

Scorpion Fauna of Alborz Province, Iran (Arachnida: Scorpiones)

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Abstract

In this study, scorpion fauna of Arborz province (Northwestern of Iran) was investigated which has not previously studied in detail. Total of 139 scorpion specimens have been collected as a result of the field studies in 2015. and *Androctonus crassicauda* (Olivier, 1807), *Odontobuthus doriae* (Thorell, 1876), *Mesobuthus eupeus eupeus* (C. L. Koch, 1839), *Orthochirus scrobiculosus* (Grube, 1873) and *Scorpio maurus* Linnaeus, 1758 taxa were identified. Identified all species were detected from Arborz province for the first time.

Keywords: Fauna, Scorpions, Buthidae, Scorpionidae, Arborz, Iran

INTRODUCTION

Although Iran has very reach scorpion fauna, scorpion fauna has been rather poorly known until now. Recently Mirshamsi et al. [1-2], Navidpour et al. [3] and Teruel et al. [4] listed 55 species (among them 34 species are endemic). Arborz Province located on the north western Iran and partly Arborz mountain range. Although some records were given from Arborz Mountains, there is no scorpion record from Arborz province.

The purpose of this study is to introduce the scorpion species which live in Alborz province as a contribution to increasing our knowledge of Iranian scorpion fauna.

MATERIAL AND METHODS

Field work was carried out between June 2015 and September 2015 by first author. 139 specimens have been collected and examined from 24 different localities in Alborz province (Fig-1). Scorpions were collected by hand from under stones during the day and with UV light at night. All the material mentioned in this work is preserved in 70% alcohol and deposited in animal biosystematics laboratory at department of biology, university of zanjan. The specimens were identified using a Leica EZ4 stereomicroscope.

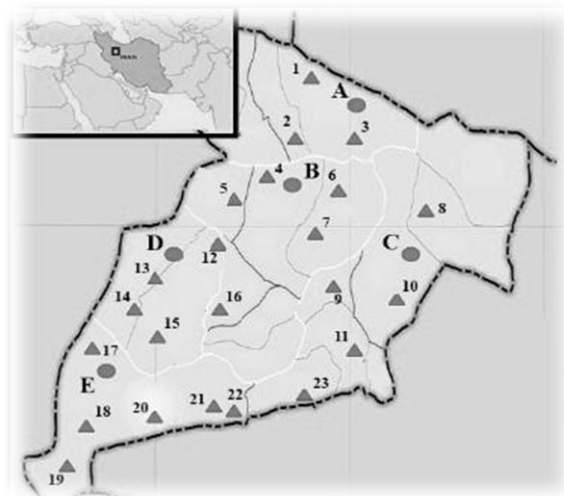


Figure 1. Distribution map of samples locality collected from Alborz province. A: Taleghan district. 1: Kenar rood, 2: Mian taleghan, 3: Jostan village, B: Savogbelagh district. 4: Vishkin village, 5: Hive village, 6: Shalamzar village, 7: Ardehe village, C: Karaj district. 8: Baraghan village, 9: Halejerd village, 10: Aderan village, 11: Kordan section, D: Nazar abad district. 12: Hashtgerd section, 13: Ahmad abad village, 14: Najm abad village, 15: Fard abad village, 16: Tatakman section, E: Eshtehard district. 17: Dekin village, 18: Mokhtar abad village, 19: Aypak village, 20: Aziz abad village, 21: Jaroo village, 22: Akhtar abad village, 23: Palang abad village.

RESULTS

4 species and 4 genera belonging to family Buthidae and 1 species belonging to family Scorpionidae were identified.

Androctonus crassicauda (Olivier, 1807)

Examined material and stations:

1♂, 1♀, Karaj district, Halejerd village, 03.08.2015, 36°01'50"N, 50°54'09.7"E, 1465 m. 1♂, 1♀, Savojblagh district, Kordan section, 13.08.2015, 36°02'19.1"N, 50°39'41.6"E, 1573m. 1♂, 1♀, Taleghan district, Joostan village, 03.09.2015, 36°04'06"N, 50°38'37.1"E, 1829m.

