

# A review of the genus *Metallopeus* Malaise from India with the description of two new species (Hymenoptera, Symphyta: Tenthredinidae)

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*Abstract:* *Metallopeus balbiri* spec. nov. and *M. religiosa* spec. nov. are described from Uttar Pradesh, India, and *M. inermis* is recorded for the first time from India. A key to the Indian species of the genus is provided.

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## Introduction

The genus *Metallopeus* was erected by Malaise (1934), taking *Tenthredo clypeata* Cameron as its type. Later on, while reviewing this genus from South East Asia, Malaise (1945) described two new *Metallopeus*-species from India. He also transferred *M. coccinocerus* (Wood) and *M. splendidus* (Konow) to the genus. Five additional species were described by Saini & Singh (1990), raising the total number of Indian species in *Metallopeus* to ten. In the present text, two new species are described and *M. inermis* is recorded for the first time from India.

The genus *Metallopeus* takes an intermediate position between *Tenthredo* Linnaeus and *Peus* Konow. It can easily be distinguished by the following combination of characters: body with strong metallic lustre; clypeus very large and flat; circum-, inter- and postcellular furrows sharp; lateral furrows deep and sunken; hind orbit bulged and head strongly carinate behind eyes; head embossedly sculptured; mesoscutum acutely pyramidal; posttergite strongly carinate; mesepisternum rugose, with strong curved carina anteriorly and below; mesosternum strongly microsculptured; subapical tooth of claw longer and stronger than apical one; propodeum divided along middle.

The types of the new species are presently

kept by the authors, but will be deposited in the Indian Agricultural Research Institute (IARI), Pusa National Collections, New Delhi, India, after publication of this work.

## *Metallopeus balbiri* spec. nov. (fig. 1-3)

Type material

Holotype: ♀, India, Uttar Pradesh, Flower Valley, 3300 m, 23.vii.1992.

Paratypes: 3 ♀, 3 ♂, same data as the holotype.

## Description

Female: Length 13mm. Body metallic blue except for dirty yellowish white labrum. Clypeus, supraclypeal area and head on and around the frontal area with a coppery lustre when seen under an angle. Forewing distinctly infuscated towards base, hind wings clear, stigma and venation dark brownish to black.

Head: Antenna 1.9x head width, segments 3 and 4 with ratio 4:3; clypeus almost truncate; malar space 1.5x diameter of median ocellus; LID:IDMO:EL = 2.0:2.8:2.0, OOL:POL:OCL = 3.5:1.0:2.5; supraantennal tubercles abruptly cut off from the low lying frontal ridges; median fovea deep with a carina in the anterior half, and indistinct in the

posterior half; postocellar area flat, as long as broad; ITD:ICD = 3.0:1.0. Head almost impunctate on and around the frontal area, however with a dense punctation of minute, shallow punctures on the hind orbit.

Thorax: Mesonotum minutely and densely punctured; mesoscutellum distinctly punctured, its appendage with few large punctures; metanotum and scutellum almost impunctate; mesosternum with distinct flattened spines; metabasitarsus shorter than following three joints combined; IATS:OATS:MB = 2.0:1.9:5.0; metafemur shorter than tibia.

Abdomen: Propodeum with few punctures on its lateral aspects; remaining terga with very fine microsculpture. Lancet (fig. 3) with 20 serrulae.

Male: Length 12 mm. Similar to female except forewing more strongly infuscated, labrum black and no parts with coppery lustre. Genitalia: penis valve (fig. 1), gonoforceps (fig. 2).

Etymology: The species is named after Dr Balbir Singh, lecturer at the Governmental College of Talwara, Punjab, and a sawfly taxonomist.

Distribution: India, Uttar Pradesh.

