



RESEARCH ARTICLE

A new species of *Prionomastix* Mayr (Hymenoptera: Chalcidoidea: Encyrtidae) from India

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Abstract: A new encyrtid species, *Prionomastix orientalis* **sp. nov.** (Hymenoptera: Chalcidoidea: Encyrtidae), is described from Arunachal Pradesh, India. This is only the second species of *Prionomastix* reported from India and markedly differs from *P. siccarius* Annecke, the other species known from India. Morphological features of the new species are illustrated and compared with related species.

Key words: Encyrtidae, *Prionomastix*, new species, India.

Introduction

The genus *Prionomastix* Mayr (1876) (Encyrtidae: Encyrtinae) is distributed in the Afrotropical, Neotropical, Nearctic and Palaearctic regions and species with known hosts are parasitoids of nymphs of Membracidae and Cicadellidae (Hemiptera: Auchenorrhyncha) (Trjapitzin & Myartseva 2002). At present, 27 species are globally known (Noyes 2015), with a major chunk of 14 species described from Costa Rica by Noyes (2010). From India, only one species, *P. siccarius* Annecke (1962), has been reported by Manickavasagam & Rameshkumar (2011). In this paper, we describe a new species of *Prionomastix* collected from the northeastern Indian state of Arunachal Pradesh.

Material and methods

The specimens were collected from College of Horticulture and Forestry, Pasighat, Arunachal Pradesh, and were processed using Hexamethyldisilazane (HMDS) (Brown 1993). The processed specimens were card mounted and a single female specimen was dissected and mounted on slide using Canada Balsam (Noyes 1982). The description of the new species based on the holotype and examination of colour, sculpture and other measurements were made before slide mounting. Photographs were taken with a Leica M205A stereo microscope and the stack images obtained were combined with Combine ZP. Type materials are deposited in the collection of ICAR-National Bureau of Agricultural Insect Resources (ICAR-NBAIR).

Measurements. All the measurements are given in millimeters.

Abbreviation used. fl_x = funicle segment ×.

Results

Prionomastix orientalis Rameshkumar & Poorani, sp. nov. (Figs 1–7)

