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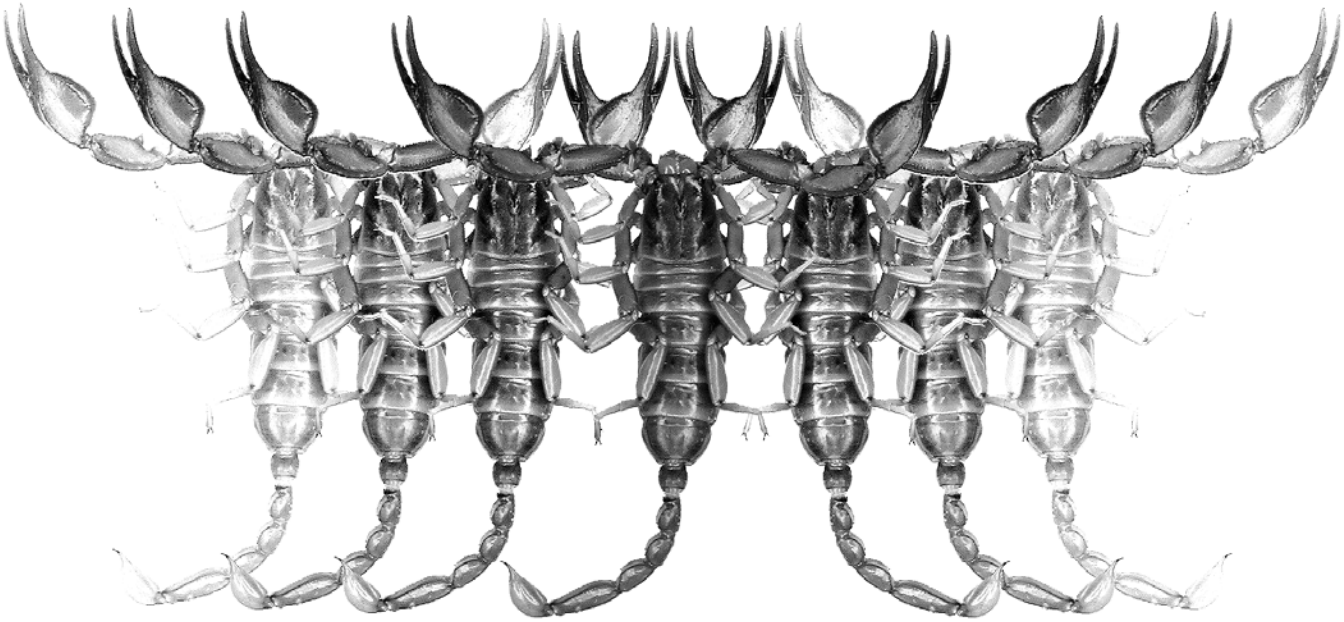

Scorpions of Iran (Arachnida: Scorpiones). Part VI. Lorestan Province

Shahrokh Navidpour, Hassan H. Nayebzadeh, Michael E. Soleglad, Victor Fet, František Kovařík & Mohammad Hassan Kayedi

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Derivatio Nominis

The name *Euscorpius* Thorell, 1876 refers to the most common genus of scorpions in the Mediterranean region and southern Europe (family Euscorpiidae).

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- **BMNH**, British Museum of Natural History, London, England, UK
- **MZUC**, Museo Zoologico "La Specola" dell'Universita de Firenze, Florence, Italy
- **ZISP**, Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia
- **WAM**, Western Australian Museum, Perth, Australia
- **NTNU**, Norwegian University of Science and Technology, Trondheim, Norway
- **OUMNH**, Oxford University Museum of Natural History, Oxford, UK
- **NEV**, Library Netherlands Entomological Society, Amsterdam, Netherlands

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Scorpions of Iran (Arachnida: Scorpiones). Part VI. Lorestan Province

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Summary

Ten species of scorpions belonging to three families are reported from the Lorestan Province of Iran. Of these, five species are recorded from the province for the first time: *Hottentotta zagrosensis* Kovařík, 1997; *Mesobuthus eupeus phillipsii* (Pocock, 1889); *Orthochirus iranus* Kovařík, 2004; *Razianus zarudnyi* (Birula, 1903) ; and *Scorpio maurus townsendi* (Pocock, 1900). One new species is described, *Hottentotta lorestanus* **sp. n**.; it can be easily distinguished from the other four species of the genus known from Iran by its coloration; it is the only Iranian species which has the entire pedipalps yellow and the metasomal segments I to IV greenish gray. Also presented is a key to all species of scorpions found in the province.

Introduction

Many papers deal with the scorpions of Iran to some extent, but a comprehensive study of the scorpion fauna has been lacking. We have therefore decided to survey the scorpions of Iran thoroughly, province by province.

The Lorestan Province is the sixth region surveyed (see previous publications of our group: Navidpour et al., 2008a, 2008b, 2008c, 2008d; Pirali-Kheirabadi et al., 2009), and this publication represents the first comprehensive treatment of its scorpions. A study made by a team under Shahrokh Navidpour reveals 10 species of three families; four of these species are recorded from this province for the first time.

Lorestan is a montane province located in the southwest of Iran between 46°51'–50°03'E and 32°37'–34°32'N. It covers roughly 28,294 sq. km, and is surrounded by the Zagros Range. The neighboring provinces are Markazi and Hamadan on the north, Isfahan on the east, Ilam and Kermanshah on the west, and Khoozestan and Chahar Mahal & Bakhtiyari on the south (see map in Fig. 1). The mean altitude is more than 2,200 meters, with the lowest point at 500 meters. The weather of the northern highlands is cold, snowy in the winter and mild in the summer. The southern area lacks adequate rainfall and is hot in the summer. The central parts are temperate. The climate is generally subhumid.

Abbreviations. The institutional abbreviations listed below and used throughout are mostly after Arnett, Samuelson & Nishida (1993).

BMNH – The Natural History Museum, London, United Kingdom;
FKCP – František Kovařík Collection, Praha, Czech Republic;
MNHN – Muséum national d´Histoire naturelle, Paris, France;
RRLS – Razi Reference Laboratory of Scorpion Research, Razi Vaccine and Serum Research Institute, Hesarak, Karaj, 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.

List of scorpions of Lorestan Province

Family **Buthidae** C. L. Koch, 1837
Androctonus crassicauda (Olivier, 1807)
Compsobuthus matthiesseni (Birula, 1905)
***Hottentotta lorestanus* sp. n.**
Hottentotta saulcyi (Simon, 1880)
Hottentotta zagrosensis Kovařík, 1997 (first report)

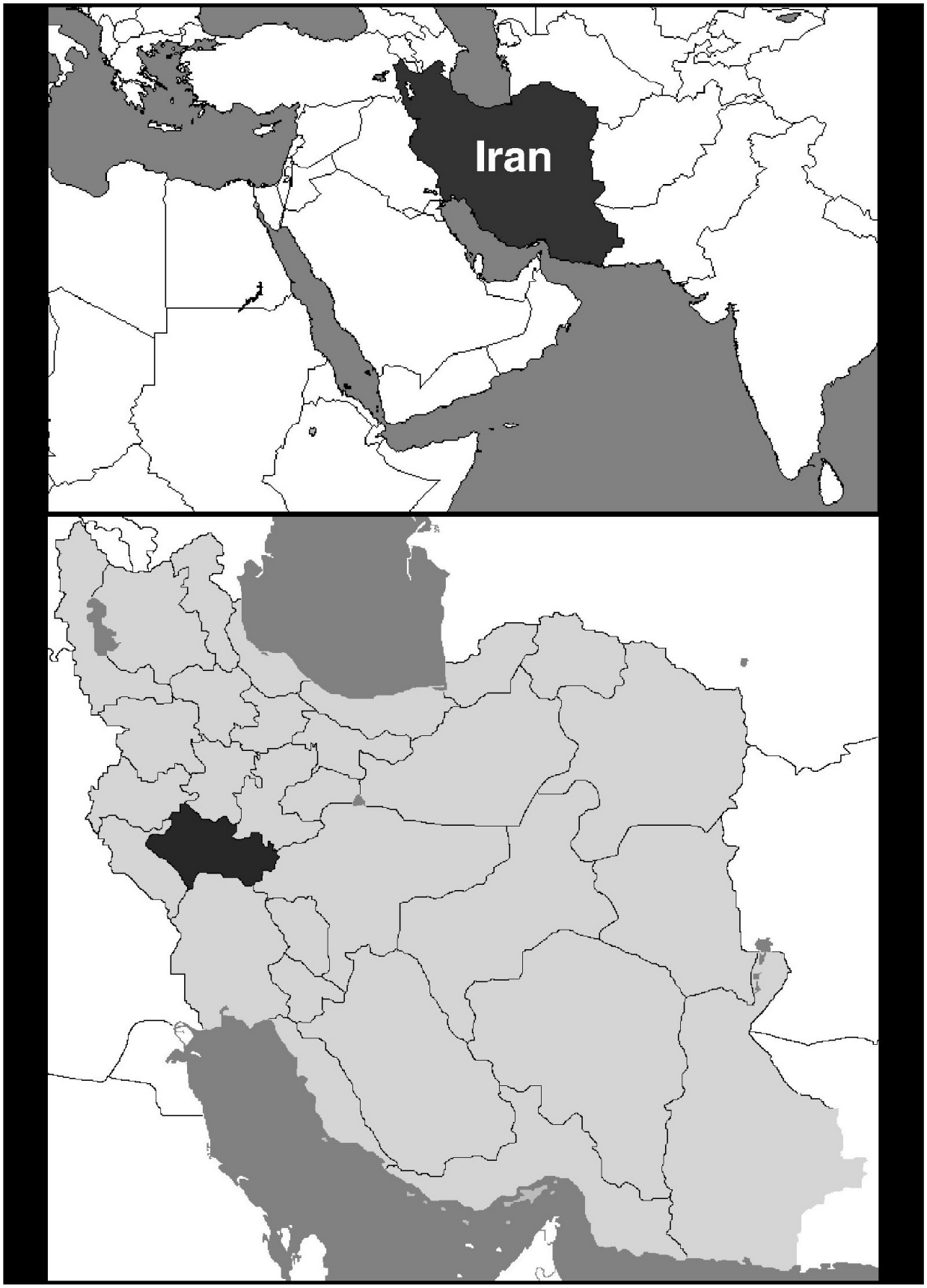


Figure 1: Map of southwestern Asia highlighting Iran (top) and closeup of Iran showing provinces, the Lorestan Province depicted in black (bottom).

Mesobuthus eupeus phillipsii (Pocock, 1889) (first report)
Orthochirus iranus Kovařík, 2004 (first report)
Razianus zarudnyi (Birula, 1903) (first report)

Family **Scorpionidae** Latreille, 1802
Scorpio maurus townsendi (Pocock, 1900) (first report)

Family **Hemiscorpiidae** Pocock, 1893
Hemiscorpius lepturus Peters, 1861

Note. Lourenco & Pézier (2002: 116) listed a single male of *Odontobuthus doriae* (Thorell, 1876) collected by T. Habibi in Borujerd (Lorestan); this locality was not listed by Habibi (1971: 43). Our field team has not yet confirmed this large and conspicuous species for Lorestan.

