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Description of *Cephalotes specularis* n. sp. (Formicidae: Myrmicinae) —the mirror turtle ant

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Abstract

We describe here *Cephalotes specularis* **n. sp.** (Hymenoptera: Formicidae: Myrmicinae: Cephalotini) based on minor and major workers, gynes and larvae from Uberlândia, Minas Gerais state, Brazil. On morphological and molecular grounds, this new species belongs to the *C. fiebrigi* + *C. bruchi* species complex, of which there are 11 previously described species (one in *C. bruchi* group and 10 in the *C. fiebrigi* group). All members of these groups are found in, or are limited to the South American "arid diagonal", comprised of the Argentinian Chaco, the Cerrados of central South America, and the Brazilian northeastern caatingas. Workers of *C. specularis* **n. sp.** have an extremely shiny gaster which is mirror-like, notwithstanding its sparse covering by minute hairs. This species engages in a form of resource-based social parasitism of the host ant *Crematogaster ampla* (Myrmicinae: Crematogastrini). *Cephalotes specularis* foragers move freely in the dense traffic of *Crematogaster ampla* foraging trails. They exhibit highly atypical body posturing for turtle ants, which makes them hard to distinguish from the *Crematogaster* foragers.

Key words: Cephalotini, Brazil, Cerrado, mirror ant

Introduction

The arboreal myrmicine genus *Cephalotes* is exclusive to the Neotropics and includes 117 valid extant species and 17 valid fossil species. *Cephalotes* was revised by de Andrade & Baroni Urbani (1999), who proposed the first phylogeny for the genus using morphological characters and recognized 24 morphological species groups. Three species were considered *incertae sedis* but the types were unavailable for study. Recent combined molecular and morphological phylogenetic analyses have provided additional insight into the phylogenetic relationships within and among the proposed morphological species group (Price et al. 2014) (see comments).

As part of a study on the ecology of *Cephalotes* and other arboreal ants in Cerrado areas of Uberlândia, Minas Gerais, Brazil we identified a *Cephalotes* species that did not match any previously described species. We here describe this species as *Cephalotes specularis* **n. sp.** The biology of the species has been studied extensively and there is a need for a name, justifying this isolated species description.

Material and methods

Observations were made at 60x magnification with a Leica MZ95 stereomicroscope. Images of the new *Cephalotes* species were obtained under a stereomicroscope Leica M205C attached to video camera Leica DFC 295. The photos were combined using the Leica Application Suite V3 system at MZSP. Images were then processed as TIFF files in Adobe Photoshop CS5 to enhance parameters of brightness and contrast. Measurements were obtained with

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Penick *et al.* (2012) observed that workers of several myrmicine genera (including *Cephalotes*) hang fourth-instar larvae from the walls and ceiling of their nests. This behavior was dependent on the presence of specialized anchor-tipped hairs that occur on the dorsal surface of these larvae, as observed for *C. specularis*. When larvae received ‘‘haircuts,’’ they were no longer able to adhere to the nest walls. The occurrence of anchor tipped larval hairs in numerous myrmicine genera suggests that larval hanging behavior is common and widespread in this group.

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