### Diagnosis

This new species can be easily separated from the closely related *Metallopeus kashmiricus* Malaise by the following combination of characters: frontal area indistinct (distinct in *M. kashmiricus*); colour of head and thorax blue (coppery green with a reddish tinge in *M. kashmiricus*); ratio antennal joints 3 and 4 4:3 (3:2 in *M. kashmiricus*); postocellar area as long as wide (wider than long in *M. kashmiricus*).

### *Metallopeus inermis* Malaise (fig. 4)

Material examined

♀, India, Uttar Pradesh, Hemkunt Sahib, 4400 m, 23.vii.1992.

### Redescription

Female: Length 16 mm. Body metallic blue, the following parts with strong coppery lustre: head except for labrum and antenna, and thorax except for mesoscutellum and metanotum. Wings clear, stigma and venation dark brown to black.

Head: Antenna feebly compressed, 1.2x head width, ratio of segment 3 and 4 3:2; anterior margin of clypeus with a slight rounded emargination in the middle; malar space 1.2x diameter of median ocellus; LID:IDMO:EL = 2.0:3.5:2.5, OOL:POL:OCL = 5.0:1.0:3.5; supraantennal tubercles strongly elevated and abruptly cut off from frontal ridges; median fovea deep with an uneven bottom, in front of median ocellus an acutely pointed spinelike tubercle as large as median ocellus; postocellar area flat, slightly wider than long, and with wide and shallow longitudinal furrow. Head covered with irregular dense, but shallow punctures mixed with some wrinkles; hind orbit more densely punctured.

Thorax: Mesonotum finely and densely punctured with surface smooth shining; mesoscutellum with punctures more prominent on the posterior slope, appendage with large punctures; mesosternum with distinct flattened spines; metabasitarsus shorter than the following three joints combined; IATS:OATS:MB = 2.0:1.7:4.5; metafemur shorter than tibia.

Abdomen: Propodeum shining, the rest of the abdominal terga microstriated. Lancet (fig. 4) with 19 serrulae.

Male: Unknown

Distribution: India, Tibet (Malaise, 1945).

### Diagnosis

The species can be easily distinguished from all other known species by its clear forewings.

### *Metallopeus religiosa* spec. nov.

Type material

Holotype: ♀, India, Uttar Pradesh, Hemkunt Sahib, 4400 m, 23.vii.1992.



