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An annotated checklist of scorpions in south and southwestern parts of Iran

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Abstract

A checklist of the scorpion fauna in south and southwestern parts of Iran, as well as a brief history of taxonomic research on scorpions of Iran is presented. The checklist is based on records of scorpion species whose presence has been confirmed in Iran through field expeditions, examination of scorpion collections, literature review, and personal articles from research in different parts of Iran.

Keywords: Scorpions, Buthidae, Scorpionidae, Hemiscorpidae, Diplocentridae, checklist, South, southwestern, Iran.

1. Introduction

The scorpion fauna of Iran was first explored by Olivier (1807). Later the Russian zoologist, Alexei Andreevich Bialynitskii-Birulya (Birula, 1900, 1903, 1905 and 1917) produced a series of publications on scorpions from Iran. His reports were mainly based on specimens collected by another Russian zoologist, Nicholas A. Zarudny. These specimens were deposited in the zoological museum of the Russian Academy of Sciences in Saint Petersburg (ZISP). They included well known species and several rare taxa which have been the subject of several recent taxonomic and biogeographic studies (Fet, 1984, 1997; Lourenço, 1996; Fet *et al.*, 2001). Birula described three genera and seven species in 1900, five genera and nine species in 1903, five genera and 11 species in 1905, and four genera and 17 species in 1917, clearly making significant contributions to our knowledge of scorpions in Iran. A few scorpion species were also described by the pioneering zoologists Pocock (1900) and Werner (1936). Recently, many revisionary works, descriptions of new taxa and distributional records of Iranian scorpions were published by Farzanpay (1986, 1987, 1988), Habibi (1971), Fet (1989, 1997) Fet *et al.* (2001), Kovarik (1997, 2003, 2004, 2007), Kovarik & Fet (2006a,b), Lourenco (2000), Lourenco & Pezier. (2002), Mirshamsi *et al.* (2011a, b) Navidpour *et al.* (2008a, b, c, d, 2010, 2011, 2012, 2013), El-Hennawy, 1992; Akbari, 2007.

Vachon (1966) reported nine genera and 15 species. Two Iranian scorpologists, Talat Habibi and Reza Farzanpay, made contributions during the same period. Habibi (1971) recorded 24 species belong to 11 genera and, Farzanpay (1987, 1988) recorded 23 species belong to 17 genera. Farzanpay (1987) claimed that four genera, *Olivierus*, *Simonoides*, *Sassanidotus*, and *Razianus*, had not been previously described. Subsequent evidence has shown that only *Sassanidotus* and *Razianus* were new genera (Kovářik and Fet, 2006a, b). *Olivierus* Farzanpay, 1987 was demonstrated to be a junior synonym of *Mesobuthus* Vachon, 1958 (synonymized by Gantenbein *et al.*, 2003), and *Simonoides* was shown by Kovářik and Fet (2006a, b) to be a junior synonym of *Orthochirus* Karsch, 1891. *Razianus* has been synonymized with *Neohemibuthus* Lourenço, 1996. However, Fet and Lowe (2000) suggested that the name *Razianus* is valid, because the genus was described under this name before being described under the name of *Neohemibuthus*. Although neglect of the International Code of Zoological Nomenclature caused some taxonomic problems, Farzanpay's book *Knowing Scorpions* made a great contribution to our knowledge of scorpions in Iran.

1.1 Diversity of Scorpions

Further studies dealing with scorpion fauna of Iran have been published after Farzanpay's publications (1987, 1988) including a list of 17 genera and 32 species provided by Kovářik (1997). A more comprehensive study of Iranian scorpions was recently presented in a continuing series of publications by Navidpour *et al.* (2008a, b, c, d, 2010, 2011, 2012, 2013)

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who reported the distribution of scorpions in various provinces of Iran.

1.2 Abbreviations. - Specimen depositories:

FKCP – František Kovařík Collection, Praha, Czech Republic.

MCSN – Museo Civico de Storia Naturale “Giacomo Doria”, Geneva, Italy.

NHMW – Naturhistorisches Museum Wien, Vienna, Austria.

