

**A NEW SPECIES OF *ECDAMUA* WALKER (CHALCIDOIDEA:
TORYMIDAE) FROM SOUTH KASHMIR, INDIA**

M. JAMAL AHMAD¹, IRAM KHURSHEED² AND M. NAYYAR AZIM²

¹Division of Entomology, SKUAST-K, Shalimar campus, Srinagar (J&K), India

²Department of Zoology, University of Kashmir, Hazrat Bal, Srinagar (J&K), India

E- mail: ahmad_j@rediffmail.com (*Corresponding Author)

Abstract: *Ecdamua bouceki* sp. nov. from Kashmir is described and illustrated. The new species differs from other Indian species in having propodeum without median carina, ovipositor 16.0 mm long, forewing with marginal vein distinctly shorter than the post marginal and antennal pedicel distinctly longer than half of the first funicle segment.

Key Words: Chalcidoidea, Torymidae, *Ecdamua bouceki*, Kashmir, New species.

INTRODUCTION

The genus *Ecdamua* Walker belongs to the family Torymidae under sub family Toryminae. It can be easily identified by unusually slender body, considerably exserted ovipositor, head with horse shoe shaped occipital carina, antenna 13- segmented, forewing with post marginal vein long, hind femur with a basal tooth, gaster petiolate etc. Members of this genus are reported to be parasitic on aculeate Hymenoptera nesting in holed dead wood (Boucek, 1988; Narendran, 1984; Grissell, 1995; Zavada, 2005). So far six species including *E. cadenati* (Risbec), *E. indica* Walker, *E. longipilum* (Girault), *E. macrotelus* Walker, *E. nambui* Kamijo and *E. lehensis* Sureshan are reported from different parts of the world. Present species collected from Anantnag, Kashmir is new to science. A key for the separation of Indian species is given as below:

Key to Indian species of *Ecdamua* Walker, based on females

1. Scutellum without median longitudinal sulcus; propodeum with irregular crenulae and distinct median carina; gastral petiole brownish black, a little longer than wide; antennal

- scape nearly reaching the median ocellus; second funicular segment shorter than the first; ovipositor 18.0 mm long.....1. *Ecdamua lehensis* Sureshan
- Scutellum with median longitudinal sulcus present; propodeum without irregular crenulae, median carina may or may not be present; gastral petiole yellow, distinctly longer than wide; antennal scape not reaching the median ocellus; second funicular segment as long as or longer than the first; ovipositor 10.0 to 16.0 mm long..... 2
 - 2. Propodeum with median carina complete; ovipositor 10.0 mm long, 3.0x the length of the body; gastral petiole 5.5 times as long as wide; forewing with marginal vein distinctly longer than the post marginal; antennal pedicel slightly longer than half of the first funicle segment (5/9), the latter as long as the second; head dorsally 1.17 times as wide as long; eye 2.07 times as long as wide; body length 3.45 to 3.65 mm.....2. *E. indica* Walker
 - Propodeum without median carina; ovipositor 16.0 mm long, 3.7x the length of the body; gastral petiole 4.0 times as long as wide; forewing with marginal vein distinctly shorter than the post marginal; antennal pedicel distinctly longer than half of the first funicle segment (1.2/1.7), the latter distinctly shorter than the second; head dorsally 2.6 times as wide as long; eye 3.18 times as long as wide; body length 4.35 mm.....3. *E. bouceki* sp.nov.

1. *Ecdamua lehensis* Sureshan

Ecdamua lehensis Sureshan, 2010: 103.

Distribution: India (Jammu & Kashmir)

2. *Ecdamua indica* Walker

Ecdamua indica Walker, 1871 : 35.

Distribution: China (Taiwan), India (Bihar, Karnataka, Kerala, Maharashtra, Uttar Pradesh).

3. *Ecdamua bouceki* sp. nov.