Comments

This species is distributed in northwestern, western and southwestern Iran. Alborz localities probably part of northern distribution border of *A. crassicauda*. This species recorded from Alborz province for the first time.

Distribution

A. crassicauda is known from Armenia, Azerbaijan, Bahrain, Egypt (Sinai), Iran, Iraq, Jordan, Kuwait, Oman, Saudi Arabia, Syria, Turkey, United Arab Emirates and Yemen [5-6]. *A. crassicauda* was recorded from Bushier, Chaharmahal & Bakhtiari, Fars, Hormozgan, Ilam, Kashan, Kerman, Kermanshah, Khozestan, Khorassan, Kohgiluyeh & Boyer Ahmad, Lorestan, Qazvin, Tehran, Yazd and Zanjan Provinces in Iran [1, 3, 7, 8].

Ecological Notes

A. crassicauda specimens were observed in sandy soil and hard calcareous soil areas. The habitats are steppe and sometimes includes thornbushes. It was observed that some specimens were sitting entrance of some rodent burrows. Their collecting localities have lower altitudes than the other places of Alborz.

Odontobuthus doriae (Thorell, 1876)

Examined material and stations

3♂, Mahdasht district, Akhtar abad village, 08.05.2015, 35°45'05.4"N, 50°46'01.2"E, 1181 m. 16♂, 16♀, Nazarabad district, Najmabad village, 09.08.2015, 37°23'23"N, 48°12'57"E, 1137 m. 6♂, 7♀, Eshtehard district, Aipak village, 20.08.2015, 35°29'34.9"N, 50°20'32.6"E, 1642 m. 6♂, 7♀, Eshtehard district, Mokhtar abad village, 20.08.2015, 36°26'52.7"N, 49°30'41.6"E, 1160 m.

Comments

This species is distributed in northwestern, western and southwestern Iran. It is distributed until Zagros mountain range in the west. Zagros mountain is a border between distributions of *O. bidentatus* and *O. doriae*. Alborz localities probably part of northern distribution border of *O. doriae*. This species recorded from Alborz province for the first time.

Distribution

This species is endemic to Iran. It is found in Esfahan, Fars, Hamadan, Kerman, Kermanshah, Mazandaran, Markazi, Teheran, West Azarbaijan, Yazd, Chaharmahal & Bakhtiari, Hormozgan, Sistan & Baluchistan and Zanjan Provinces. [2-3] [8-10]

Ecological Notes

O. doriae specimens were observed in calcareous soil and stony area. Their habitats are steppe.

Mesobuthus eupeus eupeus (C. L. Koch, 1839)

Examined material and stations

2♀, Nazarabad district, Najmabad village, 09.08.2015, 37°23'23"N, 48°12'57"E, 1137 m. 16♂, 7♀, Savojblagh district, Baraghan village, 31.05.2015, 35°57'48"N, 50°58'33.7"E, 1735m. 3♂, Eshtehard district, Mokhtar abad village, 20.08.2015, 36°26'52.7"N, 49°30'41.6"E, 1160 m. 2♂, Karaj district, Dorvan village, 31.07.2015, 35°57'42.8"N, 50°58'32.8"E, 1812 m. 1♂, Eshtehard district, Jaroo village, 08.05.2015, 35°46'15.3"N, 50°53'44.5"E, 1187m.

Comments

Kovařík et al. [11] reviewed *M. eupeus* populations in Turkey, Iraq, Iran and Caucasus. *M.e. philippovitschi* (Birula, 1905) was synonymies with *M.e. eupeus* and *M.e. mesopotamicus* (Penther, 1912) was synonymies with *M.e. philipsii* in this study. Kovařík et al. [11] and Mirshamsi et al. [12] classified northwestern Iran populations as *M.e. eupeus*. This species recorded from Alborz province for the first time.

