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Addition of two new species to genus *Eutomostethus* ENSLIN from India

(Insecta: Hymenoptera: Tenthredinidae: Blennocampinae)

With 14 Figures

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Abstract. To the previously recorded 12 species of genus *Eutomostethus* ENSLIN from India, two species are added new. These are the following species described as new for science: *E. sikkimensis* and *E. bengalensis*. A key to the Indian species of this genus is provided.

Introduction

The genus *Eutomostethus* was erected by ENSLIN (1914). ROHWER (1913) described two species from India which were *Tomostethus hirticornis* and *T. assamensis*. But later on, he (1915) himself shifted both the species to genus *Eutomostethus* ENSLIN. Then after a long silence, SAINI & VASU (1996) added 10 species as new to science from this subcontinent. The present work covers detailed and systematic descriptions of two new species alongwith a key to all the 12 Indian species.

Material and methods

This study is based on 150 adult specimens belonging to 14 Indian species. The collection has been made by sweeping nets during the months of April to September every year since 1991. Since this group is confined to high altitude regions (1400–2500 m), so the various collection localities falling within this range in India has extensively been explored. After proper identification and confirmation, holotypes have been designated for the new species.

Slides of external genitalia have been prepared, following the technique of ROSS (1945) and SAINI & VASU (1995). Detailed description of each species has been written following a uniform pattern suggested by Dr. D.R. SMITH of USNM, Washington. Figures pertaining to various necessary part of adults including genitalia are provided. A key has been provided for the identification of all Indian species under study.

Measurements have been made with the aid of slide micrometer and oculometer, whereas diagrams are drawn under stereoscopic microscope fitted with an ocular grid.

Type material of new species is deposited at Indian Agricultural Research Institute (IARI), Pusa National Collections, Division of Entomology, New Delhi, India.

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***Eutomostethus sikkimensis* spec. nov. (Figs. 1–7)**

Female:

Colour: Body black, whitish are: extreme apices of all femora; outer side of protibia except infuscated extreme apex; tibiae and basitarsi of meso- and metalegs; rest of tarsi of all legs light to dark brown. Wings faintly uniformly infumated; costa and subcosta black; stigma and rest of venation fuscous. Structure: Average length 5 mm. Antenna incrassating before apex, 1.3 x head width; scape and pedicel each as long as its apical width; segment 3 longer than 4 as 4:3; clypeus truncate with shallow median notch (Fig. 1); labrum broader than long as 2:1, with deflexed rounded anterior margin; supraclypeal area triangularly feebly raised, without any carina; LID:IDMO:EL = 4:5:4; hind orbits carinated; supraantennal pit shallow, broad, rounded, with a small central protuberance; frontal area almost at level of eyes; supraantennal tubercles moderate and confluent with similar frontal ridges; median fovea distinct and divisible into low lying anterior and raised posterior parts (Fig. 7); anterior $\frac{1}{2}$ of median fovea almost rounded, having flat bottom with a median longitudinal carina and a pit at its anterior end; posterior $\frac{1}{2}$ of median fovea having uneven bottom, characteristically carved with a pit encircling median ocellus; postocellar area convex, broader than long as 4:3; post-, inter- and circumocellar furrows sharp and distinct; lateral furrows quite distinct, deep, parallel and abruptly ending just before hypothetical hind margin of head; head narrowing behind eyes; POL:OCL:UOL:UCL = 4:3:4:2; mesoscutellum subconvex, its appendage neither carinated nor grooved; ICD:ITD = 1:6; tarsal claw (Fig. 2) with a subapical tooth shorter than apical one and without basal lobe; metabasitarsus longer than following 3 joints combined as 4:3; IATS:AWMT:OATS = 1:1:1.

Lancet (Fig. 4) having 16 serrulae. Ovipositor sheath, Fig. 3 (lateral view).

Sculpture and pubescence: Head impunctate, surface shining; thorax impunctate except posterior slope that bears a row of few isolated punctures, surface shining with general oily lustre; abdomen impunctate, shining. Body covered with fuscous pubescence.

Male: Average length 4 mm. Similar to female. Genitalia: Penis valve (Fig. 5), gonoforceps (Fig. 6).

