH REPUBLIC
E-mail: jiri_hajek@nm.cz