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Description of female

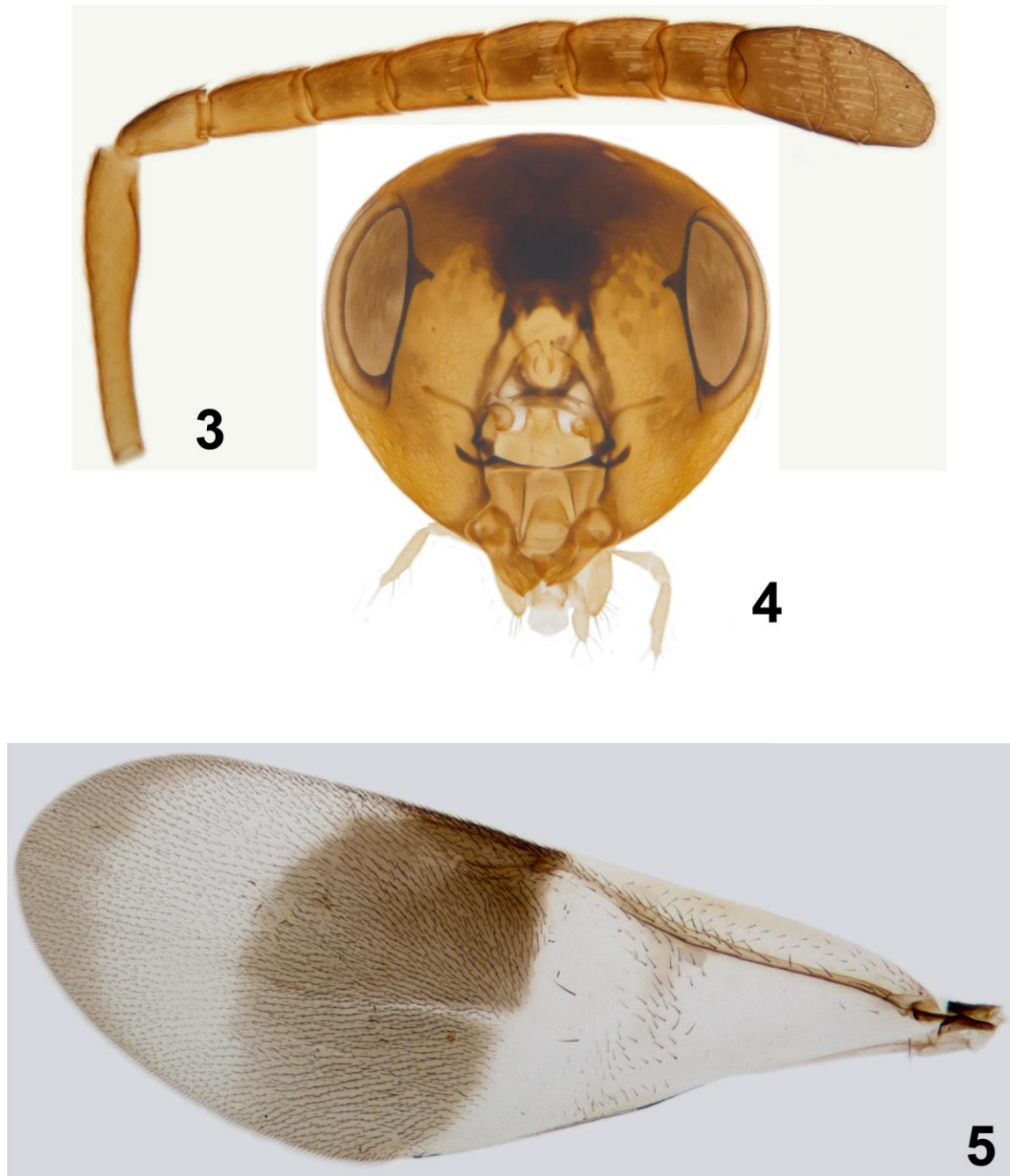
Length: 2.9 mm. Colour: head brownish orange, occipital area brownish (Fig. 1). Antennal scape testaceous; pedicel and flagellum yellowish with strong brown stripes (Figs 2–3). Pronotum, mesoscutum, axillae and scutellum orange; apical third of scutellum brown; propodeum orange with pale brown suffusion, border and area between submedian carinae brown. Fore wing with three infuscated bands, one dark as well as broad infuscated cross-band in middle, a pale incomplete infuscate band below submarginal vein and a pale infuscate band in apex (Fig. 5). Legs with coxa yellowish with brown suffusions; fore femur yellowish with dorsal margin brownish; mid femur with basal third brownish yellow and distal two-thirds brown; dorsal side of hind femur brownish, ventral side yellowish; fore tibia yellow with brown patch in dorsal base; mid tibia brown; hind tibia dark brown; fore tarsus yellow except last segment brownish; mid tarsus with first segment whitish except tip brownish and rest of the segment brown; hind tarsus completely dark brown. metasoma orange with brown bands.

Head (Fig. 4) in dorsal view almost quadrate (0.81: 0.79), about 1.6× as wide as frontovertex, with polygonal reticulate sculpture; scrobes very short not meeting dorsally; torulus separated from mouth margin by more than its own height (0.10: 0.16); and torulus with lower margin below lower margin of eye. Mandible with a single acutely pointed tooth and a broad serrated truncation. Maxillary palpi four-segmented, labial palpi three-segmented. Antennal scape 5.6× as long as broad, broader in apical half; pedicel as long as fl₁; fl₁ and fl₃ / fl₂ and fl₆ / fl₄ and fl₅ subequal in length; fl₆ quadrate; funicle segments broader towards apex; clava apically obliquely truncate, truncate area 0.6× of claval length; clava 2× as long as wide, shorter than preceding three funicle segments (Fig. 3); longitudinal sensillae absent in fl₁ and fl₂; fl₃ with 8 longitudinal sensillae and fl₄ to fl₆ with 15; clava with 40 longitudinal sensillae.

