



## A revision of male ants of the Malagasy region (Hymenoptera: Formicidae): Key to subfamilies and treatment of the genera of Ponerinae

MASASHI YOSHIMURA<sup>1</sup> & BRIAN L. FISHER<sup>2,3</sup>

<sup>1</sup> Institute of Tropical Agriculture, Kyushu University, Fukuoka 812-8581, Japan. E-mail: myoshimura@ant-database.org

<sup>2</sup> Department of Entomology, California Academy of Sciences, 875 Howard Street, San Francisco, CA 94103-3009, U.S.A. E-mail: bfisher@calacademy.org

<sup>3</sup> Corresponding author

### ABSTRACT

Male-based keys to ant subfamilies and to the genera of Ponerinae in the Malagasy region (Madagascar, Mauritius, Reunion, Comores, and Seychelles) are presented. Seven subfamilies known from the Malagasy region in addition to an undetermined taxon are included in the subfamily key. All seven of the ponerine genera recorded in the region—*Anocheetus*, *Hypoponera*, *Leptogenys*, *Odontomachus*, *Pachycondyla*, *Platythyrea*, and *Ponera*—are included. Diagnoses and remarks on the subfamily and genera within Ponerinae, and a character table for the ponerine genera, are given. The males of the seven ponerine genera are illustrated.

**Key words:** Madagascar, Mauritius, Reunion, Comoros, taxonomy, key

### INTRODUCTION

Male ants offer a wealth of information on the diversity and biology of ants. They provide valuable characters for delimiting genera and species, and information on the phenology of ant reproduction. Ant taxonomists and ecologists, however, often overlook this source of information due to a lack of taxonomic tools. There are few regions in the world for which identification keys to genera of ant males are available, let alone keys to species. Japan is a notable exception (Yoshimura & Onoyama 2002).

The production of keys to genera based on males is impaired world-wide by the fact that this sex tends to be unknown or poorly represented in many genera. In Bolton (2003), the descriptions of 61 genera (22%) of the 281 extant genera state “Male: unknown.” Many of these unknown genera may be in collections but unassociated with their respective worker caste. The use of molecular techniques such as DNA barcoding, however, provides a new tool to associate males and worker castes (B.L. Fisher and M.A. Smith, unpublished).

As part of an initiative to document the diversity of ants in the Malagasy region (Fisher, 2005), we have set out to develop male-based keys to subfamilies and genera. Our aim is to use males to better understand the generic limits of ants in the Malagasy region. In addition, we hope to uncover a wealth of data on the reproductive biology of ants by providing tools to sort the vast number of males collected from Malaise traps. In this paper, we provide a male-based key to ant subfamilies and to the genera of the Ponerinae, for the Malagasy region.