MHNG – Museum d’Histoire Naturelle, Geneva, Switzerland.

MNHN – Muséum National d’Histoire Naturelle, Paris, France.

RRLS - Razi Reference Laboratory of Scorpiones, Ahwaz, Iran.

ZISP – Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.

ZMHB – Museum für Naturkunde der Humboldt-Universität zu Berlin, Germany.

ZMUH – Zoologisches Institut und Zoologisches Museum, Universität Hamburg, Germany.

ZUTC- Zoological Museum, University of Tehran, Tehran, Iran.

USNM- United States National Museum, Washington, DC, USA.

VVZC- Valerio Vignoli Zoological Collection, Italy.

2. Material and Methods

Sampling. In this study totally 7396 scorpions from 543 different localities of 9 provinces in south and southwestern parts of Iran were collected by Ultraviolet light detection. All material was transferred into 70% alcohol and deposited in the scorpion collection at the Razi Reference Laboratory of Scorpion Research (RRLS), Dep. of Venomous Animals and Antivenin Production, Razi Vaccine & Serum Research Institute, Karaj, Iran.

Table 1: The list of scorpions from South and southwestern Provinces -Iran

Butidae:
<i>Androctonus crassicauda</i>
<i>Apistobuthus susanae</i>
<i>Buthacus macrocentrus</i>
<i>Compsobuthus garyi</i>
<i>C. jakesi</i>
<i>C. kaftani</i>
<i>C. matthiesseni</i>
<i>C. persicus</i>
<i>C. petriolii</i>
<i>C. plutenkoi</i>
<i>C. sobotniki</i>

<i>H. khozestanus</i>
<i>H. lorestanus</i>
<i>H. saulcyi</i>
<i>H. schach</i>
<i>H. zagrosensis</i>
<i>Iranobuthus krali</i>
<i>Kraepelinia palpator</i>
<i>Liobuthus kessleri</i>
<i>Mesobuthus caucasicus</i>
<i>M. eupeus</i>
<i>M. macmahoni</i>
<i>M. phillipsi</i>
<i>Odontobuthus bidentatus</i>
<i>O. doriae</i>
<i>O. tavighiae</i>
<i>Orthochirus farzanpayi</i>
<i>O. gruberi</i>
<i>O. iranus</i>
<i>O. stockwelli</i>
<i>O. varius</i>
<i>O. zagrosensis</i>
<i>Polisius persicus</i>
<i>Razianus zarudnyi</i>
<i>Sassanidotus gracilis</i>
<i>S. zarudnyi</i>
<i>Vachoniolus iranus</i>
Scorpionidae:
<i>Scorpio maurus</i>
Hemiscorpiidae:
<i>Hemiscorpius acanthocercus</i>
<i>H. enischnochela</i>
<i>H. gaillardia</i>
<i>H. lepturus</i>
<i>H. persicus</i>
Diplocentridae:
<i>Nebo henjamicus</i>

Species Checklist

Phylum: Arthropoda
 Subphylum: Chelicerata
 Class: Arachnida
 Subclass: Dromopoda
 Order: Scorpionida

FAMILY BUTHIDAE

Fourteen genera and 38 species belonging to the family Buthidae are found in Khuzestan, Ilam, Kerman, Fars, Chahr mahal & Bakhtiyari, Kohgiluyeh & Buyerahmad, Bushehr, Hormozgan provinces in southern parts of Iran.

Genus *Androctonus* Hemprich et Ehrenberg, 1828

Androctonus crassicauda (Olivier, 1807)

Type Locality and repository: Iran, Esfahan Province, Kashan; MNHN.

Distribution: Widely distributed in Iran and found in most provinces (Birula, 1900; Birula, 1903; Birula, 1905; Farzanpay, 1987, 1988; El- Hennawy, 1992; Akbari, 2007; Navidpour *et al.*, 2008a, b, c, d, 2010 and 2011; Pirali-

Kheirabadi *et al.*, 2009). This species recorded also from western Asia and northern Africa (Fet and Lowe, 2000).