Systematics

Family **Buthidae** C. L. Koch, 1837

Androctonus crassicauda (Olivier, 1807)
(Fig. 4.)

Scorpio crassicauda Olivier, 1807: 97, pl. XLII, fig. 2.
Buthus crassicauda: Simon, 1872: 247 (in part); Simon, 1879: 99; Simon, 1892: 83; Kraepelin, 1899: 16; Pocock, 1902: 373; Kraepelin, 1913: 124; Lampe, 1918: 190.
Androctonus crassicauda: Kraepelin, 1891: 175 (in part); Vachon, 1951: 343; Khalaf, 1962: 1; Khalaf, 1963: 60; Habibi, 1971: 42; Farzanpay & Pretzmann, 1974: 215; Pérez Minocci, 1974: 17; Vachon, 1974: 909, fig. 40; Vachon, 1979: 31, figs. 1, 2, 4; Farzanpay, 1987: 141; Farzanpay, 1988: 36; Fet, 1989: 78; Sissom, 1994: 36; Al-Safadi, 1992: 96; Amr & El-Oran, 1994: 187; Dupré et al., 1998: 59; Kovařík, 1998: 104; Crucitti, 1999: 83; Kabakibi et al., 1999: 80, fig. 3; Fet & Lowe, 2000: 72; Stathi & Mylonas, 2001: 288; Kovařík, 2002: 5; Crucitti & Vignoli, 2002: 439; Vignoli et al., 2003: 2; Fet & Kovařík, 2003: 180; Kovařík & Whitman, 2005: 105; Lourenco, 2005: 149; Hendrixson, 2006: 38, figs. 1a–f, Pl. 1; Akbari, 2007: 76, fig. p. 62; Navidpour et al., 2008a: 5, figs. 5, 12, 44–45; Navidpour et al., 2008b: 3, figs. 4, 20, 25–28; Navidpour et al., 2008c: 3, figs. 2, 3, 8, 13–16; Navidpour et al., 2008d: 3, figs. 4, 9, 15–18; Pirali-Kheirabadi et al., 2009: 3, figs. 3–4, 12–15.
Prionurus crassicauda: Pocock, 1895: 292; Tullgren, 1909: 2; Birula, 1904: 29; Birula, 1905a: 120; Masi, 1912: 91; Penther, 1912: 110.
Androctonus crassicauda crassicauda: Vachon, 1959: 124; Vachon, 1966: 210; Habibi, 1971: 42; Vachon, 1979: 34; Levy & Amitai, 1980: 23–29, figs. 30–34; Kovařík, 1997a: 49.
= *Prionurus crassicauda orientalis* Birula, 1900a: 355; Birula, 1903: 67 (syn. by Fet, 1989: 79)
Buthus (*Prionurus*) *crassicauda orientalis*: Birula, 1917: 93, 240.
Buthus crassicauda orientalis: Kraepelin, 1913: 124.
Androctonus crassicauda orientalis: Vachon, 1959: 124; Vachon, 1966: 210; Habibi, 1971: 42; Pérez Minocci, 1974: 18.
Androctonus amoreuxi baluchicus: Kovařík, 1997a: 39 (see Vignoli et al., 2003: 4).

TYPE LOCALITY AND TYPE REPOSITORY. Kashan, Persia, now Iran, Esfahan Province; MNHN.

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Koohdasht, Darbe Gonbad Village, 33°41'45"N 47°09'11"E, 1310 m a.s.l. (Locality No. LO-1361), October 2009, 1 ♂ (RRLS), 1 ♂ (FKCP), leg. A. Pahlavani, A. Bahreei & Bahreei M; Dorud, Daryab Village, 33°32'51"N 48°59'27"E, 1620 m a.s.l. (Locality No. LO-1380), October 2009, 2 ♂ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee.

DISTRIBUTION: Widespread in Iran, found in most provinces. Recorded also from Armenia (Kraepelin, 1899: 17), Azerbaijan (Fet, 1989: 79), Bahrain (Crucitti & Vignoli, 2002: 439), Egypt (Fet & Lowe, 2000: 72), Iraq (Kennedy, 1937: 745), Israel (Simon, 1872: 247; Levy & Amitai, 1980), Jordan (Amr & El-Oran, 1994: 187), Kuwait (Kettel, 1982: 6), Lebanon (El-Hennawy, 1992: 100), Oman (Birula, 1917: 229; Hendrixson, 2006: 39), Qatar (El-Hennawy, 1992: 100), Saudi Arabia (Pocock, 1895: 292; Hendrixson, 2006: 39), Syria (Birula, 1900b: 9), Tunisia (Kraepelin, 1901: 266), Turkey (Pocock, 1902: 373), United Arab Emirates (Hendrixson, 2006: 40), Yemen (Birula, 1937: 101).

Compsobuthus matthiesseni (Birula, 1905)
(Fig. 4.)

Buthus acutecarinatus matthiesseni Birula, 1905a: 142; Birula, 1937: 107.
Buthus (*Buthus*) *acutecarinatus matthiesseni*: Birula, 1917: 229, 240; Birula, 1918: 25.
Buthus (*Hottentotta*) *acutecarinatus matthiesseni*: Vachon, 1940b: 173.
Compsobuthus matthiesseni: Pringle, 1960: 77, fig. 3; Habibi, 1971: 43; Levy et al., 1973: 114; Levy &

Figures 2–3: Iran, Lorestan Province. **2.** Dorud, Gahar, 33°19'16"N 49°17'17"E, 2325 m a.s.l. (Locality No. LO-1350). Recorded occurrence of *Compsobuthus matthiesseni* (Birula, 1905), *Hottentotta saulcyi* (Simon, 1880), and *Razianus zarudnyi* (Birula, 1903). **3.** Koramabad, Nojhiyan, 33°16'14"N 48°31'38"E, 1953 m a.s.l. (Locality No. LO-1355). Recorded occurrence of *Compsobuthus matthiesseni* (Birula, 1905) and *Hottentotta saulcyi* (Simon, 1880).

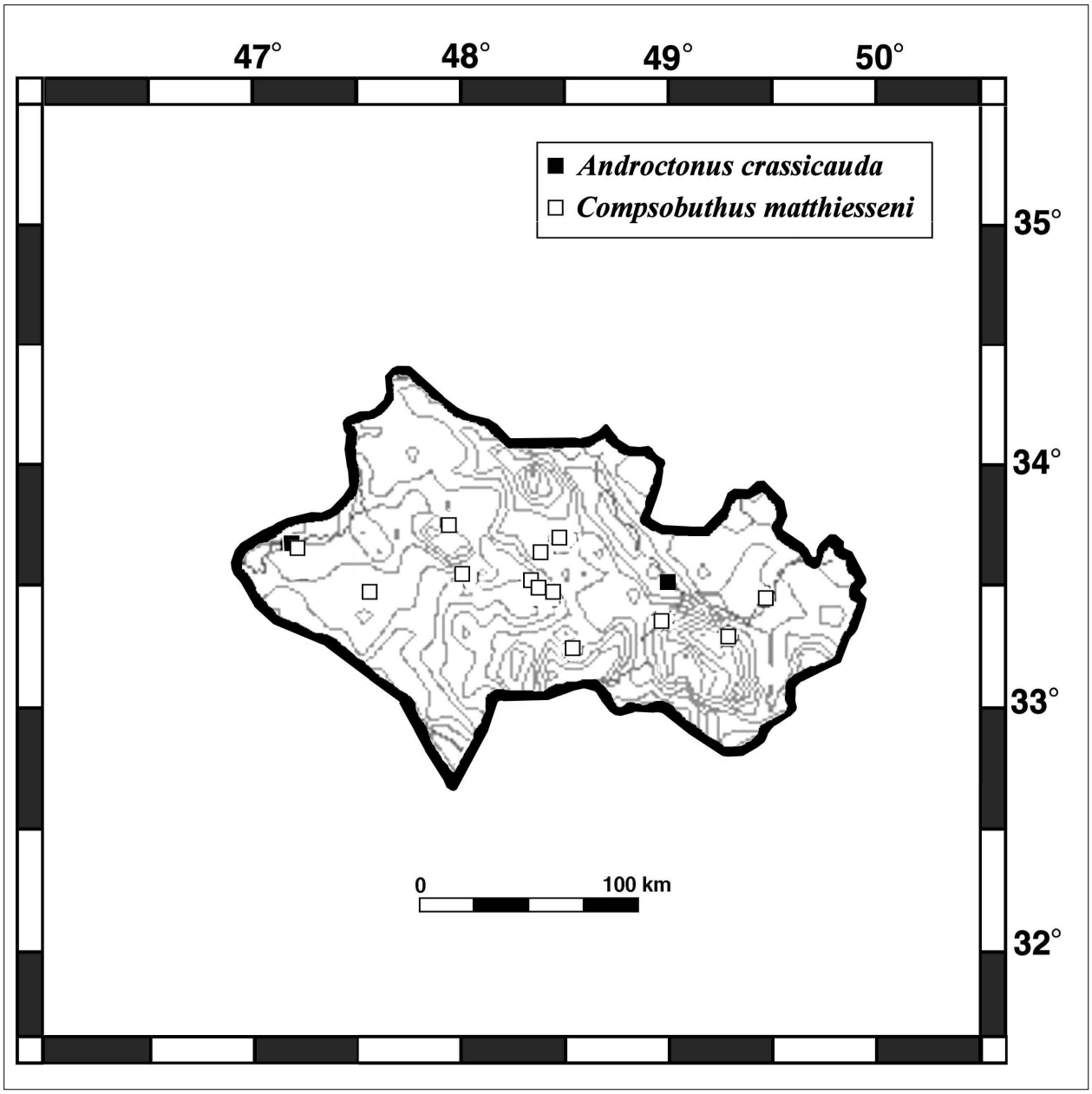


Figure 4: Map of Lorestan Province showing distribution of *Androctonus crassicauda* (Olivier, 1807) and *Compsobuthus matthiesseni* (Birula, 1905) collected in this study.

Amitai, 1980: 60; Farzanpay, 1987: 149; Farzanpay, 1988: 37; Kovařík, 1992: 183; Kovařík, 1996: 53; Kovařík, 1997a: 40, 49; Kovařík, 1997b: 179; Kovařík, 1998: 109; Sissom & Fet, 1998: 1, figs. 1–12; Crucitti, 1999: 84; Fet & Lowe, 2000: 127; Lourenço & Vachon, 2001: 180; Kovařík, 2002: 7; Crucitti & Vignoli, 2002: 441, figs. 6–7; Kovařík, 2003: 97; Vignoli et al., 2003: 2; Vignoli, 2005: 85; Akbari, 2007: 76, fig. p. 64; Kovařík & Ahmed, 2007: 6; Navidpour et al., 2008a: 9, figs. 3–4, 17, 60–63; Navidpour et al., 2008b: 9, figs. 19, 45–48; Navidpour et al., 2008c: 8, figs. 2, 4–6, 33-36; Navidpour et al., 2008d: 3, figs. 3, 4, 7, 9, 31–34; Lowe, 2009: 11; Pirali-Kheirabadi et al., 2009: 3, figs. 4, 6, 28–31.

Compsobuthus acutecarinatus matthiesseni: Vachon & Kinzelbach, 1987: 101; El-Hennawy, 1992: 123.

