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TWO SPECIES OF EUPHORINAE (HYMENOPTERA : BRACONIDAE) FROM BANGLADESH

M. HABIBUR RAHMAN

Department of Zoology, University of Chittagong, Chittagong-4331, Bangladesh

ABSTRACT

Two species of Euphorinae (Hymenoptera: Braconidae) have been described and illustrated from Bangladesh. The species are: *Mateorus erratus* Achterberg, 1997 and *Perilitus lateropus* Achterberg, 1997. These two species are new record to the fauna of Bangladesh. *Mateorus erratus* and *Perilitus lateropus* were collected from Tangail and Dhaka districts, respectively.

Key words: New record, Braconid, Euphorinae, Parasitoid.

INTRODUCTION

The Braconid subfamily Euphorinae Foerster, 1862, has a cosmopolitan distribution. It contains 54 valid genera and about 500 species (Achterberg and Chen 1997). Majority species of this subfamily are Koinobiont endoparasites of larval Lepidoptera (tribe Meteorini), of larval and adult Coleoptera, and mainly adult Hemiptera, Hymenoptera, Neuroptera, Orthoptera and Psocoptera (Achterberg 1993).

On the New World the Euphorinae includes 31 genera in nine tribes. These hymenopteran parasitoids attack the adult stage of various insects (Shaw 1985, 1989). The euphorine genera of the world were reviewed by Shaw (1985). A revisionary work has been done by Loan (1967), Loan and Shaw (1987) for various genera in the Nearctic region. *Mateorus* sp. and *Perilitus* sp. were reported from different parts of Bangladesh (Alam 1967, Alam *et al.* 1964 and Gapud 1992). Unfortunately no type specimens are found in any depository of Bangladesh and no taxonomic descriptions or taxonomic keys were made for these genera and species by the above authors. Recently, Rahman 2007 (In press) presented the taxonomic key and described three genera of Euphorinae for the first time from Bangladesh. The present work was undertaken to describe the euphorine species of Bangladesh.

MATERIALS AND METHODS

Collections were made from different areas of Bangladesh. Two species were sorted out during 2000 - 2003. The insects were collected by sweeping net and Malaise Traps. The collected specimens were brought to the laboratory and were mounted dry on pins and cards. Specimens were preserved in 70% alcohol. The specimens were identified by using their external morphological features using a Dissecting Binocular Microscope. Terminology for body features of Hymenoptera and Braconidae were followed from Achterberg (1979, 1988, 1990 and 1993), Shaw and Huddleston (1991), Goulet and Huber (1993) and Wharton *et al.* (1997). The identification of the species was confirmed by D. L. J. Quicke, Department of Biology, Imperial College of Science, Technology and Medicine, London, UK (personal communication). Females of euphorine species are described in this paper and the type materials are deposited in the Insect Museum of Zoology Department of Chittagong University, Bangladesh (IMZCU).

RESULTS AND DISCUSSION

Description of the species

Meteorus erratus Achterberg, 1997 (Figs. 1-11)

Material examined

♀, length of body 5.2 mm, and fore wing 4.6 mm. BANGLADESH: Tangail, one female *Meteorus* sp., 7.I.2000. Collected by- Arjeena. Specimen is deposited in IMZCU.

Head

Width of head 2.1 times its medial length; antenna with 28 segments, thickened medially, length of third segment 1.5 times fourth segment, length of third, fourth and penultimate segments 3, 2 and 1.3 times their width, respectively (Fig. 5 & 10); length of eye in dorsal view twice temple; temple behind eye distinctly, almost linearly narrowed; vertex and temple finely coriaceous; frons distinctly concave, almost smooth, ventrally with several weak median rugae; face narrow, its width almost as long as its height and width of clypeus, weakly medio-longitudinally convex, sparsely punctate, entirely setose; clypeus slightly convex, punctate, ventral margin slightly concave medially, its width 2.5 times its height; malar space very narrow (Figs. 1, 7 & 8).

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Mesosoma

Length of mesosoma 1.7 times its height; pronotal side shiny, largely coarsely crenulate, only dorsally smooth; precoxal sulcus completely wide and rugose-crenulate; remainder of mesopleuron largely smooth, dorsally rugose; metapleuron coarsely reticulate (Fig. 1); mesoscutum punctate, almost smooth, completely setose; notauli completely present, deep and crenulate, meeting posteriorly and forming a large coarsely rugose depression posteriorly (fig. 9); scutellar suture deep and with several carinae; scutellum convex medially, almost smooth; propodeum irregularly coarsely rugose, with dorsal face and posterior face forming a right angle, without carinae (Fig. 1).