(Figs. 1-8)

Female: Body bright green, with slight bluish reflections. Eyes coppery. Ocelli, mandibles, scape yellowish brown, abdominal petiole yellowish; all tibial spurs and tarsi light brown to transparent; maxillary, labial palpi, pedicel, flagellum, all femora, forewing venation and ovipositor blackish brown; all coxae green with metallic reflections. Abdomen chocolate brown with metallic green reflections. Head, all coxae and femora slightly to distinctly reticulately punctate, punctures fine. Pronotum, mesoscutum including scapula, scutellum except frenum densely punctate, inter spaces with transverse striations; frenum and metapleuron smooth and shiny, without punctures; axillae, mesepisternum and mespleuron shiny with fine punctures, inter spaces smooth and shiny, wider than the diameter of a punct; propodeum medially finely reticulately punctate, laterally aciculate; abdomen with first tergite smooth, without sculpture, following tergites finely aciculate. Body moderately pubescent, setae silvery white.

Head: Head dorsally 2.6 times (13:5), facially 1.23 times as wide as long (13:10.5), distinctly wider than pronotum (13:7). Occiput sharply carinate, carina continuing posteriorly up to hind margin of gena. Eye 3.18 times as long as wide (7: 2.2), its width 0.73 times of malar space (2.2: 3). Malar sulcus distinct. Ocelli arranged in obtuse angled triangle, Post ocellar distance 2.5 times as long as ocello ocular distance (3:1.2), diameter of median ocellus equal to its distance from lateral ocellus (1.1:1.1). Antennae inserted slightly above the lower level of eyes, toruli distinctly closer to clypeus than median ocellus (3.75:4.2); scape not reaching the median ocellus; torulo ocular distance 0.28 times of inter ocular distance (2:7); scrobes smooth, short of reaching the median ocellus. Antenna (Fig. 1) 13- segmented with one ring, 7- funicular and 3- segmented club; scape including radicula 4.44 times as long as wide (4:0.9); pedicel slightly longer than wide (1.2:1); ring segment twice as wide as long (0.8:0.4); dimension (L:W) of remaining components of antenna as follows : funicular segments F1 (1.7:1), F2-F3 (2:1.1), F4-F5 (1.9:1.1), F6-F7 (1.7:1.2). Club (3.8:1.9); sensillae on flagellum in two rows. Both mandibles (Fig. 2) bi dentate with a truncation. Maxillary (Fig. 3) and labial palpi 4- and 3- segmented respectively. Clypeal margin straight.

Thorax: Thorax unusually slender and convex. Pronotum a little wider than long (7 : 6), carinate anteriorly. Meso scutum 1.5 times as wide as long (10.5 : 7), parapsidal grooves complete. Prepectus with triangular fossa. Scutellum distinctly longer than mesoscutum (9:7), 1.5 times as long as wide (9:6) with a longitudinal median sulcus reaching short of frenal groove (Fig. 4); frenum distinct. Propodeum (Fig. 5) convex, 1.45 times as wide as long (8:5.5), invaginated posteriorly. Fore wings (Fig. 6) angulate posteriorly, 2.43 times as long as wide (45:18.5), moderately setose, with distinct basal and cubital hair line, basal cell with 3 hairs, completely closed by basal hair line; costal cell with 6 hairs basally, with partial 3 rows of hairs apically, 8.5 times as long as wide (17:2); post marginal vein distinctly longer than marginal, the relative lengths of marginal, post marginal and stigmal in following ratio: 10.2: 13: 2. Hind legs with two spurs, outer spur longer than inner, nearly one-third of the basitarsus (1.5:5); hind femur with a minute tooth on the outer margin basally (Fig. 7), length of tooth one-fourth (0.5 : 2.0) of width of femur at the point of the attachment.

Abdomen: Abdomen petiolate, petiole slender (Fig. 8) 4.0 x as long as wide (8.0: 2.0); abdomen keeled below, 2.25 times as long as wide (18:8); first tergite as long as third (5:5), 2.5 times longer than the second (5:2), slightly shorter than combined length of four to sixth tergites (5:6). Ovipositor considerably long, 3.7 times as long as the total body length (16: 4.35) mm.

Body length: 4.35 mm. (excluding 16.0 mm long ovipositor).

