

## A taxonomic review of the genus *Myrmelachista* (Hymenoptera: Formicidae) in Costa Rica

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## Abstract

The Costa Rican fauna of the genus *Myrmelachista* is reviewed. *Myrmelachista* is a poorly-known lineage of Neotropical arboreal ants. Although a few are conspicuous surface foragers, the majority have cryptic habits, nesting in live stems of plants and rarely foraging on the surface. Fourteen species are reported, of which the following ten are described as new: *M. flavocotea*, *flavoguarea*, *haberi*, *joycei*, *lauroatlantica*, *lauropacifica*, *longiceps*, *meganaranja*, *nigrocotea*, and *osa*. *Myrmelachista costaricensis* Wheeler is synonymized under *M. plebecula* Menozzi, and *M. zeledoni thiemi* is synonymized under *zeledoni*. The enigmatic *M. cooperi*, previously known from a single alate queen, is rediscovered and the worker and male described. Keys to workers, queens, and males are provided. *Myrmelachista* species have either 9 or 10-segmented antennae, with most of the 9-segmented forms concentrated in Central America and the Caribbean, and the 10-segmented forms concentrated in South America. The taxonomic status of all the 9-segmented forms is discussed.

**Key words:** *Myrmelachista*, Costa Rica, Formicidae, key to species

## Resumen

Se revisa la fauna Costarricense del género *Myrmelachista*. *Myrmelachista* es un linaje poco conocido de hormigas neotropicales arborícolas. Aunque algunas especies forrajeaban en la superficie y son conspicuas, la mayoría presenta hábitos crípticos, anidando en tallos vivos y rara vez forrajeando en la superficie. Se informan 14 especies, con las siguientes 10 descritas como nuevas: *M. flavocotea*, *flavoguarea*, *haberi*, *joycei*, *lauroatlantica*, *lauropacifica*, *longiceps*, *meganaranja*, *nigrocotea*, y *osa*. *Myrmelachista costaricensis* Wheeler es sinonimizada bajo *M. plebecula* Menozzi, y *M. zeledoni thiemi* es sinonimizada bajo *zeledoni*. La enigmática especie *M. cooperi*, anteriormente conocida de una sola reina alada, es redescubierta y se describen la obrera y el macho. Se proveen claves para obreras, reinas, y machos. Especies de *Myrmelachista* tienen 9 o 10 segmentos antenales. Las formas con 9 segmentos son concentradas en América Central y El Caribe, y las formas con 10 segmentos son concentradas en Sudamérica. Se discuten la taxonomía de todas las especies de *Myrmelachista* con 9 segmentos antenales.

## Introduction

Within the ants a number of lineages have developed exquisitely arboreal habits, nesting entirely within plant cavities and with specialized morphology and behavior for doing so. Species within these clades often show a range of specialization, being generalist inhabitants of dead stems, generalist inhabitants of live stems, or specialist inhabitants of live stems. The third group is often involved in obligate associations with particular lineages of plants and is particularly important in the study of mutualism (Davidson & McKey 1993). Species-level taxonomic work on stem-nesting ants can act in a synergistic way with studies of the community and evolutionary ecology of ant-plant associations and