Mesosoma (Fig. 6) 1.5× as long as wide, subequal to metasoma; pronotum, mesoscutum and axillae with finely reticulate sculpture; scutellum with polygonal reticulate sculpture except longitudinally elongate reticulate sculpture in lateral side and apex of the



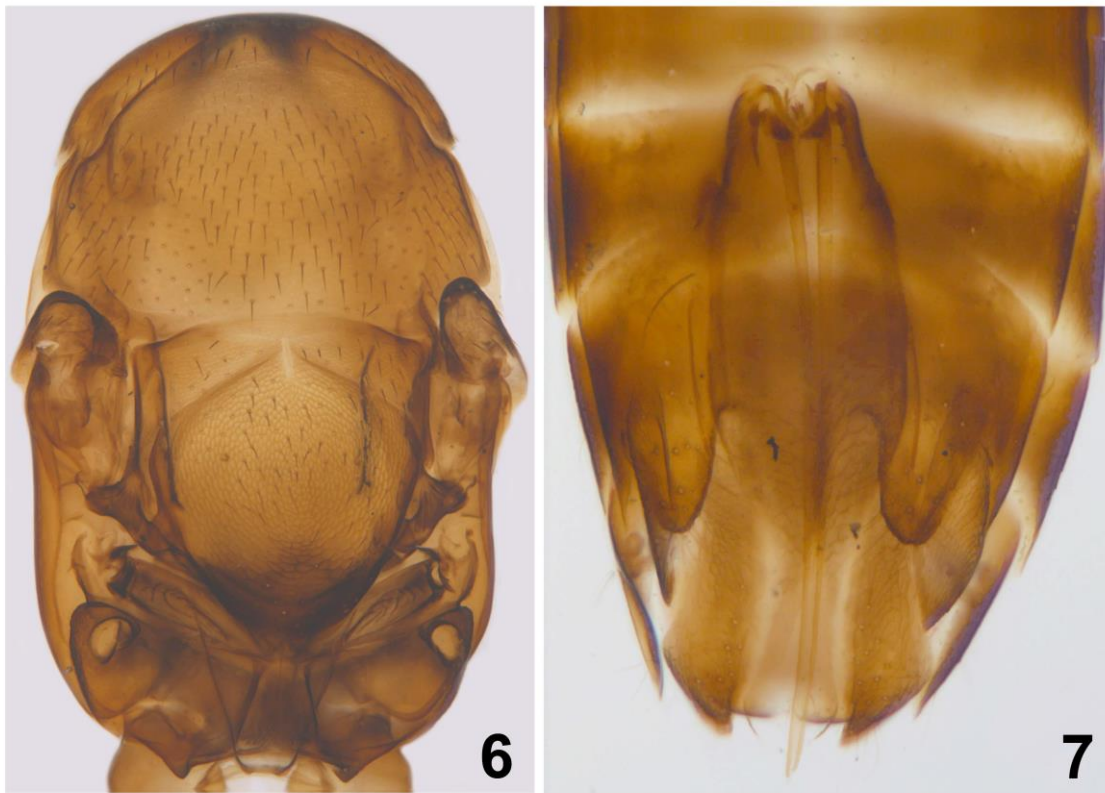
Figures 1–2. *Prionomastix orientalis* sp. nov. (holotype, female). **1**, female habitus; **2**, head, lateral view with antennae.



Figures 3–5. *Prionomastix orientalis* sp. nov. (holotype). **3**, antenna; **4**, head; **5**, fore wing.

scutellum smooth; depth of sculpture in scutellum is deeper than that of mesoscutum; thin apical flange at apex of scutellum; propodeum with two prominent submedian carinae; lateral spiracle large; median length of the scutellum 2.5× as long as median length of the propodeum. Fore wing (Fig. 5) about 2.7× as long as broad; marginal vein very short; postmarginal vein long, 2× as long as stigmal vein; discal seta strong in infuscated area; horizontal hyaline streak in first infuscate cross band; marginal cilia small and short; hind wing 2.8× as long as broad. Legs normal, hind femur and tibia slightly flattened.