TYPE LOCALITY AND TYPE REPOSITORY. Iran, "Kum, Province Irak-Adschemi" now Qum (Qom); ZISP.

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, 10 km SE Bavineh, 33°36'08"N 47° 11'59"E, 1100 m a.s.l, 16–17 October 1998, 1 ♂, 6 ♀,

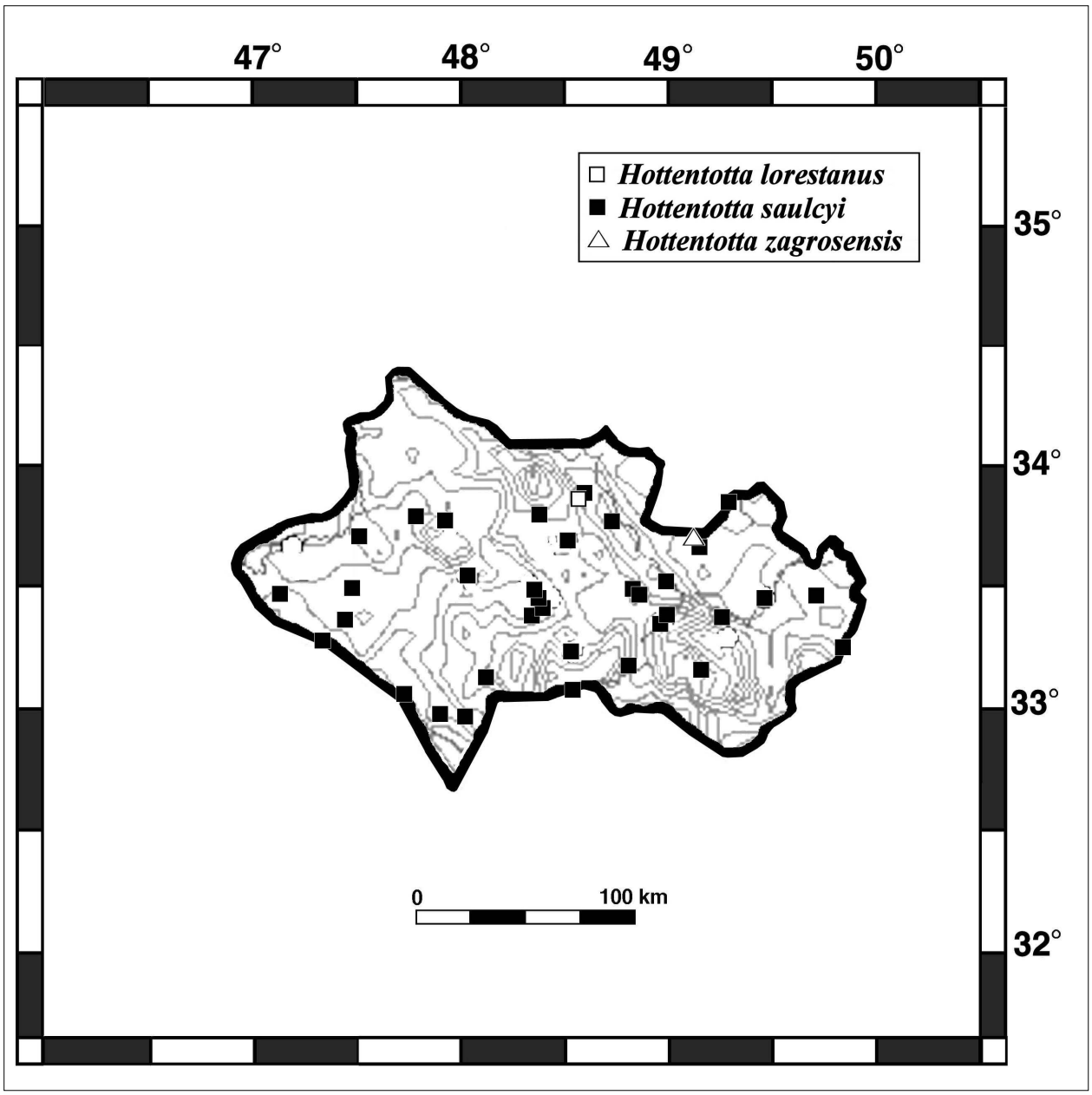


Figure 5: Map of Lorestan Province showing distribution of *Hottentotta lorestanus* **sp. n.**, *Hottentotta saulcyi* (Simon, 1880), and *Hottentotta zagrosensis* Kovařík, 1997, collected in this study.

leg. P. Kabátek & M. Kaftan (FKCP); Dorud, Gahar, 33°19'16"N 49°17'17"E, 2325 m a.s.l. (Locality No. LO-1350), October 2009, 3 ♀ (RRLS), leg. H. H. Nayebzadeh & M. Tavakoli; Koramabad, Roodkhoshke Village, 33°43'50"N 48°29'53"E, 1717 m a.s.l. (Locality No. LO-1351), October 2009, 1 ♂ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Koramabad, Nojhiyan, 33°16'14"N 48°31'38"E, 1953 m a.s.l. (Locality No. LO-1355), October 2009, 3 ♂ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Koramabad, 33°29'36"N 48°20'45"E, 1266 m a.s.l. (Locality No. LO-1357), October 2009, 2 ♀, 1 imm. (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Koohdasht, Darbe Gonbad Village, 33°41'45"N 47°09'11"E, 1310 m a.s.l. (Locality No. LO-1361), October 2009, 3 ♂, 1 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Koohdasht, Nal Eshgeneh Village, 33°30'45"N 47°31'40"E,1327 m.a.s.l. (Locality No. LO-1389), October 2009, 1 ♂ (RRLS), leg. A. Pahlavani; Aleshtar, Shineh Village, 33°47'37"N 47°55'47"E, 1355 m a.s.l. (Locality No. LO-1367), October 2009, 1 ♂, 2 ♀ (RRLS), leg. A. Bahreei, M.

Bahreei & R. Amraee; Azna, Charkheshan Village, 33°40'21"N 48°23'30"E, 2220 m a.s.l. (Locality No. LO-1369), October 2009, 1 ♂ (FKCP), leg. A. Bahreei, A. Pahlavani & R. Amraee; Azna, 33°29'13"N 49°28'10"E, 1932 m a.s.l. (Locality No. LO-1386), October 2009, 1 ♀ (FKCP), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Poldokhtar, Maemulan, 33°23'50"N 48°58'17"E, 1193 m a.s.l. (Locality No.LO-1387), October 2009, 2 ♂ (RRLS), 1 ♂, 1 ♀ (FKCP), leg. Bahreei & A. Pahlavani; Koramabad, Sarabe Doreh, 33°34'17"N 48°01'00"E, 1333 m a.s.l. (Locality No. LO-1392), October 2009, 3 ♂, 2 ♀ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh, D. Bahreei & R. Amraee; Koramabad, Papi khaldare sofla Village, 33°32'24"N 48°19'11"E, 1292 m a.s.l. (Locality No. LO-1400), October 2009, 4 ♂, 2 ♀ (RRLS), leg. R. Amraee, A. Bahreei & M. Bahreei; Koramabad, Kamalvand Village, 33°29'13"N 48°25'22"E, 1460 m a.s.l. (Locality No. LO-1401), October 2009, 4 ♂, 3 ♀ (RRLS), leg. H. Nayebzadeh, A. Bahreei & M. Bahreei.

DISTRIBUTION: Iran, known from provinces Kermanshah (formerly Bahtaran), Bushehr, Fars, Hamadan, Ilam, Khoozestan, Kerman, Kordestan, Lorestan, Markazi, Qom (Sissom & Fet, 1998; Kovařík, 2003: 100; Akbari, 2007: 76), Kohgilouyeh & Boyer Ahmad (Navidpour et al., 2008d: 3), and Chahar Machal & Bakhtiyari Province (Pirali-Kheirabadi et al., 2009: 5); Iraq (Birula, 1917: 240; Pringle, 1960: 77), Syria (Kovařík, 2002: 7), Turkey (Kovařík, 1996: 53).

Hottentotta lorestanus Navidpour, Nayebzadeh, Soleglad, Fet, Kovařík et Kayedi**, sp. n.**

(Figs. 5, 6–14, Table 1)

TYPE LOCALITY AND TYPE REPOSITORY. **Iran**, Lorestan Province, Borujerd, Wenoei Village, 33°54'21"N 48° 35'32"E, 2006 m a.s.l. (RRLS).

TYPE MATERIAL EXAMINED. **Iran**, Lorestan Province, Borujerd, Wenoei Village, 33°54'21"N 48°35'32"E, 2006 m a.s.l. (Locality No. LO-1366), October 2009, 1 ♀ (holotype) (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei.

ETYMOLOGY. Named after the type locality.

DIAGNOSIS. Total length of female holotype 112.5 mm. For habitus, see Figs. 6–9. Trichobothrium *db* on fixed finger of pedipalp situated between trichobothria *et* and *dt*, close to or on level with *et*. Chelicerae black, reticulate. Pectinal teeth number 28 and 29. Nearly entire body hirsute, pedipalps, dorsal surface of mesosoma, legs, lateral and ventral surfaces of metasomal segments, and vesicle densely hirsute. Color greenish grey except black anterior part of carapace, telson and part of fifth metasomal segments. Pedipalps and legs are yellow. Femur of pedipalp with 3 carinae, patella with 8 carinae (some of them weakly indicated), chela lacks carinae. Movable fingers of pedipalps with 16 MD rows, and fixed fingers, with 13 MD rows. Mesosomal sternite VII smooth, with 4 smooth carinae. Metasomal segments I to III with 10 carinae; segment IV with 8 carinae and segment V with 5 carinae, 3 ventral (1 median, 2 lateral) and 2 dorsal. Dorsal carinae of metasomal segments bear terminal granules of size approximately equal to preceding granules. Dorsal surface smooth. All metasomal segments longer than wide.

