A study on the ants (Hymenoptera: Formicidae) of southern Iran

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Abstract: Ants (Hymenoptera: Formicidae) can be pivotal members of communities, scavenging large quantities of organic matter including dead and living insects, and plant seeds. This research was done for determining the ant fauna in some provinces of southern Iran. In a total 38 species from 14 genera were collected and identified.

Key words: Hymenoptera, ant, Formicidae, fauna, Iran

Introduction

Ants (Hymenoptera: Formicidae) have colonized almost every landmass on Earth. They thrive in most ecosystems, and may form 15-25% of the terrestrial animal biomass (Hölldobler & Wilson 1990). Their success has been attributed to their social organization and their ability to modify habitats, tap resources, and defend themselves (Carrol & Janzen, 1973; Hansen & Klotz, 2005). Invasive species use man-made transport networks for their global dispersal and often damage native ecosystems by their high rates of population growth after introduction (Williamson, 1996). The Iranian Formicidae fauna has been poorly studied and totally 144 species and subspecies were reported so far (Paknia et al., 2008; Sakenin et al., 2008; Ghahari et al., 2009). Among the different regions of Iran, the fauna of southern Iran was not studied well. With attention to the importance of ants in the life of humans and also in almost all ecosystems (Hölldobler & Wilson, 1990), the fauna of these beneficial insects is studied in southern Iran.

Materials and Methods

In this research, six provinces of southern Iran including, Bushehr, Hormozgan, Fars, Sistan & Baluchestan, Kerman and Khuzestan were sampled for studying the ant fauna. Although several specimens were collected, only three subfamilies including, Formicinae, Myrmicinae, Pseudomyrmicinae are studied in this paper. Ants were collected by hand-searching, pitfall traps and sweep nettings. The information concerning the species name, author, year of description, locality, the date of collection, place on which the species were collected, and the number of species (in brackets) are given. For classification and nomenclature of Formicidae we followed works of Collingwood (1985), Collingwood & Agosti (1996) and Bolton (1994, 1995, 2003).

Results

Altogether total of 38 species from 14 genera and 3 subfamilies of ants were collected from 6 provinces including, Bushehr, Fars, Hormozgan, Kerman, Khuzestan and Sistan & Baluchestan of southern Iran. The list of species is provided below.

Subfamily Formicinae

Genus Camponotus Mayr, 1861

Camponotus atlantis Forel, 1890


Camponotus baldaccii Emery, 1908

Material: Fars province: Shiraz (1), Unknown date.
Camponotus ilgii Forel, 1894

Camponotus sericeus (Fabricius, 1798)

Camponotus thoracicus (Fabricius, 1804)

Genus Cataglyphis Förster, 1850
Cataglyphis abyssinicus (Forel, 1904)

Cataglyphis cinnamomeus Karawaiew, 1910

Cataglyphis diehlii (Forel, 1902)

Cataglyphis lividus (André, 1881)

Cataglyphis niger (André, 1881)

Cataglyphis setipes (Forel, 1894)

Genus Lepisiota Santschi, 1926
Lepisiota bipartita (Smith, 1861)

Lepisiota dolabellae (Forel, 1911)

Genus Plagiolepis (Mayr, 1861)
Plagiolepis pygmaea (Latreille, 1798)
Material: Khuzestan province: Ahwaz, Date-palm (1), Unknown date.

Genus Tapinolepis Emery, 1925
Tapinolepis tumidula (Emery, 1915)
Material: Kerman province: Bam, Date-palm (1), April 2007.

Subfamily Myrmicinae
Genus Cardiocondyla Emery, 1869
Cardiocondyla emeryi Forel, 1881

Cardiocondyla shuckardi Forel, 1891
Material: Kerman province: Jiroft, Date-palm (2), September 2002.
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Genus *Crematogaster* Lund, 1831

*Crematogaster auberti* Emery, 1869

*Crematogaster luctans* Forel, 1907
Material: Bushehr province: Bushehr, Kaki orchard (1), Unknown date.

Genus *Messor* Forel, 1890

*Messor arenarius* (Fabricius, 1787)

*Messor galla* (Mayr, 1904)
Material: Khuzestan province: Khorramshahr (2), Unknown date.

*Messor medioruber* Santschi, 1910

*Messor meridionalis* (André, 1883)

*Messor rufotestaceus* (Foerster, 1850)

Genus *Monomorium* Mayr, 1855

*Monomorium abeillei* André, 1881

*Monomorium bicolor* Emery, 1877

*Monomorium clavicorne* André, 1881

*Monomorium mayri* Forel, 1902

*Monomorium salomonis* (Linnaeus, 1758)

*Monomorium subopacum* (F. Smith, 1858)
Material: Kerman province: Bam, Date-palm (2), April 2007.

Genus *Tetramorium* Mayr, 1855

*Tetramorium caldarium* (Roger, 1857)

*Tetramorium lanuginosum* Mayr, 1870
Material: Bushehr province: Bandar-e-Dayyer (3), Unknown date.

*Tetramorium sericeiventre* Emery, 1877
Genus *Pheidole* Westwood, 1839

*Pheidole tenerifana* Forel, 1893

*Pheidole megacephala* (Fabricius, 1793)
Material: Hormozgan province: Minab, Date-palm (9), August 2003.

Genus *Leptogenys* Roger, 1861

*Leptogenys maxillosa* (Smith, 1858)

Genus *Pachycondyla* Smith, 1858

*Pachycondyla ambigua* André, 1890
Material: Khuzestan province: Dezful (2), September 2005.

Subfamily Pseudomyrmicinae

Genus *Tetraponera* Smith, 1857

*Tetraponera ambigua* (Emery, 1895)
Material: Fars province: Shiraz (1), Unknown date.

**Discussion**

The result of this present research indicates that there is a diverse ant fauna living within southern Iran. This paper deals with only 21 localities of 6 provinces of southern Iran, while there are several other localities in this part of Iran which were not sampled in this research. Surely, vast samplings within all regions of Southern Iran will result in several new records and probably new species. On the other hand, the Iranian Formicidae fauna has been poorly studied (Paknia et al., 2008; Ghahari et al., 2009), while Iran is a large country with various geographical regions. Therefore it is expected that a large number of species remain to be discovered by researchers.

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