

AN UNUSUAL NEW *BRACHYMYRMEX* MAYR (HYMENOPTERA:
FORMICIDAE) FROM COSTA RICA, WITH IMPLICATIONS FOR THE
PHYLOGENY OF THE LASIINE TRIBE GROUP

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Abstract.—*Brachymyrmex* Mayr is an exclusively New World ant genus that currently contains 38 described species. In this study, we describe *Brachymyrmex nebulosus*, new species from Costa Rica. The new species exhibits morphological characters suggestive of both *Brachymyrmex* and *Myrmelachista* Roger. Notes on the morphological characters that separate these two genera from each other are provided. Analysis of male genitalia suggests that *Brachymyrmex* is most closely related to *Myrmelachista* and *Cladomyrma* Wheeler, W.M. Previously, the African genera *Aphomomyrmex* Emery and *Petalomyrmex* Snelling were thought to be close relatives of *Brachymyrmex* as well, but our analysis, based on evidence from male genitalia, suggests this is not the case. The monotypic genus *Pseudaphomomyrmex* Wheeler, W.M., originally placed in the Formicinae and long thought to be a relative of *Brachymyrmex*, is transferred to the Dolichoderinae. *Pseudaphomomyrmex* lacks the most obvious synapomorphy of the Formicinae, an acidopore. The species possesses a “dolichoderine habitus.” Other morphological characteristics suggest placement within the Dolichoderinae. For instance, the juncture where the mandibular masticatory margin rounds into the basal margin bears many small denticles, a mandibular feature characteristic of many dolichoderines. The structure of the petiole also suggests placement within the subfamily.

Key Words: *Pseudaphomomyrmex*, *Myrmelachista*, new species, biogeography, Formicinae, Dolichoderinae

Brachymyrmex Mayr ants are among the smallest ants in the New World. The genus contains 38 described species with dozens of additional “subspecies”, most from tropical America (Bolton 1995). One species, *B. depilis* Emery, is widespread in North America; a few are “tramp” species, widely distributed by human commerce, with the remainder found in the Neotropics.

In Neotropical forests, the common species of *Brachymyrmex* nest in a variety of small plant cavities, under epiphytes, or in the leaf litter. They seem quite generalized

in choice of nest site, and the nests can be in relatively fragile or ephemeral substrates, suggesting frequent nest movement. *Brachymyrmex* species seem to feed mainly at carbohydrate sources, being common at extrafloral nectaries and at sugar water baits. Some species are known to tend Coccoidea (Hemiptera) in underground chambers (Wheeler 1910; Santschi 1923). Very little is known about the natural history for the vast majority of *Brachymyrmex* species.

Taxonomic knowledge of *Brachymyrmex* is very limited and species boundaries are