

A contribution to ants (Hymenoptera: Formicidae) from North and Northwestern regions of Iran

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SAMIN, N., YUSUPOV, Z., NAVAIEAN, M. & SAKENIN, H.: *A contribution to ants (Hymenoptera: Formicidae) from North and Northwestern regions of Iran.*

Abstract: This paper deals with faunistic data on the Formicidae (Hymenoptera) from north and northwestern Iran. Totally 15 species in 10 genera were collected and identified, which four species are new records for the fauna of Iran. Four species are new records for the fauna of Iran: *Myrmica ruginodis* Nylander, 1846, *Strongylognathus rehbinderi* Forel, 1904, *Temnothorax interruptus* (Schenck, 1852), and *Tetramorium immigrans* Santschi, 1927.

Keywords: Ant, Formicidae, fauna, new records, Iran

Introduction

The family Formicidae (Hymenoptera: Vespoidea) includes more than 13.700 species worldwide in 337 genera and 17 extant subfamilies (BOLTON 2020). The first fossil records of ants are known from the Cretaceous (ca 100 millions years ago). Their radiance however is dated much earlier (MOREAU et al. 2006). Ants are distributed mainly in the tropical and subtropical regions, where species richness and abundance of this family may be overwhelming (HÖLLDOBLER & WILSON 1990, AGOSTI et al. 2000). All ants are eusocial insects, which live in societies with overlapping adult generations. The colonies of all ants in temperate zone are perennial, lasting over more years (HÖLLDOBLER & WILSON 1990). They belong among principal predators of arthropods (WILSON 2000) and play a significant role as herbivores (CHERRETT 1986). They have a profound influence in soil turnover and soil properties (GRIMALDI & ENGEL 2005, WERNER & WIEZIK 2007).

The earliest information on the fauna of Iranian ants is given in the work of FARAHBAKHS (1961), where he indicates four species: *Camponotus ligniperda* (Latreille, 1802), *Crematogaster scutellaris* (Olivier, 1791), *Tapinoma karavaievi* Emery, 1925 and *Cataglyphus* sp. MODARRES AWAL (1997 and 2012) listed 16 species in 9 genera, and 56 species in 17 genera, respectively. PAKNIA et al. (2008) listed 110 species in 26 genera

and six subfamilies (Aenictinae, Dolichoderinae, Dorylinae, Formicinae, Myrmicinae, and Ponerinae) as the fauna of Iran. Several dozen works have been published (TIRGARI & PAKNIA 2004, PAKNIA 2006, PAKNIA & KAMI 2007, GHAHARI et al. 2009, RAFINEJAD et al. 2009, PAKNIA 2010, PAKNIA et al. 2010, RADCHENKO & PAKNIA 2010, FIROUZI et al. 2011, GHAHARI et al. 2011, MOHAMMADI et al. 2012, HOSSEIN NEZHAD et al. 2012, KIRAN et al. 2013, SHIRAN et al. 2013, GHAHARI et al. 2015, HOSSEINI et al. 2015, KHANDEHROO et al. 2015, MIRZAMOHAMADI et al. 2015, MORADLOO et al. 2015, MORTAZAVI et al. 2015, GHOBADI et al. 2016, HEIDARI et al. 2017, PASHAEI RAD et al. 2018, BOROWIEC et al. 2019, KHALILI-MOGHADAM et al. 2019, MOHSENI RAD et al. 2019, SALATA et al. 2020), and currently, more than 200 species of ants have been reported from Iran. The aim of this paper is a faunistic study on Formicidae from North and Northwestern regions of Iran, and introducing of four species as new records for the Iranian fauna.

Material and methods

Ant sampling by hand collecting was done in the spring and summer in some regions of north and northwestern Iran. The specimens were preserved in 95% alcohol and taken to the laboratory for sorting and identification. Some of the specimens were confirmed by the late C.A. Collingwood (North Yorkshire, UK). The provinces of Iran are represented in figure 1. Photos are given for new country records (Figs. 2, 3).

Results

In total, 15 species of Formicidae (Hymenoptera) within 10 genera were collected and identified from different regions of north and northwestern Iran. The list of species is given below alphabetically.

Aphaenogaster muschtaidica Emery, 1908 - Ardabil province, Germe, 5 w., 24.vi.2009.

Distribution in Palaearctic: Caucasus.

Camponotus (Myrmentoma) atricolor (Nylander, 1849) - West Azarbayjan province, Ourmieh (Seroo Road), 4 w., 16.viii.2013.

Distribution in Palaearctic: Austria, Azerbaijan, Bulgaria, Greece, Hungary, Romania, Russian Federation.

