

Four new records of ants from Iran

(Hymenoptera: Formicidae)

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Abstract. Four ant species are recorded for the first time for Iran: *Myrmica hellenica* Finzi, 1926; *Myrmica deplanata* Emery, 1921; *Messor aralocaspius* Ruzsky, 1902; and *Messor picturatus* Santschi, 1927. The ant fauna of Iran now includes 148 species.

Key words. Formicidae, *Myrmica*, *Messor*, Zanjan, Mazandaran, Iran, Middle East.

Introduction

The ants are one of the most successful and dominant organisms on land. These diverse insects are classified as a single family, the Formicidae, within the order Hymenoptera and include 12,651 species (antbase.org, 2005). So far, 144 species belonging to 32 genera have been recorded from Iran (PAKNIA et al. 2008, 2010, RADCHENKO & PAKNIA 2010). Based on adjacent faunas and the bioclimatic diversity of Iran, around 500 species of ant ought to occur in Iran. For a better understanding of the composition of the Iranian ant fauna, two northern Iranian provinces, Mazandaran and Zanjan, have been surveyed.

Material and methods

All of ant samples were collected in spring and summer of 2008-2009, from the provinces Mazandaran (in the north) and Zanjan (in the northwest) of Iran. Samples were collected by hand (direct sampling) (AGOSTI & ALONSO 2000). They were preserved in 96% alcohol and then transferred to the Biosystematic Laboratory in Shahid Beheshti University, Iran. The specimens were then mounted on cardboard triangles and sorted to morphospecies. Most of the morphospecies were identified using either keys for adjacent regions, since none exist for Iran itself, or taxonomic revisions of the respective genera (AGOSTI & COLLINGWOOD 1987, COLLINGWOOD 1985, COLLINGWOOD & AGOSTI 1996, RADCHENKO & ELMES 2004, RADCHENKO et al. 2006).

Identifications have been confirmed by Cedric COLLINGWOOD and Bernhard SEIFERT. The Hay Mayans Insect Museum in the Iranian Research Institute of Plant Protection, Tehran, Iran (HMIM) and Donat AGOSTI's ant collection (DAAC) have been used as reference collections and as the repository of voucher specimens. The pictures have been taken using a Wild M5 dissecting microscope with attached Nikon D300 and edited with CombineZP software.