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## A NEW SPECIES OF *ECDAMUA* WALKER FROM THE COLD DESERT OF LADAKH, INDIA (HYMENOPTERA : CHALCIDOIDEA : TORYMIDAE)

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### INTRODUCTION

In connection with the project "Rapid assessment of faunal resources of cold desert Ladakh", field surveys were conducted by Zoological Survey of India in Ladakh, Jammu and Kashmir. During the first survey programme of the above project, an interesting torymid species with an exceptionally long ovipositor from Leh, the district headquarters of Ladakh was obtained. The specimen was collected from the campus of the Forest Rest house, Leh. The vegetation of the area was dominated by medium sized willow trees around and the ground covered with small grasses and some flowering plants. The collection was made by sweeping with an insect net mainly over the leaves of willow trees and only one specimen could be collected after repeated sweeps in the area. Detailed studies revealed that the specimen belongs to an undescribed species

of a very rare genus, *Ecdamua* Walker, which is described hereunder.

The genus *Ecdamua* Walker belongs to the subfamily Toryminae of the family Torymidae and contains 5 described species from the world (see table). *Ecdamua* species are believed to be parasitoids of aculeate Hymenoptera nesting in dead wood and are found in the vicinity of such holed wood (Boucek, 1988, Narendran, 1994, Grissell, 1995, Zavada, 2005, Noyes, 2003). One new species of *Ecdamua* is described here based on female specimen collected from Leh, Ladakh.

Following abbreviations are used in the text. F1-F7- Funicular segments 1 to 7; OOL-Ocellular distance; POL-Postocellar distance; SMV-Sub marginal vein; MV-Marginal vein; PMV-Postmarginal vein; STV-Stigmal vein; T1-T6-Gastral tergites 1 to 6.

### World species of *Ecdamua* Walker (Source : Noyes, 2003)

Species	Distribution
<i>E.cadenati</i> (Risbec, 1951)	Niger, Senegal, Sierra Leone, Uganda, Zambia, Zimbabwe, Nigeria, Ghana, Gambia, Cameroon.
<i>E.indica</i> Walker, 1871	China (Taiwan), India (Bihar, Karnataka, Kerala, Maharashtra, Uttar Pradesh)
<i>E.longipilum</i> (Girault, 1925)	Australia (Queensland)
<i>E.macrotelus</i> Walker, 1862	Kenya, Sierra Leone, Uganda, Botswana, Congo, Zaire, Madagascar, Mauritius, Mozambique, S. Africa, Zimbabwe
<i>E.nambui</i> Kamijo, 1979	Japan, Ukraine
<i>E.lehensis</i> sp.nov.	India (Ladakh)

*Ecdamua lehensis* sp. nov.

(Figs. 1-5)

*Female* : Length 4.43 mm. Ovipositor 18 mm. Bluish green. Thorax with purple reflections in places (especially on sides). Tegulae blackish brown. Petiole brownish black. Gaster mainly bluish green dorsally, blackish ventrally with purplish reflections laterally; ovipositor sheaths black, ovipositor yellowish brown. Eyes cupreous. Scape yellowish brown; pedicel and flagellum blackish brown. Wings subhyaline, veins dark brown. Coxae concolorous with thorax; fore and hind femora metallic green with apices lighter; mid femora infuscate with apices lighter; hind tibiae infuscate; remainder of legs brownish yellow. Hairs on thorax pale.

eyes 1.4 x as long as broad (in profile), separated 1.03x by their height (at level of toruli); face finely and transversely sculptured without punctures, pubescence dense. Antenna (Fig. 4) with scape nearly reaching anterior margin of median ocellus; pedicel slightly longer than half of F1 (5/9); flagellum slender, 1.5x breadth of head, hardly widening towards tip; anellus strongly transverse; F1 about 2x as long as broad, narrow basally; F2 a little shorter than F1; F3-F5 equal and slightly shorter than F2; F6 and F7 equal and slightly shorter than F5; club as long as two preceding segments combined; funicular segments with numerous sensillae.

