Figure 54: *Hottentotta jalalabadensis*, **sp. nov.**, ventral view, female paratype.

Figure 55: *Hottentotta jalalabadensis*, **sp. nov.**, sternocoxal area and pectines, male holotype.

AFFINITIES. The described features distinguish *H. jalalabadensis* **sp. n.** from all other species of the genus. They are recounted in the key below. This species is well characterized by very broad first and second metasomal segments in relation to the fourth metasomal segment, namely in females (Figs. 56–59). This unusual feature is present in only one other *Hottentotta* species, *H. scaber* from Arabia, which has characteristically colored metasomal segments (the first through third segments are yellow and the fifth and the telson are black; see Fig. 100) and cannot possibly be confused with *H. jalalabadensis* **sp. n**.

Hottentotta jayakari (Pocock, 1895)
(Figs. 12, 60–63)

Buthus jayakari Pocock, 1895: 300; Kraepelin, 1899: 19; Kraepelin, 1901: 267.

Figures 56–59: *Hottentotta jalalabadensis*, **sp. nov.**, metasoma. **56.** male holotype, dorsal. **57.** male holotype, ventral. **58.** female paratype, dorsal. **59.** female paratype, ventral.

Buthus (*Hottentotta*) *jayakari* : Birula, 1914: 654; Birula, 1917: 214.

Buthus (*Buthus*) *jayakeri*: Roewer, 1943: 206.

Buthotus jayakari: Vachon, 1949: 147 (1952: 233); Vachon, 1958: 134; Vachon, 1966: 210; Vachon & Stockmann, 1968: 91; Pérez Minocci, 1974: 21; Vachon, 1977: 210; Farzanpay, 1988: 37; Al-Safadi, 1992: 97; El-Hennawy, 1992: 116.

Hottentotta jayakari: Sissom, 1994: 36; Kovařík, 1997a: 49.

Hottentotta (*Hottentotta*) *jayakari*: Kovařík, 1998: 110; Fet & Lowe, 2000: 140.

Buthotus jayakari jayakari: Vachon, 1980: 255.

Hottentotta (*Hottentotta*) *jayakari jayakari*: Fet & Lowe, 2000: 140.

Hottentotta jayakari jayakari: Hendrixson, 2006: 78.

Figure 60: *Hottentotta jayakari*, dorsal view, male lectotype.

Figure 61: *Hottentotta jayakari*, dorsal view, male from Oman, Wadi Bani Auf, on Salma Rd, shale scree in wadi, 23°13'N 57°22'E, FKCP.

