J. Entomol. Res. Soc., 24(3): 347-352, 2022 *Research Article*
Doi: 10.51963/jers.v24i3.2278 *Online ISSN:2651-3579*

Descriptions of Two New Species of *Camptoptera* Foerster, (1856) from India (Hymenoptera: Mymaridae)

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ABSTRACT

Two new species of *Camptoptera* Foerster (Hymenoptera: Mymaridae) are described based on the materials collected from Indian states: *C. ayezae* Anwar & Zeya sp. nov. and *C. sadhui* Anwar & Zeya sp. nov. The type specimens are deposited in the Insect Collections, Department of Zoology, Aligarh Muslim University, Aligarh, Uttar Pradesh, India.

Key words: Chalcidoidea, fairyfly, egg parasitoids, taxonomy, new species India.

Anwar P. T., Zeya, S. B., Usman, S.U., Khan, F. R., Ahmad, Z., & Ghramh, H. A. (2022). Descriptions of two new species of *Camptoptera* Foerster, (1856) from India (Hymenoptera: Mymaridae). *Journal of the Entomological Research Society,* 24(3), 347-352.

Received: April 18, 2021 Accepted: October 10, 2022

INTRODUCTION

Camptoptera Foerster (Hymenoptera: Chalcidoidea) is one of the most extensively studied genera of Mymaridae in Oriental region. The genus can easily be identified by their petiolated body, long antenna and narrow wings. However, species level identification will always be a daunting task because its taxonomy is based largely on sculpture of the mesosoma which requires an expert hand and high level concentration in slide preparation.

Most elaborative and revisionary works of the genus were provided by Triapitsyn (2014) for Palaearctic fauna and Anwar et al. (2020) for Oriental fauna. Viggiani (1978) and Subba Rao (1989) described several species from India and Sri Lanka which were later reviewed by Triapitsyn (2017) and Anwar et al. (2020). More recently, Anwar et al. (2021a) added three species of the genus from India (described one and recorded two known Taiwanese species). Huber et al. (2021) synonymised the genus *Eofoersteria* Mathot (1966) under *Camptoptera* and treated it as a subgenus of *Camptoptera* and Anwar et al. (2021b) provided the first ever description of the males of *Camptoptera* (*Eofoersteria*). The genus presently contains 33 species from Oriental region and 30 species from India (including two species described here as new) which makes it most diverse regions of the world in terms of *Camptoptera* species.

MATERIAL AND METHODS

The study is based on the materials collected from different states of India. The specimens were collected using various trapping techniques and were preserved in 80% ethanol. After noting their body colour and lengths slides were prepared for their further identification following the Anwar et al. (2020). The terms mentioned in the text follow Zeya & Hayat (1995) and Gibson (1997). The measurements other than body lengths are relative and taken from slide mounts. All the measurements are in micrometers (µm). Photographs were taken from slide mounted specimens with a Leica® DFC295 digital camera attached to a Leica® DM 2500 compound microscope. Photographic plates were prepared using Adobe Photoshop® 7.0. All the type materials were deposited at the Insect Collections Department of Zoology, Aligarh Muslim University, Aligarh, Uttar Pradesh, India.

The following abbreviations are used in the text: F1-6 = funicular segments 1-6; mps = multiporous plate sensillum or sensilla; MT = malaise trap; SN = sweep net; YPT = yellow pan trap.

The following acronym is used for the specimen depository:

ZDAMU = Insect Collections, Department of Zoology, Aligarh Muslim University, Aligarh, India.

RESULTS

Taxonomy

Camptoptera ayezae Anwar & Zeya sp. nov. (Fig. 1)

Type material. Holotype, ♀ (on slide under 4 coverslips, slide No. MYM.187), INDIA: KARNATAKA: Bengaluru, Jarakabande Kaval, 16.09.2014 (MT), Coll. K Veenakumari. (ZDAMU).

Diagnosis

Camptoptera ayezae Anwar & Zeya sp. nov. is a remarkable species. The features that make it distinct in the genus are: scape with longitudinal striations, thorax with heavily reticulate sculpture, propodeum with submedian carinae reaching to metanotum and, petiole smooth with lateral lamallae. None of the species from Oriental and Palaearctic region have such a heavy reticulation on thorax.

Description

Female. Holotype. Body length, 402 µm. Body dark brown. Antenna dark brown. Wings infumate. Legs, including coxae, largely dark brown except protibia and tarsi lighter.

