



Pheidole bilimeki Reconsidered (Hymenoptera: Formicidae)

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Abstract

Pheidole bilimeki is a common ant species throughout northern South America, Central America, and southern Mexico. Character variation is reevaluated and *Pheidole bilimeki* is redefined. *Pheidole anastasii* **rev. stat.** and *P. jamaicensis* **rev. stat., n. stat.** are removed from synonymy and *P. jamaicensis* is elevated to species rank. *Pheidole anastasii* is a relatively uniform species that lives in plant cavities in the understory of closed canopy forest. *Pheidole jamaicensis* and *P. bilimeki* inhabit open areas and are often associated with human altered landscapes. *Pheidole anastasii* occurs in lowland Atlantic slope forests from Panama to Guatemala and southern Mexico (Chiapas); *P. jamaicensis* is restricted to the islands of Jamaica and Hispaniola; *P. bilimeki* occurs on Cuba, the Bahamas, and the American mainland. Differentiating characters are also provided for *Pheidole punctatissima*, a common species with habitus and habits similar to *P. bilimeki*.

Key words: Neotropical, ant, species, Myrmicinae

Introduction

The ant genus *Pheidole* contains over 600 New World species (Wilson 2003). Throughout the tropical and subtropical Americas, *Pheidole* are abundant and comprise a diverse component of local ant communities. Lowland rainforest habitats may contain over 70 species (Longino *et al.* 2002). Relative abundance distributions for *Pheidole* are typical of ecological communities in general, with a few species being very abundant and conspicuous, and the majority of species being less abundant and less obvious. In the northern Neotropics *Pheidole bilimeki* is often one of the abundant species. In highly disturbed areas another very common species is *P. punctatissima*, with minor workers that are nearly indistinguishable from those of *P. bilimeki*. Since these are among the most frequently encountered ants, it is particularly important to improve taxonomic understanding of the group.

Brown (1981) made initial progress on the group by recognizing the differences between *P. punctatissima* and several forms that had been attached to it as subspecies or varieties. He associated the various infraspecific forms with the species *P. annectens*. Wilson (2003) synonymized both *P. annectens* and *P. anastasii* under *P. bilimeki*. Thus the current concept of *P. bilimeki* is as a widespread and strongly polytypic species. However, molecular evidence suggested that *P. anastasii* was sister to two *Pheidole* species: *bilimeki* and *floridana* (Moreau 2008). We present here evidence that in Costa Rica there are two broadly sympatric species that both fall within the current concept of *P. bilimeki*. We attempt to better define species boundaries between these two species, and we discuss character variation throughout the range of *P. bilimeki*. We also discuss differentiating features of *P. punctatissima*, whose minor workers are very similar to *P. bilimeki*.