



#### Research Article

A new species of *Trimorus* (*Neotrimorus*) (Hymenoptera: Platygastridae) from Andaman Islands, India

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**ABSTRACT**: *Trimorus* (*Neotrimorus*) *ferrari* sp. nov. (Hymenoptera: Platygastridae) is described along with images from the Andaman islands. This is the third species described in this subgenus from India. All species in this genus are known to be parasitoids of eggs of carabid beetles. A key to subgenera of *Trimorus* and a key to species of *Neotrimorus* are provided.

KEY WORDS: Trimorus, Neotrimorus, Andaman islands, India

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#### INTRODUCTION

The subfamily Teleasinae under Platygastridae is represented by twelve genera of which four genera -Trimorus Förster, Xenomerus Walker, Odontoscelio Kieffer and Dvivarnus Rajmohana and Veenakumari - are known from India (Masner, 1976; Johnson, 1992; Veenakumari, et al., 2011; Johnson, 2013). A new subgenus Neotrimorus was erected under Trimorus by Rajmohana and Narendran (1997) from India. The presence of a dorsal median spine on the mesoscutellum characterizes this subgenus. Rajmohana and Narendran (1997) described two species under this subgenus, viz. T. (Neotrimorus) scutellospinosus and T.(N.) spinostriatus from Kerala, India. Miko et al. (2010) have stated that basal depressions on the third metasomal sternum are present only in Xenomerus, in the subfamily Teleasinae. We have however, noticed that this subgenus too shares this unique character of Xenomerus. The presence of a dorsal median spine on mesoscutellum and basal depression on the third metasomal sternum serve as diagnostic characters of this subgenus. We describe a new species, Trimorus (Neotrimorus) ferrari from the Andaman islands.

#### MATERIALS AND METHODS

Auto Montage version 3.6 using Leica DFC 425 camera and Leica M205A stereomicroscope were used for measurements and digital images. Abbreviations and

morphological terminology used in the text follow Masner (1979, 1980) and Mikó *et al.* (2007, 2010). Specimens were obtained using Malaise traps (MT) and yellow pan traps (YPT). The holotype and four paratypes are deposited at the National Bureau of Agriculturally Important Insects, Bangalore, India and one paratype in National Zoological Collection, at Zoological Survey of India, Calicut.

## **Abbreviations**

Frontal cephalic index (FCI), Lateral cephalic index (LCI), Interorbital space (IOS), Length (L), Breadth (B), Ocular ocellar length (OOL), Post ocellar length (POL), Lateral ocellar line (LOL), A1-A12 antennal segments 1-12, A1 being scape; Metasomal tergites 1-8 (T1-T8), Metasomal sternites (S1-S8).

*Trimorus* Förster, 1856: 101, 104. Type: *Gryon nanno* Walker, designated by Ashmead (1903).

*Trimorus* (*Neotrimorus*) Rajmohana and Narendran, 1997:32, 33. Original description. Type: *Trimorus* (*Neotrimorus*) scutellospinosus Rajmohana & Narendran, designated by Rajmohana K. (2007). Described as a subgenus of *Trimorus* Förster, keyed.

**Diagnosis of** *Trimorus* **(***Neotrimorus***)**: Very similar to *Trimorus* but differs in having a dorsal median spine on the mesoscutellum.

# Key to subgenera of *Trimorus* of Oriental region (*vide* Rajmohana and Narendran, 1997)

Mesoscutellum with a dorsal median spine — Trimorus (Neotrimorus)

1a. Mesoscutellum unarmed — Trimorus (Trimorus)

### **Key to species of** *Neotrimorus*

- Mesoscutellum with a long and pointed median spine;
   OOL much longer than POL — — — — — T.(N.) ferrari sp. nov.
- 2. Striations of T3 reaching 0.8x of its length T(N.) spinostriatus
- 2a. Striations of T3 extending only 0.1x its length *T.(N.) scutellospinosus*

*Trimorus (Neotrimorus) ferrari* sp. nov. Veenakumari and Rajmohana (Plate 1).

**Holotype:** Male. Body length – 1.87 mm

Black, mandibles orange with extremities of teeth dark brown, interantennal process brown, tip of spine on mesoscutellum, spine on metascutellum, tegula, posterior propodeal projections, anterior one-fourth of T1, lateral margins of metasoma brown; all legs including coxae light yellow; interantennal process, toruli, orange-brown; A1 basal one third light brown, rest dark brown, A2 light brown, A3-A12 dark brown (Fig. 1).