Head (Fig. 1A). Head, in frontal view, 1.4 times as broad as high; transverse trabecula not divided in middle; area above transverse trabecula and face frontal with reticulate sculptures; occiput with area above transverse suture with transverse striations and, the area below it with longitudinal striations. Mandibles pointed, crossing each other medially. Antenna (Fig. 1B) with scape 4 times as long as broad and, with longitudinal striations; pedicel 1.7 times as long as broad, longer than all funicular segments individually except F3 and, with longitudinal striations; funicle 7-segmented; F3 the longest, F2 ring-like segment; clava 2.8 times as long as broad, longer than F5-F7 combined, with 4 mps.

Mesosoma (Fig. 1D). Mesosoma longer than gaster; mesoscutum with transverse, polygonal reticulations, prosternum pointed apically (Fig. 1E); notaular lines extending to anterior margin of scutellum; scutellum 0.3 times frenum length; scutellum and axilla with reticulate sculpture; axillar seta long; frenum with reticulate sculpture (Fig. 1D); propodeum with submeadian carina reaching to metanotum. Fore wing 17 times as long as broad, disc medially with a row of setae in apical half (Fig. 1C); longest marginal seta 7 times as long as maximum wing width. Hind wing 31 times as long as broad; longest marginal seta 9 times as long as maximum wing width (Fig. 1C).

Metasoma (Fig. 1F). Petiole 1.5 times as long as broad, with a pair of lateral lamellae. Ovipositor, 0.5 times metatibia.

Measurements (holotype slide, µm): head width:height, 140:98; antennal segments length:width-radicle, 8:5; scape, 73:18; pedicel, 33:20; F1, 30:8; F2, 3:8; F3, 35:6; F4, 25:8; F5, 23:10; F6, 25:11; F7, 25:14; clava, 85:30; mesosoma, 150; mesoscutum, 40; scutellum, 15; frenum, 53; metanotum, 8; propodeum, 20; fore wing length:width, 435:25; longest marginal seta, 165; hind wing length:width, 400:13; longest marginal seta, 123; protibia, 95; mesotibia, 138; metatibia, 143; petiole length:width, 30:20; gaster, 100; ovipositor, 75.

Male: Unknown.

Host: Unknown.

Distribution: India: Karnataka.

Etymology: The species name is arbitrary combination of letters and may be taken as a noun in apposition.

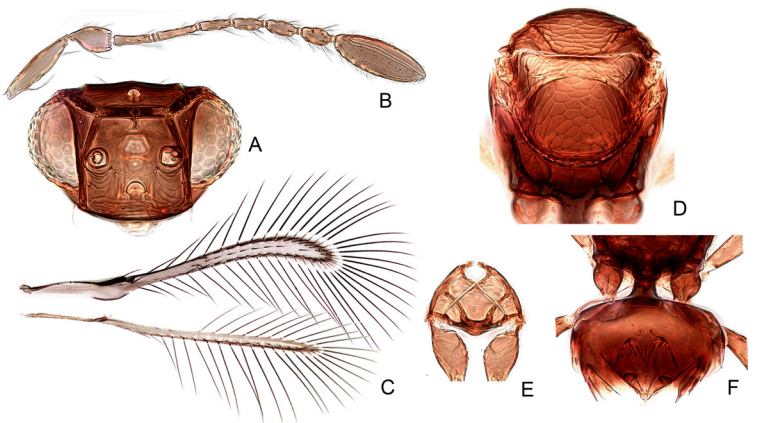

Fig. 1. *Camptoptera ayezae* Anwar & Zeya sp. nov., female, holotype. A, head, frontal, B. antenna, C. wings, D. mesosoma, E. prosternum, F. metasoma.

Camptoptera sadhui Anwar & Zeya sp. nov. (Fig. 2)

Type material. Holotype, ♀ (on slide under 4 coverslips, slide No. MYM.187), INDIA: KARNATAKA: Bengaluru, NBAIR, 1 female, 26.06.2012 (YPT), Coll. K Veenakumari. Paratype, ♀ (on slide under 1 coverslip, slide No. MYM.668), INDIA: KERALA: Alappuzha, Kayamkulam, 17.01.2012 (SN), Coll. F.R. Khan.

Diagnosis

Camptoptera sadhui Anwar & Zeya sp. nov. is a distinct species and is characterized by the antenna with F1, longest, mesoscutum and frenum with polygonal reticulations, propodeum with submedian carina reaching upto metanotum and, petiole with long lateral hair-like lamella. The only other described species of *Camptoptera* from Oriental and Palaearctic regions with longest F1 are *C. assamensis* Rehmat & Anis and *C. poptera* Triapitsyn but both differs from *C. sadhui* as follows: In *C. sadhui* mesoscutum with transverse reticulations, frenum with reticulate sculpture and lateral lamellae long hair-like (in *C. assamensis*: mesoscutum with polygonal reticulate sculpture, frenum with longitudinally parallel reticulate sculpture and, petiole with lateral projections) (in *C. poptera*: mesoscutum and scutellum reticulate, sculpture cells on frenum of scutellum finer than on midlobe of mesoscutum and, petiole with spine-like lateral lamella).

