

First Record of *Prionopelta kraepelini* (Hymenoptera: Formicidae) from India, With Description of Male Caste

by

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ABSTRACT

We present here the first record of *Prionopelta kraepelini*, from India collected in foothills of Northwest Himalaya, the Shivalik. This also marks the first member of this genus from India. The male of this species is also described here for the first time.

Keywords: Amblyoponinae, India, *Prionopelta kraepelini*, new record.

INTRODUCTION

Prionopelta is a small genus of subfamily Amblyoponinae, distributed in the world tropics (Bolton, 2007), with 15 species known worldwide (Bolton, 2012). *Prionopelta kraepelini*, reported here marks the first record of genus *Prionopelta* from India. It is one of the most widely distributed species in the genus, being found from Sumatra and Peninsular Malaysia east through the Philippines and Micronesia to Samoa (Shattuck, 2008).

Forel (1905) described *Prionopelta kraepelini* based on worker and queen castes; Shattuck (2008) carried the revision of *Prionopelta* in the Indo-Pacific region. Here we report its hitherto un-described male caste. The discovery is significant in backdrop that specimens were collected only in fragmented habitat of Shivalik. Therefore, further molecular studies are required to reveal the status of *Prionopelta kraepelini* whether it is an introduced, tramp or native species.

MATERIALS AND METHODS

The specimens were collected by hand picking in foothills of Indian Himalaya, the Shivalik range. The taxonomic analysis was conducted on Nikon SMZ 1500 stereomicroscope. For digital images, MP evolution digital camera

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was used on the same microscope with Auto-Montage (Syncroscopy, Division of Synoptics, Ltd.) software. Later, images were cleaned with Adobe Photoshop CS5. Morphological definitions for measurements (accurate to 0.01 mm) include:

TL- Total outstretched length of a specimen, from mandibular apex to gastral apex.

HL- Maximum head length in full-face (dorsal) view, measured from the anterior-most point of the clypeal margin to the posterior-most point of the head proper.

HW- Maximum head width in full-face (dorsal) view.

SL- Length of the scape (first antennal segment) excluding the basal neck and condyle.

EL- Maximum measurable eye length of faceted part of eye.

WL- Mesosomal length measured from the anterior surface of the pronotum proper (excluding the collar) to the posterior extension of the propodeal lobes.

PL- Midline length of the petiolar node (excluding the anterior peduncle) in dorsal view.

PW- Width of the petiolar node in dorsal view.

T1W- Width of first gastral (third abdominal) tergite in dorsal view.

CI- Cephalic index: $HW/HL \times 100$.

PI- Petiolar index: $PW/PL \times 100$.

S- Scape index: $SL/HW \times 100$.

SYSTEMATICS

Prionopelta kraepelini Forel

(Figs. 1-9)

Prionopelta kraepelini Forel, 1905: 3 (w.q.) INDONESIA (Java). See also: Shattuck, 2008: 23.

Global distribution

Caroline Islands, Fiji, Indonesia, Malaysia, Philippines, Samoa, Sumatra and Taiwan.

Worker diagnosis (Figs. 1-3)

Sculpturing on dorsum of pronotum consisting of fine punctations which contrast markedly with widely spaced foveae on mesonotum and propodeum, the foveae on the propodeum varying in density across its width (weakest medially, stronger laterally). Head width less than 0.48mm. Petiole relatively narrow, PetW less than 0.21 (Shattuck 2008).

Worker measurements

TL 1.78-2.07; HL 0.47-0.50; HW 0.36-0.39; SL 0.25-0.28; WL 0.55-0.59;