Material examined: Holotype: ♀, India, Sikkim, Gangtok, 1500 m, 14.5.1993, coll. V Vasu. Paratypes: 1 ♀, 3 ♂♂, with same data as holotype. Nagaland, Satakha, 1500 m, 1 ♀, 1 ♂, 15.5.1994, coll. V Vasu.

Population variation: In a male specimen, the extreme apices of basitarsi of hind four legs may be brownish.

Distribution: Sikkim, Nagaland.

Diagnostic combinations: On the basis of some significant characters, *E. sikkimensis* remains separated from its closely related species *E. scutopunctatus* SAINI & VASU such as: extreme apices of trochanters of front four legs, metatrochanter and tarsal segment 2 of hind four legs whitish yellow in latter but black in former; antennal segments 3 and 4 as 4:3 in former but 3:2 in latter; clypeus truncate in latter but with a median notch in former; and postocellar area broader than long as 2:1 in latter but 4:3 in former.

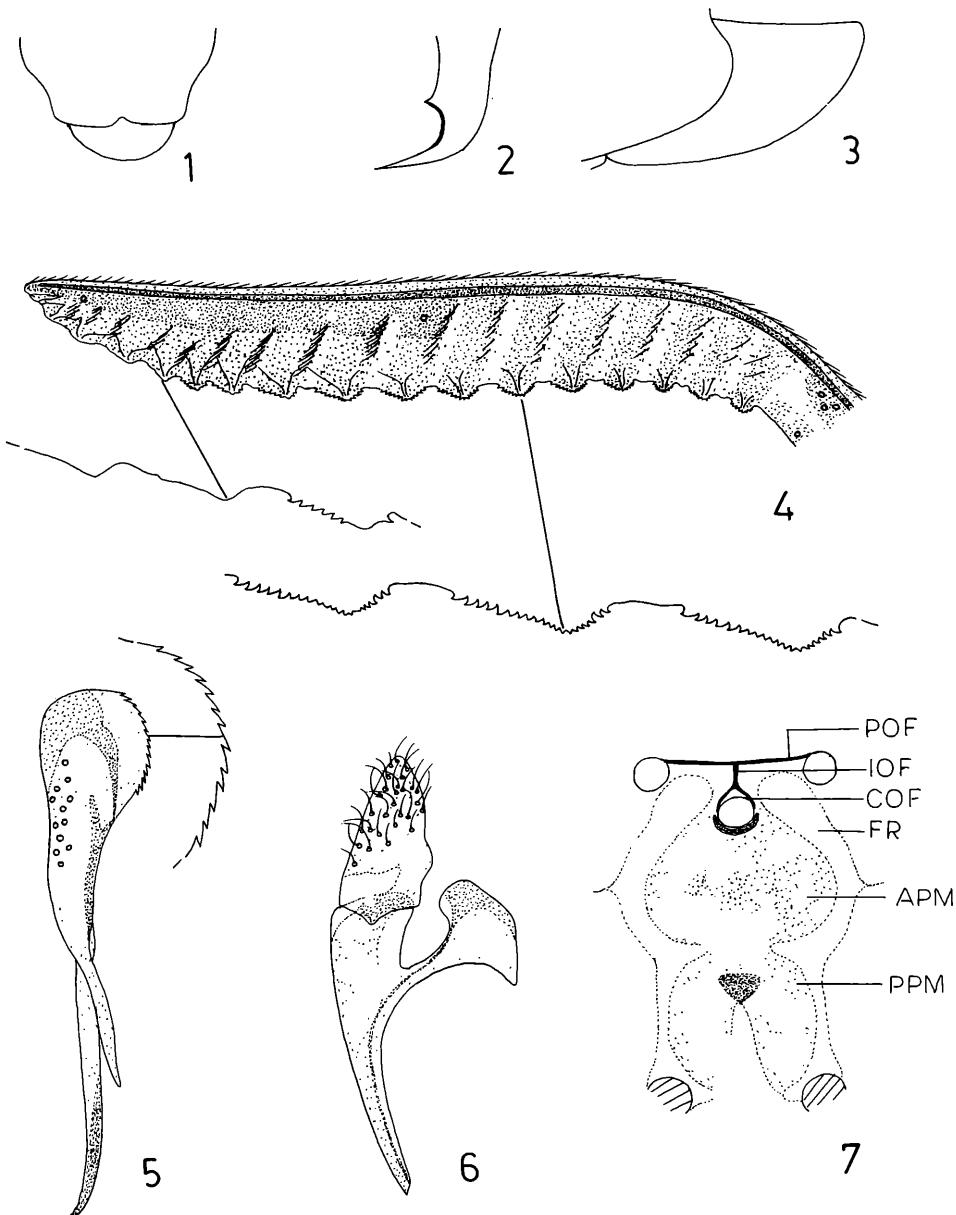
Etymology: Species name is after the state (Sikkim) in which the type locality falls.