Genus *Apistobuthus* Finnegan, 1932

Apistobuthus susanae Lourenço, 1998

Type locality and repository: Iran, Khuzestan Province, Ahwaz; ZMUH.

Distribution: Endemic to Iran. Found in Khuzestan Province, Ahwaz; Ilam Province, Ein Khosh (Farzanpay, 1987; Lourenço, 1998; Navidpour *et al.*, 2008a; Navidpour and Lowe, 2010).

Genus *Buthacus* Birula, 1908

Buthacus macrocentrus (Ehrenberg, 1828)

Type locality and repository: Sinai; ZMHB.

Distribution: Iran: Bushehr Province, Chahak District; Hormozgan and Khuzestan provinces (Kovařík, 2005; Navidpour *et al.*, 2008a, 2013). This species also has been recorded from Iraq, Israel, Jordan, Syria, and Turkey (Vachon, 1966; Pérez, 1974; Crucitti and Vignoli, 2002).

Genus *Compsobuthus* Vachon, 1949

Compsobuthus garyi Lourenço and Vachon, 2001

Type locality and repository: Iran, Khuzestan Province, 45 km NW of Masjed-e-Soleyman; MNHN.

Distribution: Endemic to Iran. Found in Khuzestan Province (Lourenço and Vachon, 2001; Kovařík and Ahmed, 2007; Navidpour *et al.*, 2008a).

***Compsobuthus jakesi* Kovařík, 2003**

Type locality and repository: Iraq, Najaf Province, Ash-Shabakah, Geophysics Brno base camp, 150 km SW of An-Najaf (Najaf); FKCP.

Distribution: Iran, Bushehr, Ilam, and Khuzestan provinces (Navidpour, 2008; Navidpour *et al.*, 2008a, b, c); Iraq (Kovařík, 2003).

***Compsobuthus kaftani* Kovařík, 2003**

Type locality and repository: Iran, Esfahan and Kerman Provinces; FKCP.

Distribution: Endemic to Iran. Found in Esfahan, Kerman, and Yazd provinces (Kovařík, 2003; Vignoli *et al.*, 2003; Vignoli and Crucitti, 2005; Navidpour *et al.*, 2011).

***Compsobuthus matthiesseni* (Birula, 1905)**

Type locality and repository: Iran, Qum Province (= Qom); ZISP.

Distribution: Iran, known from Azerbaijan, Bushehr, Chahar Mahal & Bakhtiyari, Fars, Hamadan, Ilam, Kerman, Kermanshah, Khuzestan, Kohgiluyeh & Boyer-Ahmad, Kordestan, Lorestan, Markazi, and Qom provinces (Birula, 1905; Farzanpay, 1987, Sissom and Fet, 1998; Kovařík, 2003; Akbari, 2007; Navidpour, 2008; Navidpour *et al.*, 2008a, b, c, d; Pirali-Kheirabadi *et al.*, 2009; Navidpour *et al.*, 2010 and 2011), Iraq, Turkey and Syria (Kovařík, 1996).

***Compsobuthus persicus* Navidpour *et al.*, 2008**

Type locality and repository: Iran, Bushehr Province, Borazjan, Dalaki; RRLS and FKCP.

Distribution: Endemic to Iran. Found in Bushehr and Fars provinces (Navidpour, 2008; Navidpour *et al.*, 2008b).

***Compsobuthus petrioli* Vignoli, 2005**

Type locality and repository: Iran, Fars Province, Takht-e-Jamshid; VVZC.

Distribution: Endemic to Iran. Found in Fars Province (Vignoli, 2005).

***Compsobuthus plutenkoi* Kovařík, 2003**

Type locality and repository: Iran, Hormozgan Province, Beshagerd Mountains., Davari Village, FKCP.

Distribution: Endemic to Iran. Found in Hormozgan Province, Beshagerd Mountains (Kovařík, 2003).

***Compsobuthus sobotniki* Kovařík, 2003**

Type locality and repository: Iran, Hormozgan Province, Kargushki; FKCP.

