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## Review of the Indian species of the genus *Eurymeros* Bhat (Braconidae: Alysiinae) with some nomenclatural changes

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### Abstract

The genus *Eurymeros* Bhat (Braconidae, Alysiinae) is reviewed from India and three species *E. gibbosa* Sharma 1983, *E. mangifera* Sharma 1983, and *E. namkumensis* Sharma & Naqvi 1993, are transferred to the genus *Euscelinus* Westwood 1882 (**comb. nov.**; Braconidae, Doryctinae) and synonymized with the type species (*Euscelinus sarawacus* Westwood 1882; **syn. nov.**). The type species and only known species *E. tumespiraculum* Bhat is redescribed.

**Key words:** Review, *Eurymeros*, India

### Introduction

The genus *Eurymeros* Bhat (Braconidae, Alysiinae) was named in 1980 with *E. tumespiraculum* Bhat as the type species. It is a rare taxon which can be identified by distinct widened teeth-bearing hind femora and exodont mandibles. Its biology is unknown but considering that it belongs to the subfamily Alysiinae its host is likely to be the larva of a cyclorrhaphous fly. In 1983 two additional species were named, namely *Euremeros gibbosa* Sharma 1983 and *E. mangifera* Sharma 1983, with misspelled generic name ‘*Euremeros*’ and species epithets with nomenclatural errors. Finally, in 1993 *Euremeros namkumense* Sharma & Naqvi 1993 (again misspelled) was described.

In this paper we include three of the species, *E. gibbosa* Sharma 1983, *E. mangifera* Sharma 1983 and *E. namkumensis* Sharma & Naqvi 1993, in the genus *Euscelinus* Westwood 1882 (**comb. nov.**; Braconidae, Doryctinae) and synonymize them with the type species (*Euscelinus sarawacus* Westwood 1882; **syn. nov.**). Additionally, the rediscovery of the type species *E. tumespiraculum* after four decades allows us to fully illustrate and redescribe the type species, a necessity since the original publication is lacking detailed illustrations.

### Material and methods

The specimens of *E. tumespiraculum* were collected from yellow pan traps placed about 1970 m above sea level in Dalhousie, Chamba district of Himachal Pradesh (Figs 1A, 1B). Specimen images were captured with a Leica M 205 A stereozoom microscope with Leica DC 420 inbuilt camera using automontage software (version 3.8). The vouchers are deposited in the National Insect Museum (NIM) of ICAR-National Bureau of Agricultural Insect Resources (ICAR-NBAIR), Bengaluru, India.