***Eutomostethus bengalensis* spec. nov. (Figs. 8–14)**

Female:

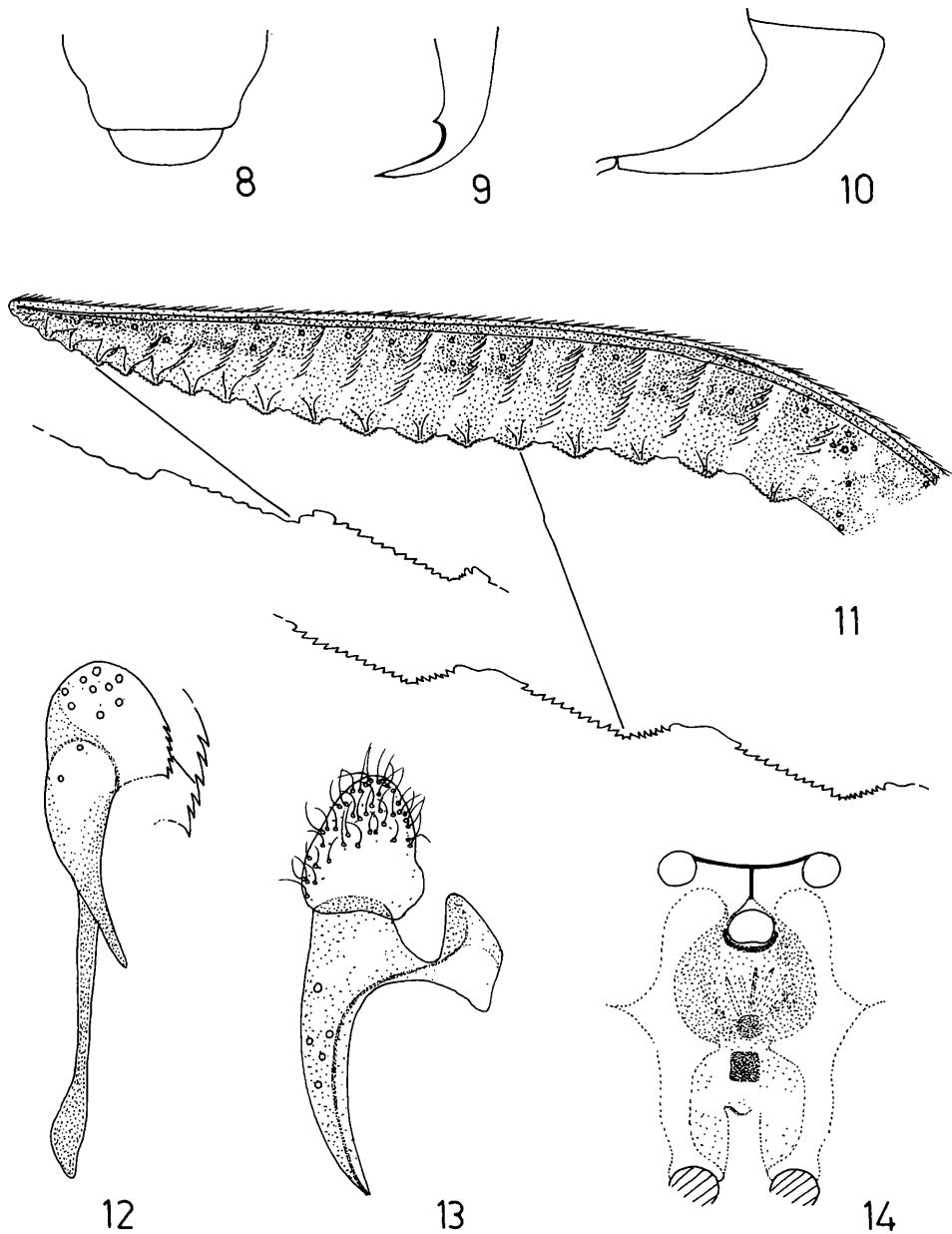
Colour: Body piceous, whitish are: extreme apices of all femora; outer side of protibia except extreme apex; meso- and metatibiae except their apices; meso- and metabasitarsi except extreme apices. Wings infumated; venation including costa, subcosta and stigma fuscous.