## Head

FCI = 1.20; LCI = 1.71; IOS = 0.46; Head, transverse, 1.2x wider than high, 1.7x higher than long; central keel

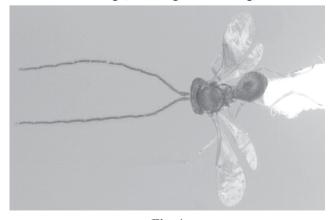


Fig. 1

complete reaching anterior ocellus; mandibles broad, tridentate, with upper tooth longer, remaining two subequal (Figs. 2 & 8); inner facial striae radiating from base of mandible extending above eye mid level, outer facial striae reaching hyperoccipital carina; antennal scrobe distinct 0.37x as wide as IOS; frons, vertex covered with dense white setae; length and breadth of eye in ratio of 35.4:16.6; vertex coriaceous reticulate; hyperoccipital carina reaching orbits; ocelli in a triangle with OOL>POL>LOL in ratio of 15.1:8.9:4.8 (Fig. 4); clypeus height 0.45x IOS; 6-7 transverse striae present on clypeus; orbital carina well developed; antenna 12 segmented; radicle 0.3x length of A1; A3 modified; A2 0.25x length of A3; length and breadth of antennal segments A1-A12 in ratio of 25.7:8.0, 4.7:5.7, 18.6:4.2, 30.8:3.8, 37.6:3.7, 34.7:3.3, 33.6:3.7, 33.5:3.6, 34.3:3.4, 34.3:3.5, 31.4:2.9, 31.0:2.8 respectively; setae on mandibles 1.5x length of radicle.

#### Mesosoma

Mesosoma convex in lateral view; mesoscutum (L:B = 54.7:33.3), colliculate overall, imbricate posterolaterally, densely setose, setae denser laterally; epomial carina present; anterior lateral pronotal area coriaceous, medially smooth, posteriorly with transverse ridge; basisternum with two lateral and one median spine (Fig. 2); netrion distinct; mesopleural carina present with two rows of transversely elongate foveae on either side; metapleura with transversely elongate fovea; anterior margin of mesopleura and metapleura with dense setae (Fig. 5); scutoscutellar sulcus broader laterally and narrow medially.

Mesoscutellum (L:B = 18.7:42.1) coriaceous reticulate with dense setae posterolaterally; mesoscutellum with a long pointed carinated spine medially, 0.31x width of mesoscutum, mesoscutellar sulcus foveate. Metascutellum basally foveolate, with a sharp, long, curved spine, 0.66x width of mesoscutum, 2.13x longer than spine on mesoscutellum (Fig. 7); metanotal trough foveate; lateral propodeal area carinate, setose, with posterior propodeal projections sharp.

Wings: Forewing (L:B = 16.6:6.1) and hind wing (L:B = 13.4:2.8) hyaline with short setae; hind wing cilia 0.26x breadth of hind wing; eight thick setae present on marginal vein.

## Metasoma

T1 costate, with 3 lateral setae, basal depression present on T1-T3, costae on T2 extending up to 0.9x length



Fig. 2

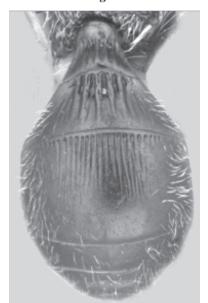


Fig. 3



Fig. 4

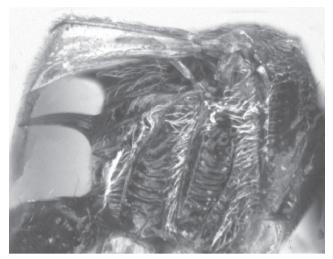


Fig. 6



Fig. 7

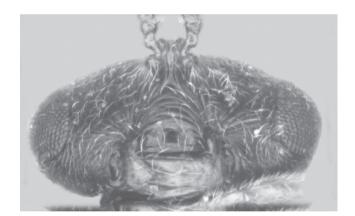


Fig. 8

of T2 (Fig. 3); lateral patch present on T2-T6; T3 costate, costae extending medially up to 0.6x length of tergum; costae on T3 very short sublaterally and absent laterally; posterior one fourth of T3 smooth; T4 reticulate coriaceous anteromedially, rest of T4 and other tergites with no special sculpture; medial patch present on T4, T5, T6; laterosterna broad with dense yellow setae; 2 long white setae present on either side of apical tergite; S3 with basal depressions

(Fig. 6); laterosterna broad with dense yellow setae; length and breadth of metasomal tergites T1-T8 in ratio of 13.0:24.7, 18.2:50.2, 35.4:53.2, 8.3:50.1, 3.2:38.4, 4.6:25.5, 2.0:15.1, 5.7:11.8, respectively.

Female: Not known.

#### Material examined

*Holotype:* Male, (Reg. No. ICAR/NBAII/P180), INDIA: Andaman Islands: Little Andaman, Forest Nursery, MT, (10° 59' N and 92° 53' E), 30.i.2013, (antennae, legs on a card point); *Paratypes* (Reg. No. ICAR/NBAII/P181, 182, 183, 184), 4 males, same data as that of holotype; (Reg. No. ICAR/NBAII/P185), 1 male, Andaman Islands: South Andaman, Garacharma, Central Agricultural Research Institute, YPT, (11° 61' N and 92° 71' E), 26.i.2013.

## Etymology

Named after Lieutenant Colonel M.L. Ferrar, a Chief Commissioner of the Andaman & Nicobar Islands (1923-1931) whose contribution to the knowledge of the butterflies of Andaman and Nicobar islands remains unrivalled till date.

#### **Comments**

This species differs from the other two species of the subgenus *Neotrimorus* in having a long, pointed median spine on mesoscutellum in contrast to a very blunt, stout spine in the other two species. OOL 1.7x longer than POL in *T.(N.) ferrari*, while OOL is equal to POL in the other two described species.

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