Metasoma (Fig. 7): ovipositor gently up curved, projecting shortly; ovipositor 0.8× mid tibia length.



Figures 6–8. *Prionomastix orientalis* sp. nov. (holotype) (6–7) and *Prionomastix siccarius* Annecke (8). **6**, mesosoma; **7**, metasoma. **8**, *Prionomastix siccarius* Annecke, female habitus.

Relative measurements: Head width, 0.81; height, 0.79 ; frontovertex width, 0.50; eye height, 0.39; malar space length, 0.30; antennal torulus height, 0.10; width, 0.8; distance between torulus and mouth margin, 0.16; length and width of antennal segments, scape, 0.39 : 0.07; pedicel, 0.11 : 0.07; fl₁, 0.12 : 0.06; fl₂, 0.10 : 0.07; fl₃, 0.12 : 0.8; fl₄, 0.11 : 0.09; fl₅, 0.11 : 0.09; fl₆, 0.10 : 0.10; clava, 0.26 : 0.13; fore wing length, 1.92; width, 0.72; hind wing length, 1.28; width, 0.46; mesosoma length, 1.30; width, 0.84; median length of scutellum, 0.5; median length of propodeum, 0.2; metasoma length, 1.30; width, 0.64; mid tibia length, 0.99; mid tibial spur length, 0.28; mid basitarsus length, 0.39; ovipositor length, 0.80.

Variations: Colour of head varying from orange to orange brown except occipital area brownish and in few specimens, malar space and frontovertex with brown suffusions. Pronotum mostly on posterior side and anterior region of mesoscutum with brown suffusions. Colour of tegula is varying from orange to orange brown. Apical dark brown area of scutellum varying from apical one-third to apical one-fourth.

Male: Unknown.

Materials examined:

Holotype (ICAR/NBAIR/EN 63): female on slide with head, antennae, mesosoma, wings and metasoma under five cover slips, INDIA: Arunachal Pradesh, Pasighat, College of Agriculture and Forestry, weedy field, yellow pan traps, 12.xi.2014, Rameshkumar A (NBAIR).

Paratypes (ICAR/NBAIR/EN 64-67): 2 females on card as same data as holotype; 2 females on card with same data except date and collector, 13.xi.2014, Naveen V (NBAIR).

Host: Unknown.

Distribution: India: Arunachal Pradesh.

Etymology: The species name is a Latin adjective in reference to its oriental origin.

Comments: The new species is distinct from other known species in body colour, antennal dimension and fore wing venation as well as infuscation. This species is similar to *P. morio* (Dalman), but differs from it by the following characters: body colour brownish orange; longitudinal sensilla absent in first and second funicle segments; postmarginal vein 2× longer than stigmal vein; apical pale infuscate band narrow (In *P. morio*: body colour brownish; longitudinal sensilla present in second funicle segment; postmarginal vein 1.6× longer than stigmal vein; apical pale infuscate band broader). *Prionomastix orientalis* is also similar to *P. capeneri* Annecke and differs from it by the following characters: body colour brownish orange; fore wing about 2.7x as long as wide; apex of fore wing with a pale infuscate band and base of wing hyaline [in *P. capeneri*, body colour black with brownish suffusions; fore wing about 2.4x as long as wide; apex of fore wing hyaline beyond the large infuscation and basal part of wing with a narrow, strongly infuscated cross band (Annecke 1962)]. This species differs from *P. sicarius* Annecke (Fig. 8) (which is already recorded in India) by the following characters: mesosoma brownish orange; last funicle segment quadrate; pedicel about as long as first funicle segment; fore wing with two infuscate bands [in *P. sicarius*, mesosoma black; last funicle segment longer than wide; pedicel about one-half as long as first funicle segment; fore wing with a single narrow transverse band (Annecke 1962)].

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