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

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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