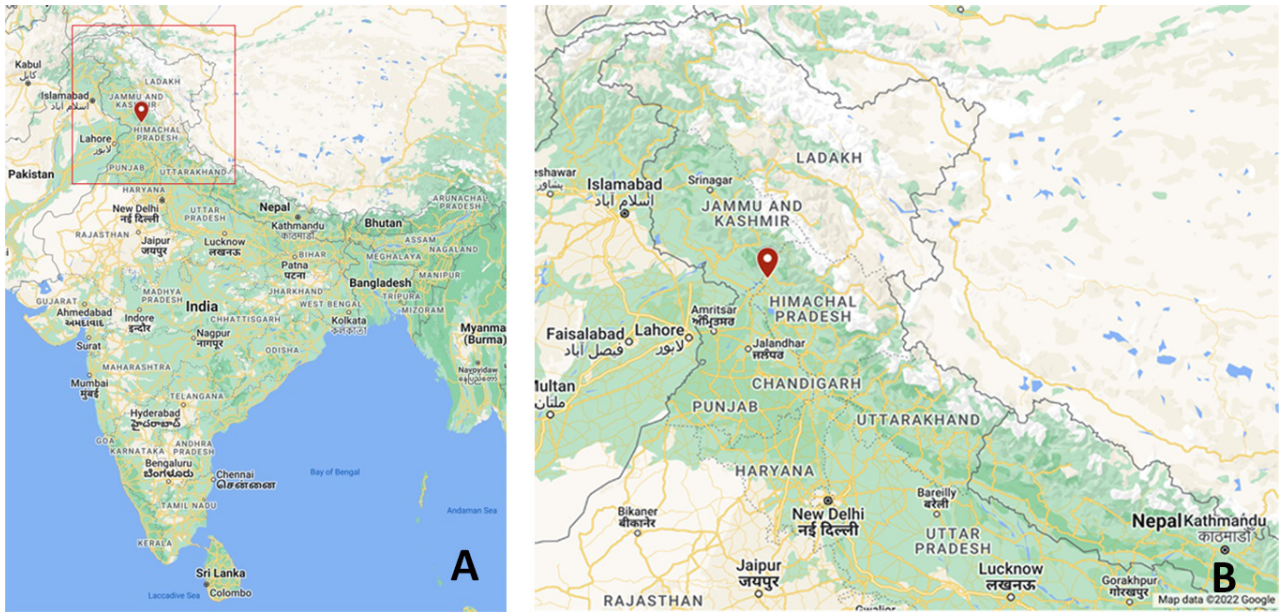


FIGURE 1A & 1B. Collection locality of *Eurymeros tumespiraculum* Bhat in northern India

## Genus *Eurymeros* Bhat 1980

*Eurymeros* Bhat 1980, Entomon, 5(2): 157.

**Type species:** *Eurymeros tumespiraculum* Bhat, 1980 (misspelled as “*E. tumespiraculus*” in Singh *et al.* 2021).

**Type repository:** Gupta collection, University of Florida, Gainesville, U.S.A. (mentioned as ‘unknown’ in Singh *et al.* 2021).

### 1. *Eurymeros tumespiraculum* Bhat 1980

(Figs 2 & 3)

*Eurymeros tumespiraculum* Bhat 1980, Entomon 5(2): 157.

**Type locality.** India: Himachal Pradesh: Dalhousie.

**Distribution.** India: Himachal Pradesh.

**Material examined.** India. 2♀; Himachal Pradesh, Chamba District, Dalhousie, 32.5387° N, 75.9710° E, 25 Sept. 2014; Ankita Gupta leg; (NIM), code—NBAIR/Brac/Alys/Eury/25914 (NIM).

#### Redescription

**Female.** Body length (including ovipositor) 5.4 mm (Fig. 2); fore wing length 4.6 mm.

**Colour.** Head black; eyes grey; clypeus yellowish brown; mandibles yellowish with dark brown margins, median tooth dark brown; palpi off white; ocelli transparent; antenna with scape and pedicel yellowish brown remaining flagellum brown; mesoscutum dark reddish brown except black lateral sides and black median depression; scutellum and propodeum black; legs in general yellowish with fore and mid femora, tibiae and tarsi darker except hind femur with apical three fourth dark brown, basal one fourth pale yellow and extreme basal margin dark brown; hind tibia brown; wings hyaline with pterostigma dark brown; metasoma with T1 black, remaining tergites reddish brown dorsally and yellowish laterally; ovipositor brown.

**Head.** Antenna 27 segmented, 0.8 × as long as body; scape 2.4 × as long as wide, F1 3.3 × as long as wide; F2 2.2 × as long as wide; F1 1.3 × as long as F2; head transverse, ca. 1.4 × as wide as long in dorsal view, temple and vertex smooth and shiny (Fig. 3C), widest distance from eyes 1.8 × as long as eye dorsally; eye length 2.4 × temple in dorsal view; POL: OOL: OD (relative) = 10.9: 15.3: 7.8; malar space subequal to basal width of mandible; face