Distribution: Endemic to Iran. Found in Hormozgan Province, Kargushki (Kovařík, 2003).

Genus *Hottentotta* Birula, 1908

Hottentotta saulcyi (Simon, 1880)

Type locality and repository: Iraq, Mosul; MNHN, ZMUH.

Distribution: Iran: Chahar Mahal & Bakhtiyari, Hamadan, Hormozgan, Ilam, Kermanshah, Khuzestan, Kohgiluyeh & Boyer-Ahmad, and Lorestan provinces (Vachon, 1966; Farzanpay, 1987; Kovařík, 1997, 2007; Navidpour *et al.*, 2008a, b, c, d, Pirali Kheirabadi, *et al.*, 2009; Navidpour *et al.*, 2010); Afghanistan, Iraq, and Turkey (Kovařík, 1997; Crucitti and Vignoli, 2002; Yağmur *et al.*, 2008).

***Hottentotta zagrosensis* Kovařík, 1997**

Type locality and repository: Iran, Fars Province, Zagros Mountains, Abshar village; FKCP.

Distribution: Endemic to Iran. Found in Fars, Khuzestan, Kohgiluyeh & Boyer-Ahmad, Lorestan, and West Azerbaijan provinces (Kovařík, 1997, 2007; Navidpour *et al.*, 2008d; 2010).

***Hottentotta schach* (Birula, 1905)**

Type locality and repository: Iran, Khuzestan Province, Dehdez; ZISP.

Distribution: Endemic to Iran. Found in Fars and Khuzestan provinces (Birula, 1905; Kovařík, 2007; Navidpour *et al.*, 2008a); Iraq (Kovařík, 2007)

***Hottentotta khozestanus* Navidpour *et al.*, 2008**

Type locality and repository: Iran, Khuzestan Province, Behbahan–Dailam road; RRLS.

Distribution: Endemic to Iran. Found in Khuzestan Province (Navidpour *et al.*, 2008a).

***Hottentotta lorestanus* Navidpour *et al.*, 2010**

Type locality and repository: Iran, Lorestan Province, Borujerd, Wenoehi Village (Navidpour *et al.*, 2010); RRLS.

Distribution: Endemic to Iran. Found in Lorestan Province (Navidpour *et al.*, 2010).

Genus *Iranobuthus* Kovařík, 1997

Iranobuthus krali Kovařík, 1997

Type locality and repository: Fars Province, 10km E of Sivand village; FKCP.

Distribution: Endemic genus and species to Iran. Found in Esfahan and Fars provinces

Hormozgan Province, Bandar Abbas to Lengeh Port (Kovarik, 1997; Vignoli *et al.*, 2003; Navidpour and Masihpour, 2009, 2013).

Genus *Kraepelinia* Vachon, 1974

Kraepelinia palpator (Birula, 1903)

Type locality and repository: Iran, Kerman Province, Sarghad; ZISP.

Distribution: Iran: Found in Kerman and Yazd provinces (Birula, 1903; Farzanpay, 1987; Fet, 1987; Vignoli and Crucitti, 2005; Navidpour *et al.*, 2011), Turkmenistan (Fet, 1984, 1994).

Genus *Mesobuthus* Vachon, 1950

Mesobuthus caucasicus (Nordmann, 1840)

Type locality and repository: Caucasus, Georgia, Tbilisi; Helsinki University.

Distribution: Iran, Azerbaijan, Esfahan, Khorasan, Markazi, Semnan, Sistan & Baluchistan, and Tehran provinces (Pocock, 1900; Birula, 1903; Habibi, 1971; Farzanpay, 1987; Vignoli *et al.*, 2003), Afghanistan, Armenia, Azerbaijan, China, Georgia, Iraq, Kazakhstan, Mongolia, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan (Fet, 1988; Fet, 1994; Karataş, 2005).

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

Type locality and repository: Types lost; "Caucasus"; Georgia, Tbilisi.