Wings

Fore wing: r arising from middle of pterostigma; 1-SR (1st branch of transverse cubital vein) present, r-m (first radio-medial vein) absent; m-cu interstitial; M+CU1 (media) completely sclerotized; apical half of 2-1A (submedia) unsclerotized (Fig. 11a) [Abbreviations for wings are given in Figs 12-21].

Hind wing:

cu-a subvertical; 2-SC+R (2nd branch of subcosta + radiud) long; SR (abscissa of radiud) entirely unsclerotized (Fig. 11b).

Legs

Hind coxa rugose-punctate; length of hind femur, tibia and basitarsus 4.4, 9.8 and 10.0 times their width, respectively (Figs. 4 & 6).

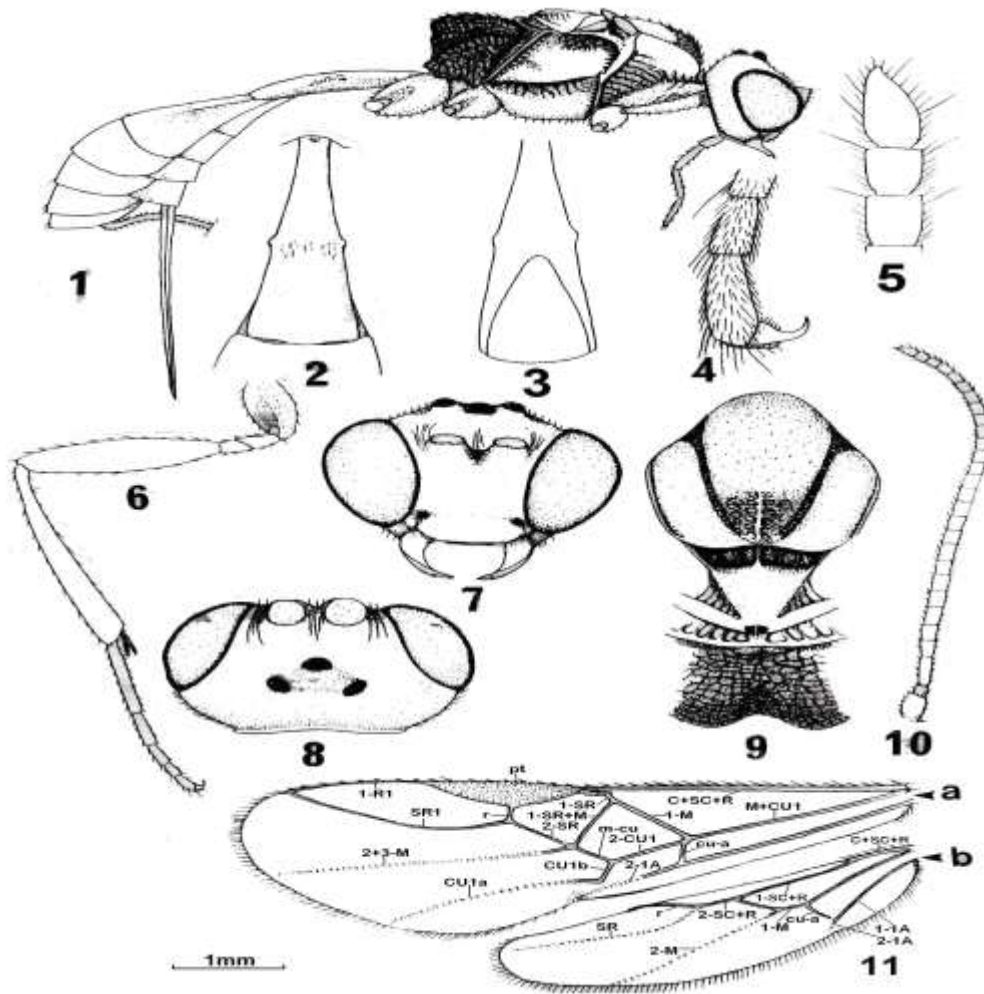
Metasoma

First tergite slender and long, gradually widened from base to apex, ventrally largely fused, tubular, dorsope and laterope absent (Figs. 2 & 3), spiracles about at middle and rather protruding, its surface smooth except some indistinct rugae between spiracles; second and following tergites smooth; hypopygium simple, with sparse and short setae (Fig. 1); ovipositor sheath slender, and transversely carinate, setose; length of sheath twice first tergite; ovipositor slender and acute apically, dorsal valve with a weak subapical notch (Fig. 1).

