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Distribution of Scorpions (Arachnida: Scorpiones) of Alvar, Northpart of Andimeshk in the North of Khuzestan Province, Southwest Iran.

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ABSTRACT

Background. Scorpions are scattered on the whole of Iran. It seems that there are some regions of this country which no study has been performed on their scorpions. Few investigations have been carried out on distribution and distinguishing of scorpions of Iran. Vachon (1966) identified several species of these animals of Iran. **Objective.** To move the heavy materials such as stone, clod and others, to get the scorpions, crow bar and wood were used. To study the morphological characters and identify the scorpions, Olympus Lica, 2000 stereo microscope was used. **Results.** In the present research, eight species from eight genera were collected and distinguished. The collected samples are belonged to two families Buthidae and Scorpioniidae, including species *Androctonus crassicauda*, *Hottentotta saulcyi*, *Compsobuthus matthiiseni*, *Razianus zarudnyi*, *Orthochirus scrobiculosus*, *Odentobuthus doriae*, *Mesobuthus eupeus* and *Hemiscorpius lepturus*. **Conclusion.** In classification the scorpions are order belonged to arthropoda phylum of invertebrate's animals. Alvar is a district, its center called Hoseyniyeh situated on the north part of Andimeshk, located in the north of Khuzestan province, where is situated on the southwest of Iran. As Alvar district is a warm region and scorpion sting sometimes happened in this region, we decided to study the species of this area. The specimens were collected from different parts of the mentioned district including regions and villages.

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INTRODUCTION

This research was performed on Alvar district, it is belong to Andimeshk located on the southwest of Iran, and also bordered between two provinces; Luristan and Khuzestan. This district on the north restricted to Luristan province and on the south it limited to Andimeshk township in Khuzestan province, on the east to Dez river and on the west to Poldokhtar township in Luristan province, and Karkheh river in Illam province. The continuation of Zagros Range passes through the north of this district and carries on to east of country. Alvar district is one of dry parts of Iran. The rate of annual rainfall in this area is low. It is hot in summer, its temperature reaches to 48-50 °C. Little works have been carried out on scorpion fauna of Iran. These works limited to some regions of this country. These workers included Vachon (1966), Habibi (1971), and Farzanpay (1988). They reported several species, subspecies and genus of scorpions from some parts of Iran. One species and one genus of phasmophilic scorpion were reported by Fet *et al.* (2001). Some species and genus from Kashan, belong to Isfahan province has been reported by Vignoli *et al.* (2003). Monod and Lourenco (2005), reported two species of genus *Hemiscorpius* belong to Scorpioniidae family from Iran. Sampour (2012), reported a list included some genera and species belong to two families Buthidae and Scorpioniidae from Iran. As mentioned previously, the best character to distinguish these two families of scorpions, is to compare the sternum shape of them. Because in Buthidae the sternum is trigonal and in Hemiscorpioniidae the sternum is pentagonal.

MATERIALS AND METHODS

Field investigations on scorpions of Alvar district, (its center called Hoseyniyeh 48° 14' 42" E 32° 40' 59" N) on the north of Andimeshk, 48° 21' 00" E 32° 27' 00" N north part of Khuzestan province, from southwest Iran, were carried out during year 2001. Scorpions were collected from different localities and parts of mentioned area including urbanes and villages. The gathered scorpions were performed at different seasons. The specimens

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were collected under stones, stones cleft, clod and holes underground. For moving the stones and other heavy things, wood and crow-bar were used. The samples were captured with a tong. The specimens were fixed in 70% ethanol, and deposited in the scorpions place in Department of Zoology, Luristan University. Identification of scorpions was performed by using the key identify to scorpions. The morphological studies were carried out under the stereomicroscope, Olympus Lica 2000. Measurements were taken with an Electronic Digital Caliper. All measurements are given in millimeters.