Distribution: Iran, widely distributed and known from Ardebil, Azerbaijan, Esfahan, Golestan, Kerman, Khorasan, Markazi, Mazandaran, Semnan, Sistan & Baluchistan, Tehran, Chahr mahal & Bakhtiari and Yazd provinces (Habibi, 1971; Farzanpay, 1987; Kovařík, 1997; Vignoli *et al.*, 2003; Vignoli and Crucitti, 2005; Navidpour *et al.*, 2008a, b, c, d; Piralikheirabadi *et al.*, 2009; Mirshamsi *et al.*, 2010; Navidpour *et al.*, 2010 and 2011); Afghanistan, Armenia, CentralAsia, China, Georgia, Iraq, and Turkey (Fet, 1988, 1994; Karataş and Karataş, 2001, 2003; Kovařík *et al.*, 2011).

***Mesobuthus macmahoni* (Pocock, 1900)**

Type locality and repository: Pakistan, northern Baluchistan; BMNH.

Distribution: Kerman and Sistan & Baluchistan provinces, Afghanistan and Pakistan (Pocock, 1900; Habibi, 1971; Navidpour *et al.*, 2011).

Comment: The existence of this species in Iran was questioned by Farzanpay (1988) but was recently confirmed in Kerman by Navidpour *et al.* (2011) *Mesobuthus phillipsi* (Pocock, 1889).

Type locality and repository: Iran, Bushehr Province, Bushehr; BMNH.

Distribution: Iran, in Bushehr, Chahr-Mahal & Bakhtiari, Fars, Hormozgan, Ilam, Khouzestan, Kohgiluyeh & Boyer-Ahmad, and Lorestan provinces; Iraq, Syria and Turkey (Navidpour *et al.*, 2008a, b, c, d; Piralikheirabadi *et al.*, 2009; Navidpour *et al.*, 2010; Mirshamsi *et al.*, 2010; Kovařík *et al.*, 2011; Mirshamsi *et al.*, 2011).

Genus *Odontobuthus* Vachon, 1950

Odontobuthus bidentatus Lourenço et Pézier, 2002

Type locality and repository: Iraq, 180 km north of Bagdad, Khanagin-Dyala; MHNG.

Distribution: Iran, west foothills of Zagros Mountains, Khouzestan, Kerman, bushehr, Fars, Ilam, Hormozgan; Iraq (Lourenço and Pézier, 2002; Navidpour *et al.*, 2008a, b, c, d;

2012, 2013, Lowe, 2010).

***Odontobuthus doriae* (Thorell, 1876)**

Type locality and repository: Iran, Tehran; MCSN.

Distribution: Endemic to Iran. Found in high elevations of western, southeastern, and central parts of Iran, Kerman, Fars, Hormozgan, Chahr-mahal & Bakhtiari (Pocock, 1900; Birula, 1903; Farzanpay, 1987; Lourenço and Pézier, 2002; Lowe, 2010; Navidpour *et al.*, 2008a, b, c, d, 2011, 2012, 2013).

***Odontobuthus tavighiae* Navidpour *et al.*, 2013**

Type locality: Iran, Hormozgan Province, Lengeh Port, 27°08'06"N 55°49'17.5"E, 12 m a.s.l.

Genus *Orthochirus* Karsch, 1891

Orthochirus farzanpayi (Vachon et Farzanpay, 1987)

Type locality and repository: Iran, Hormozgan Province, North of Bandar-e-Abbas; NHMW.

Distribution: Endemic to Iran. Found in Bushehr, Hormozgan, Kerman, and Khouzestan provinces (Farzanpay, 1987; Kovařík and Fet, 2006a; Navidpour *et al.*, 2008a, b and 2011, 2013).

***Orthochirus gruberi* Kovařík et Fet, 2006**

Type locality and repository: Iran, Kerman Province, near Goupār; FKCP.

Distribution: Endemic to Iran. Found in Kerman Province (Kovařík and Fet, 2006a; Navidpour *et al.*, 2011).

***Orthochirus iranus* Kovařík, 2004**

Type locality and repository: Iran, Bushehr Province, Chamak, 17 km NW Bandar-e Genaveh; FKCP.

