

Taxonomic Implications of Doryline Worker Ant Morphology : *Dorylus* Subgenus *Anomma* (Hymenoptera: Formicidae)

by

William H. Gotwald, Jr.¹

and

Robert F. Schaefer, Jr.¹

ABSTRACT

The worker caste of two populations of *Anomma* driver ants (genus *Dorylus*) was examined morphologically for characters of potential value in assessing the evolutionary and taxonomic affinities of the Old and New World army ants. Features that thus far appear uniquely developed in the driver ants are the spines on basisternum 2, the pygidial impression and spines, and the anus gland. Other characters that clearly distinguish *Anomma* driver ants from the New World Ecitoninae are the mouthparts, thoracic suturing, sting morphology, condition of certain tergal glands, and the number of ganglionic masses in the ventral nerve cord.

Army ants are primarily tropical and subtropical in distribution and are currently classified in the subfamilies Dorylinae and Ecitoninae. The Old World monogeneric tribes Dorylini and Aenictini, represented by about 100 species in the genera *Dorylus* and *Aenictus*, comprise the Dorylinae (Wilson, 1964, Gotwald, 1979). The genus *Dorylus* consists of six subgenera (*Alaopone*, *Anomma*, *Dichthadia*, *Dorylus*, *Rhogmus*, *Typhlopone*). The subfamily Ecitoninae is composed of two tribes, the Cheliomyrmecini with its single genus *Cheliomyrmex* and the Ecitonini with its four genera (*Eciton*, *Labidus*, *Neivamyrmex*, *Nomamyrmex*). The nearly 150 species in this subfamily are distributed in the New World to 40° latitude north and south of the equator (Watkins, 1976).

Recent elevation of the New World forms to subfamily status (Snelling, 1981) reflects the belief among myrmecologists that the true army ants are polyphyletic (Brown, 1954, Gotwald, 1979, 1982, and Gotwald and Kupiec, 1975). In an investigation of the morphology of the workers of *Cheliomyrmex morosus* (F. Smith) and a review of existing comparative morphological studies of doryline and ecitonine ants, Gotwald and Kupiec (1975) concluded that the army ants are triphyletic and that the three lineages of army ants are the

¹Department of Biology, Utica College of Syracuse University, Utica, New York 13502.