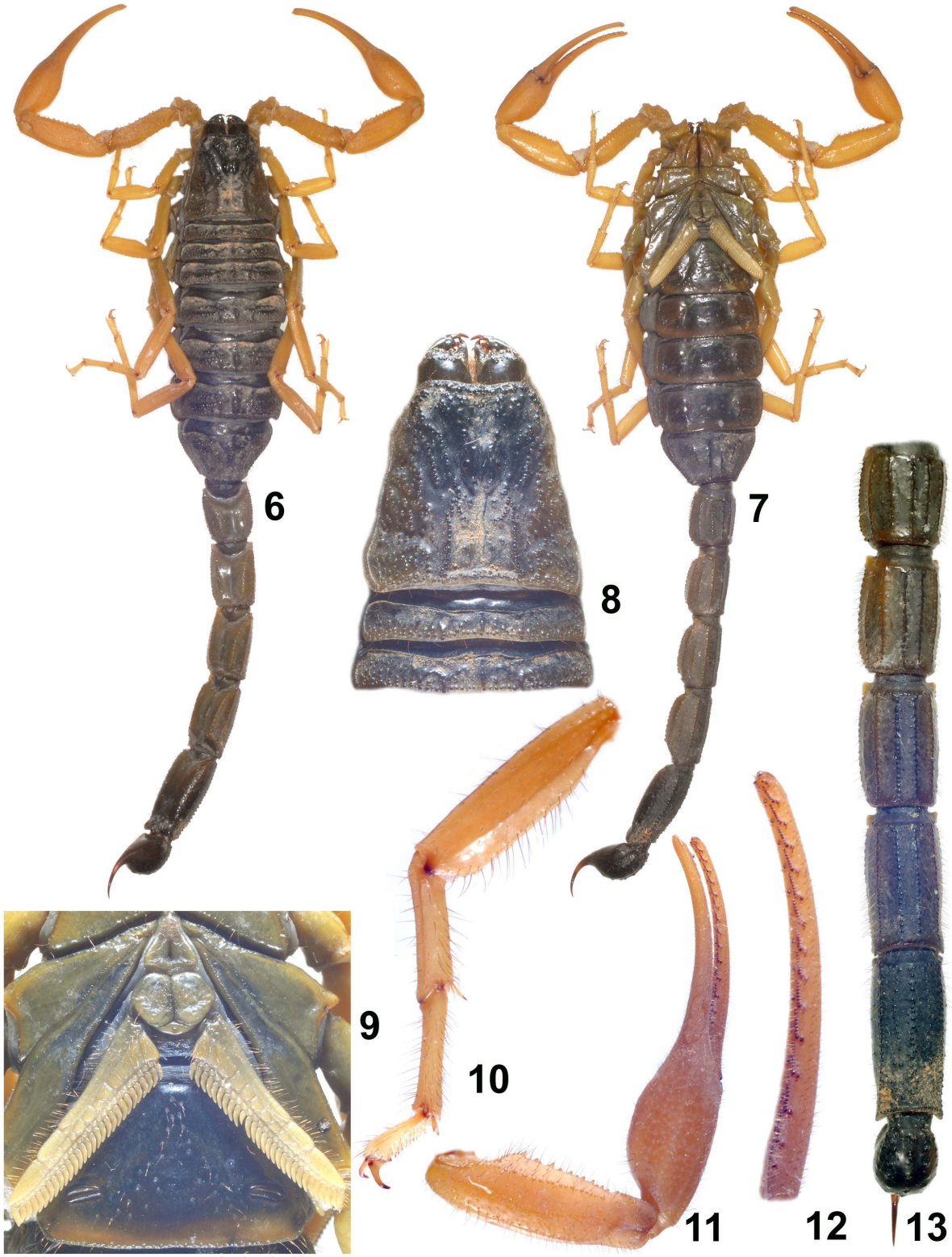
DESCRIPTION: The total length of female holotype is 119.5 mm. The habitus is shown in Figs. 6–9. Measurements of the carapace, telson, segments of the metasoma and of the pedipalps, and numbers of pectinal teeth in the holotype are given in Table 1. Trichobothrium *db* on fixed finger of pedipalp situated between trichobothria *et* and *dt*, close to or on level with *et*. (Fig. 14 and fig. 4 in Kovařík, 2007: 3). Chelicerae black, reticulate. Pectinal teeth number 28 and 29.

COLORATION: The color greenish grey except black anterior part of carapace, telson and part of fifth metasomal segments. Pedipalps and legs are entirely yellow.

MESOSOMA: The mesosoma has three dorsal and no ventral carinae, except for the seventh segment which bears four obsolete ventral carinae. The dorsal surface is granulated, whereas the ventral surface is smooth.

PEDIPALPS: The pedipalps are smooth and hirsute. The femur of pedipalp with three distinct carinae: DI and VI carinae heavily serrated, DE mediumly serrated, VE rounded/obsolete; internal surface with irregular row of 10 large spinoid granules; external surface with irregular row of 12 serrate granules. The patella with eight carinae: *DIc* crenulated; *DMc* delicately granulated; *DEc* weak and rounded; *VIc* rounded and smooth; *EMc* rounded and smooth; VE_c rounded and smooth; *DPSc* strongly serrated; VPS_c irregularly crenulated. The chela lacks carinae. The movable finger of both pedipalps with 16 MD rows (including a distal row with one denticle and a basal row; each row terminates with an enlarged denticle, and is flanked by a even larger OD), 16 ID, and 16 OD; distal row with two closely spaced ID, a one-denticle MD row, and an OD (Fig. 12). The fixed finger of both pedipalps with 13 MD rows, including a distal row with 5 denticles and a basal row) 15 ID (including a "doubled" basal ID), and 14 OD (with two irregularly placed basal OD). Movable finger with slight basal scalloping in the area of the basal MD row. (For carinae and finger dentition conventions, see Soleglad & Fet, 2003).

METASOMA AND TELSON: All metasomal segments are longer than wide and hirsute. Segments I to III bear 10 carinae, segment IV bears eight carinae, and segment V bears five carinae, three ventral (one median, two lat-



Figures 6–13: *Hottentotta lorestanus* **sp. n.**, female holotype. **6–9.** Dorsal and ventral views. **10.** Third leg. **11.** Chela and patela. **12.** Movable finger of pedipalp. **13.** Metasoma ventral.

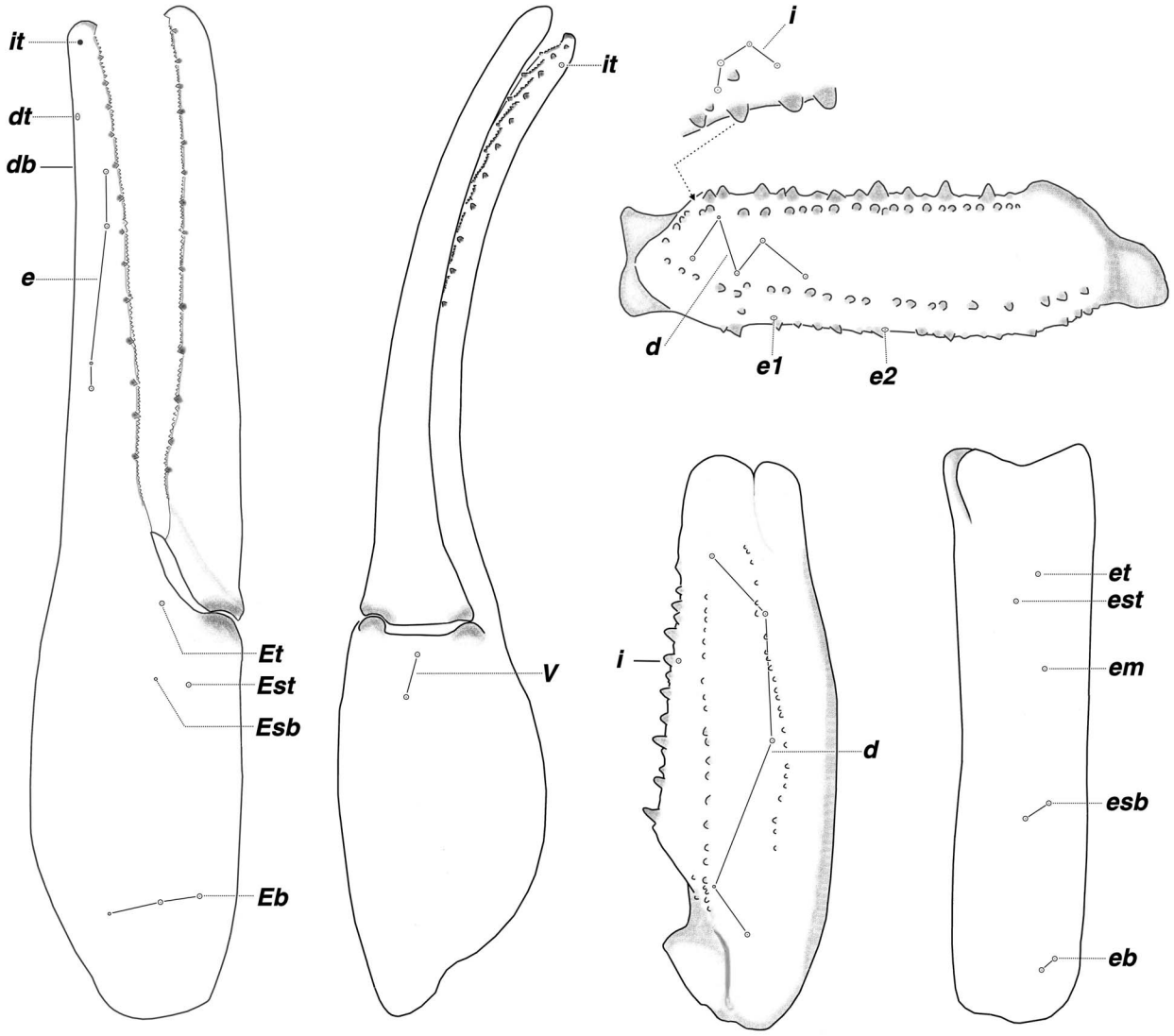


Figure 14: *Hottentotta lorestanus* **sp. n.**, female holotype. Trichobothrial pattern (notation according to Vachon, 1974).

eral) and two dorsal. The dorsal surface of metasoma is smooth and glossy. The ventral carinae on metasomal segments I to IV are smooth and bear obsolete granules. The lateral carinae are smooth and bear obsolete granules, whereas dorsal carinae of all segments bear granules of even size. The intervals between carinae are smooth, with only several granules, only the ventral surface of the segment V bears additional rows of granules. A subaculear tooth is absent; the telson is hirsute, elongate, essentially smooth, with only a few scattered granules.

AFFINITIES. The described features distinguish *H. lorestanus* **sp. n.** from all other species of the genus. They are recounted in the key below. Together with *H. khoozestanus* Navidpour et al., 2008, *H. saulcyi* (Simon, 1880), and *H. schach* (Birula, 1905), the new species is among the largest in the genus. *H. lorestanus* **sp. n.** can be easily distinguished from *H. khoozestanus* Navidpour et al., 2008 by its nearly entire body being hirsute. *H. lorestanus* **sp. n.** can be easily distinguished from the other abovenamed three species by coloration; whereas only *H. lorestanus* **sp. n.** has pedipalps entirely yellow (*H. zagrosensis* has pedipalps entirely black, and *H. schach* has a black chela of pedipalps) and metasomal segments I to IV are greenish gray (in *H. saulcyi*, these segments are yellow).

NOTE. Type locality, Wenoei, lies north of Bourojerd city, in the northern part of Lorestan Province. The surrounding area is mountainous and rocky, with altitudes from 890-4250 m a.s.l and temperature ranging from 30 °C in summer to -20 °C in winter. Two other scorpion species found in the same area are *Hottentotta saulcyi* and*Mesobuthus eupeus*.

***Hottentotta lorestanus* sp.n.** **Female Holotype**		
Total	length	112.5
Carapace	length	11.1
	width	12.0
Metasoma		
and telson	length	62.2
segment I	length	8.1
	width	6.6
segment II	length	9.1
	width	6.1
segment III	length	9.9
	width	5.9
segment IV	length	11.0
	width	5.8
segment V	length	12.3
	width	5.6
telson	length	12.2
	width	4.9
	depth	4.9
Pedipalp		
femur	length	10.5
	width	3.0
patella	length	12.9
	width	4.0
chela	length	21.5
	width	4.6
finger mov.	length	13.4
Pectines	length	
right		9.5
left		10.2
Pectinal teeth		29:28

Table 1: Measurements (in millimeters) of type specimens of *Hottentotta lorestanus* **sp. n**.