Results:

In the present research scorpions were collected on different parts from a region called Alvar situated in the north of Andimeshk in the north of Khuzestan province. The scorpions belong to two families Buthidae and Scorpionidae. In this investigation, identification of scorpions performed by using the key identify to scorpions, and also the shape of sternum was studied. According to this key, in the family of Buthidae, the sternum is triangular in shape, and in the family of scorpionidae, the sternum is pentagonal in shape. The scorpions were studied in the species and genus categories. In the present investigation seven species from Buthidae family, and one species from Scorpionidae were distinguished. The scorpions were distinguished as follows:

Family Buthidae, From:

Genus *Androctonus*:

Androctonus crassicauda Olivier, 1807 Species:

Specimens examined:

1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Goorhasanali village, 48° 15' 15" E 32° 43' 10" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Golkapargah village, 48° 13' 39" E 32° 43' 55", September, 2001. 1 adult ♂, 1 adult ♂, Andimeshk, Hoseyniyeh, Bidruyeh village, 48° 14' 15" E 32° 45' 40" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Kushki village, 48° 15' 36" E 32° 45' 00" N, September, 2001. 2 adult ♀, Qaleh Razah village, 48° 08' 47" E 32° 47' 12" N, September, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Pol-e-zal village, 48° 04' 59" E 32° 47' 49" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Chenar village, 48° 15' 10" E 32° 53' 48" N, September, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Balarud village, 48° 17' 05" E 32° 35' 18" N, September, 2001. 2 adult ♀, Andimeshk, Hoseyniyeh, Bidruyeh sofla village, 48° 14' 20" E 32° 45' 11" N, September, 2001. 1 adult ♂, Andimeshk, Hoseyniyeh, Mazu village, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Ghilab, Kohlab, 48° 18' 33" E 32° 43' 42" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N, September, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, September, 2001. 2 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofla village, 48° 15' 16" E 32° 42' 06" N, September, 2001.

Genus *Hottentotta*

Hottentotta saulcyi Simon, 1880 (*Buthotussaulsyi* Simon, 1880) Species:

Specimens examined:

1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofla village, 48° 15' 16" E 32° 42' 06" N, September, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Goorhasanali village, 48° 15' 15" E 32° 43' 10" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Golkapargah village, 48° 13' 39" E 32° 43' 55", September, 2001. 2 adult ♂, 1 adult ♂, Andimeshk, Hoseyniyeh, Bidruyeh village, 48° 14' 15" E 32° 45' 40" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Kushki village, 48° 15' 36" E 32° 45' 00" N, September, 2001. 2 adult ♀, Qaleh Razah village, 48° 08' 47" E 32° 47' 12" N, September, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Pol-e-zal village, 48° 04' 59" E 32° 47' 49" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Chenar village, 48° 15' 10" E 32° 53' 48" N, September, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Balarud village, 48° 17' 05" E 32° 35' 18" N, September, 2001. 2 adult ♀, Andimeshk, Hoseyniyeh, Bidruyeh sofla village, 48° 14' 20" E 32° 45' 11" N, September, 2001. 1 adult ♂, Andimeshk, Hoseyniyeh, Mazu village, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Ghilab, Kohlab, 48° 18' 33" E 32° 43' 42" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N, September, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, September, 2001. 2 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofla village, 48° 15' 16" E 32° 42' 06" N, September, 2001.

*Genus Compsobuthus:**Compsobuthus matthiasseni* Birula, 1905:*Specimens examined:*

2adult ♀, 3 adult ♂, Andimeshk, Hoseyniyeh, Goorhasanali village, 48° 15' 15" E 32° 43' 10" N September, 2001. 2 adult ♀, Andimeshk, Hoseyniyeh, Golkapargah village, 48° 13' 39" E 32° 43' 55", September, 2001. 1 adult ♂, 1 adult ♂, Andimeshk, Hoseyniyeh, Bidruyeh village, 48° 14' 15" E 32° 45' 40" N, September, 2001. 1adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Kushki village, 48° 15' 36" E 32° 45' 00" N, September, 2001. 1 adult ♀, 1adult ♂, Qaleh Razah village, 48° 08' 47" E 32° 47' 12" N, Septeber, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Pol-e-zal village, 48° 04' 59" E 32° 47' 49" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Chenar village, 48° 15' 10" E 32° 53' 48" N, September, 2001. 3adult ♀, 3 adult ♂, Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, September, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Balarud village, 48° 17' 05" E 32° 35' 18" N, Septmeber, 2001. 2 adult ♀ Andimeshk, Hoseyniyeh, Bidruyeh sofia village, 48° 14' 20" E 32° 45' 11" N, September, 2001. 2 adult ♂, 2 adult ♂, Andimeshk, Hoseyniyeh, Mazu village, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Ghilab, Kohnab, 48°18'33" E 32° 43' 42" N, September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N, September, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, September, 2001. 2 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofia village, 48° 15' 16" E 32° 42' 06" N, September 2001.

