

Cryptopone subterranea sp. nov., a rare new cryptobiotic ant species (Hymenoptera: Formicidae) from India

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ABSTRACT. A cryptobiotic species *Cryptopone subterranea* sp. nov. is described based on the worker caste, collected in the foothills of the Indian Himalayas. It most resembles *C. motschulskyi* Donisthorpe, 1943, and distinctly differs from all described species of the genus. An identification key to the known Indian species of *Cryptopone* is provided.

Keywords: Ponerinae, *Cryptopone*, key, new species, taxonomy, Himalaya, India.

INTRODUCTION

The genus *Cryptopone* is a small group of ponerine ants distributed in the Neotropical, Nearctic, Palearctic, Afrotropical, Oriental, Indo-Australian and Australian regions that includes about 20 species (Bolton et al. 2007, Bolton 2012). Although *Cryptopone* awaits a global taxonomic revision, important taxonomic contributions to this genus from Southeast Asia include Wang (1992), Zhou and Zheng (1997), Xu (1998), Zhou (2001) and Terayama (1999, 2009).

Mackay and Mackay (2010) treated *Cryptopone* as a junior synonym of *Pachycondyla*. However, Schmidt (2009, in his thesis), in a molecular-based study, found that the genus *Pachycondyla* is paraphyletic and should itself be split into several genera, with *Cryptopone* remaining distinct. As per Schmidt's molecular study, Chris A. Schmidt and Steve O. Shattuck (personal communication, 2012) are preparing a paper that revives *Cryptopone* from synonymy.

From India, only two species of *Cryptopone* have been reported to date: *C. testacea* Emery, 1893 and *C. nicobarensis* Forel, 1905 (Bolton 2012). *Cryptopone nicobarensis* was described based on the queen caste collected in the Nicobar Islands, while the only record of *C. testacea* in India is of a male described by Donisthorpe (1942) from Malabar, southern

India. An identification key to the *Cryptopone* species of India is here provided.

MATERIALS AND METHODS

The specimens were collected by soil core sampler and hand-picking methods. The taxonomic analysis was conducted on a Nikon SMZ 1500 stereo zoom microscope. For digital images, an Evolution MP digital camera was used on the same microscope with Auto-Montage (Syncroscopy, a division of Synoptics Ltd.) software. Later, images were cleaned as per requirements using Adobe Photoshop CS5. Holotype and paratype have been deposited in PUPAC, Punjabi University Patiala Ant Collection, Patiala, India.

MEASUREMENTS AND INDICES

Morphological terminology for measurements (given in millimetres) and indices include:

Head length (HL):

Maximum length of head in full-face view, measured in straight line from the anteclypeus to the midpoint of the posterior margin of head.

Head width (HW):

Maximum width of head in full-face view.