Distribution: Endemic to Iran. Known from Bushehr, Hamadan, Ilam, Khouzestan, Kohgiluyeh & Boyer-Ahmad, and Lorestan provinces (Kovařík, 2004; Navidpour *et al.*, 2008a, b, c, d; 2010).

***Orthochirus stockwelli* (Lourenço et Vachon, 1995)**

Type locality and repository: Iran, Hormozgan Province, Bandar-Abbas; MNHN.

Distribution: Endemic to Iran. Found in Bushehr, Hormozgan and Khouzestan Provinces (Lourenço and Vachon, 1995; Kovařík and Fet, 2006a; Navidpour *et al.*, 2008a, b, 2013).

***Orthochirus varius* Kovařík, 2004**

Type locality and repository: Iran, Hormozgan Province, Beshagerd Mountains, Davari village, FKCP.

Distribution: Endemic to Iran. Found in Hormozgan Province (Kovařík, 2004, Navidpour *et al.* 2013).

***Orthochirus zagrosensis* Kovařík, 2004**

Type locality and repository: Iran, Fars Province, Dasht-e-Arzhan, FKCP.

Distribution: Endemic to Iran. Found in Esphehan, Kerman, Khouzestan, Kohgiluyeh & Boyer-Ahmad, and Yazd provinces (Kovařík, 2004; Vignoli and Crucitti, 2005; Navidpour *et al.*, 2008d, 2011).

Comments: All examined specimens of *Orthochirus iranus* from Bushehr Province (types) lack trichobothrium d₂ on the dorsal surface of pedipalp femur. Some specimens from Khouzestan Province have this trichobothrium fully developed, some have it reduced and some lack it, although

they are morphologically and colorwise identical and have been collected during the same day in the same place. One male examined even has the trichobothrium on the right femur of pedipalp fully developed and on the left side reduced. All examined specimens found northward in Lorestan and Hamadan Provinces possess trichobothrium d_2 . It is a situation that appears to warrant further study. It is clear now, however, that the presence or absence of trichobothrium d_2 on the femur of the pedipalp is not a generic and perhaps not even a specific character. This is because at one locality we have several specimens of *Orthochirus iranus* that differ only in having or lacking the d_2 trichobothrium. Since the presence or absence of trichobothrium d_2 on the femur of pedipalp is the only character separating *Orthochirus* Karsch from *Paraorthochirus* Lourenço et Vachon (Lourenço & Vachon, 1995, 1997; Kovařík, 2004), it follows that these two genera are synonyms, i.e. *Paraorthochirus* Lourenço et Vachon, 1997, **syn. n.** = *Orthochirus* Karsch, 1892.

Genus *Polisius* Fet *et al.*, 2001

Polisius persicus Fet *et al.*, 2001

Type locality and repository: Iran, Sistan & Baluchistan, North of Zahedan; USNM.

Distribution: Endemic genus and species to Iran, Esfahan, Ilam, Kerman, and Sistan & Baluchistan provinces (Fet *et al.*, 2001; Vignoli *et al.*, 2003; Navidpour *et al.*, 2008c, 2011).

Genus *Razianus* Farzanpay, 1987

Razianus zarudnyi (Birula, 1903)

Type locality and repository: Iran, Sistan & Baluchistan, Kalagan and Geh, Makran; ZISP.

Distribution: Endemic genus and species to Iran. Found in Bushehr, Chahar Mahal & Bakhtiyari, Hormozgan, Ilam, Khouzestan, Kohgiluyeh & Boyer-Ahmad, Lorestan, and Sistan & Baluchistan provinces (Birula, 1903, 1905; Farzanpay, 1987; Lourenço, 1996; Fet, 1997; Navidpour *et al.*, 2008a, b, c, d; Pirali-Kheirabadi *et al.*, 2009; Navidpour *et al.*, 2010).

Genus *Sassanidotus* Farzanpay, 1987

Sassanidotus gracilis (Birula, 1900)

Type locality and repository: Iran, Sistan & Baluchistan Province, Nasirabad; ZISP.

