

## A new species of *Notanisus* Walker (Hymenoptera: Pteromalidae) from India

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### Abstract

*Notanisus malabaricus* Surya and Sureshan sp. n. is described with illustrations from Kerala, India. Affinities of the new species with congeneric is discussed. A key to Oriental species of *Notanisus* is also included.

**Keywords:** Pteromalidae, *Notanisus*, new species, key, Oriental, India.

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### Introduction

*Notanisus* Walker, 1837 (Cleonyminae: Cleonymini) is a small genus comprising of 18 species worldwide with three species known in the Oriental region (Gibson, 2003; Raseena *et al.*, 2014; Noyes, 2019). Members of the genus are reported to parasitize wood boring coleopterans or hymenopterans (Bouček, 1988; Gibson, 2003). The Indian representatives, *N. versicolor* (Walker, 1837) was reported from Tamil Nadu and Bihar (Bouček *et. al.*, 1979; Farooqi and Subba Rao, 1986), *N. elongatus* Raseena and Sureshan from Karnataka (Raseena *et al.*, 2014) and *N. indicus* Sureshan reported from Kerala (Sureshan, 2015). Here a new species, *N. malabaricus* sp. n. is described with illustrations, from Kerala, India based on a single female specimen. The key to species of *Notanisus* (Sureshan, 2015) is modified to incorporate the new species.

### Materials and Methods

The specimen for the present study was collected using Malaise trap from Calicut University Botanical Garden in Malappuram district of Kerala. The specimens preserved in 70% alcohol were dried, card mounted and studied under LEICA M205A stereoscopic binocular microscope and imaged using attached LEICA DFC 500 camera. Measurements were

obtained using Leica LAS (Leica Application Suite V3.80). Images taken at varying focal planes were stacked using LAS and the final illustrations were enhanced for contrast and brightness using Adobe Photoshop CS5 (Version 12.0x64) software. The study is based on a single female specimen and further attempts did not yield any additional materials due to the rare nature of this genus. The holotype of the new species is deposited in the 'National Zoological Collections' of the Zoological Survey of India, Western Ghat Regional Centre, Kozhikode, Kerala (ZSIK).

**Abbreviations used:** The general abbreviations of the terms are as follows: **fu<sub>x</sub>**: funicular segment, *x* being the funicle number; **Gt<sub>x</sub>**: Gastral terga, *x* being tergum number; **mv**: marginal vein; **OOD**: ocello-ocular distance; **pmv**: post-marginal vein; **POD**: post-ocellar distance; **smv**: sub-marginal vein; **stv**: stigmal vein.

### Results

#### Genus *Notanisus* Walker, 1837

*Notanisus* Walker, 1837: 352. Type species *Notanisus versicolor* Walker by monotypy. Gibson (2003) may be referred for complete list of synonymy.

***Notanisus malabaricus* Surya and Sureshan  
sp. n.**  
(Figs. 1–10)

[urn:lsid:zoobank.org:act:C0A147B0-1BCA-4429-B099-11555403550C](https://lsid.zoobank.org/act:C0A147B0-1BCA-4429-B099-11555403550C)

**Type material:** Holotype ♀, mounted on triangular card. INDIA: Kerala, Malappuram district, Calicut University Botanical Garden ( $11^{\circ}8'2.04''$  N,  $75^{\circ}53'26.16''$  E, 19m), 05.vii.2018, Coll. C. Binoy, ZSIK Regd. No. ZSI/WGRC/IR/INV.16529

**Diagnosis:** The new species closely resembles *N. elongatus* Raseena and Sureshan in having: petiole  $2\times$  as long as broad; mesoscutum punctate reticulate and mesopleura almost shiny. However, the new species differs from *N. elongatus* in having: fore wing with two brown infuscations, one below *smv* and a large oval infuscation originating below parastigma reaching *pmv* at the anterior margin (in *N. elongatus*, infuscation below *mv*, *stv* and *pmv* interrupted by broad clear hyaline band extending from the anterior to the posterior end of fore wing); hind coxa punctate reticulate,  $2.5\times$  as long as broad (in *N. elongatus*, hind coxa reticulate,  $1.4\times$  as long as broad); scutellum with dense punctations in a concentric circular pattern (in *N. elongatus*, scutellum with uniform transverse punctations);  $Gt_3$  largest,  $Gt_5$  smaller than  $Gt_4$  (in *N. elongatus*,  $Gt_4$  and  $Gt_5$  largest and subequal); propodeum  $2.0\times$  as wide as long (in *N. elongatus*, propodeum  $1.6\times$  as wide as long).