Hottentotta saulcyi (Simon, 1880)

(Fig. 5, 15)

Buthus saulcyi Simon, 1880a: 378; Simon, 1880b: 29; Kraepelin, 1899: 18; Kraepelin, 1901: 267; Weidner, 1959: 99.

Buthus (*Hottentotta*) *saulcyi*: Birula, 1905a: 136; Birula, 1917: 214; Birula, 1918: 30; Vachon, 1940b: 255.

Buthotus saulcyi: Vachon, 1949: 147 (1952: 233); Vachon, 1959: 134; Pringle, 1960: 79, fig. 5; Khalaf, 1962: 2; Khalaf, 1963: 64; Vachon, 1966: 210; Vachon & Stockmann, 1968: 91; Habibi, 1971: 43; Pérez Minocci, 1974: 21; Farzanpay, 1987: 148; Farzanpay, 1988: 37; El-Hennawy, 1992: 118; Kovařík, 1992: 183; Dupré, Lambert & Gérard, 1998: 70; Akbari et al., 1997: 112; Akbari, 2007: 76, fig. p. 63.

Hottentotta saulcyi: Kovařík, 1997a: 40; Crucitti & Vignoli, 2002: 446, figs. 8–10; Vignoli et al., 2003: 4; Karataş, 2003: 315; Kovařík, 2007: 61, figs. 17, 95–99; Navidpour et al., 2008b: 13, figs. 2, 22, 29–32; Navidpour et al., 2008c: 8, figs. 9, 17–20; Navidpour et al., 2008d: 5, figs. 4, 7, 19–22; Pirali-Kheirabadi et al., 2009: 6, figs. 9, 16–19.

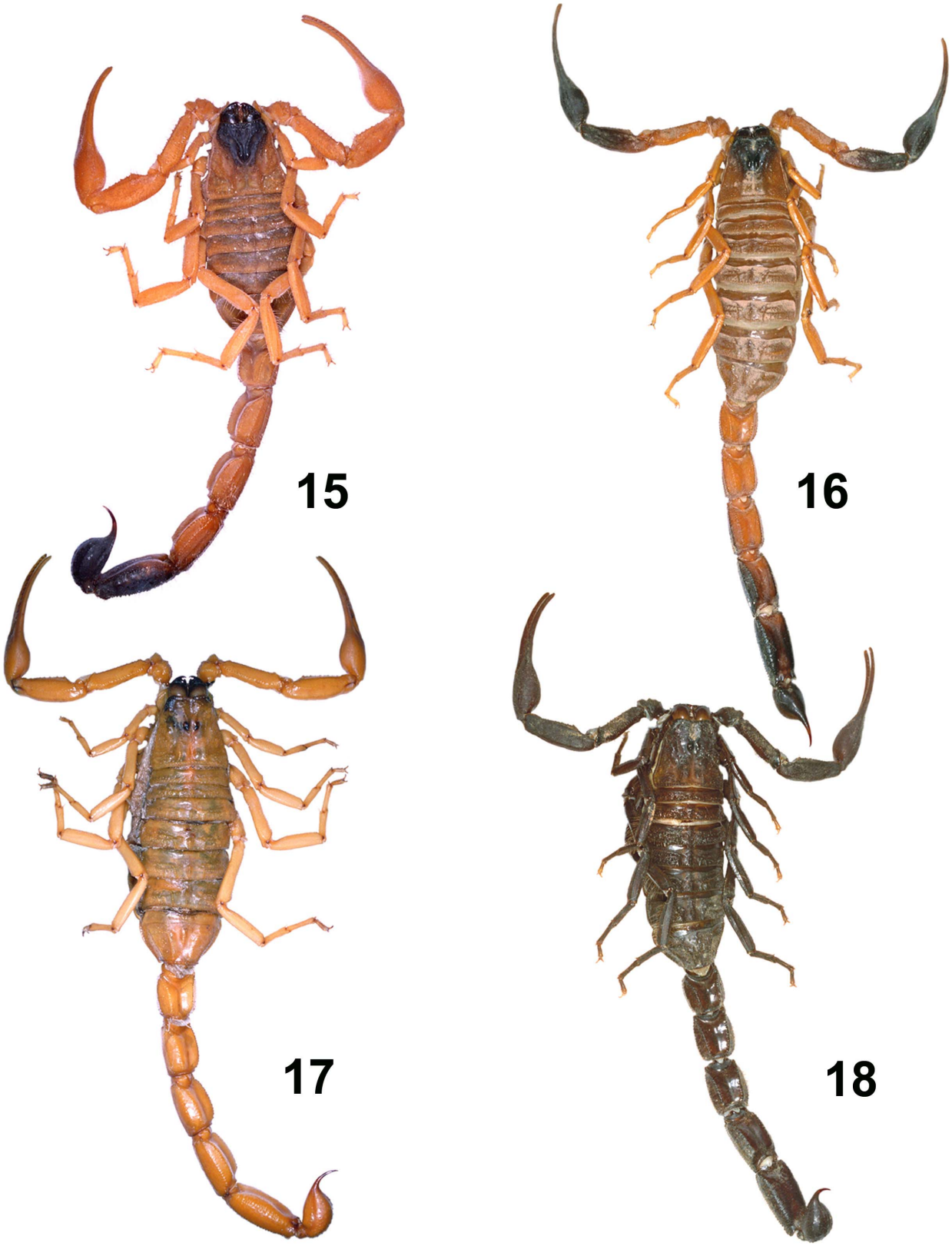
Hottentotta (*Hottentotta*) *saulcyi*: Kovařík, 1998: 110; Fet & Lowe, 2000: 143.

Buthus hottentotta: Kraepelin, 1891: 185 (in part).

TYPE LOCALITY AND TYPE REPOSITORY. Iraq, Mosul; MNHN, ZMUH.

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Dorud, 80 km E Horramabad, 33°27'N 49°01'E, 10 June 1999, 1 ♂, leg. P. Kabátek (FKCP); Koramabad, Roodkhoshke Village, 33°43'50"N 48°29'

53"E, 1717 m a.s.l. (Locality No. LO-1351), October 2009, 4 ♂, 3 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Aleshtar, Parmake Olya Village, 33°49'10N 48°22'52E, 1834 m a.s.l. (Locality No. LO-1353). October 2009, 1 ♂, 6 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Azna, Ghale Rostam Village, 33°24'54"N 49°15'46"E, 1970 m a.s.l. (Locality No. LO-1354), October 2009, 4 ♂, 2 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Koramabad, Nojhiyan, 33°16'14"N 48°31'38"E, 1953 m a.s.l. (Locality No. LO-1355), October 2009, 8 ♂, 4 ♀ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Poldokhtar, Valiyeasr Village, 33°05'22"N 47°42'39"E, 735 m a.s.l. (Locality No. LO-1356), October 2009, 2 ♀(RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Poldokhtar, Zirtang Village, 33°14'12"N 48°12'33"E, 1477 m a.s.l. (Locality No. LO-1358), October 2009, 1 ♀ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Koramabad, Shahshah Village, 33°24'39"N 48°18'16"E, 1288 m a.s.l. (Locality No. LO-1359), October 2009, 1 ♂ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Noorabad, Zaliabad Village, 34°00'35"N 48°01'39"E, 1890 m a.s.l. (Locality No. LO-1360), October 2009, 1 ♂ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Koramabad, Haftcheshmeh Village, 33°48'39"N 47°46'03"E, 1398 m a.s.l. (Locality No. LO-1362), October 2009, 4 ♂, 1 ♀ (RRLS), 1 ♀ (FKCP), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Aligudarz, Shoolabad Village, 33°11'44"N 49°11'31"E, 1755 m a.s.l. (Locality No. LO-1363), October 2009, 5 ♂, 4 ♀ (RRLS), 1 ♀(FKCP), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Sepiddasht, Dareashkaft Village, 33°13'46"N 48°49' 18"E, 1144 m a.s.l. (Locality No. LO-1364), October 2009, 2 ♂, 1 ♀, 1im. (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Aligudarz, Gandomineh Village, 33°17'05"N 49°54'33"E, 2316 m a.s.l. (Locality No. LO-1365), October 2009, 2 ♂ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Borujerd, Wenoei Village, 33°54'21"N 48°35'32"E, 2006 m a.s.l. (Locality No. LO-1366), October 2009, 7 ♂, 6 ♀ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Aleshtar, Shineh Village, 33°47'37"N 47°55'47"E, 1355 m a.s.l. (Locality No. LO-1367), October 2009, 1 ♂, 2 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Dorud, Papiun Village, 33°43'15"N 49°10'21"E, 1653 m a.s.l. (Locality No. LO-1370), October 2009, 9 ♂, 9 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Dorud, Daryab Village, 33°32'51"N 48°59'27"E, 1620 m a.s.l. (Locality No. LO-1380), October 2009, 1 ♀ (RRLS), 1 juv. (FKCP), leg. A. Bahreei, M. Bahreei & R. Amraee; Kohdasht, Namjoo Olad Village, 33°44'22"N 47°28'28"E, 1317 m a.s.l. (Locality No. LO-1373), October 2009, 1 ♂, 1 im. (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Kohdasht, Shoorabeh Sofla Village, 33°23'25"N 47°23'40"E, 1128 m a.s.l. (Locality No. LO-1375), October 2009, 1 ♂, 1 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Kohdasht, Damavand Sofla Village, 33°15' 33"N 47°15'46"E, 829 m a.s.l. (Locality No. LO-1376), October 2009, 2 ♂, 5 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Kohdasht, Naveh Basat Village, 33°31'22"N 47°27'06"E, 1350 m a.s.l. (Locality No. LO-1377), October 2009, 1 ♂ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Koramabad, Razan, 33°33'07"N 48°50'19"E, 1993 m a.s.l. (Locality No. LO-1378), October 2009, 1 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Borujerd, Dareh Chapi Village, 33°47'44"N 48°44'11"E, 1614 m a.s.l. (Locality No. LO-1379), October 2009, 3 ♂, 2 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Koramabad, Hossein Abad Village, 33°27' 35"N 48°21'30"E, 1164 m a.s.l. (Locality No. LO-1381), October 2009, 1 ♂, 2 ♀ (RRLS), 1juv. (FKCP), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Kohdasht, Chahpit Village, 33°30'18"N 47°05'30"E, 1064 m a.s.l. (Locality No. LO-1382), October 2009, 6 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Borujerd, Cheshmeh Sardeh Village, 33°00'24"N 48° 31'54"E, 2035 m a.s.l. (Locality No. LO-1383), October 2009, 3 ♂, 2 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Poldokhtar, Absard Village, 33°09'39"N 48°05'52"E, 1433 m a.s.l. (Locality No. LO-1354a), October 2009, 2 ♂, 2 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Koramabad, Cheshmeh zamzam Village, 33°30'52"N 48°51'44"E, 1330 m a.s.l. (Locality No. LO-1385), October 2009, 3 ♂, 5 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Azna, 33°29'13"N 49°28'10"E, 1932 m a.s.l. (Locality No. LO-1386), October 2009, 3 ♂ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Poldokhtar, Maemulan, 33° 23'50"N 48°58'17"E, 1193 m a.s.l. (Locality No.LO-1387), October 2009, 2 ♂, 3 ♀ (RRLS), 1 juv. (FKCP), leg. Bahreei & A. Pahlavani; Aligudarz, Khyemeh Sofla Village, 33°29'44"N 4943'33"E, 1956 m a.s.l. (Locality No. LO-1390), October 2009, 1 ♂, 2 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Poldokhtar, Asar road, 33°01'22"N 47°54'15"E, 1427 m a.s.l. (Locality No. LO-1391), October 2009, 3 ♂, 3 ♀ (RRLS), 1 ♀ im. (FKCP), leg. Bahreei, A. Pahlavani & R. Amraee; Dorud,Tanur Dareh Village, 33°34'39"N 48°03'51"E, 1817 m a.s.l. (Locality No. LO-1393), October 2009, 6 ♂, 4 ♀, 5 ims. (RRLS), leg. A. Bahreei, Bahreei M. & R. Amraee; Aleshtar, Dareh tang Village, 33°56'33"N 49°18'59"E, 1813 m a.s.l. (Locality No. LO-1398), October 2009, 6 ♂, 1 ♀, 7 ims. (RRLS), leg. Bahreei & A. Pahlavani; Leshtar, Dareh Kakareza Village, 33° 43'41"N 48°15'33"E, 2100 m a.s.l. (Locality No.LO-1399), October 2009, 7 ♂, 5 ♀, 2 ims. (RRLS), leg. Bahreei & A. Pahlavani; Koramabad, Papi khaldare Sofla Village, 33°32'24"N 48°19'11"E, 1292 m a.s.l.