Distribution: Iran, Kerman, and Sistan & Baluchistan, Hormozgan Provinces, Afghanistan, Pakistan (Kovařík and Fet, 2006b, Navidpour *et al.* 2011, 2013).

Genus *Vachoniolus* Levy *et al.*, 1973

Vachoniolus iranus Navidpour *et al.*, 2008

Type locality and repository: Iran, Khouzestan Province, near Masjed-Soleyman, RRLS.

Distribution: Endemic to Iran. Found in Khouzestan Province (Navidpour *et al.*, 2008a).

Family Scorpionidae Latreille, 1802

Only one genus and species of scorpions belonging to the family Scorpionidae is found in Iran.

Genus *Scorpio* Linnaeus, 1758

Scorpio maurus Linnaeus, 1758

Type locality and repository: Iran, Bushehr Province, Persian Gulf, Iran; BMNH.

Distribution: This species is widely distributed in Iran and known from Azerbaijan, Bushehr, Chahar Machal &

Bakhtiyari, Esfahan, Fars, Gilan, Ilam, Khorasan, Khouzestan, Kohgiluyeh & Boyer-Ahmad, Kordestan, Lorestan, Qazvin, and Semnan provinces (Birula, 1905; Farzanpay, 1987; Vignoli *et al.*, 2003; Navidpour *et al.*, 2008a, b, c, d; Pirali-Kheirabadi *et al.*, 2009; Navidpour *et al.*, 2010); northern Africa: Algeria, Egypt, Libya, Mauritania, Morocco, Senegal, and Tunisia; Asia: Iraq, Israel, Jordan, Kuwait, Lebanon, Qatar, Saudi Arabia, Syria, Turkey, Yemen (Levy and Amitai, 1980).

Comment: This species comprises 19 taxonomically accepted subspecies, but the characters used for their distinction, such as coloration, granulation, number of denticles on the pectin and spines on the tarsi, and form of the sterna plate of the pectin, show great variation and no reliable diagnostic morphological characteristics have been found for the distinction of subspecies (Levy and Amitai, 1980). Two subspecies found in Iran, *S. m. townsendi* and *S. m. kruglovi* (Farzanpay, 1987).

Family Hemiscorpidae

Genus *Hemiscorpis* Peters, 1861

Hemiscorpis acanthocercus Monod et Lourenço, 2005

Type locality and repository: Iran, Hormozgan Province, Abad-Geno, 38 km north of Bandar Abbas; NHMW.

Distribution: Endemic to Iran. Found in Hormozgan Province, Bandar Abbas (Monod and Lourenço, 2005, Navidpour *et al.*, 2013).

***Hemiscorpis enischnochela* Monod et Lourenço, 2005**

Type locality and repository: Iran, Hormozgan Province, 115 km east of Bandar Abbas; NHMW.

Distribution: Endemic to Iran. Found in Hormozgan Province, Bandar Abbas and Khouzestan Province, south of Masjed-e-Soleyman (Monod and Lourenço, 2005).

***Hemiscorpis lepturus* Peters, 1861**

Type locality and repository: Iraq (Mendeli near Baghdad); ZMHB.

Distribution: Iran: Esfahan, Fars, Hamadan, Kohgiluyeh & Boyer Ahmad, Chahr mahal & Bakhtiyari, Kerman, Khouzestan, Ilam, Hormozgan and Lorestan provinces (Birula, 1905; Farzanpay, 1987; Farzanpay, 1988; Kovařík, 1997; Monod and Lourenço, 2005; Akbari, 2007; Navidpour *et al.*, 2008a, b, c, d; Pirali-Kheirabadi *et al.*, 2009; Navidpour *et al.*, 2010, 2011, 2012, 2013).

Family Diplocentridae Karsch, 1880

A single genus and species of scorpions belonging to the family Diplocentridae is found in Iran.

Genus *Nebo* Simon, 1878

Nebo henjamicus Francke, 1980

Type locality and repository: Iran, Henjam Island, Persian Gulf; BMNH.

Distribution: Endemic to Iran. Found in Henjam Island, Persian Gulf (Francke, 1980)

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