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**A taxonomic review of the genus *Azteca*
(Hymenoptera: Formicidae) in Costa Rica and
a global revision of the *aurita* group**

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A taxonomic review of the genus *Azteca* (Hymenoptera: Formicidae) in Costa Rica and a global revision of the *aurita* group

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Abstract

The genus *Azteca* is endemic to the American tropics, where they are abundant arboreal ants. The taxonomy and natural history of the Costa Rican fauna is reviewed, and the *A. aurita* group is recognized and revised globally. The following synonymies are proposed: *A. laticeps* Forel under *A. charifex* Forel; *A. championi* Forel, *A. eiseni* Pergande, *A. raptrix* Forel, *A. ursina* Forel, and *A. xysticola* Forel under *A. forelii* Emery; *A. rossi* and *A. surubrensis* Forel under *A. gnava* Forel; *A. major* Forel under *A. instabilis* (F. Smith); *A. prorsa* Wheeler under *A. longiceps* Emery; *A. patruelis* Forel under *A. pittieri* Forel; *A. nigriventris* Forel and *A. rectinota* Forel under *A. velox* Forel; *A. silvae* Forel under *A. aurita* Emery; *A. pruinosa* Mann under *A. lallemandi* Forel; *A. lacrymosa* Forel under *A. pilosula* Forel; *A. fiebrigi* Forel, *A. clariceps* Santschi, and *A. pallida* Stitz under *A. schimperi* Emery; *A. columbica* Forel under *A. jelskii* Emery; *A. mexicana* Emery under *A. sericea* (Mayr). *Azteca velox nigra* Forel is raised to species. *Azteca aurita pilosula* is removed from synonymy and raised to species. The following new species are described: *A. sericeasur*, *A. flavigaster*, *A. oecocordia*, *A. nanogyna*, and *A. quadriceps*.

Key words: *Azteca*, *Azteca aurita* group, Costa Rica, Formicidae, key to species

Introduction

The dolichoderine genus *Azteca* is a strictly neotropical group of arboreal ants (Emery 1893, Forel 1928). They are abundant in lowland habitats from Mexico to Argentina, occurring as both generalized foragers and as specialized inhabitants of myrmecophytic plants. *Azteca* species exhibit a variety of nesting habits, including the construction of carton nests, the occupation of live and dead plant stems (Forel 1899, Ule 1901, Emery 1913, Davidson 1988, Ayala *et al.* 1996), and the formation of ant gardens. Ant gardens are arboreal ant nests which sprout epiphytes from carton nest material (Ule 1901, Wheeler 1921, Longino 1986, Davidson 1988, Corbara *et al.* 1999, Kaufmann & Maschwitz 2006). Striking cases of symbiosis occur between *Azteca* and highly specialized myrmecophytic plants, the most notable case being the relationship between *Azteca* and *Cecropia* (Müller 1876, 1880–1881, Bequaert 1922, Wheeler 1942, Benson 1985, Longino 1991a, b). Also, *Azteca* ants have developed complex trophic relationships with many species of coccoid Hemiptera (Wheeler 1942, Johnson *et al.* 2001, Davidson *et al.* 2003). *Azteca* workers are often found tending mealy bugs (Pseudococcidae) and soft scales (Coccidae). For *Azteca* species that nest in live stems, the interior walls of the nest are often encrusted with mealy bugs and scales. Species building carton nests and ant gardens maintain dense populations of mealybugs and scales under the carton of the main nest or under small carton "pavilions" scattered over the vegetation. Very little attention has been paid to the taxonomic diversity of Coccoidea associated with *Azteca*, and usually only cursory observations of their presence are made during field collections. Because of the richness of the ecological interactions among *Azteca*, plants, and hemipteran symbionts, *Azteca* species have been and will continue to be subjects in the study of adaptation and coevolution, and therefore taxonomic work on the genus is particularly important.

The taxonomic bounds of the genus have not changed since its inception (Forel 1878, Shattuck 1992). Members of the genus can be recognized by the combination of (1) a thin, somewhat flexible cuticle, (2) anterolateral margins of clypeus extending anterior to mediolateral regions (with the exception of the *aurita* group, as reported here), (3) mandible with 7–9 teeth, (4) at least larger workers with cordate head shape, with