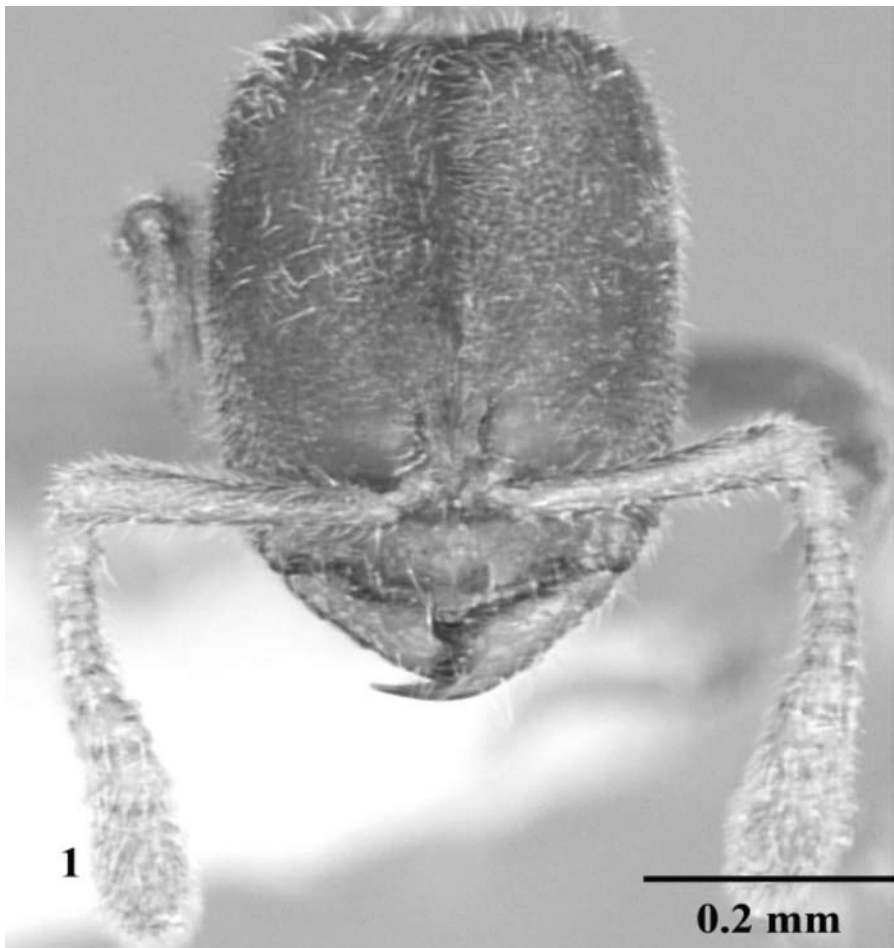
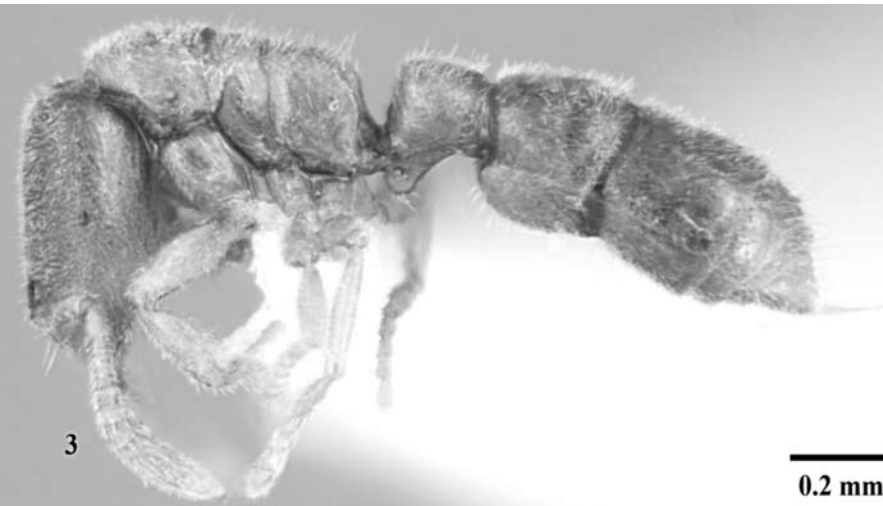


Fig. 1. Dorsal view of the head of a worker of *Prionopelta kraepel*

PL 0.14-0.16; PW 0.19-0.22; T1W 0.29-0.33. Indices: CI 74.59-78.73; SI 66.36-72.79; PI 133.71-142.31 (n=9).