*Thorax* : 2.3x as long as broad, pronotum a little longer than wide (22/19), distinctly and transversely

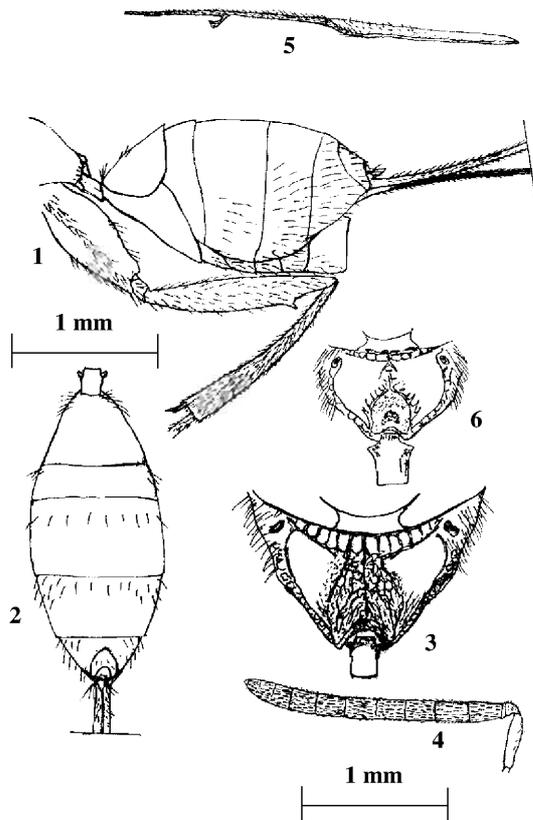


*Ecdamua lehensis* sp. nov. female.

*Head* : Broader than thorax, 2.1x as broad as long in dorsal view; temples strongly receding behind eyes, 0.2x as long as eye; POL 2.13x OOL, which is a little shorter than lateral ocellus; occiput moderately emarginate, carina sharp; vertex and frons above with sparse punctures, interspaces faintly and transversely sculptured, more distinctly behind ocelli, vertex and occiput with moderately dense pubescence. In front view head 1.3x as broad as high; anterior margin of clypeus slightly produced and truncate medially; malar space 0.32x length of eye; scrobe almost smooth, just short of reaching median ocellus; malar grooves distinct; gena finely but sharply carinate posteriorly;

sculptured, with a broad and smooth band posteriorly and with sparse piliferous punctures. Mesoscutum with piliferous punctures tending to be sparser posteriorly, interspaces transversely sculptured anteriorly and almost smooth posteriorly. Scutellum 1.3 x as long as broad. Sculptured in anterior two thirds as in posterior part of mesoscutum; frenal furrow deep, frenum smooth. Axillae with sparse fine piliferous punctures. Dorsellum smooth. Propodeum (Fig. 3) strongly convex, median bell shaped area with irregular longitudinal carinulae and fine sculptured interspaces, remaining area smooth and fine; median carina irregularly indicated; base of propodeum with a row of quite large, gradually

diminishing laterad foveae six in number on either side. Prepectus broad, triangular, almost smooth and shiny, longer than tegula. Mesopleuron with mesepisternum finely and transversely sculptured; mesepimeron and metapleuron smooth and shiny. Hind coxae weakly margined dorsally, without hairs in dorso-proximal two thirds; hind femora (Fig. 1) with a moderate tooth. Forewing (Fig. 5) 2.72x as long as broad; costa! cell



**Figs. 1-6 :** *Ecdamua lehensis* sp.nov. (Female) : 1, gaster and hind leg (excluding tarsus); 2, gaster in dorsal view; 3, propodeum and petiole dorsal view; 4, antenna; 5, forewing venation; 6, *Ecdamua nambui* Kamijo, female propodeum and petiole dorsal view (from Kamijo, 1979).

with basal half bare, apical half with two rows of hairs; basal cell bare, closed; basal hair line indicated. PMV a little shorter than MV. Relative lengths: SMV 62, MV 37, PMV 32, STV 5.