Colour

Black, clypeus, area between posterior ocellus and eye reddish brown; first metasomal tergite black and the remaining parts of metasoma

dark reddish brown; antenna dark brown; mandible, palpi, tegulae and legs pale yellow, fore and middle femur dark, hind femur reddish, hind tibia and hind tarsus brownish; joint of femur and trochanter, and telotarsus brownish; wing membrane hyaline with brownish setae, pterostigma brown, veins brown to pale brown.



FIGS. 1-11, METEORUS ERRATUS, ♀. 1, HABITUS, LATERAL VIEW; 2, FIRST METASOMAL TERGITE, LATERAL VIEW; 3, FIRST METASOMAL TERGITE, VENTRAL VIEW; 4, OUTER HIND CLAW; 5, APEX OF ANTENNA; 6, HIND LEG, LATERAL VIEW; 7, HEAD, FRONTAL VIEW; 8, HEAD, DORSAL VIEW; 9, MESOSOMA, DORSAL VIEW; 10, ANTENNA; 11, WINGS. 1, 6, 10 & 11: 5X SCALE-LINE; 2, 3, 4, 7-9: 2.5X; 4 & 5: 6X. PERILITUS LATEROPUS ACHTERBERG, 1997 (FIGS. 12-21)

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Material examined

♀, length of body 2.6 mm. and fore wing 2.6 mm.

BANGLADESH: Dhaka, one female *Perilitus* sp., 3.I.2000.

Collected by- Reza. Specimen is deposited in IMZCU.

Head

Width of head in dorsal view 1.6 times its length; antenna with 27 segments (Fig. 15); temple, vertex and frons smooth; face weakly rugose-punctate, nearly flat; intertentorial line twice tentorio-ocular line; clypeus smooth, dorsally convex, ventral margin medially straight (Figs. 12, 13 & 14).

Mesosoma

Length of mesosoma 1.6 times its height; pronotal side largely crenulate, near dorsal margin smooth; precoxal sulcus fully present, rugose; remainder of mesopleuron smooth; metapleuron irregularly rugose (Fig. 12); notauli deep, narrow and crenulate; mesoscutum punctate and densely setose; scutellar suture deep and wide with one carina; scutellum smooth with small medio-posterior depression (with one median carina) (Fig. 17); propodeum irregularly rugose, without distinct carinae (Fig. 12).

Wings

(Figs. 18a & b) - Fore wing: r issued from behind middle of pterostigma; vein SR1+3-SR (2nd abscissa of radius + its 3rd branch – secto-radii) ending near wing apex; 1-SR (transverse cubital vein) long; m-cu (transverse medio-cubital vein) antifurcal; cu-a (transverse cubito-anal vein) almost interstitial (Fig. 18a).

Hind wing: 1-M:r-m (transverse radio-medial vein):2-SC+R = 3:2:2.

