

## The Genus *Prenolepis* Mayr, 1861 (Formicidae) in the Greater Antilles, with an Outline of Phylogenetic Relationships

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**ABSTRACT.**—This paper reviews the genus *Prenolepis* in the Antilles based on specimens (including females and males) deposited in collections as well as fresh material. Results include the synonymy of *P. gibberosa rogeri*, the rising to new status of *P. gibberosa albimaculata*, and the description of a new species. The Antillean species form a monophyletic group which is apparently the most derived of the genus. The group is characterized by large size, slender morphology, and arboreal or limestone habitats. *Prenolepis karstica* is apparently involved in a mimetic relationship with *Leptothorax poeyi*. *Paratrechina longicornis*, used as outgroup together with *Paratrechina fulva* and *Lasius niger*, was the sister taxon of the Antillean clade. The topology of the phylogenetic relationships was: (((((((*karstica-albimaculata*) *gibberosa*) *longicornis*) *naoroji*) *jerdoni*) *emmae*) *imparis*, *nitens*) *acuminata*). These results support Trager's (1984) suggestion of a close relation between the *Paratrechina longicornis* group and *Prenolepis* species, as well as the general relations of Cuban species presented by Wheeler (1930).

### INTRODUCTION

The genus *Prenolepis* Mayr is a small group of ants with nine species whose distribution covers areas in the Palearctic, Nearctic, Neotropic, Oriental, and Indo-Australian regions (Bolton, 1995a). No species have been reported from South America, Africa or Australia. *Prenolepis gibberosa* Roger, 1863, is the only species reported from the Greater Antilles (Cuba and Haiti). Mann (1920) emphasized that the typical form of this species had the "apices of femora, bases of tibiae, tarsi and apical half of the antennae funiculi white". Thus, he erected *P. gibberosa rogeri* and characterized it by its larger size and uniformly dark reddish-brown to almost black coloration. However, Mann confused the original description of Roger (1863), which actually corresponded to Mann's new subspecies. Santschi (1930) amended that mistake and synonymized *P. gibberosa rogeri*, creating *P. gibberosa* var. *albimaculata* for Mann's supposed typical form. Aguayo (1932) examined Haitian specimens collected by Mann and considered them as belonging to *P. gibberosa*; creating thereby *P. gibberosa* var. *rogeri*. This was distinguished from the typical form by its larger size, darker col-

oration, more abundant pilosity, and shinier gaster. Aguayo demonstrated that there are transitions between the states of those characters. Wheeler (1937) conferred subspecific rank to Santschi's variety.

In more recent references to these taxa, Alayo (1974) treated all of them as subspecies but belonging to the genus *Paratrechina*. Kempf (1972) and Bolton (1995b) recognized *P. gibberosa*, *P. gibberosa albimaculata* and *P. gibberosa rogeri*. Fontenla (1997) gave without discussion specific rank to *P. gibberosa albimaculata*.

This paper proposes a new arrangement for the Antillean segment of the genus, including the formal suppression of the subspecific taxa, the raising to species status of *P. gibberosa albimaculata*, and the description of a new species. Elements of the phylogenetic relationships and the evolution of the Cuban group are also discussed.

### MATERIALS AND METHODS

The revision and phylogenetic analysis are based primarily on worker morphology. Specimens were examined from or are deposited in the following collections: MNHNCU- Museo Nacional de Historia