



New ant species related to *Cerapachys sexspinus* and discussion of the status of *Yunodorylus* (Hymenoptera: Formicidae)

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Abstract

Three species related to the Chinese ant *Cerapachys sexspinus* (Xu, 2000) are described as new: *Cerapachys doryloides* n. sp. from Borneo, *C. eguchii* n. sp. from Vietnam, and *C. paradoxus* n. sp. from Borneo. Additionally, *Cerapachys sexspinus* is redescribed. A species-group diagnosis and a discussion of the group's affinities are provided, together with a key to species based on workers. All species are illustrated with photographs and a distribution map. It is recommended that the name *Yunodorylus* remain a synonym of *Cerapachys* until the taxonomy and phylogeny of the Cerapachyinae is better understood.

Key words: ants, Formicidae, dorylomorphs, Cerapachyinae, *Cerapachys*, *Yunodorylus*, taxonomy, key, new species

Introduction

In 2000, Xu introduced *Yunodorylus*, a new genus name in the Formicidae. He described a single species, *Y. sexspinus* from Yunnan province, China, and placed the genus in the subfamily Dorylinae. Due to a unique character combination seen in these ants, namely a one-segmented waist and general habitus reminiscent of doryline ants on the one hand and presence of modified, peg-like setae on the pygidium and absence of promesonotal suture on the other hand, he concluded that *Yunodorylus* may be an “interlink” in the evolution of Cerapachyinae and Dorylinae. However, Bolton (2003) synonymized the genus with *Cerapachys*, because its definition clearly includes apomorphies of the Cerapachyinae and the assumption that *Cerapachys* can only possess two waist segments is not true, as had already been shown in Bolton (1990).

Subsequently, *Cerapachys sexspinus* has been included in two important ant phylogenies, with ambiguous results. In Moreau *et al.* (2006) it appeared as sister group to *Sphinctomyrmex*, whereas in Brady *et al.* (2006) it appeared as sister group to an Aenictinae+Ectoninae clade.

The purpose of the present study is to describe the diversity of species related to *C. sexspinus* that has accumulated in collections since the original description, to provide a concise group diagnosis that can be related to other cerapachyines and to discuss group affinities based upon available data. An effort was undertaken to gain access to as much material of this group as possible. However, specimens collected in Thailand and reported as *C. sexspinus* by Jaitrong & Nabhitabhata (2005) have not been examined.

Measurements, terms, and material

Measurements were taken using Nikon SMZ 1500 and Wild M5A stereomicroscopes at 100X magnification with ocular micrometer. Color photographs were prepared using a Nikon SMZ 1500 stereomicroscope with a Nikon Coolpix 4500 digital photo camera (Figs. 1–8, 13–14) and Leica MZ 16 stereomicroscope with a JVC