Structure: Average length 5 mm. Antenna subincrassate in middle, 1.3 x head width; scape and pedicel each as long as its apical width; segment 3 longer than 4 as 3:2; clypeus truncate (Fig. 8); labrum broader than long as 2:1, with deflexed rounded anterior margin; supraclypeal area triangularly feebly raised without blunt medial longitudinal carina; LID:IDMO:EL = 3:4:3; hind orbits not carinated;



Figs. 1-7: *Eutomostethus sikkimensis* spec. nov.: 1 – clypeus and labrum; 2 – tarsal claw; 3 – ovipositor sheath (lateral view); 4 – lancet; 5 – penis valve; 6 – gonoforceps; 7 – median fovea (front view).

supraantennal pit deep, ditch-like and without any protuberance in its centre; frontal area almost at level of eyes; supraantennal tubercles and frontal ridges significant; median fovea distinct, divisible into low lying anterior and raised posterior parts (Fig. 14); anterior $\frac{1}{2}$ of median fovea almost squarish, opened posteriorly, shallow having uneven bottom and a deep pit at the posterior end; posterior $\frac{1}{2}$ of median fovea having raised uneven bottom, characteristically carved with shallow scattered pits; postocellar area convex, broader than long as 3:2; post- and interocellar furrows distinct; circumocellar furrow shallow; lateral furrows distinct, deep, excurred (bulging) and abruptly ending just



Figs. 8–14: *Eutomostethus bengalensis* spec. nov.: 8 – clypeus and labrum; 9 – tarsal claw; 10 – ovipositor sheath (lateral view); 11 – lancet; 12 – penis valve; 13 – gonoforceps; 14 – median fovea (front view).

before hypothetical hind margin of hind; head narrowing behind eyes; $\text{POL}:\text{OCL}:\text{UOL}:\text{UCL} = 4:3:4:3$; mesoscutellum almost flat, its appendage neither carinated nor grooved; $\text{ICD}:\text{ITD} = 1:6$; tarsal claw (Fig. 9) with a subapical tooth distinctly shorter than apical one and without basal lobe; metabasitarsus longer than following 3 joints combined as $4:3$; $\text{IATS}:\text{AWMT}:\text{OATS} = 1\ 1\ 1$. Lancet (Fig. 11) having 17 serrulae. Ovipositor sheath (Fig. 10, lateral view).

Sculpture and pubescence: Head almost impunctate except a few minute, scattered punctures on frontal

area, surface shining; thorax impunctate, smooth and shining with general oily lustre; abdomen impunctate, subshining. Body covered with fuscous pubescence.

Male: Average length 4 mm. Similar to female. Genitalia: Penis valve (Fig. 12), gonoforceps (Fig. 13).

Population variation: All specimens are alike.

Material examined: Holotype: ♀, India, West Bengal, Darjeeling, 2280 m, 6.5.1995, coll. V Vasu. Paratypes: 4 ♀♀, 2 ♂♂, with same data as holotype.

Distribution: India: West Bengal.

Diagnostic combinations: *E. bengalensis* distinguishes from *E. vatsi* SAINI & VASU as: clypeus truncate (with a median notch in *E. vatsi*); supraantennal pit ditch-like (crescent shaped in *E. vatsi*); metabasitarsus longer than following 3 joints combined (equal in *E. vatsi*); POL:OCL:UOL:UCL = 4:3:4:3 (4:4:5:3 in *E. vatsi*), and meso- and metabasitarsi except extreme apices whitish yellow (black in *E. vatsi*).

Etymology: Species name is after the state (West Bengal) in which the type locality falls.