Distribution

M.e. eupeus is known from Armenia, Azerbaijan, Georgia, Turkey, Iran, Turkmenistan [5, 11]. It is found in Ardabil, Khorāsān, Mazandran, West Azerbaijan and Zanjan province [1, 8, 11].

Ecological Notes

M.e. eupeus specimens were collected from Down and Central places in Alborz province. The collecting localities composed hard cancerous soil and steppe vegetations.

Orthochirus scrobiculosus (Grube, 1873)

Examined material and stations:

5♂, 1♀, Eshtehard district, Aipak village, 20.08.2015, 35°29'34.9"N, 50°20'32.6"E, 1642 m. 1♀, Karaj district, Atashgah village, 31.07.2015, 36°02'28.5"N, 50°56'58.8"E, 1916 m. 1♂, 1♀, Savojblagh district, Kordan section, 13.08.2015, 36°02'19.1"N, 50°39'41.6"E, 1573m.

Comments

There are two subspecies in Iran described by Birula [13] which are *Orthochirus scrobiculosus dentatus* (Birula, 1900) (as *Butheolus melanurus dentatus*) from Hussein abad, seistan, Persia (now Iran) and *O. s. persa* (Birula, 1900) (as *Butheolus melanurus persa*) from Seistan, Kirman, Birdschan, Iran [14]. These subspecies need clarification therefore we give our records herein in species level. This species recorded from Alborz province for the first time.

Distribution

O. scrobiculosus is known from Afghanistan, Iran, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan [14]. It is found in Khorasan, Semnan and Tehran provinces [1].

Ecological Notes

O. scrobiculosus specimens were collected in deserts with almost hard soil.

Scorpio maurus Linnaeus, 1758**Examined material and stations:**

1♂, Karaj Town, Ghezel hesar area, 13.08.2015, 36°16'53.8"N, 50°26'3.2"E, 1173 m. 4♂, 3♀, Savojbelagh district, Hive village, 02.08.2015, 36°44'40.4"N, 50°38'14.9"E, 1368 m. 2♂, 2♀, Savojbelagh district, Ardehe village, 16.08.2015, 36°26'09.4"N, 50°48'17.9"E, 1384 m. 4♂, 2♀, Savojbelagh district, Vishkin village, 16.08.2015, 36°25'28.6"N, 50°36'52.9"E, 2028 m. 4♂, 1♀, Savojbelagh district, Shalamzar village, 02.08.2015, 36°05'06.9"N, 50°37'33.2"E, 1683 m.

Comments

S. maurus comprises taxonomically 19 subspecies [15]. But recently Lourenço [16] reviewed North African population and elevated 8 of them to species level. Recently Talal et al. [17] reviewed *Scorpio* populations in Israel elevated following four subspecies to species level: *Scorpio fuscus* (Ehrenberg, 1829), *Scorpio kruglovi* (Ehrenberg, 1829), *Scorpio palmatus* (Ehrenberg, 1828), *Scorpio propinquus* (Simon, 1872). Two subspecies have been recorded from Iran until now: *S. m. townsendi* and *S. m. kruglovi* [1]. Due to *Scorpio* taxonomy is complicated and unsolved in Iran, we give our records herein in species level. This species recorded from Alborz province for the first time.

Distribution

This species has wide distribution area in Iran. It was recorded from Azerbaijan, Busher, Chahar mahal & Bakhtiyari, Esfahan, Fars, Gilan, Ilam, Khorasan, Khuzestan, Kohgiluyeh & Boyer-Ahmad, Kordestan, Lorestan, Qazvin, Semnan and Zanjan province [1, 11].

Ecological Notes

S. maurus specimens were collected in sandy soil and hard calcareous soil areas. They were observed in open steppe or includes thrombus's steppe habitats. They were collected from low land areas. They were collected in low altitudes places in Alborz.

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