

## REVISION OF THE MYRMICINE GENUS *ACANTHOMYRMEX* (HYMENOPTERA: FORMICIDAE)

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**ABSTRACT.** The myrmicine genus *Acanthomyrmex* is revised in full. Eleven species of these dimorphic Asian ants are described, including six new species (*A. basispinosus*, *careoscrobis*, *concaus*, *foveolatus*, *laevis*, and *mindanao*). I distinguish two species groups, the *luciolae* group with six species and the *notabilis* group, with five. This informal division is supported by a cladistic analysis.

### INTRODUCTION

*Acanthomyrmex* ants are endemic to Southeast Asia, including Sri Lanka (but as yet none have been recorded from India or New Guinea); the ants have very small colonies and are seldom collected (Moffett, 1985). I provide descriptions of the first new species of this genus to be recognized in a half century, and divide the species into two species groups. A cladistic analysis provides preliminary information regarding evolution within the genus.

All *Acanthomyrmex* species are dimorphic, with the genus including the most impressive examples of allometric growth known for the workers of ants. As an example, a major of *A. notabilis* selected from a Sulawesi series has a head length twice that of a minor worker from the same nest; because of differences in head shape, the cephalic volume is roughly ten-times greater. Yet the major's antennae are only 5% longer than those of the same minor, while its trunk is only 3% longer, and roughly has a volume only 6% greater; furthermore, the body length of the

minor (trunk length + petiole length + postpetiole length + gaster length) is slightly larger than that of the major. The result is a major caste so absurdly proportioned that seen from certain angles live individuals appear to consist of little more than a head. Behavioral information on *Acanthomyrmex notabilis* and *A. ferox* (from the *notabilis* and *luciolae* species groups, respectively) indicates the majors serve roles in nest defense, and presumably also mill the seeds which apparently form a large part of the diet of these omnivores; in addition, majors occasionally participate in brood care (Moffett, 1985).

### RELATIONSHIPS

The relationships between *Acanthomyrmex* species were studied using the program PAUP (version 2.3), written by David L. Swofford.

#### CHARACTER CODING FOR COMPUTER ANALYSIS

The characters and character state codes used in cladistic analysis are defined in the following section on terminology; the character states for each species and two possible outgroups are given in Table 1. The characters numbered 41 through 44 in Table 1 were of no value in determining species relationships and thus were excluded from the cladistic analysis. All characters were treated as binary or ordered. Polymorphism in a species (whether within or between series) was treated as if the data were missing for that species. Range limits for numerical characters

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