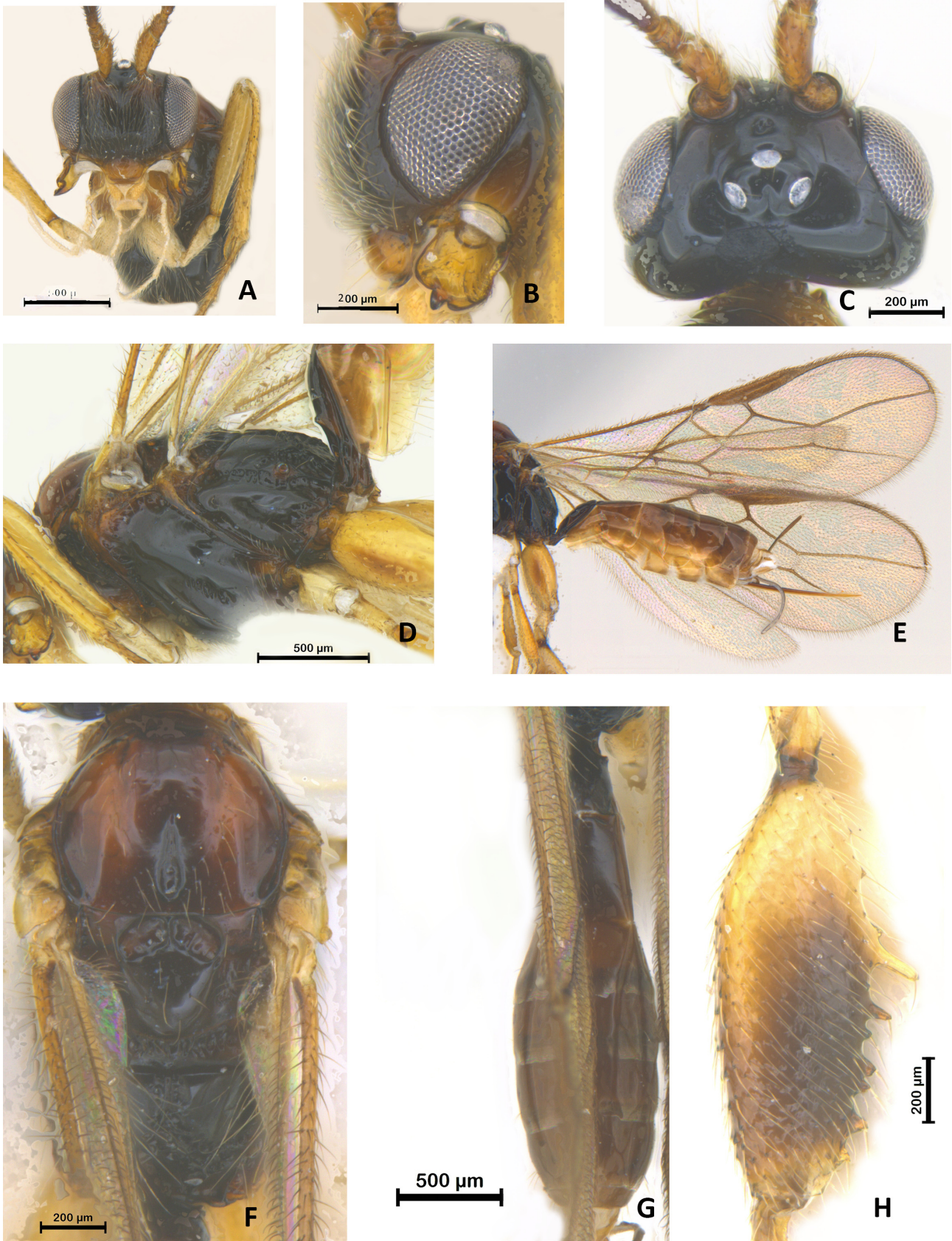
setose, clypeus smooth, distinctly separated from face in colouration. Head  $1.2 \times$  as wide as long in frontal view (Fig. 3A). Mandible with a sharp protruding median tooth, lateral sides of tooth blunt (Fig. 3B).

**Mesosoma.** Mesosoma (Fig. 3F)  $1.6 \times$  as long as wide in dorsal view, mesoscutum smooth with median oval depression situated little above the posterior margin in the apical half; notauli absent; scutellum, mesopleuron (Fig. 3D) and metapleuron smooth. Propodeum with median carina surrounded by deep crenulae forming two parallel submedian carinae in basal half, submedian carinae bifurcating in apical half; basal half smooth and shiny and apical half with irregular and prominent rugae/carinae appearing as wide reticulations. **Wings** (Fig. 3E). Fore wing  $2.7 \times$  as long as wide; pterostigma  $5.5 \times$  as long as wide, r arising before middle of pterostigma. Fore wing vein ratio:  $r:2-SR:3-SR:SR1 = 0.15: 0.46: 0.65: 1.38$ ;  $1-SR+M$  0.43, not sinuate;  $1Cu1: 2Cu1: m-cu = 0.06: 0.44: 0.30$ . **Legs.** Hind femur distinctly widened with 7 teeth (one large, 4 medium and two small) and one truncated protuberance (Fig. 3H), hind basitarsus  $0.4 \times$  as long as hind tibia. Ratio of hind femur: hind tibia: hind tarsus: hind basitarsus:  $1.4: 1.6: 1.4: 0.6$ .