Description of male (Figs. 4-6)

Head as broad as long, including the large convex compound eyes. Mandibles slender, curved, strap-like, the apex simple and acute; their tips overlap and the entire blades are tucked away under the clypeus in such a way that only



Figs. 2-3, Dorsal and lateral views of *Prionopelta kraepelini* workers.

their external margins show externally along the anterior clypeal border that frequently carries serially arranged denticles homologous to that of worker. Antennae slender, 13 segmented; antennal scrobe absent.

Notauli present and distinct; forming a complete Y. Mesepimeron without posterodorsal (epimeral) lobe. Jugal lobe of hind wing absent. Claws simple. Petiolar node in general shape as in worker, but more slender. Subpetiolar process reduced and fenestra within it almost absent in contrast to conspecific workers. Gaster elongated; terminalia retracted; pygidium broadly rounded.

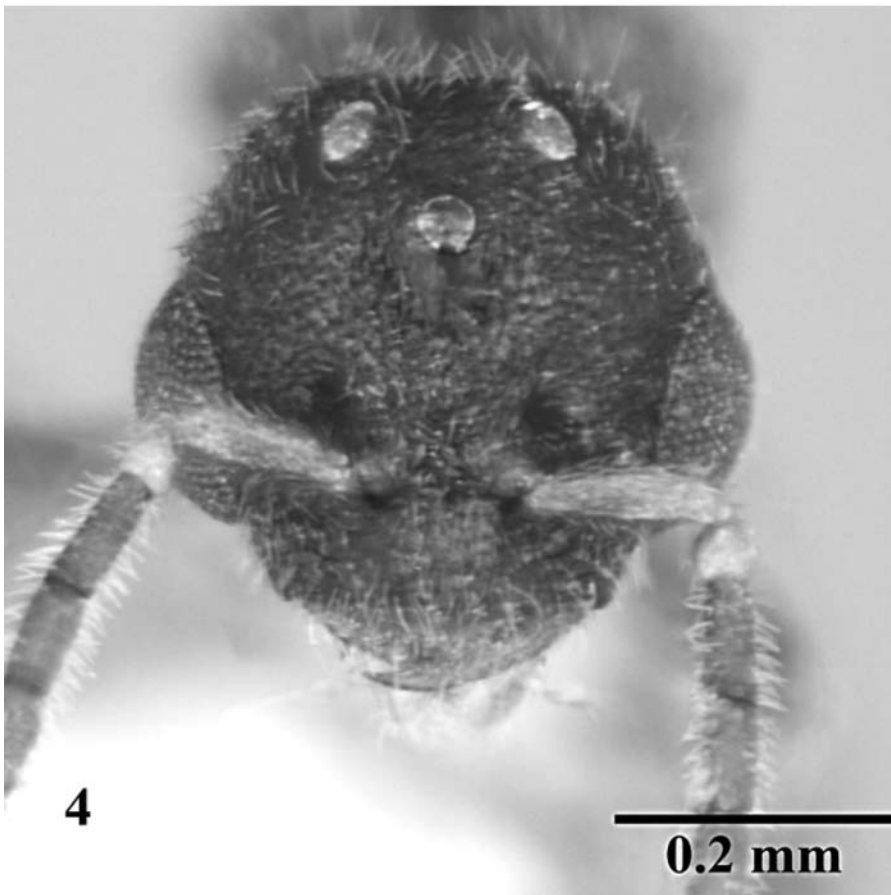
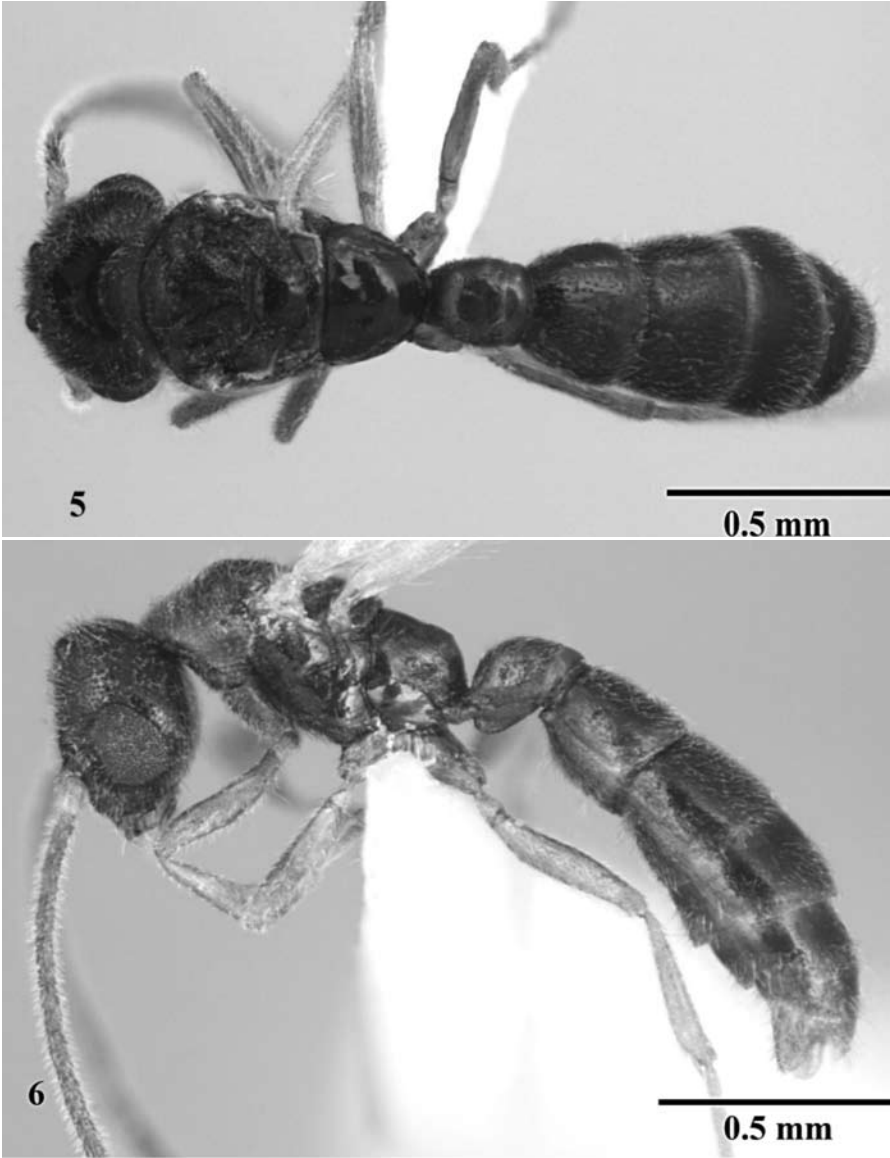