Key to the Indian species of genus *Eutomostethus* ENSLIN

1. Thorax mainly auratus. 2
- Thorax entirely black. 3
2. Upper $\frac{3}{4}$ of mesopleuron auratus; hind orbits not carinated; antennal segments 3 and 4 as 4:3; postocellar area broader than long as 3:2; postocellar furrow shallow; posterior $\frac{1}{3}$ of median fovea uneven with some irregular longitudinal ridges. *E. hirticornis* (ROHWER)
- Upper $\frac{1}{2}$ of mesopleura auratus; hind orbits carinated; antennal segments 3 and 4 as 2:1; postocellar area broader than long as 4:3; postocellar furrow distinct; posterior $\frac{1}{2}$ of median fovea with a rounded protuberance in its centre. *E. gibbus* SAINI & VASU
3. Legs entirely black or piceous. 4
- Legs with broad whitish yellow markings. 5
4. Posterior border of mesoscutellum with deep, distinct, isolated punctures; lateral furrows excurred (bulging); circumocellar furrow absent. *E. pullus* SAINI & VASU
- Posterior border of mesoscutellum smooth, shining and without punctures; lateral furrows parallel; circumocellar furrow present. *E. innotatus* SAINI & VASU
5. Abdomen entirely black. 6
- Abdomen mainly auratus except propodeum and last tergite. *E. inauratus* SAINI & VASU
6. Hind orbits carinated. 7
- Hind orbits not carinated. 9
7. Wings infumated; supraclypeal area raised; lateral furrows parallel; POL:OCL:UOL:UCL = 4:3:4:2. 8
- Only apical halves of wings infumated; supraclypeal area almost flat; lateral furrows excurred (bulging); POL:OCL:UOL:UCL = 2:2:2:1. *E. basilimpidus* SAINI & VASU
8. Extreme apices of trochanters of front four legs, metatrochanter, and tarsal segment 2 of hind four legs whitish yellow; clypeus truncate; postocellar area broader than long as 2:1; antennal segments 3 and 4 as 3:2; postocellar furrow shallow; circumocellar furrow indistinct; IATS:AWMT:OATS = 4:5:4. *E. scutopunctatus* SAINI & VASU
- All above mentioned parts fuscous to black; clypeus with a median notch; postocellar area broader than long as 4:3; antennal segments 3 and 4 as 4:3; post- and circumocellar furrows distinct; IATS:AWMT:OATS = 1 1 1. *E. sikkimensis* spec. nov. 10
9. Lateral furrows parallel. 11
- Lateral furrows excurred (bulging). 12

10. Postocellar area broader than long as 3:2; supraantennal pit almost rounded with a small protuberance in its centre; anterior part of median fovea having middle longitudinal carina; POL:OCL:UOL:UCL = 4:4:4:3. *E. assamensis* (ROHWER)

— Postocellar area broader than long as 2:1; supraantennal pit ditch-like or crescent shaped in outline, without any protuberance; anterior part of median fovea having flat bottom; POL:OCL:UOL:UCL = 4:4:5:3. 11

11. Clypeus truncate with a slight median notch; supraantennal pit ditch-like; triangular supraclypeal area raised with blunt medial carina; circumocellar furrow sharp and distinct. *E. carinoelatus* SAINI & VASU

— Clypeus truncate without median notch; supraantennal pit deep, crescent-shaped in outline; triangular supraclypeal area feebly raised without carina; circumocellar furrow shallow. *E. falcatus* SAINI & VASU

12. Supraantennal pit without any central protuberance; postocellar area broader than long as 3:2. 13

— Supraantennal pit with a central protuberance; postocellar area broader than long as 2:1. *E. carinatus* SAINI & VASU

13. Clypeus truncate; supraantennal pit ditch-like; POL:OCL:UOL:UCL = 4:3:4:3; metabasitarsus longer than following 3 joints combined. *E. bengalensis* spec. nov.

— Clypeus with a shallow median notch; supraantennal pit crescent shaped; POL:OCL:UOL:UCL = 4:4:5:3; metabasitarsus equal to following 3 joints combined. *E. vatsi* SAINI & VASU

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Abbreviations

APM – anterior part of median fovea; AWMT – apical width of metatibia; COF – circumocellar furrow; EL – eye length; FR – frontal ridge; IATS – inner apical tibial spur; ICD – inter cenchri distance; IDMO – interocular distance at the level of median ocellus; IOF – interocellar furrow; ITD – intertegular distance; LID – lower interocular distance; OATS – outer apical tibial spur; OCL – ocellooccipital line; PMF – posterior part of median fovea; POF – postocellar furrow; POL – postocellar line; UCL – oculooccipital line; UOL – oculoocellar line.

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