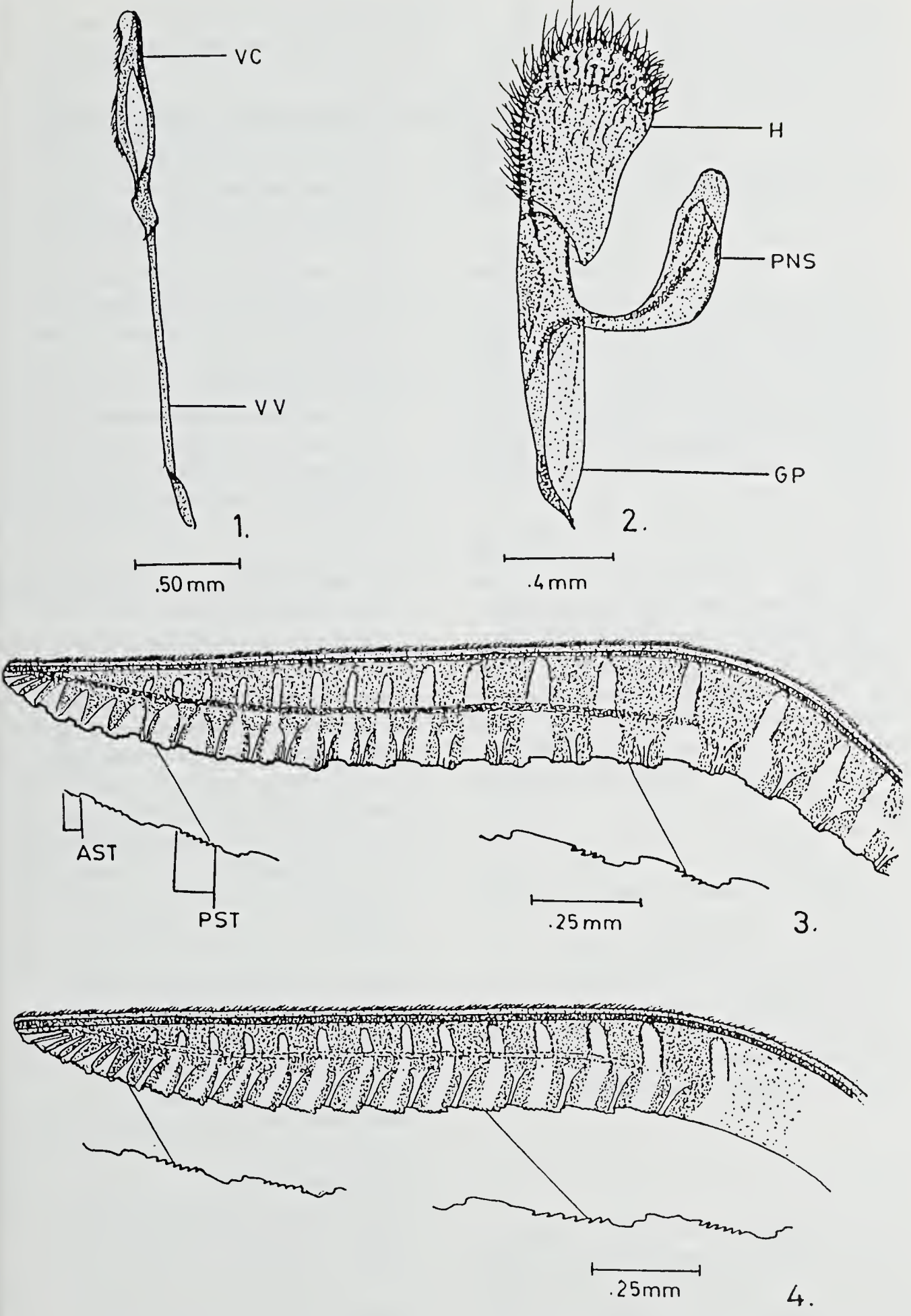


Fig. 1-4. *Metallopeus*-species. 1-3, *M. balbiri* spec. nov.; 4, *M. inermis* Malaise; 1, penis valve; 2, gonoforceps; 3-4, lanceet.

### Description

Female: Length 10.5 mm. Body blue with metallic lustre except for lustreous green head and thorax. Labrum yellowish brown. Forewings infuscated towards base, gradually fading towards stigma; hind wings clear, stigma and venation light to dark brown.

Head: Antenna 2.0x head width, segments 3 and 4 with ratio 8:5; anterior margin of clypeus with a slight rounded emargination; malar space 1.7x diameter of median ocellus; LID:IDMO:EL = 2.0:2.2:1.7, OOL:POL:OCL = 3.5:1.0:1.5; frontal area below the level of eyes; supraantennal tubercles raised, sloping backwards and merging with similar frontal ridges; median fovea broad and shallow with blunt carina present in the anterior half, and slightly sunken in front of median ocellus; postocellar area subconvex, broader than long with ratio 4:5; ITD:ICD = 2.7:1.0. Head covered with minute, shallow, indistinct punctures; puncturation on hind orbit more distinct.

Thorax: Punctures on mesonotum denser than those on head; mesoscutellum distinctly punctured, its appendage with some large and shallow punctures; mesosternum with long flattened spines; metabasitarsus shorter than following three joints combined; IATS:OATS:MB = 2.0:1.7:5.0; metafemur shorter than tibia.

Abdomen: Propodeum shining, remaining terga faintly microstriated.

Remark: The female lancet has been damaged and does not allow further study.

Male: Unknown.

Etymology: The species is named after its type locality Hemkunt Sahib, a religious place.

Distribution: India, Uttar Pradesh.