Fig. 4. Dorsal view of the head of the male of *Prionopelta kraepelini*.

Color blackish, darker than in corresponding workers; sculpture foveate, foveae much better developed than in workers, coarser over the head and



Figs. 5-6. Dorsal and lateral view of the male of *Prionopelta kraepelini*.

mesosoma, fine on gaster. Pilosity dense, reclinate, suberect; longest on anteriormost part of clypeus and apex of gaster; longer than in workers.

Male measurements: TL 2.43; HL 0.48; HW 0.49; SL 0.15; EL 0.21; WL 0.68; PL 0.18; PW 0.20; T1W 0.31. Indices: CI 102.08; SI 30.61; PI 111.11 (n=1).

Local distribution and Habitat: This species gives the impression that at it is uncommon in the Shivalik range of Northwest Himalaya. This is a cryptic species and was encountered under stones found in fragmented habitats and along roadside. Apparently, it was not collected from forested habitats of the region.

Material examined

Himachal Pradesh: Andretta, 940m, 1♀, 11.vi.2010; Dattal, 940m, 4♀, 16.vi.2010; Nagabari, 420m, 2♀, 1♂, 18.vi.2009. *Jammu & Kashmir:* Jasrota, 400m, 2♀, 28.vii.2010 (coll. Aijaz A. Wachkoo).

Remarks: *Prionopelta kraepelini* is recorded for the first time from India. The male of this species is also described for the first time.

ACKNOWLEDGMENT

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