**Colour description:** Body honey brown except for the following: frons darker dorso-medially; antenna brown, clava black; eyes greyish; area beyond vertex and post ocellus with metallic greenish golden refringence; pronotal collar with bluish metallic refringence; mesoscutum honey brown with posterior margin extending outward and semi circularly emarginated having metallic blue refringence, slight violaceous refringence on posterior medial surface; scutellum and axillae honey brown with dark violaceous golden greenish refringence; propodeum honey brown; petiole with slight violaceous metallic refringence anteriorly; metapleura and

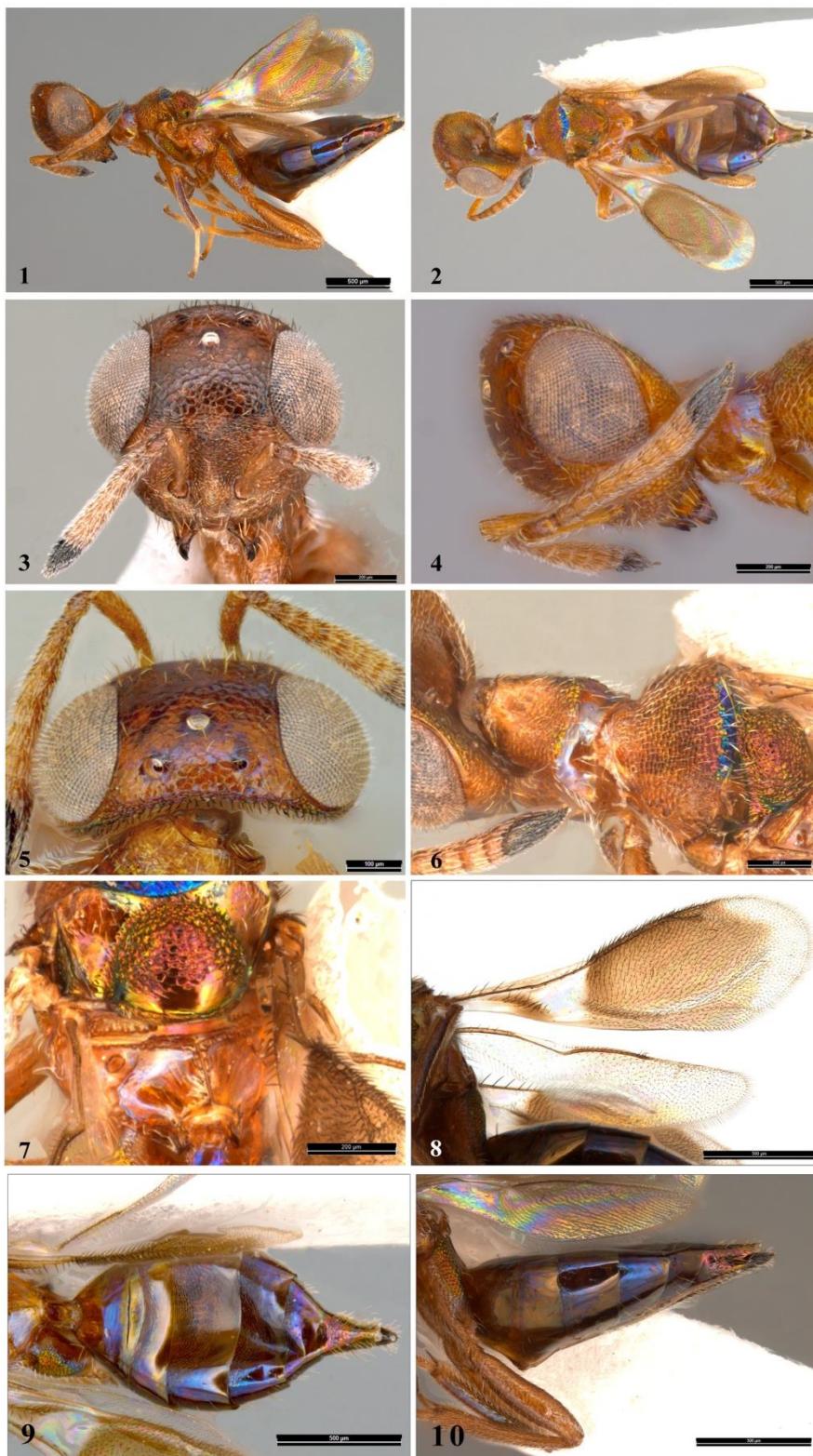
mesopleura posteriorly with metallic golden greenish refringence; hind coxa with metallic golden greenish and slight reddish refringence; hind tibia dorsally darker with bluish refringence; fore wing reflective, two brown infuscations, one below *smv* and a large oval infuscation from parastigma to *pmv* at the anterior margin; gaster brown,  $Gt_1$  honey brown on basal half, remainder with bluish violet metallic refringence and greenish golden tint at posterior margin dorsally,  $Gt_4$  and  $Gt_5$  bluish with stronger bluish violet metallic refringence laterally and dorsally, remainder of metasomal terga deep brown with violaceous refringence laterally,  $Gt_6$  with reddish violet refringence.