Camponotus (Myrmentoma) aegaeus Emery, 1915 - East Azarbayjan province, Khodafarin, 7 w., ix.2011.

Distribution in Palaearctic: Crete, Dodecanese Islands, Turkey.

Camponotus (Myrmentoma) candiotus Emery, 1894 - West Azarbayjan province, Oshnavieh, 6 w., 9.vii.2013.

Distribution in Palaearctic: Greece, Crete, Dodecanese Islands, Turkey.

Camponotus (Myrmentoma) kiesenwetteri (Roger, 1859) - East Azarbayjan province, Jofa, 9 w., 28.v.2014.

Distribution in Palaearctic: Greece, Crete, Cyclades Islands, Cyprus, Dodecanese Islands, Turkey.



Fig. 1- Map of Iran with boundaries of provinces

Camponotus (Tanaemyrmex) ionius Emery, 1920 - Guilan province, Talesh, 5 w., 2 m., 2.ix.2012.

Distribution in Palaearctic: Bulgaria, Cyclades Islands, Dodecanese Islands, Greece, North Aegean Islands, Turkey, former Yugoslavia.

Colobopsis truncata (Spinola, 1808) - West Azarbayjan province, Maku, 8 w., 25. vii.2011.

Distribution in Palaearctic: Mostly southern and central Europe, also northwest Africa, Crimea, Caucasus, Eastern Mediterranean, and the Middle East.

Lasius myops Forel, 1894 - West Azarbayjan province, Maku, 6 w., 1 m., 25. vii.2011.

Distribution in Palaearctic: Azerbaijan, Belgium, Bulgaria, Czech Republic, Greece, Italy, Spain, Switzerland.

Lepisiota caucasica (Santschi, 1917) - Guilan province, Talesh, 8 w., 2.ix.2012.

Distribution in Palaearctic: Caucasus.

Myrmica ruginodis Nylander, 1846 - Ardabil province, Aslanduz, 6 w., 10.ix.2010. New record for Iran.

Distribution in Palaearctic: Albania, Andorra, Armenia, Austria, Belarus, Belgium, Bulgaria, Channel Islands, China, Croatia, Czech Republic, Democratic Peoples Republic of Korea, Denmark, Estonia, Finland, Georgia, Germany, Greece, Hungary, Iberian Peninsula, Latvia, Lithuania, Luxembourg, Mongolia, Netherlands, Norway, Poland, Portugal, Republic of Korea, Republic of Macedonia, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland.

Myrmica salina Ruzsky, 1905 - East Azarbayjan province, Arasbaran forest, 11 w., 15.vi.2011.

Distribution in Palaearctic: Austria, Azerbaijan, Croatia, Czech Republic, Georgia, Kazakhstan, Kyrgyzstan, Romania, Russian Federation, Slovenia.

Ponera coarctata (Latreille, 1802) - Golestan province, Minudasht, 6 w., 2 m., 9. viii.2015.

Distribution in Palaearctic: Albania, Andorra, Armenia, Austria, Balearic Islands, Belgium, Bulgaria, Channel Islands, Croatia, Czech Republic, France, Georgia, Germany, Gibraltar, Greece, Hungary, Iberian Peninsula, Israel, Italy, Kazakhstan, Kyrgyzstan, Luxembourg, Montenegro, Morocco, Netherlands, Poland, Portugal, Republic of Macedonia, Republic of Moldova, Romania, Russian Federation, Slovakia, Slovenia, Spain, Switzerland, Tunisia, Ukraine, United Kingdom of Great Britain and Northern Ireland.

Strongylognathus rehbinderi Forel, 1904 - East Azarbayjan province, Arasbaran forest, 10 w., 15.vi.2011. New record for Iran.

Distribution in Palaearctic: Armenia, Azerbaijan, Georgia, Russian Federation.

Temnothorax interruptus (Schenck, 1852) - Ardabil province, Germe, 7 w., 24.vi.2009. New record for Iran.

Distribution in Palaearctic: Armenia, Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Iberian Peninsula, Montenegro, Netherlands, Norway, Poland, Republic of Macedonia, Romania, Russian Federation, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland.

Tetramorium immigrans Santschi, 1927 - West Azarbayjan province, Maku, 6 w., 25.vii.2011. New record for Iran

Distribution in Palaearctic: Azerbaijan, Bulgaria, Turkey.

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Fig. 2. Lateral view of four new records of ants from Iran
(Adapted from www.antweb.org)



Fig. 3. Frontal view of four new records of ants from Iran
(Adapted from www.antweb.org)

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