Description

Female. Holotype. Body length, 270 µm. Body dark brown. Antenna pale brown. Wings hyaline. Legs, including coxae, pale yellow.

Head (Fig. 2A). Head, in frontal view, 1.3 times as broad as high; transverse trabecula not divided in middle; area between transverse trabecula and face frontal with reticulate sculptures. Mandibles pointed, crossing each other medially. Antenna

(Fig. 2B) with scape 2 times as long as broad and, with longitudinal striations; pedicel 1.2 times as long as broad, shorter than all funicular segments individually and, with longitudinal striations; funicle 7-segmented; F1 the longest; clava 3.9 times as long as broad, longer than F5-F7 combined, with 4 mps.

Mesosoma (Fig. 2E). Mesosoma longer than gaster; mesoscutum with transverse reticulations; notaular lines extending to anterior margin of scutellum; scutellum 0.2 times frenum length; scutellum and axilla with reticulate sculpture; frenum with reticulate sculpture (Fig. 2E); propodeum with submeadian carina reaching to metanotum. Fore wing 13 times as long as broad, disc medially with a row of setae in apical half (Fig. 2C); longest marginal seta 5 times as long as maximum wing width. Hind wing 31 times as long as broad; longest marginal seta 10 times as long as maximum wing width (Fig. 2C).

Metasoma (Fig. 2D). Petiole 1.9 times as long as broad, with a pair of long lateral lamellae. Ovipositor, 0.8 times metatibia.

Measurements (holotype slide, µm): head width:height, 113:88; antennal segments length:width-radicle, 5:5; scape, 30:15; pedicel, 18:15; F1, 35:8; F2, 3:5; F3, 28:8; F4, 23:8; F5, 21:8; F6, 23:10; F7, 23:13; clava, 78:30; mesosoma, 138; mesoscutum, 23; scutellum, 9; frenum, 50; metanotum, 4; propodeum, 43; fore wing length:width, 330:25; longest marginal seta, 125; hind wing length:width, 305:10; longest marginal seta, 100; protibia, 75; mesotibia, 105; metatibia, 100; petiole length:width, 28:15; gaster, 113; ovipositor, 75.

Male: Unknown.

Host: Unknown.

Distribution: India: Karnataka, Kerala.

Etymology: The species is named after Professor (Retd.) D. N. Sadhu, Department of Zoology, Vinoba Bhave University, Hazaribag, Jharkhand, India for his excellent contribution in teaching and research.

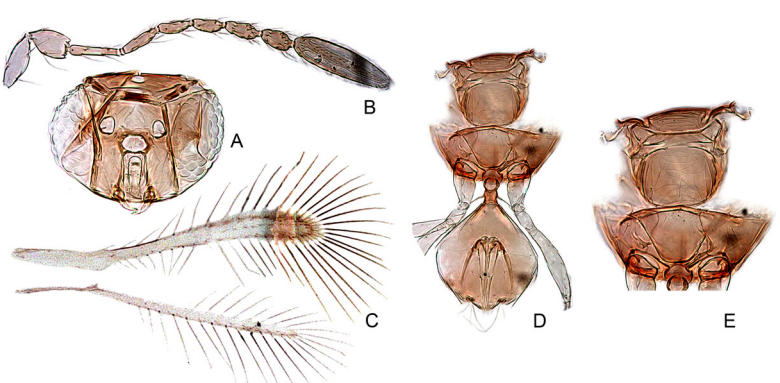

Fig. 2. *Camptoptera sadhui* Anwar & Zeya sp. nov., female, holotype. A. head, frontal, B. antenna, C. wings, D. mesosoma with gaster and petiole, E. mesosoma enlarged.

ACKNOWLEDGEMENTS

We express our sincere gratitude to Dr. Mohammad Hayat, (ZDAMU) for suggestions and criticism. We are grateful to Dr. K. Veenakumari, formerly of the National Bureau of Agricultural Insect Resources, Bengaluru (NBAIR), for donating the specimens for study. The senior author 'PTA' gratefully acknowledges the Council of Scientific & Industrial Research (CSIR), New Delhi, for providing financial support in the form of "Research Associateship". Z. Ahmad and H. A. Ghramh appreciate the support of the Research Center of Advanced Materials Science, King Khalid University, Abha, Saudi Arabia for supporting the research through research number RCAMS/KKU/22.

Disclosure statement

No potential conflict of interest was reported by the authors.

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