**Body length:** 2.45 mm; length of fore wing: 1.38 mm.

**Description:** **Head:** Quadrate in dorsal view; clypeus smooth, shiny; mandibles bidentate; head in dorsal view,  $1.4\times$  as broad as long (Fig. 5); POD  $2.5\times$  OOD; face with long white pubescence, upper half of face engraved reticulate, lower half with punctate reticulations; malar groove distinct; gena moderately engraved reticulate; eye height  $1.2\times$  width in profile, eyes minutely setose (Fig. 4); engraved reticulations strong and regular on vertex (Fig. 5); frons reticulate; occipital area moderately reticulate; antennae inserted distinctly below the lower margin of eyes, inter antennal area raised, antenna with single transverse anellus, seven funicular segments, clava three segmented; pedicel  $1.5\times$  as long as wide; scape slightly swollen towards the tip, pedicel plus flagellum  $1.6\times$  head width, pedicel  $1.5\times$  as long as broad, anellus  $0.3\times$   $fu_1$ ,  $0.68\times$  as long as broad, distinctly shorter than  $fu_1$ ,  $fu_2$  almost equal to  $fu_1$ ,  $fu_3$  longer than  $fu_2$ ,  $fu_3$  and  $fu_4$  almost equal; club as long as three preceding segments combined (Fig. 3).

**Mesosoma:** Pronotum almost as long as broad, pronotal collar with distinct punctate reticulations anteriorly, posteriorly smooth and shiny, setae present laterally and near posterior margin (Fig. 6); mesoscutum  $1.73\times$  as broad as long,  $0.6\times$  as long as scutellum medially, mesoscutum punctate reticulate dorsally; metapleura anteriorly shiny and ventrally punctate; notauli incomplete; scutellum convex,

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**Figures 1-10.** *Notanisus malabaricus* Surya and Sureshan sp. n. Holotype ♀: **1.** Habitus, lateral view; **2.** Habitus, dorsal view; **3.** Head, frontal view; **4.** Head, lateral view; **5.** Head, dorsal view; **6.** Pronotum & mesoscutum, dorsal view; **7.** Scutellum & propodeum, dorsal view; **8.** Fore wing; **9.** Metasoma, dorsal view; **10.** Metasoma, lateral view.

little longer than broad, circularly punctate reticulate (Fig. 7); axillae moderately reticulate with lower margin having long white setae; dorsellum broad and shiny; propodeum  $2.0\times$  as wide as long, median carina present (Fig. 7); spiracles bean shaped and large, separated by own diameter from the hind margin of metanotum, callus shiny; mesopleura anteriorly punctate reticulate, rest shiny; legs slender, hind coxa  $2.5\times$  long as broad, densely punctate dorsally, femur reticulate (Fig. 10); fore wing  $2.63\times$  as long as broad, uncus distinct, basal half partly bare, costal cell with a row of hairs in the middle, speculum present, very small marginal fringe, 10 stiff setae present till *smv* (Fig. 8); relative lengths of *smv*, *mv*, *pmv* and *stv* in the ratio 7:4:2:1.

**Metasoma:** Metasoma distinctly petiolate, petiole  $2\times$  as long as broad in dorsal view, shiny with a pair of lateral carina (Fig. 9); metasoma  $1.05\times$  as long as combined lengths of head and mesosoma;  $Gt_2$  to  $Gt_5$  with fine reticulations anteriorly,  $Gt_6$  completely reticulate, reticulations on epipygium distinct, posterior margins of all terga straight,  $Gt_1$  to  $Gt_4$  with 2–3 fine setae,  $Gt_5$  with 4–5 setae dorso-laterally,  $Gt_6$  and epipygium with dense brush of short setae dorso-laterally,  $Gt_2$  smaller than  $Gt_1$ ,  $Gt_3$  largest,  $Gt_5$  smaller than  $Gt_4$ ; ovipositor and ovipositor sheath slightly exerted.

**Male:** Unknown.

**Etymology:** The species is named after the type locality (Malabar region of Kerala, India).

**Distribution:** India: Kerala.

**Host:** Unknown.

#### Key to Oriental species of *Notanisus* Walker (females only)

(Modified from Sureshan, 2015)

1. Fore wing with hyaline band between the fuscous patches equally wide throughout; face with uniform sculpture; antennae with anelli transverse; petiole  $1.5\times$  as long as broad.....*N. versicolor* Walker
- Fore wing with hyaline band between the fuscous patches not equally wide, constricted towards bottom, one broad below *stv*, one narrow below parastigma; face with

differential sculpture, lower part up to little above middle distinctly reticulate punctate rest of the area finely reticulate; antennae with anelli quadrate or longer than wide; petiole shorter  $1.1\times$  long as broad.....

#### .....*N. indicus* Sureshan

2. Fore wing with fuscous patches unequal, one below *mv* very long covering most of the wing, the second one below middle of *smv*, very small, infuscation below *mv*, *stv* and *pmv* interrupted by broad clear hyaline band extending from the anterior to the posterior end of fore wing; hind coxa  $1.4\times$  as long as broad; propodeum  $1.6\times$  as long as broad.....

#### .....*N. elongatus* Raseena and Sureshan

- Fore wing with fuscous patches different, with two brown infuscations, one below *smv* and a large oval infuscation originating below parastigma reaching up to *pmv* at the anterior margin; hind coxa punctate reticulate with  $2.5\times$  as long as broad; propodeum  $2\times$  as long as broad.....

#### .....*N. malabaricus* Surya and Sureshan sp. n.

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