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First report of *Dermatopelte* Erdős & Novicky (Hymenoptera, Eulophidae) from the Indo-Malayan realm, with descriptions of new species

ROGER A. BURKS[1,4] & ZOYA A. YEFREMOVA[2, 3]

[1]*University of California, Riverside, CA 92521, USA*
[2]*Department of Zoology, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, 69978, Israel*
[3]*Department of Zoology, Ulyanovsk State Pedagogical University, Ulyanovsk, 432700, Russia*
[1]*urn:lsid:zoobank.org:author:F792CF45-EB70-458B-85B8-D1AF8A30936F*
[2]*urn:lsid:zoobank.org:author:FFBD7C8E-E55B-4142-B9FD-AA870D11E89F*
[4]*Corresponding author. E-mail: burks.roger@gmail.com*

Abstract

Four new species of *Dermatopelte* Erdős & Novicky (Hymenoptera, Eulophidae), *D. bavilucus* **n. sp.**, *D. collis* **n. sp.**, *D. hanoica* **n. sp.** and *D. heratyi* **n. sp.**, are described from the Indo-Malayan biogeographic realm, the first three based on females and the last on a male. While similar to previously described Nearctic and Palearctic species, these new species comprise a distinct species group defined by a stronger transverse pronotal carina and smooth propodeal median panels. The differences between Indo-Malayan, Nearctic, and Palearctic species of *Dermatopelte* are discussed, and a key to all species of the genus is provided.

Key words: Vietnam, Taiwan, Eulophinae, new species

Introduction

Dermatopelte budensis Erdős & Novicky was described as the only species of its genus, based on specimens from Austria, Hungary, and southern France (Erdős 1951). The French specimen was described as a separate subspecies, *Dermatopelte budensis provincialis* Novicky, and although this specimen is apparently lost and has not been recently examined, its description suggests that it represents only a dark color morph of the nominate subspecies. Two Nearctic species, *Dermatopelte sinaloensis* Burks and *Dermatopelte yanegai* Burks, were described later (Burks 2004). Askew *et al.* (2008) re-examined *D. budensis* and discovered that it is a parasitoid of *Zygaena* Fabricius (Lepidoptera: Zygaenidae), a genus native to the Palearctic realm. It is therefore assumed that Nearctic and Indo-Malayan *Dermatopelte* probably have different hosts, potentially other Zygaenidae present in those realms.

Dermatopelte is a genus of Eulophinae that is very similar to *Rhicnopelte crassicornis* (Nees) in having reduced, fingernail-shaped mandibles that lack teeth and do not meet medially, but which have a row of conspicuous setae along the middle of the exterior surface. Similar mandibles are found in many other Eulophinae, including *Eulophus* Geoffroy, all members of the *Euplectrus* Westwood group of genera (sometimes given tribal status as Euplectrini), *Elachertomorpha* Ashmead, *Euplectrophelinus* Girault, *Hoplocrepis* Ashmead, *Ogmoelachertus* Schauff, and *Stenopetius* Bouček. It is highly unlikely that all of these genera together form a monophyletic group, and therefore mandibular reduction is almost certainly homoplastic within Eulophinae. *Eulophus* is especially very different from the other mentioned genera in lacking submedian grooves on the mesoscutellum and in having incomplete notauli. Assumed monophyly of the *Euplectrus* group of genera suggests that mandibular reduction is a locally informative feature. It is likely that a lineage containing one or more of the other genera mentioned above, possibly *Dermatopelte* itself, is the sister group of the *Euplectrus* group. Certainty over this matter awaits a phylogenetic analysis of world Eulophinae, including currently undescribed species known to the authors. Molecular data would be especially helpful, but are lacking for most of these genera because they are infrequently collected.

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Mesosoma 1.6× as long as broad (Fig. 23); transverse pronotal carina sharp, pronotal collar coriaceous posterior to carina; mesoscutum 1.6× as broad as pronotum, transversely rugose to coriaceous, with many unpaired setae, midlobe and lateral lobe each with 1 pair of larger setae posteriorly; mesoscutellum with U-shaped submedian groove, enclosing a chiefly coriaceous mesoscutellar disc with some wrinkle-like impressions, especially a stronger longitudinal impression medially; metascutellum smooth; propodeum smooth between median carina and postspiracular furrow (Fig. 24); callus with 9 setae in one row and 5 in a second row.

Fore wing (Fig. 25) 3.2× as long as broad; relative lengths of costal cell & venation: costal cell 2.7, marginal vein 2.8, postmarginal vein 1.9, stigmal vein 1.0. Hind wing 4.2× as long as broad, narrowly rounded apically.

Petiole 3.0× as long as broad, with longitudinal carinae at dorsolateral corners and an interrupted longitudinal carina dorsally (Fig. 24); gaster 1.7× as long as broad, smooth. Volsellar digitus with 2 spines (Fig. 26); paramere with 2 setae; short intervolsellar process present, with a seta at its lateral junction with the genital capsule.

Female. Unknown.

Material examined. Holotype, ♂, Taiwan, Nantou, E of Shan-Kan, Ch'iao, 2100m, 24°06′ N, 120°39′ E, 28.v.1990, J. Heraty (UCRC), UCRCENT112800.

Etymology. This species is named in honor of John M. Heraty at the University of California, Riverside Entomology Department (UCRC).

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