Figures 15–18: Females of *Hottentotta* species from Iran, dorsal view. **15.** *H. saulcyi* (Simon, 1880), ♀ (94 mm), Iran, Ilam Province, 30 km NW Ilam, 33°43'N 46°41'E (FKCP). **16.** *H. schach* (Birula, 1905), ♀(112 mm), Iran, Fars Province, ca 1700 m a.s.l., 10 km E of Sivand vill. (FKCP). **17.** *H. khoozestanus* Navidpour et al, 2008, ♀(119 mm) holotype, Iran, southeastern Khoozestan Province, Behbahan–Dailam road, 31°55'N 49°44'E (RRLS). **18**. *H. zagrosensis* Kovařík, 1997, ♀(103 mm) alotype, Iran, Fars Province, Zagros Mts., Abshar vill. env. (FKCP).

(Locality No. LO-1400), October 2009, 4 ♂, 3 ♀ (RRLS), leg. R. Amraee, A. Bahreei & M. Bahreei.

DISTRIBUTION: Iran, known from Kermanshah (formerly Bachtaran), Fars, Hamadan, Hormozgan, Ilam, Lorestan Provinces (Kovařík, 2007: 65), Bushehr and Khoozestan Provinces (Akbari, 2007: 76, Akbari et al., 1997: 112), Kohgilouyeh & Boyer Ahmad (Navidpour et al., 2008d: 5), and Chahar Machal & Bakhtiyari Province (Pirali-Kheirabadi et al., 2009: 6); Afghanistan (Kovařík, 1997a: 40), Iraq (Simon, 1880a: 379), Turkey (Crucitti & Vignoli, 2002: 446).

Hottentotta zagrosensis Kovařík, 1997
(Fig. 5, 18)

Hottentotta zagrosensis Kovařík, 1997a: 41, figs. 1–3, 14; Kovařík, 1998: 111; Fet & Lowe, 2000: 144, Kovařík, 2007: 86, figs. 1–3, 126–129; Navidpour et al., 2008a: 10, figs. 11, 17, 77–80; Navidpour et al., 2008d: 5, figs. 3–4, 23–26; Pirali-Kheirabadi et al., 2009: 6, figs. 2, 6–7, 9, 20–23.

TYPE LOCALITY AND TYPE REPOSITORY. Iran, Fars Province, ca. 1000 m a.s.l., Zagros Mts., near Abshar Village, 30°23'N 51°30'E; FKCP.

TYPE MATERIAL EXAMINED. **Iran**, Fars Province, ca. 1000 m a.s.l., Zagros Mts., near Abshar Village, 2-3 May 1996, 1 ♂ (holotype), 1 ♂(im.) and its ecdysis (paratype No. 1), leg. J. Pitulová, 1 ♀ (allotype, Fig. 129), 2 juvs. (paratypes No. 2 and No. 3), leg. V. Šejna, 1 juv. (paratype No. 4), leg. D. Král (FKCP).

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Dorud, Papiun Village, 33°43'15"N 49°10'21"E, 1653 m a.s.l. (Locality No. LO-1370), October 2009, 2 ♂ (RRLS), 1 juv. (FKCP), leg. A. Bahreei, M. Bahreei & R. Amraee.

DISTRIBUTION: Iran, known from provinces Fars, West Azerbaijan, Khoozestan (see Kovařík, 2007: 86; Navidpour et al., 2008a: 10), Kohgilouyeh & Boyer Ahmad (Navidpour et al., 2008d: 5), Lorestan (first report), and Chahar Machal & Bakhtiyari (Pirali-Kheirabadi et al., 2009: 6).

Mesobuthus eupeus phillipsii (Pocock, 1889)
(Fig. 19)

Buthus phillipsii Pocock, 1889: 341, pl. XV, fig. 6; Weidner, 1959: 99.
Buthus phillipsi: Kraepelin, 1899: 24; Birula, 1905a: 131; Borelli, 1915: 460; Werner, 1916: 80; Lampe, 1918: 191.
Mesobuthus phillipsi: Vachon, 1950: 153 (1952: 325); Pérez Minocci, 1974: 25.
Buthus (*Buthus*) *eupeus phillipsi*: Birula, 1917: 228.
Mesobuthus eupeus phillipsi: Vachon, 1959: 148; Vachon, 1966: 213; Habibi, 1971: 44; Farzanpay, 1986: 334; Fet, 1994: 527; Kovařík, 1997a: 49; Kovařík, 1998: 114; Fet & Lowe, 2000: 175.
Mesobuthus eupeus phillipsii: Farzanpay, 1987: 150; Farzanpay, 1988: 38; Navidpour et al., 2008a: 11, figs. 22, 81–84; Navidpour et al., 2008b: 13, figs. 2–3, 5, 21–22, 49–52; Navidpour et al., 2008c: 11, figs. 4, 7–9, 37–40; Navidpour et al., 2008d: 5, figs. 2–3, 5–9, 35–38; Pirali-Kheirabadi et al., 2009: 6, figs. 5, 10, 32–35.
Mesobuthus eupeus: Akbari, 2007: 76.
Buthus hottentotta: Kraepelin, 1891: 185 (part?).

TYPE LOCALITY AND TYPE REPOSITORY. Iran, Bushir (now Bushehr) Province; BMNH.

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Noorabad, Nosratabad Village, 34°12'13"N 47°45'30"E, 1750 m a.s.l. (Locality No. LO-1352), October 2009, 4♂ (RRLS), leg. Bahreei, A. Pahlavani & R. Amraee; Noorabad, Zaliabad Village, 34°00'35"N 48°01'39"E, 1890 m a.s.l. (Locality No. LO-1360), X,2009, 9♂3♀ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Borujerd, Wenoei Village, 33°54'21"N 48°35'32"E, 2006 m a.s.l. (Locality No. LO-1366), October 2009, 4♂3♀ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Aleshtar, Shineh Village, 33°47'37"N 47°55'47"E, 1355 m a.s.l. (Locality No. LO-1367), October 2009, 1♂ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Borujerd, Ghalaeh Kamurkhan Village, 33°53'34"N 48°59'35"E, 2220 m a.s.l. (Locality No. LO-1368), October 2009, 1♂3♀ (RRLS), leg. Bahreei, A. Pahlavani & R. Amraee; Azna, Charkheshan Village, 33°40'21"N 48°23'30"E, 2220 m a.s.l. (Locality No. LO-1369), October 2009, 6♂2♀1juv. (RRLS), leg. Bahreei, A. Pahlavani & R. Amraee; Dorud, Papiun Village, 33°43'15"N 49°10'21"E, 1653 m a.s.l. (Locality No. LO-1370), October 2009, 1 ♀ (RRLS), 1 ♀ (FKCP), leg. A. Bahreei, M. Bahreei & R. Amraee; Koramabad, Razan, 33°33'07"N 48°50'19"E, 1993 m a.s.l. (Locality No. LO-1378), October 2009, 1 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Borujerd, Cheshmeh sardeh Village, 33°00'24"N 48°31'54"E, 2035 m a.s.l. (Locality No. LO-1383), October 2009, 3♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Azna, 33°29'13"N 49°28'10"E, 1932 m a.s.l. (Locality No. LO-1386), October 2009, 1♂ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Aligudarz, Khyemeh Sofla Village, 33°29'44"N 49°43'33"E, 1956 m a.s.l. (Locality No. LO-1390),

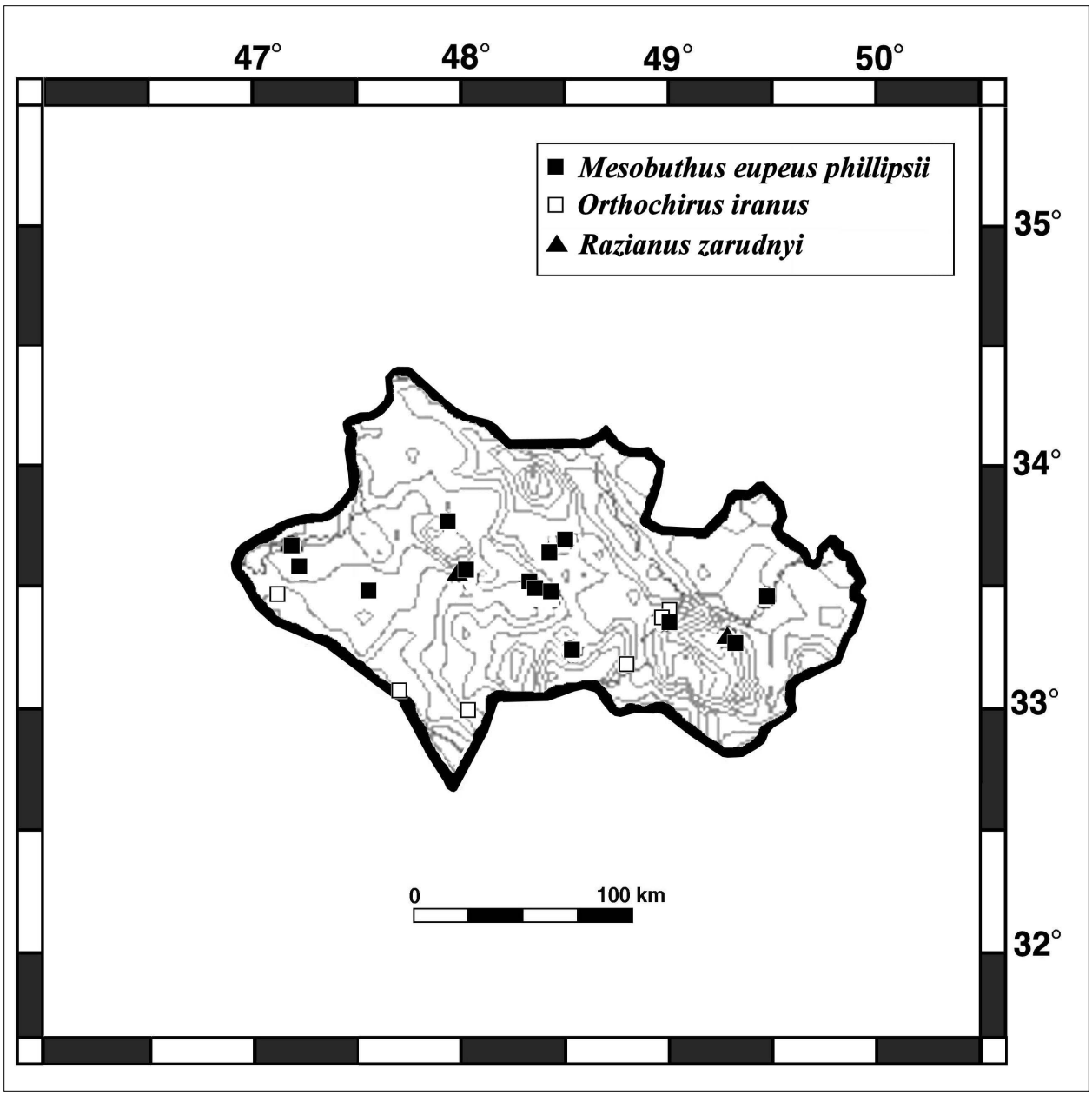


Figure 19: Map of Lorestan Province showing distribution of *Mesobuthus eupeus phillipsii* (Pocock, 1889), *Orthochirus iranus* Kovařík, 2004, and *Razianus zarudnyi* (Birula, 1903) collected in this study.