**Gaster :** (Figs. 1, 2) Petiole little longer than broad, almost parallel sided, smooth and shiny; gaster shorter than thorax, compressed, 2.3x as long as broad in dorsal view; hind margins of tergites not incised; ovipositor 4.1x as long as body .

**Male :** Unknown.

**Biology :** Unknown.

**Holotype :** Female : India : Jammu & Kashmir, Leh. Ladakh, Forest Guest house, N 34°10'04.8'', E 077°35'32.4'', Altitude. 3540 Metre, 4.vii.2008, coll. P.M. Sureshan. Reg. No. A. 1213. The holotype is kept in the Gangetic Plains Regional Centre, Patna of the Zoological Survey of the India, pending deposition in the National Zoological collections of Zoological Survey of India at Kolkata.

**Etymology :** Named after the locality Leh (District head quarters of Ladakh) from which the specimen collected.

**Remarks :** This species resembles *E.nambui* Kamijo in general morphology, but differs in having a different propodeum with a, median bell shaped area with distinct irregular carinulae and fine sculpture in interspaces, median carina irregularly indicated and complete; gaster with hind margins of tergites not incised; tooth of hind femur shorter, length less than breadth of hind femur at the point of attachment. In *E nambui* the propodeum (Fig. 6) with a pair of carinae from hind margin meeting to form an irregular median carina, which does not reach hind margin of metanotum and area enclosed by carinae weakly depressed and feebly sculptured; hind femur with tooth longer, about half the breadth of femur at point of attachment. The Oriental species *E.indica* Walker readily differs from the new species in having a long and slender petiole, small tubercle like tooth on the hind femur and smooth propodeum. The other three species of *Ecdamua* differs from the new species as given in the key.

**KEY TO THE SPECIES OF ECDAMUA WALKER**

(Modified from Zavada, 2005)

1. Propodeum with median row of foveae or irregular carinulae. Petiole at most twice as long as broad. Hind femur tooth longer, length up to about half breadth of femur at point of attachment ..... 2
- Propodeum without row of foveae or carinulae in the middle, smooth or with piliferous punctures. Petiole more than twice as long as broad or much longer. Hind femur tooth a minute tubercle ..... 3
2. Propodeum (Fig. 3) with a median bell shaped area with several irregular carinulae, Median carina

- irregularly complete. Gaster with posterior margins of T1-T3 not incised. Hind femur tooth small, length less than half the breadth of femur at point of attachment ..... *E.lehensis* sp.nov.
- Propodeum (Fig. 6) with a pair of carinae from hind margin meeting at middle to form an irregular median carina which does not reach hind margin of metanotum, area enclosed by carinae weakly depressed and feebly sculptured. Gaster with hind margins of T1 slightly and those of T2-T3 rather deeply incised medially. Hind femur tooth slender and long, length about half the breadth of femur at point of attachment ..... *E.nambui* Kamijo
3. Propodeum glabrous ; prepectal fossa a wide groove with upper and lower margins parallel ..... 4
- Propodeum finely sculptured; prepectal fossa triangular ..... 5
4. Scutellum with an incomplete longitudinal sulcus .  
..... *E.cadenati* (Risbec)
- Scutellum without such longitudinal sulcus .....  
..... *E.macrotelus* Walker
5. Petiole 1.5-1.6x as long as hind tibia; foveae in basal rows on propodeum smaller and more than four on each side; width of frons equal to height of eye ..  
..... *E.indica* Walker
- Petiole 1.9x as long as hind tibia; foveae in basal rows on propodeum large and few and at most four visible on each side; width of frons slightly less than height of eye ..... *E.longipilum* (Girault)

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