*Genus Mesobuthus:**Mesobuthus eupeus* Koch, 1839:*Specimens examined:*

1adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Goorhasanali village, 48° 15' 15" E 32° 43' 10" N October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Golkapargah village, 48° 13' 39" E 32° 43' 55", Octoberber, 2001. 1 adult ♂, 2 adult ♂, Andimeshk, Hoseyniyeh, Bidruyeh village, 48° 14' 15" E 32° 45' 40" N, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Kushki village, 48° 15' 36" E 32° 45' 00" N, October, 2001. 2 adult ♀, Qaleh Razah village, 48° 08' 47" E 32° 47' 12" N, Octoberer, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Pol-e-zal village, 48° 04' 59" E 32° 47' 49" N, October, 2001. 3 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Chenar village, 48° 15' 10" E 32° 53' 48" N, October, 2001. 3 adult ♀, 2adult ♂, Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Balarud village, 48° 17' 05" E 32° 35' 18" N, October, 2001. 2 adult ♀, 1 adult ♂ Andimeshk, Hoseyniyeh, Bidruyeh sofia village, 48° 14' 20" E 32° 45' 11" N, October, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Mazu village, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Ghilab, Kohnab, 48°18'33" E 32° 43' 42" N, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N, October, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, October, 2001. 2 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofia village, 48° 15' 16" E 32° 42' 06" N, October 2001. 1adult ♂, Andimeshk, Hoseyniyeh, Doabe olia, 48° 16' 24" E 32° 43' 00" N, October, 2001.

*Genus Orthochirus:**Orthochirus scrobiculosus:**Specimens examined:*

1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofia village, 48° 15' 16" E 32° 42' 06" N, October 2001. 1adult ♂, 1 adult ♂, Andimeshk, Hoseyniyeh, Doabe olia, 48° 16' 24" E 32° 43' 00" N, October, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Toktok ab, 48° 15' 01" E 32° 41' 57" N, October, 2001. This species is small, the body color is black.

*Genus Razianus:**Razianus zarudnyi* Birula, 1903:*Specimens examined:*

1adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Goorhasanali village, 48° 15' 15" E 32° 43' 10" N October, 2001. 1 adult ♂, 1 adult ♂, Andimeshk, Hoseyniyeh, Bidruyeh village, 48° 14' 15" E 32° 45' 40" N, October, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Kushki village, 48° 15' 36" E 32° 45' 00" N, October, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Qaleh Razah village, 48° 08' 47" E 32° 47' 12" N, Octoberer, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Pol-e-zal village, 48° 04' 59" E 32° 47' 49" N, October, 2001. 1 adult ♀, adult ♂, Andimeshk, Hoseyniyeh, Chenar village, 48° 15' 10" E 32° 53' 48" N, October, 2001. 1adult ♀, 2adult ♂, Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Balarud village, 48° 17' 05" E 32° 35' 18" N,

October, 2001. 2 adult ♀, 1 adult ♂ Andimeshk, Hoseyniyeh, Rashnoo village, 48° 15' 14" E 32° 43' 39" N,
 October, 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N,
 October, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N,
 October, 2001. 3 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Doabe- sofla village, 48° 15' 16" E 32° 42' 06" N,
 October 2001. 1 adult ♂, 1 adult ♂, Andimeshk, Hoseyniyeh, Doabe olia, 48° 16' 24" E 32° 43' 00" N,
 October, 2001. 1 adult ♀, Andimeshk, Hoseyniyeh, Toktok ab, 48° 15' 01" E 32° 41' 57" N, October, 2001.