**Metasoma.** Metasoma elongated (Fig. 3G); T1 with irregular carinae giving rugose appearance, remaining tergites smooth; T1  $1.2 \times$  as long as broad apically (in dorsal aspect), T1 lateral length 0.7; relative median length (T2–T7)  $0.49: 0.33: 0.28: 0.27: 0.32: 0.09$ ; ovipositor length 1.3 mm, subequal to hind femur in length.



**FIGURE 2.** Female of *Eurymeros tumespiraculum* Bhat, female, India, habitus, lateral aspect.



**FIGURE 3.** Female of *Eurymeros tumespiraculum* Bhat, female, India. A. Head in frontal aspect (500 µm); B. Head in lateral aspect with mandible; C. Vertex; D. Mesopleuron; E. Wings; F. Mesosoma; G. Metasoma; H. Hind femur

## 2. *Euscelinus gibbosus* Sharma 1983 comb. nov.

*Euremeros gibbosa* Sharma 1983, Reichenbachia 21(2): 129.

**Type locality.** India: Uttarakhand: Dehradun: Manduwala.

**Type repository.** Entomological collections, Forest Research Institute, Dehradun (as per original publication however mentioned as ‘unknown’ in Singh *et al.* 2021).

**Distribution.** India: Jharkhand (Ranchi); Uttarakhand (Dehradun); Deccan Peninsula: Chhota Nagpur, Upper Gangetic Plains (Sharma 1991; Singh *et al.* 2021).

**Comments.** The nomenclatural correction to the species epithet is made as it should follow the gender of the generic name. The interpretation of this species is problematical because of lack of illustrations and the far too short description. However, the few figures of *Eurymeros gibbosa* clearly show that this species is not belonging to the genus *Eurymeros*; both wing venation and shape of hind femur and mandible indicate that it also belongs to genus *Euscelinus* Westwood 1882 (subfamily Doryctinae). It is synonymized with its rather variable type species, *E. sarawacus* Westwood 1882 (Fig. 4), since no obvious differences are found (**syn. nov.**).

## 3. *Euscelinus mangiferae* (Sharma 1983) comb. nov.

*Euremeros mangifera* Sharma 1983, Reichenbachia, 21(2): 128–129.

**Type locality:** India: Uttarakhand: Dehradun.

**Distribution:** India: Uttarakhand.

**Comments.** *Euscelinus mangiferae* **comb. nov.** (reared from *Mangifera indica* L. as per original publication) differs from the type species by having two mandibular teeth, head more or less circular, pterostigma differentiated from 1-R1 and metapleuron rugose-reticulate. These characters suggest its correct placement in the doryctine genus *Euscelinus* Westwood 1882 with correction to the species epithet as it is derived from the host genus. It is synonymized with *E. sarawacus* Westwood, 1882, since no obvious differences are found (**syn. nov.**).