October 2009, 2♂ (FKCP), leg. A. Bahreei, M. Bahreei & R. Amraee; Poldokhtar, Asar road, 33°01'22"N 47°54'15"E, 1427 m a.s.l. (Locality No. LO-1391), October 2009, 3♂ (RRLS), leg. Bahreei, A. Pahlavani & R. Amraee; Doreh, 33°34'17"N 48°01'00"E, 1333 m a.s.l. (Locality No. LO-1392), October 2009, 1juv. (FKCP), leg. M. H. Kayedi, H. Nayebzadeh, D. Bahreei & R. Amraee; Aleshtar, Darehtang Village, 33°56'33"N 49°18'59"E, 1813 m a.s.l. (Locality No. LO-1398), October 2009, 9♂7♀ (RRLS), 1♂1 ♀ (FKCP), leg. Bahreei & A. Pahlavani; Koramabad, Kamalvand Village, 33°29'13"N 48°25'22"E, 1460 m a.s.l. (Locality No. LO-1401), October 2009, 1♂1 ♀ (FKCP), leg. H. Nayebzadeh, A. Bahreei & M. Bahreei

DISTRIBUTION: Iran, Bushehr Province (Pocock, 1889: 341), Chahar Machal & Bakhtiyari Province (Pirali-Kheirabadi et al., 2009: 6), Ilam Province (Akbari, 2007: 76), Khoozestan Province (Navidpour et al., 2008a: 9), Kohgilouyeh & Boyer Ahmad (Kovařík, 1997), and Lorestan (first report); Iraq (Vachon, 1966: 213; Fet & Lowe, 2000: 175).

Figure 20: Iran, Lorestan Province, Poldokhtar, Valiyeasr Village, 33°05'22"N 47°42'39"E, 735 m a.s.l. (Locality No. LO-1356). Recorded occurrence of *Hottentotta saulcyi* (Simon, 1880), *Orthochirus iranus* Kovařík, 2004, and *Hemiscorpius lepturus* Peters, 1861.

Orthochirus iranus Kovařík, 2004

Orthochirus sp. n.?: Kovařík, 1997a: 47 (in part).
Orthochirus iranus Kovařík, 2004: 13; Kovařík & Fet, 2006: 8; Navidpour et al., 2008a: 15, figs. 4, 19, 24–31, 97–100; Navidpour et al., 2008b: 17, figs. 8, 23, 65–68; Navidpour et al., 2008c: 11, figs. 2, 8, 10, 50–53; Navidpour et al., 2008d: 7, figs. 3, 10, 13, 39–42.

TYPE LOCALITY AND TYPE REPOSITORY. **Iran**, Bushehr Province, ca. 17 km NW. Bandar-e Gonárer, 29°38'32"N 50°26'56"E, 10 m a.s.l. (FKCP).

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Dorud, 33°26'57"N 49°01'14"E, 1700 m a.s.l., 8.-10.X.1998, 2♂2♀, leg. P. Kabátek (FKCP); Poldokhtar, Valiyeasr Village, 33°05'22"N 47° 42'39"E, 735 m a.s.l. (Locality No. LO-1356), October 2009, 4♂2♀, leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Koramabad, Haftcheshmeh Village, 33°48'39" N 47°46'03"E, 1398 m a.s.l. (Locality No. LO-1362), October 2009, 1♂1 ♀ (FKCP), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Sepiddasht, Dareashkaft Village, 33°13'46"N 48°49'18"E, 1144 m a.s.l. (Locality No. LO-1364), October 2009, 1♂1 ♀ (RRLS), 1 ♀ (FKCP), leg. A. Bahreei, M. Bahreei & R. Amraee; Kohdasht, Chahpit Village, 33°30'18"N 47°05'30"E, 1064 m a.s.l. (Locality No. LO-1382), October 2009, 1 ♀ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Poldokhtar, Maemulan, 33°23'50"N 48°58'17"E, 1193 m a.s.l. (Locality No. LO-1387), October 2009, 2♂ (RRLS), 1♂ (FKCP), leg. Bahreei & A. Pahlavani.

DISTRIBUTION: Iran, Bushehr and Khoozestan Provinces (Kovařík, 2004: 13), Hamadan Province (Navidpour et al., 2008a: 20), Ilam Province (Navidpour et al., 2008c: 11), Kohgilouyeh & Boyer Ahmad Province (Navidpour et al., 2008d: 7), and Lorestan Province (first report).

Razianus zarudnyi (Birula, 1903)

Hemibuthus zarudnyi Birula, 1903: 75; Vachon, 1966: 211.
Razianus zarudnyi: Farzanpay, 1987: 159; Farzanpay, 1988: 41; Fet & Lowe, 2000: 216; Akbari, 2007: 76, fig. p. 66; Navidpour et al., 2008a: 20, figs. 42, 89–

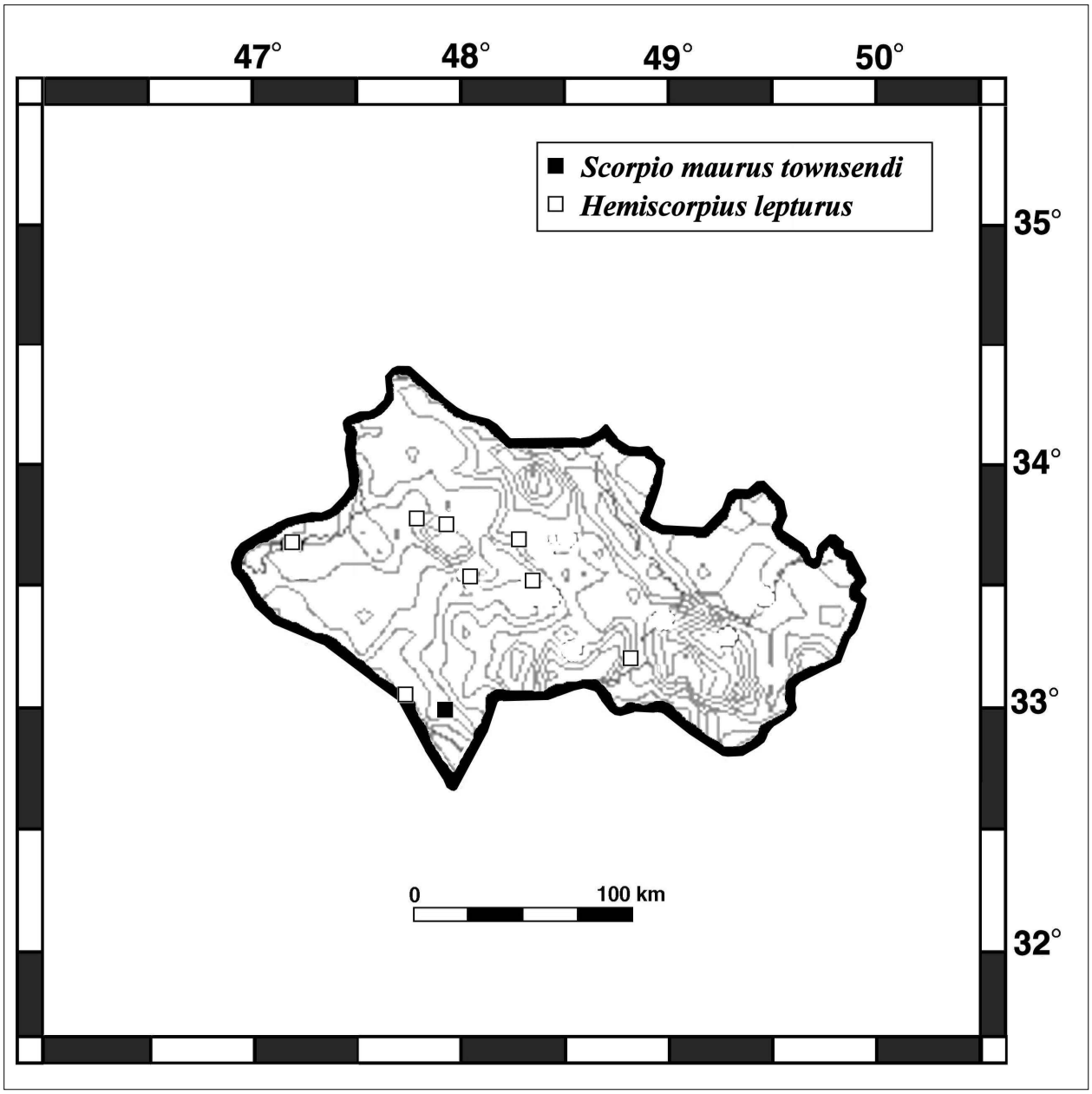


Figure 21: Map of Lorestan Province showing distribution of *Scorpio maurus townsendi* (Pocock, 1900) and *Hemiscorpius lepturus* Peters, 1861 collected in this study.

92; Navidpour et al., 2008b: 17, figs. 2, 5, 23, 57–60; Navidpour et al., 2008c: 14, figs. 2, 4, 10, 58–61; Navidpour et al., 2008d: 11, figs. 3, 9, 13, 47-50; Khodadad Pirali-Kheirabadi et al., 2009: 10, figs. 2, 11, 40–43.

= *Buthus zarudnianus* Birula, 1905a: 144; Birula, 1905b: 450; Kraepelin, 1913: 127; Vachon, 1966: 211; Habibi, 1971: 43 (syn. by Fet, 1997: 66).

= *Neohemibuthus kinzelbachi* Lourenço, 1996: 94, figs. 2–8; Kovařík, 1997a: 49 (syn. by Fet, 1997: 66).

Neohemibuthus zarudnyi: Fet, 1997: 65; Kovařík, 1998: 115.

