Records of sub family Scelioninae (Hymenoptera: Platygastridae) from oriental region with description of one new species

K. Managanvi¹, M. A. Khan² and A. K. Karnatak²

¹Department of Entomology, Bihar Agricultural University, Sabour Bhagalpur, Bihar 813 210 India.
²Department of Entomology, G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand 203 183 India.

Received 25 August, 2014; Accepted 15 October, 2015

A new species from genus Cardalnaumannus and re-description of species from genus Encyrtoscelio Dodd (Hymenoptera: Platygastridae) is being described, which were collected by sweet net collection from the state of Uttarakhand, India. The species Cardalnaumannus ramamurthyum sp. nov. is described as new species and re-description of species Encyrtoscelio apterus (Szelényi) for the first time from Uttarakhand, India.

Key words: Encyrtoscelio, New species, Uttarakhand India.

INTRODUCTION

The genus, Cardalnaumannus was enacted by Mineo et al. (2011) with species, Gryon amleticus and classified in the new tribe Dyscritobaenini of the Family Platygastridae. The genus is reported only from Australia with only one species, Gryon amleticus. The host and biology is not known (Mineo et al., 2011). The other genus, Encyrtoscelio was enacted by Dodd with type species Encyrtoscelio mirissimus Dodd. Recently, the genus was keyed by Lê (2000), Rajmohana (2006) and Kononova and Kozlov (2008). The present study described Cardalnaumannus ramamurthyum sp. nov. with re-description of Encyrtoscelio apterus (Szelényi) from Oriental region for the first time.

MATERIALS AND METHODS

Specimens were collected during the course of the survey programme, during the months of October 2011 and March 2012 in and around Pantnagar (Uttarakhand) area. Morphological terminology follows Masner (1979; 1980), Johnson and Masner (1985) and István et al. (2007). Antenna, wings and legs were mounted in Canada balsam after overnight immersion in 10% KOH and exposure to 70, 80 and 99% ethyl alcohol and clove oil. Photographs of wings were taken with the help of Leica Live Image Analyzer set up developed by Olympus. Scanning electron microscopy (SEM) was done on Jeol JSM6610LV/A/LA (Japan optical electrical limited) after 24 nm thick palladium coating in a JFC1600 Sputter Coater (Japan optical electrical limited) at 6 x 10⁻² mbar; and images were taken at 23-24 Pa, between 150 and 370x.

*Corresponding author. E-mail: kalmesh.managanvi@gmail.com.

Author(s) agree that this article remain permanently open access under the terms of the Creative Commons Attribution License 4.0 International License
RESULTS

Description of species

_Cardalnaumannus ramamurthyi_ sp. nov.

**Holotype:** One female specimen was examined; body length: 0.83 mm; forewing: length 0.68 mm; width 0.42 mm; hind wing: length 0.10 mm; width: 0.028 mm; body: yellowish to deep brown/black; eyes: brown; radicle: light yellow; antennae: yellow except clava dark brown; mandibles: dark brown; mesosoma and metasoma: black; fore wings: infuscate; hind wings: hyaline with veins dark brown; coxae: dark brown, femur: brownish, last tarsomere: dark brown. Head: transverse with imbricate/areolate sculpture length slightly wider than long in frontal aspect (Plate 1: 1 and 2); frontovertex width: 3.0x; the total head length (34.0:11.1); preoccipital carinae distinct and praecapitellar area pass sharply over the occiput; ocelli are arranged in acute triangle; lateral ocelli 4 to 5 mm away from inner eye orbits, they either border the vertex or are some millimeters distant from it; scrobe is present or indicated by a smooth area, usually not margined by keel; POL 1.69x longer than OOL; OOL : POL : LOL= 6.8:11.5:7.4. Compound eyes are medium in size and densely pubescent; antennal toruli is situated well below the lower eye margin; occipital carina is complete; genal carinae absent; frons without a depression; frons width > eye height > malar space (21.9:15.6:11.4).

Antenna (Plate 1: 3): 12 segmented, with 5 segmented clava; scape is 5.3x as long as wide; antennal segments in relative proportions (length: width) from scape: 17.0:3.2, 4.5:2.6, 2.3:2.5, 2.8:1.6, 2.2:2.9, 1.7:3.6, 1.6:4.2, 2.9:4.8, 1.9:5.3, 2.9:5.4, 2.5:4.1, 4.1:3.3. Mesosoma (Plate 1: 4): is 1.32x longer than wide (28.5:21.3); skaphion is absent; epomial carina is absent; mesoscutum and scutellum with rich sculpture may be areolate rugose, without notauli; metanotum bulges medially to give rise to the dorsellum, with pubescence; prepectus not prominent. Legs are smooth; fore tibial spur is long, curved and bifurcated. Fore wings (Plate 1: 6) are lanceolate, with complete venation; distal sections of both subcostal and marginal veins strongly downcurved before reaching the linkage point; 2.76x as long as wide (11.6:4.2); 1.1x longer than hind wing length; marginal fringe long; SMV 8x longer than MV; proportions of (length) SMV: MV: PMV: STG: 4.8:0.6:1.3: 1.1. Hind wings: 3.75x as long as wide (10.5:2.8) with blunt apex; SMV is complete. Metasoma: 1.63x longer than its greatest width (40.3:24.0); elongate; T1 with striations on one side; T2 striate but not reaching posterior half; specillum is prominent.