The body color is yellow. The length of body is small.

Genus Odontobuthus:

Species Odontobuthus doriae (Habibi, 1971, Kovařik, 1997):

Specimens examined:

2 adult ♀, 1 adult ♂ Andimeshk, Hoseyniyeh, Doabe –sofla village, 48° 15' 16" E 32° 42' 06" N, October
 2001. 1 adult ♀, 1 adult ♂, Qaleh Razah village, 48° 08' 47" E 32° 47' 12" N, October, 2001. 1 adult ♀, 2 adult
 ♂, Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, October, 2001.

This is a small species. The body color is yellow.

Family Scorpioniidae From:

Genus Hemiscorpius:

Species Hemiscorpius lepturus Peters, 1861:

Specimens examined:

3 adult ♂, 2 adult ♀, Andimeshk, Hoseyniyeh, Toktok ab village, 48° 15' 01" E 32° 41' 57" N, September,
 2001. 2 adult ♀, 2 adult ♂, Andimeshk, Ghilab, Doabe-olia village, 48° 16' 24" E 32° 43' 00", September 2001.
 3 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh village, 48° 14' 42" E 32° 40' 59" N, September, 2001. 3 adult
 ♀, 4 adult ♂, Andimeshk, Hoseyniyeh, Doabe -sofla village, 48° 15' 16" E 32° 42' 06" N September 2001. 2
 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Dokhtarborji village, 48° 13' 05" E 32° 37' 59" N,
 September, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, Goorhasanali village, 48° 15' 15" E 32° 43'
 10" N, September 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Bidruyeh village, 48° 14' 15" E 32° 45' 40" N.
 September, 2001. 1 adult ♀, 2 adult ♂, Andimeshk, Hoseyniyeh, chenar village, 48° 15' 10" E 32° 53' 48" N,
 September, 2001. 2 adult ♀, 3 adult ♂, Andimeshk, Ghilab, Mazu village, 48° 30' 30" E 32° 47' 21" N,
 September, 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Qaleh Razah village, 48° 08' 47" E 32° 47' 12"
 N, September 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, Balarud village, 48° 47' 05" E 32° 35' 18"
 N, September, 2001. 1 adult ♀, Andimeshk, Qaleh Qasem village, 48° 19' 09" E 32° 36' 27" N, September,
 2001. 2 adult ♀, 1 adult ♂, Andimeshk, Ghilab, Kohnab bala village, 48° 18' 33" E 32° 43' 42" N, September,
 2001. 2 adult ♀, 2 adult ♂. Andimeshk, Hoseyniyeh, Sorkhakan village, 48° 18' 00" E 32° 45' 36" N, September
 , 2001. 1 adult ♀, 1 adult ♂, Andimeshk, Hoseyniyeh, kushki village, 48° 15' 36" E 32° 45' 00" N, September,
 2001. 1 adult ♂, 1 adult ♀, Andimeshk, Hoseyniyeh, Pol-e-zal villag, 48° 04' 59" E 32° 47' 49" N, September,
 2001. 2 adult ♂, Andimeshk, Hoseyniyeh, Golkapargh villag, 48° 13' 39" E 32° 43' 55" N, September, 2001.

Discussion:

In the present research the scorpion of Alvar district belong to Andimeshk located in the north part of Khuzistan province, where situated in the southwest of Iran were studied. At the results of the present investigation it seems that the order scorpion are highly diversity in the Alvar district. The gathering of several species that were seen in the mentioned area, is probably because of special geographical situation of the Alvar in the southwest Asia. Alvar district where we found several species of scorpions there, is a hot area in the southwest of Iran. Some times in some localities, beside of scorpions, some specimens of other groups of arthropods were found, the big density of these arthropods living in the same ecological niche as scorpions supports an interaction such as, predation in guild predation (Polis *et al.* 1989). So the Alvar district has the suitable ecological conditions for living different animals. Although some taxonomists reported that scorpions live in the hot regions, they are found in the regions with moderate weather. Cold weather causes them to be inactive. Some researchers studied on the scorpions of Iran. Farzanpay (1987), reported that two families of Iran scorpions, originated from the Africa scorpions.