TYPE LOCALITY AND TYPE REPOSITORY. "Persia, Kalagan Prov., Beludjistan, and Geh Prov., Makran", now Sistan & Baluchistan Prov., Iran (Fet, 1977); ZISP.

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Dorud, Gahar, 33°19'16"N 49°17' 17"E, 2325 m a.s.l. (Locality No. LO-1350), October 2009, 1 ♀ (FKCP), leg. H. Nayebzadeh & M. Tavakoli; Koramabad, Sarabe Doreh, 33°34'17"N 48°01'00"E, 1333 m a.s.l. (Locality No. LO-1392), October 2009, 2 ♂, 1 ♀ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh, D. Bahreei & R. Amraee.

DISTRIBUTION: Iran, Bushehr Province (Akbari, 2007: 76), Chahar Machal & Bakhtiyari Province (Fet, 1997: 67), Fars Province (Fet, 1997: 68), Ilam Province (Akbari, 2007: 76), Khoozestan Province (Lourenço, 1996: 94; Fet, 1997: 67-68), Kohgilouyeh & Boyer Ahmad (Navidpour et al., 2008d: 11), Lorestan Province (first report), and Sistan & Baluchistan Province (Fet, 1997: 66).

Family **Scorpionidae** Latreille, 1802

Scorpio maurus townsendi (Pocock, 1900)

Heterometrus townsendi Pocock, 1900: 364.

? *Scorpio townsendi*: Birula, 1905a: 147 (Birula, 1910: 184).

Scorpio maurus townsendi: Birula, 1910: 184; Birula, 1917: 231; Vachon, 1950: 164 (1952: 336); Vachon, 1966: 215; Habibi, 1971: 44; Pérez Minocci, 1974: 40; Kovařík, 1997a: 50; Kovařík, 1998: 141; Fet, 2000: 479; Navidpour et al., 2008a: 26, figs. 2, 43, 103–106; Navidpour et al., 2008b: 20, figs. 20–21, 24, 73–77; Navidpour et al., 2008c: 14, figs. 11, 12, 62–66; Navidpour et al., 2008d: 12, figs. 2, 14, 51–55; Kovařík, 2009: 62–63, figs. 436-440 and p. 63; Pirali-Kheirabadi et al., 2009: 10, figs. 11, 44–48.

Scorpio maurus: Farzanpay, 1987: 165; Farzanpay, 1988: 42; Akbari, 2007: 76, fig. p. 67.

TYPE LOCALITY AND TYPE REPOSITORY. Iran, Bushehr Province, Fort Reshire near Bushire, Persian Gulf, Iran; BMNH.

TYPE MATERIAL EXAMINED. **Iran**, Bushehr Province, Fort Reshire near Bushire, Persia, 1 ♀ (holotype) leg. F. W. Townsend, BMNH No. 1900.5.9.1. (see photograph in Kovařík, 2009: 63).

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Poldokhtar, Asar road, 33°01'22"N 47°54'15"E, 1427 m a.s.l. (Locality No. LO-1391), October 2009, 3♂3♀ (RRLS), 1 ♀ (FKCP), leg. Bahreei, A. Pahlavani & R. Amraee.

DISTRIBUTION: Iran, Bushehr Province (Pocock, 1900: 364), Chahar Machal & Bakhtiyari Province (Pirali-Kheirabadi et al., 2009: 10), Ilam Province (Akbari, 2007: 76), Khoozestan Province (Navidpour et al., 2008a: 26), Kohgilouyeh & Boyer Ahmad Province (Navidpour et al., 2008d: 12), and Lorestan Province (first report).

Family **Hemiscorpiidae** Pocock, 1893

Hemiscorpius lepturus Peters, 1861

Hemiscorpius lepturus Peters, 1861a: 426, 8 figs.; Karsch, 1879: 15, 21; Birula, 1905a: 146; Birula, 1917: 215; Birula, 1918: 42, fig. 7; Weidner, 1959: 100; Pringle, 1960: 84, fig. 9; Khalaf, 1962: 2; Khalaf, 1963: 68; Vachon, 1966: 214; Habibi, 1971: 44; Farzanpay & Pretzmann, 1974: 217; Pérez Minocci, 1974: 36; Vachon, 1977: 213; Vachon, 1979: 59; Farzanpay, 19 87: 141, 168; Farzanpay, 1988: 42; Simard & Watt, 1990: 441; Sissom, 1990: 75; El-Hennawy, 1992: 135; Kovařík, 1997a: 48; Kovařík, 1998: 136; Fet, 2000: 429; Prendini, 2000: 44; Capes & Fet, 2001: 303; Monod & Lourenço, 2005: 902, figs. 1a–b, 16–21, 27e–f, 36; Akbari, 2007: 76, fig. p. 68; Navidpour et al., 2008a, figs. 20–21, 43, 107–110: 26; Navidpour et al., 2008b: 20, figs. 2, 5, 7, 24, 78–81; Navidpour et al., 2008c: 15, figs. 4, 12, 67-70; Navidpour et al., 2008d: 14, figs. 3, 6–7, 9, 14, 56–59; Pirali-Kheirabadi et al., 2009: 12, figs. 3, 11, 49–52; Lowe, 2010: 22.

Hemiscorpion lepturus: Peters, 1861b: 511; Ausserer, 1880: 466; Kraepelin, 1899: 142; Werner, 1934: 276; Moritz & Fischer, 1980: 317; Kovařík, 2002: 14.

Hemiscorpio lepturus: Simon, 1880b: 29.

TYPE LOCALITY AND TYPE REPOSITORY. Iraq, "Mendeli bei Baghdad" (Mendeli near Baghdad); ZMHB.

TYPE MATERIAL EXAMINED. Iraq, Mendeli bei Baghdad, 2♂2♀ (syntypes), leg. Petermann, ZMHB 43a–d.

LORESTAN PROVINCE MATERIAL EXAMINED. **Iran**, Lorestan Province, Zagros Mts., 30 km W of Khorram Abad (Koramabad), near Gholaman Village, ca 1000 m a.s.l., 6.-7 May 1996, 1♂1 ♀, leg. D. Král (FKCP); Poldokhtar, Valiyeasr Village, 33°05'22"N 47°42'39"E, 735 m a.s.l. (Locality No. LO-1356), October 2009, 2♂, 1♂1 ♀ (FKCP), leg. M. H. Kayedi, H. Nayebzadeh & D. Bahreei; Koohdasht, Darbe Gonbad Village, 33°41'45"N 47°09'11"E, 1310 m a.s.l. (Locality No. LO-1361), October 2009, 1♂ (RRLS), leg. A. Pahlavani, A. Bahreei & M. Bahreei; Koramabad, Haftcheshmeh Village, 33°48'39"N 47°46'03"E, 1398 m a.s.l. (Locality No. LO-1362), October 2009, 3♂2♀ (RRLS), leg. A. Pahlavani, A. Bahreei, M. Bahreei & R. Amraee; Sepiddasht, Dareashkaft Village, 33°13'46"N 48°49'18"E, 1144 m a.s.l. (Locality No. LO-1364), October 2009, 1♂ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Aleshtar, Shineh Village, 33°47'37"N 47°55'47"E, 1355 m a.s.l. (Locality No. LO-1367), October 2009, 4♂1 ♀ (RRLS), leg. A. Bahreei, M. Bahreei & R. Amraee; Koramabad, Sarabe Doreh, 33°34'17"N 48°01'00"E, 1333 m a.s.l. (Locality No. LO-1392), October 2009, 2♂ (RRLS), leg. M. H. Kayedi, H. Nayebzadeh, D. Bahreei & R. Amraee; Leshtar, Dareh Kakareza Village, 33°43'41"N 48°15'33"E, 2100 m a.s.l. (Locality No.LO-1399), October 2009, 2♀ (RRLS), leg. Bahreei & A. Pahlavani; Koramabad, Papi Khaldare Sofla Village,

33°32'24"N 48°19'11"E, 1292 m a.s.l. (Locality No. LO-1400), October 2009, ♂ (RRLS), leg. R. Amraee, A. Bahreei & M. Bahreei;

DISTRIBUTION: Iran, Fars, Hormozgan, Kohgilouyeh & Boyer Ahmad, Lorestan Provinces (Kovařík, 1997a: 48), Bushehr, Ilam, Khoozestan Province (Farzanpay, 1987: 141; Monod & Lourenço, 2005: 902; Akbari, 2007: 76), and Chahar Machal & Bakhtiyari Province (Pirali-Kheirabadi et al., 2009: 12); Iraq (Peters, 1861a: 426).

Key to the scorpions of Lorestan Province

1. Pedipalp patella without ventral trichobothria..... ..... **Buthidae** 3
- Pedipalp patella with ventral trichobothria 2

2. Lateroapical margins of leg tarsi shaped into rounded lobes. ..... ***Scorpio maurus townsendi*** (Pocock, 1900)
- Lateroapical margins of leg tarsi straight .... ***Hemiscorpius lepturus*** Peters, 1861

3. Carapace in lateral view distinctly inclined downward from median eyes to anterior margin. Total length less than 50 mm. ..... ***Orthochirus iranus*** Kovařík, 2004
- Carapace in lateral view with entire dorsal surface horizontal or nearly so (possibly with a slight anterior decline) 4

4. Cheliceral fixed finger with a single ventral denticle ..... ***Razianus zarudnyi*** (Birula, 1903)
- Cheliceral fixed finger with two ventral denticles 5

5. Dentate margin of pedipalp chela movable finger with 4 terminal granules (3 terminal and one basal terminal). ..... ***Androctonus crassicauda*** (Olivier, 1807)
- Dentate margin of pedipalp chela movable finger with 5–7 terminal granules (4–6 terminal and one basal terminal)..... 6

6. Central median and posterior median carinae of carapace joined to form a continuous linear series of granules to posterior margin .... ***Compsobuthus matthiesseni*** (Birula, 1905)
- Central median and posterior median carinae of carapace not joined to form a continuous linear series of granules to posterior margin 7

7. Trichobothrium *db* on fixed finger of pedipalp chela located usually between *est* and *dt*. Trichobothrium *db* may be on level with trichobothrium *est* or rarely between *est* and *esb*. Carinae of carapace not forming a lyre-shaped configuration. Ventrolateral carinae on the fifth metasomal segment with all granules more or less equal in size. ..... ***Hottentotta*** 8
- Trichobothrium *db* on fixed finger of pedipalp chela always located between *est* and *esb*. Carinae of carapace forming a lyre-shaped configuration. Ventrolateral carinae on the fifth metasomal segment with irregular granules. .....***Mesobuthus eupeus phillipsii*** (Pocock, 1889)

8. Pedipalps are black (Fig. 18) .... ***Hottentotta zagrosensis*** Kovařík, 1997
- Pedipalps are yellow (Fig. 6). 9

9. Metasoma and mesosoma yellow to reddish brown; only anterior part of carapace, fifth metasomal segment and telson may be black (Fig. 15). .... ***Hottentotta saulcyi*** (Simon, 1880)
- Metasoma and mesosoma entirely blackish green (Fig. 6). ..... ***Hottentotta lorestanus*** Navidpour, Nayebzadeh, Soleglad, Fet, Kovařík et Kayedi**, sp. n.**

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