



## Ants of the Genus *SOLENOPSIS* Westwood, 1840 (Hymenoptera: Formicidae) in Egypt with a description of the worker castes of *S. cooperi* Donisthorpe, 1947

MOSTAFA R. SHARAF<sup>1</sup>, BRIAN TAYLOR<sup>2</sup> & CHRISTIANA KLINGENBERG<sup>3</sup>

<sup>1</sup>Entomology Department, Faculty of Science, Ain Shams University, Cairo, Egypt. E-mail: antsharaf@yahoo.com

<sup>2</sup>11, Grazingfield, Wilford, Nottingham, NG11 7FN, U.K. E-mail dr.brian.taylor@ntlworld.com

<sup>3</sup>Staatliches Museum für Naturkunde, 76133 Karlsruhe, Germany. E-mail: klingenberg@smnk.de

### Abstract

The Egyptian species of the ant genus *Solenopsis* Westwood, 1840, are revised and keyed. Four species are recognized: *S. cooperi* Donisthorpe, 1947; *S. lou* Forel, 1902; *S. occipitalis* Santschi, 1911; and *S. kochi* Finzi, 1936 (**stat. n.**). *Solenopsis occipitalis* is recorded for the first time from Egypt. *Solenopsis kochi* is redescribed and elevated to species rank. *Solenopsis bakri* Sharaf, 2007 is synonymized under *S. cooperi*. The workers of *S. cooperi* are described for the first time, males and alate gynes are measured, and ecological notes on habitats are given. Available literature records of all the species are reviewed.

**Key words:** Ant Fauna, Egypt, *Solenopsis*, *Solenopsis cooperi*, Palaearctic, North Africa, Myrmicinae

### Introduction

This paper forms part of the ongoing internet effort to fully document and record all information on the ants of Egypt (Taylor & Sharaf, 2007, ongoing). The genus *Solenopsis* Westwood, 1840, is one of the largest ant genera. It includes more than 250 described species and subspecies distributed in tropical countries and temperate regions worldwide (Bolton 1995, Agosti et. al. 2000). Members of this genus nest in soil, sand mounds, and litter and are generalized foragers (Brown, 2000).

There is an unclear issue of genus status. Bolton (1995: 27) lists the genus *Solenopsis* Westwood, 1840, as having a junior synonym *Diplorhoptrum* Mayr, 1855. The earliest authority for the synonymization was Mayr (1862: 751) but Baroni Urbani (1968a: 68) revived *Diplorhoptrum* as a separate genus. The determining factor was claimed to be a distinctive conformation of the laminae volsellares of the European populations of *Solenopsis*. Baroni Urbani did not refer to Mayr's synonymy and seems otherwise to have made comparison only with the neotropical type species *S. geminata* (F.). This separation has been followed by Dlussky & Radchenko (1994) and Lomholdt & Rasmussen (1986). Bolton (1987: 285) noted that the peculiar male genitalia were limited to the *fugax*-species group while stating that the male genitalia of species-groups other than the *fugax*- and *geminata*-groups had not been compared. Most researchers continue to treat *Diplorhoptrum* as a junior synonym but a few have re-adopted *Diplorhoptrum* as a separate genus. In our experience of specimens from Egypt, and of indigenous and immigrant species (*S. geminata* and *S. globularia*) found in sub-Saharan Africa, the minors of the *geminata* species-group are not distinctively different in overall form from the species that do not have major workers. Therefore, in the absence of, say, genetic evidence, we prefer to retain the concept of a single genus, *Solenopsis*.

The genus members are monomorphic or polymorphic. The workers can be distinguished from all other genera of the subfamily Myrmicinae by the combination of the following characters: Mandibles with three or four teeth. Palp formula 2,2 or 1,2. Clypeus strongly longitudinally bicarinate, with the median area sharply