The external shape of sternum is different, in two families of scorpions, so this character is a special character that is used to identify the families of scorpions from each other. Some taxonomist divided the scorpions into one order and four families. Taxonomists use some characters to do classification of scorpions. Birula (1903, 1905, 1918), studied on scorpions of Iran and described several species of scorpions from Iran. Werner (1929, 1963), reported some scorpions of Iran. Vachon (1958, 1966, 1973), investigated on scorpions of Iran and described several sub species and species of scorpion of Iran. Habibi (1971), Farzanpay (1988), Kovařik (1997), Vignoli *et al.* (2003) and Vignoli (2005), studied on scorpions of Iran and reported new species and genus from this country. Sampour (2012), reported distribution of scorpion of Luristan province of

Iran. Vachon (1972), reported that the presence of trichobotria (sensitive seta) on the body of scorpions and other arthropods is used to classification of these animals.

The classification the scorpions of Alvar district is as follow:

Family Buthidae From:

Species Androctonus crassicauda:

Vachon (1966) , reported that this species included scorpions of Middle East and Africa. Vignoli *et al.* (2003), reported this species from several countries and Isfahan province of Iran. Habibi (1971), reported the mentioned species in most of Iranian provinces and Desert Lut. It also has been found in Luristan province of Iran (Sampour, 2012). Farzanpay (1988), and Fet and Low (2000), reported this species from Iran. Evidence indicated that this species (*Androctonus crassicauda*) has highly adapted to desert regions (Fet *et al.* (1998) and Vignoli *et al.* (2003).

Species Hottentotta saulcyi:

Vachon (1952), reported it from Africa and some Asian countries .Its distribution in Iran has been reported by Birula (1918), Vachon (1966), Habibi (1971), Farzanpay (1988), Kovařík (1997) and Sampour (2012). This species is finding in many regions of Iran, including provinces Azerbaijan, Ardabil, Luristan Kurdistan, Tehran, Kermanshah and Kerman.

Species Compsobuthus matthiesseni:

It scattered in some provinces of Iran including Hormozgan, Isfahan, Khorasan and Luristan. Genus of *compsobuthus* distributed in several countries of the world including Asian countries such as Syria, Turkey ,Iraq (Kovařík and Ahmed , 2007), and African countries including Egypt, Moritani, Ethiopia and Somalia . In the present investigation we only found *Compsobuthus matthiesseni* in Alvar district.

Species Mesobuthus eupeus:

It is found so much in the present research area. This species also is found f in several provinces of Iran such as Tehran, Hormozgan, Golestan and Luristan. It has been reported in Asian countries including Turkey, Iran, Pakistan, Iraq, Afghanistan, Uzbekistan, Turkmenistan and Kazakhstan .

Species Razianus zarudnyi:

It is the first report of this species in Alvar district. The length of body is small .The body color is yellow. This species is distributed in province of Iran, including Fars, Kohkiluyeh and Boyer Ahmad, Illam, Bushehr, Sistan and Baluchistan.

Species Orthochirus scrobiculosus:

This species has been found in some parts of Iran, such as south of Khuzestan province, Isfahan province and Desert Lut.

Species Odontobuthus doriae:

The body color is yellow. It has been reported in several provinces of Iran including Qazvin, Tehran, Isfahan, Kermanshah, Alborz, Bushehr and Markazi.

From Family Scorpioniidae:

Genus Hemiscorpioniidae:

Species Hemiscorpius lepturus:

It is distributed in several province of Iran, including Luristan, Guilan, Isfahan, Hormozgan, Fars Bushehr, and Illam. This species also distributed in Asian and African countries. Monod and Lourenco (2005), reported several species from genus of *Hemiscorpius* from different parts of Iran.

More investigations on scorpions of Iran is needed.

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