Male : Male of *Ecdamua bouceki* sp. nov. resembles female in all respect except propodeum reticulate with transverse striations, gastral petiole short, two to three times as long as wide and body 3.03 mm long.

Material studied: Holotype (♀). INDIA: J&K; Anantnag, Nai basti (1560 meter a.s.l., 72° N, 32 ° E) (18. viii..2009). Paratypes 2 (♀♀). (20. viii. 2009). (Same data as holotype). 3 allotypes (♂♂). (21. viii. 2009). (Coll. Dr. Jamal Ahmad). Females were collected while in the act of inserting ovipositor in the holes of dead wood inhabited by sphecoid wasps, and males both near the female and also on the *Salix*, feeding on honey dew. Slides of holotype (Registration Nos. 13/6/122/1 & 13/6/122/2) two paratypes (Registration No. 136/ 13A/122/1) and one allotype (Registration No.136/13A/122/2), each card mounted, have been deposited in the National Pusa Collection, IARI, New Delhi, India.

Remarks: The present species resembles *E. indica* in some characters such as yellow gastral petiole, scape not reaching median ocellus, presence of incomplete median longitudinal sulcus on scutellum; and, with *E. lehensis* in general body sculpture except propodeum, short hind femur tooth, gastral tergites posteriorly not incised and third gastral tergite large etc., but, clearly differs from both these species in many respect, as already presented in the key, which led to propose it as a new species. It also differs from *E. nambui* Kamijo in having length of hind femur tooth one- fourth of the width of femur at its point of attachment and lack of median carina on propodeum (in *E. nambui*, length of hind femur tooth is half the width of femur at its point of attachment and median carina on propodeum present). It also differs from the African species *E. macrotelus* Walker in having median longitudinal sulcus on scutellum (*E. macrotelus* Walker lacks median longitudinal sulcus on scutellum), and with *E. cadenati* (Risbec) in having prepectal fossa triangular (in *E. cadenati* (Risbec), upper and lower margins of prepectal fossa are parallel sided).

Etymology : The present species has been named after the world renowned Chalcidologist, late Dr. Zdenek Boucek in recognition of his unmatched contribution in the field of Chalcidoidea.

ACKNOWLEDGEMENTS

Thanks are due to the Heads, Division of Entomology, SKUAST-K, Shalimar campus, Srinagar (J&K), and Department of Zoology, University of Kashmir, Hazrat Bal, Srinagar (J&K), India, for providing necessary facilities. Thanks are also due to Prof. T.C. Narendran, Calicut, Kerala and Dr. Poorani, J, Senior Scientist, NBAIL, Bangalore for providing necessary literature.

REFERENCES

- [1] Boucek, Z. 1988. *Australasian Chalcidoidea* (Hymenoptera). A bio systematic revision of genera of fourteen families, with a reclassification of species. *C.A.B. International*. Pp. 832.
- [2] Grissell, E.E. 1995. Toryminae (Hymenoptera : Chalcidoidea: Torymidae) a redefinition, generic classification and annotated world catalogue of species. *Memoirson Entomology International*, **2**: 474 pp.

- [3] Narendran, T.C. 1984. On three interesting species of Torymidae from India (Hymenoptera: Chalcidoidea). *Bollettino del Laboratorio di Entomologia Agraria Filippo Silvestri*, 41: 109-118.
- [4] Sureshan, P.M. 2010. A new species of *Ecdamua* Walker from the cold desert of Ladakh, India ((Hymenoptera: Chalcidoidea: Torymidae). *Record of Zoological Survey of India*, part I: 103-106.
- [5] Walker, F. 1871. Notes on Chalcididae. Part II. Eurytomidae and Torymidae pp. 19- 36.
- [6] Zavada, A. 2005. Notes on *Ecdamua nambui* (Hymenoptera: Torymidae), with a key to world species. *Phegea*, 33: 155-160.

LEGEND OF FIGURES

Figures 1-7. *E. bouceki* sp.nov. ♀

1. Antenna
2. Mandible
3. Maxillary palp
4. Scutellum
5. Propodeum
6. Part of fore wing
7. Part of hind leg
8. Abdominal petiole with basal gastral tergite