### Diagnosis

This new species can be separated from the closely related *Metallopeus mandalicus* Saini & Singh by the following characters: head and thorax with greenish lustre (blue in *M. mandalicus*); median fovea with a blunt carina in its anterior half (flat in *M. mandalicus*); head co-

vered with minute and shallow punctures (distinctly punctured in *M. mandalicus*).

### Key to the Indian species of *Metallopeus*

1. Hind orbital carina with trigonal, pyramidal spine somewhat below half of eye and almost as long as mesosternal spine ..... *M. trigon* Malaise
  - Hind orbital carina without spine ..... 2
2. Forewing clear ..... *M. inermis* Malaise
  - Forewing entirely infuscated or with basal part infuscated ..... 3
3. Postocellar area with shallow median furrow; punctures on mesonotum similar to those on head ..... *M. splendidus* (Konow)
  - Postocellar area without median furrow; punctures on mesonotum denser than those on head ..... 4
4. Anterior margin of clypeus truncate or rounded; median fovea with deep pit in front of median ocellus ..... 5
  - Anterior margin of clypeus with a slight rounded emargination; median fovea without pit ..... 6
5. Postocellar area wider than long; general colour of head and thorax coppery green with a reddish tinge above, and dark blue below; frontal area distinct ..... *M. kashmiricus* Malaise
  - Postocellar area as wide as long; general colour of head and thorax blue; frontal area indistinct ..... *M. balbiri* spec. nov.
6. Tubercle in front of median ocellus conspicuous, almost as large as median ocellus; head with strong coppery lustre ..... *M. tuberculatus* Saini & Singh
  - Without tubercle in front of median ocellus; head without coppery lustre ..... 7
7. Postocellar area without distinct longitudinal median carina; mesoscutellum with distinct punctures ..... 8
  - Postocellar area with distinct longitudinal median carina; mesoscutellum with large, shallow and almost confluent punctures ..... 10
8. Clypeus with broad longitudinal furrow in basal half; postocellar area longer than wide ..... *M. shimlaensis* Saini & Singh



- Clypeus without longitudinal furrow; postocellar area wider than long ..... 9
9. Median fovea with a flat bottom; head shining with distinct punctures; appendage finely striated; LID:IDMO:EL = 2.0:2.8:2.3, OOL:POL:OCL = 5.5:1.0:4.4 ..... *M. mandalicus* Saini & Singh
- Median fovea broad and shallow with a blunt carina on the anterior half; punctures on head small and shallow, confluent in the frontal region; appendage with some large and shallow punctures; LID:IDMO:EL = 2.0:2.2:1.7, OOL:POL:OCL = 3.5:1.0:1.5 ..... *M. religiosa* spec. nov.
10. Median fovea distinctly carinate in anterior third; bulge of hind orbits not pronounced ..... *M. malaisei* Saini & Singh
- Bottom of median fovea flat without carina; bulge of hind orbits strongly pronounced ..... 11
11. Scape of equal width throughout; postocellar area wider than long; body with strong greenish lustre ..... *M. coccinocerus* (Wood)
- Scape gradually decreasing in width towards base; postocellar area as wide as long; body dull blue without greenish lustre ..... 12
12. Antenna 1.7x head width; frontal ridges indistinct; abdomen without microstriations ..... *M. clypeatus* (Cameron)

- Antenna 2.1x head width; frontal ridges distinct; abdomen with fine microstriations ..... *M. kalatopensis* Saini & Singh

### Acknowledgements

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### Abbreviations

AST = anterior subbasal tooth; GP = gonostipes; H = harpe; IATS = inner apical tibial spur; ICD = intercenchri distance; IDMO = interocular distance at the level of median ocellus; ITD = intertegular distance; LID = lower interocular distance; MB = metabasitarsus; OATS = outer apical tibial spur; OCL = ocello-occipital line; PNS = parapenis; POL = postocellar line; PST = posterior subbasal tooth; VC = valviceps; VV = valvura.

### References

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