**Male:** Not known.

**Holotype:** Female dissected and mounted on slide. India, Uttarakhand, Pantnagar, sweepnet collection forests areas, 23-x-11, Hym. platy. Nr. KA15, coll. Kalmesh.

**Paratype:** Nil

**Etymology:** Named after Dr. V. V. Ramamurthy for his outstanding contribution to insect taxonomy in India.

_Encyrtoscelio apterus_ (Szélényi)


Female: Body length is about 0.69 mm; body: black; eyes: brown; radicle: yellow; antennae: dark brown, except scape and pedicel light brown; mandibles: dark brown; mesosoma and metasoma: black; wings: absent; coxae: black, femur and tibia: brownish; last tarsomere: dark brown.

Head (Plate 2: 1 and 2) length: 1.12x wider than long in frontal aspect (30.3:34.2), reticulate: sculptured; frontovertex length is 2x the total head width (16.4:32.1); ocelli: arranged in acute triangle; compound eyes are large and lightly pubescent; antennal toruli: situated well below the lower eye margin; occipital carina complete; 3-4 distinct genal carinae present; frons width > eye height > malar space (25.3:13.3:11.8); mandibles: very long, 1.13x long as malar space (13.4), wide, blunt at apex and sharpened on inner side and forming a 'U' shape by both mandibles. Antenna (Plate 2: 3): 12 segmented; scape is 5.3x as long as wide, 8x as long as radicle; antennal segments in relative proportions (length: width) from scape: 16.1:3.4, 5.0:3.3, 5.1:3.5, 4.1:3.8, 4.0:3.7, 3.6:3.4, 3.6:3.9, 4.4:4.0, 4.5:4.2, 4.4:4.3, 4.1:4.3, 7.6:3.6. Mesosoma (Plate 2: 4): 2.1x wider than long (33.2:27.6); skaphion is absent; mesoscutum and scutellum with reticulate sculpture, without notauli; metanotum posteriorly unarmed. Legs are smooth, fore tibial spur is long, curved and bifurcated. Fore wings and hind wings: absent (individuals are apterous). Legs are smooth, tibial spur is short (Plate 2: 5 and 6). Metasoma (Plate 2: 1 and 5): 1.63x wider than its greatest length (31.6:19.3); metasoma plump, with same sculpture as that of mesosoma.

**Male:** Not known

**Holotype:** Female dissected and mounted on slide. India, Uttarakhand, Kiccha, sweepnet collection forests areas, 03-iii-12, Hym. platy. Nr. KA33, coll. Kalmesh.
**Paratype:** 1 female dry mounted.

**DISCUSSION**

The *Cardalnaumannus* may be distinguished from other genera in the *Dyscritobaeini* except for *Okapa* because of the absence of the fanlike striation on the cheeks; the lateral ocelli are closer to the median ocellus than to the eyes and there is specillum (Mineo et al., 2011). The only genus with some degree of similarity with *Encyrtoscelio* is *Breviscelio* Sundholm but frontal ledges are deeply notched or sinuate medially (Rajmohana et al., 2011). Both genus described have been barely studied in India, this study shows existence of the diversity in the Oriental region.

**CONFLICT OF INTERESTS**

The authors have not declared any conflict of interests.

**ACKNOWLEDGEMENTS**

Thanks are due to the Department of Science and Technology, Government of India, New Delhi, for providing financial assistance through the Inspire Fellowship (Fellowship grant No.-IF10554). The author is also grateful to Network Project on Insect Biosystematics (ICAR), New Delhi and G. B. Pant University of Agriculture and Technology, Pantnagar for providing research facilities.

**Abbreviations**

POL, Posterior ocellar line; LOL, lateral ocellar line; OOL, ocular ocellar line; F1, F2,... F10, antennal flagellomeres 1, 2,... 10; T1, T2, ... T5, metasomal tergites 1, 2,... 5; S1, S2, metasomal sternites 1 and 2; SMV, sub marginal vein; MV, marginal vein; PMV, postmarginal vein; STG, stigmal vein.

**REFERENCES**


