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Abdominal characters and status of the cerapachyine ants (Hymenoptera, Formicidae)

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For nearly a century myrmecologists have worried about the cerapachyine ants. Are they worthy of subfamily status, or not? Current work on the abdominal segments of the poneroid subfamilies, the first part of which is discussed in this paper, indicates that the cerapachyines should be treated as a separate subfamily. The history of the cerapachyines is discussed and apomorphies diagnostic of the group are noted. Separation from the Ponerinae is stressed and the possible relationships of the group to other poneroids are mentioned. Full descriptions of the abdominal sclerites are presented for each of the three cerapachyine tribes and a subfamily diagnosis and zoogeographical synopsis are given.

KEYWORDS: Formicidae, Cerapachyinae, Abdominal characters, Status.

Introduction and history

The ants which occupy the poneroid tribes Cerapachyini, Acanthostichini, and Cylindromyrmecini present a century-old puzzle to ant systematists and students of the internal phylogeny of the Formicidae. Many times in the past hundred years authors have worried and debated about whether these three tribes together constitute a separate subfamily (Cerapachyinae), or whether they should be included as three tribes within an expanded subfamily Ponerinae, or whether they should in some way be linked to the subfamily Dorylinae.

The reasons for all this puzzlement lie in the strange habitus of the cerapachyine groups involved. They show a baffling combination of ponerine, doryline and independent characters. Some authors have stressed the importance of one set of characters, others of another set, to support their particular concept of classification, as the following historical overview will illustrate.

The earliest appearance of a cerapachyine group-name in the literature was in Forel (1893). He postulated a 'Ponerinae, tribe Cerapachysii', including in it the currently recognized genera *Cerapachys*, *Simopone*, *Cylindromyrmex*, *Sphinctomyrmex*, and *Acanthostichus*, as well as the now-synonymized names *Parasyscia*, *Lioponera*, *Syscia*, and *Ooceraea*, (for the fate of which see Brown, 1975). Forel (1893) merely defined his Cerapachysii as 'a group of genera with cylindrical bodies, carinate cheeks, (and) aberrant abdominal form'.

Emery (1895) shifted these cerapachyine genera out of the Ponerinae and into the Dorylinae as 'tribus Cerapachyi' of that subfamily. A few years later Emery (1901) formed a supertribal group to hold them. His 'subfamily Dorylinae, Group 2—Cerapachinae', contained the tribes, as he spelled them, Acanthostichii (*Acanthostichus* only), Cylindromyrmii (*Cylindromyrmex* plus *Simopone*), and Cerapachyi (including

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