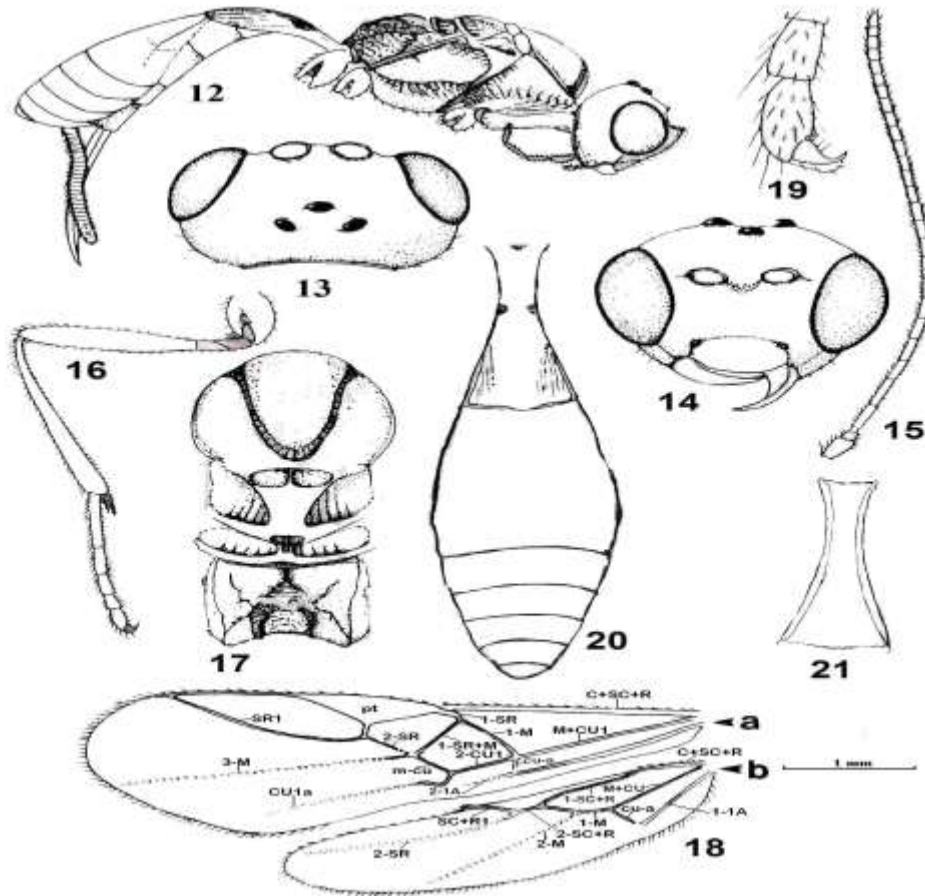
Legs

Hind coxa antero-dorsally rugose; length of hind femur, tibia and basitarsus 6.1, 11.7 and 9.3 times their width, respectively (Figs. 16 & 19).

Metasoma

Length of first tergite 2.3 times its apical width, first tergite widened apically, spiracles behind middle, just protruding, laterope large and deep, at basal third, dorsope absent, its surface irregularly rugose, apico-laterally longitudinally striate (Figs. 20 & 21); following tergites and hypopygium smooth; second tergite and basal part of third tergite with lateral fold; ovipositor sheath comparatively wide, much wider than width of hind basitarsus, its surface distinctly transversely rugose, densely setose, length of setae much shorter than width of sheath;

ovipositor wide and flat, subapically without a notch dorsally and ventrally without teeth (Fig. 20).



FIGS. 12-21, PERILITUS LATEROPUS, ♀. 12, HABITUS, LATERAL VIEW; 13, HEAD, DORSAL VIEW; 14, HEAD, FRONTAL VIEW; 15, ANTENNA; 16, HIND LEG, LATERAL VIEW; 17, MESOSOMA, DORSAL VIEW; 18, WINGS; 19, OUTER HIND CLAW; 20, METASOMA, DORSAL VIEW; 21, FIRST METASOMAL TERGITE, VENTRAL VIEW. 12, 15, 16 & 18: 2X SCALE-LINE; 13, 14, 17, 20 & 21: 3X; 19: 8X. [WINGS ABBREVIATIONS: A = ANALIS; C = COSTA; CU = CUBITUS; M = MEDIA; R = RADIUS; SC = SUBCOSTA; SR = SECTO-RADII; SR1 = 1ST ABSCISSA OF RADIUS; A = TRANSVERSE ANAL VEIN; CU-A = TRANSVERSE CUBITO-ANAL VEIN; M-CU = TRANSVERSE MEDIO-CUBITAL VEIN; R = TRANSVERSE RADIAL VEIN; R-M = TRANSVERSE RADIO-MEDIAL VEIN; 2R-M/2SR = 1ST TRANSVERSE RADIAL VEIN; PT = PTEROSTIGMA; 1R-M = NERVULUS/BASELLA/ BASALIS; 1-CU1 = 1ST ABSCISSA OF DISCOIDELLUS; 2-CU1 = 2ND ABSCISSA OF DISCOIDELLUS; 3-CU1 = 3RD ABSCISSA OF DISCOIDELLUS; CU1A/ 3-CU = APICAL ABSCISSA OF SUBDISCOIDELLUS).

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Colour

Brownish yellow; mesoscutum, scutellum, metanotum, propodeum and first tergite medially brownish; legs yellow, tarsus darker; wing membrane subhyaline, pterostigma yellowish brown, basally paler, veins dark yellowish brown to yellow.

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