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## Revision of the *Pachycondyla wasmannii*-group (Hymenoptera: Formicidae) from the Malagasy region

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### Abstract

Defining species limits and describing species of ants are important to identify taxa and habitats with elevated diversity in areas of high conservation priority such as the Malagasy region. The *Pachycondyla wasmannii*-group is revised in the Malagasy region where eight species are recognized, four of which are new: *P. masoala* sp. n., *P. planicornis* sp. n., *P. tavaratra* sp. n., and *P. vazimba* sp. n. Four species have been previously described: *P. cambouei* Forel, *P. comorensis* (André), *P. perroti* Forel, and *P. wasmannii* Forel. *Pachycondyla perroti admista* Forel is newly synonymized under *P. perroti*. *Pachycondyla cambouei* is widespread in eastern Madagascar, morphologically variable, and divided into seven morphotypes. An identification key to species and distribution maps are provided for the genus in the Malagasy region. All species are known only from Madagascar except *P. wasmannii*, which occurs also on Anjouan of the Comoros Islands.

**Key words:** Taxonomy, Ponerinae, *Pachycondyla*, *Bothroponera*, *wasmannii*-group, morphological variation, Malagasy region, Madagascar

### Introduction

Islands in the southwestern Indian Ocean, especially Madagascar, are composed of extremely fragmented natural habitats and are renowned for having high levels of endemism and threatened biodiversity (Lourenço & Goodman 2000; Myers *et al.* 2000). In this region, ants are diverse and almost all species are found nowhere else (Fisher 2003). Although efforts to understand and map the diversity of Malagasy ants can be of major importance for preserving the unique biota of the region (Fisher 2005), ants are not among the focal taxonomic groups used in conservation decision making (see Kremen *et al.* 2008).

Several ant lineages have shown significant diversification, whereas other groups are missing or very sparsely represented (Fisher 1997) in the Malagasy region. Documentation of this group of insects is far from comprehensive despite the existence of various earlier taxonomic works (e.g., André 1887; Forel 1891; Emery 1895, 1911; Santschi 1912) as well as more recent efforts (e.g., Brown 1975; Bolton 1975, 1979; Alpert 1992; Ward 1994). Several named species have been insufficiently described, and most species were described in isolation from closely related taxa due to sparse sampling across the region.

More recently, however, efficient collecting methods (Longino & Colwell 1997; Fisher 1999) and remarkable advances in processing protocols (Fisher 2005) have led to the initiation of more in-depth taxonomic works (e.g., Fisher 2000; Heterick 2006; Bolton 2007; Yoshimura & Fisher 2007, 2009; Fisher & Smith, 2008; Fisher 2009; Blaimer 2010; LaPolla *et al.* 2011; Hita Garcia & Fisher 2011). Species are critical units of study in many fields of ecology and evolutionary biology. Knowledge of biological diversity depends primarily on species diversity. Diversity information in turn is highly valuable in assisting conservation efforts and in designing and managing nature reserves (Vane-Wright *et al.* 1991; Vane-Wright 1996; Kremen *et al.* 2008) in areas of high conservation priority like the Malagasy region.