## 4. *Euscelinus namkumensis* (Sharma & Naqvi 1993) comb. nov.

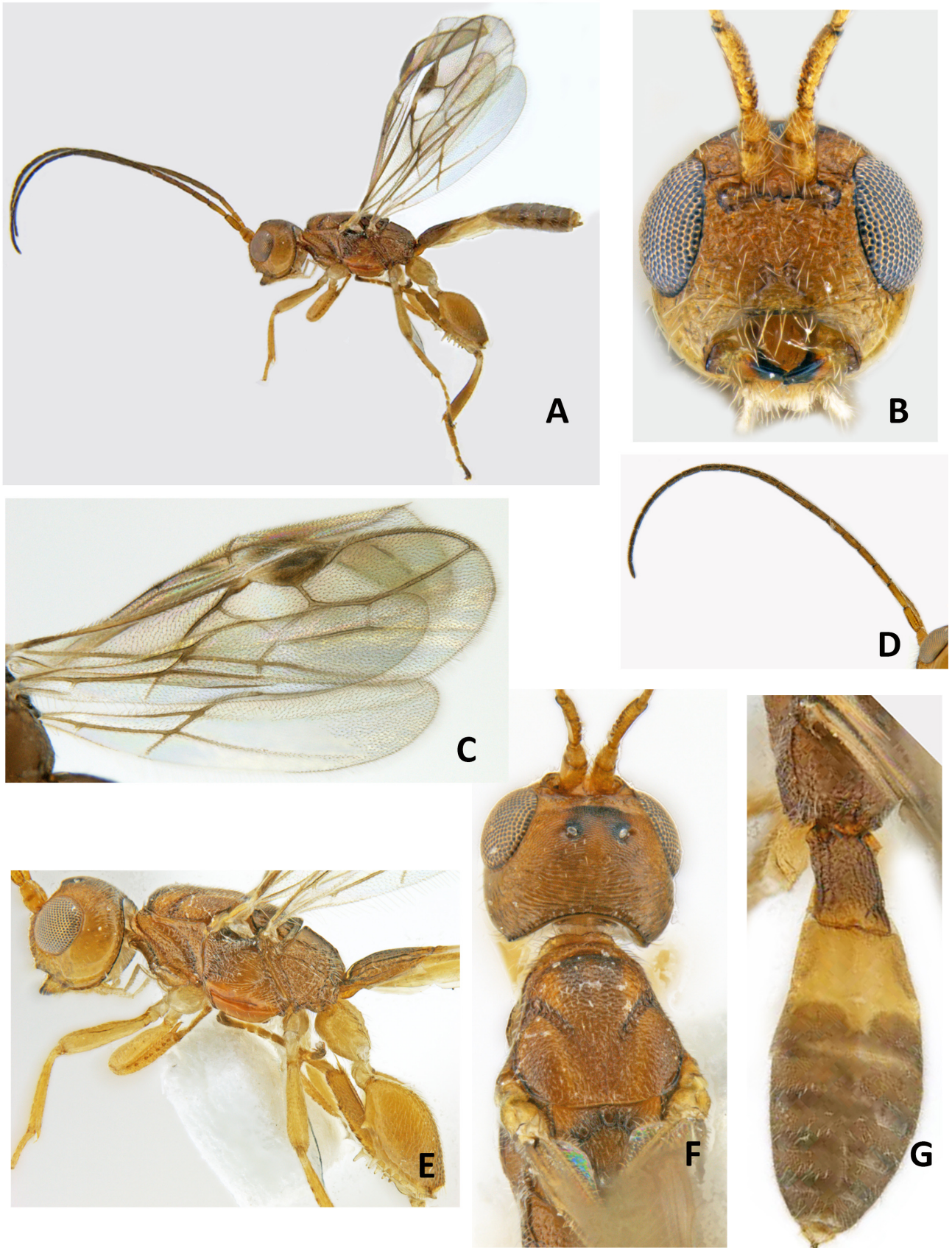
*Euremeros namkumense* Sharma & Naqvi 1993, J. Adv. Zool. 14(1): 65.

**Type locality.** India: Jharkhand: Ranchi: Namkum.

**Type repository.** Unknown (also mentioned as ‘unknown’ in Singh *et al.* 2021).

**Distribution.** India: Jharkhand.

**Comments.** *Euscelinus namkumensis* **comb. nov.** has the malar space equal to basal width of mandible, and also varies in wing venation. Based on the original publication the species is reared from “Lac Stick, parasitic on *Eublemma amabilis*” however this host information is probably wrong. The host should be a coleopterous larva associated with the host plant of the lac insect. The correction to the species epithet is made as it follows the gender of the generic name. It is synonymized with *E. sarawacus* Westwood 1882 (Fig. 4), since no obvious differences are found (**syn. nov.**).



**FIGURE 4.** *Euscelinus sarawacus* Westwood, male, India. A. Habitus in lateral aspect; B. Head in frontal aspect; C. Wings; D. Antenna; E. Head and mesosoma in lateral aspect; F. Head and mesosoma in dorsal aspect; G. Propodeum and metasoma in dorsolateral aspect.

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