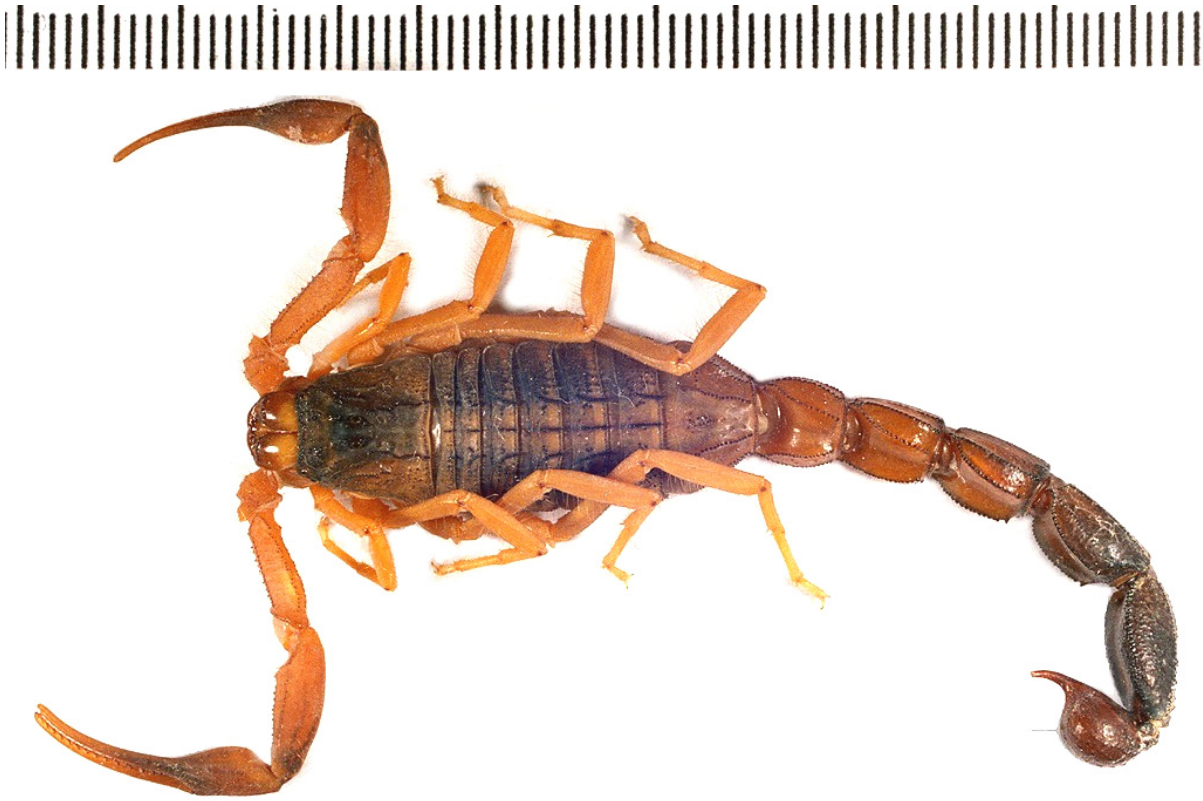

Figure 62: *Hottentotta jayakari*, dorsal view, female from Oman, Wadi Bani Auf, on Salma Rd, shale scree in wadi, 23°13'N 57°22'E, FKCP.

Figure 63: *Hottentotta jayakari*, ventral view, female from Oman, Wadi Bani Auf, on Salma Rd, shale scree in wadi, 23°13'N 57°22'E, FKCP.

TYPE LOCALITY AND TYPE REPOSITORY. Oman, Muscat; BMNH.

TYPE MATERIAL EXAMINED. **Oman**, Muscat, 1♂ (lectotype hereby designated, Fig. 60) 2♀ (paralectotypes), leg. A. G. Jayakar, BMNH No. 1894.3.14.4–6.

OTHER MATERIAL EXAMINED. **Oman**, Mu'askar al Murtafa'a (near Rusayl), garden on rocky slope, 23°34'N 58°13'E, 50m, 27.VIII.1983, 1♂, leg. P. & N. Cookson, det. G. Lowe, FKCP; Wadi Bani Auf, on Salma Rd, shale scree in wadi, 23°13'N 57°22'E, 900m, 14.X.1993, 2♀1♂ (Figs. 12, 61–63), leg. A. S. Gardner, det. G. Lowe, FKCP; Izki army camp, in cracks of a dry stone wall, well lit populated area, 22°56'N 57°46'E, 17.X.1994, 2♀, 19:30, leg. J. Dundon, det. G. Lowe, FKCP.

DIAGNOSIS. Total length 65–90 mm. For habitus see Figs. 60–63. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est* (Fig. 1). Chelicerae yellow to brown, reticulate. Sexual dimorphism not readily apparent; width of pedipalp chela and metasomal segments same in both sexes, males have fingers of pedipalps somewhat more twisted then females. Pectinal teeth number 37–42 in males, 32–35 in females. Pedipalps densely hirsute, metasoma sparsely hirsute. Carapace, mesosoma, patella and chela of pedipalps, fourth and fifth metasomal segments and telson yellowish brown to black. Anterior part of carapace with black spot. Mesosomal segments often with a median longitudinal yellowish-brown stripe. Femur of pedipalps, legs, and first and second metasomal segments yellow to yellowish green (Fig. 62). Femur of pedipalp with 5 carinae, patella with 8 carinae, chela lacks carinae. Movable fingers of pedipalps with 14–15 rows of granules and 5 or 6 terminal granules. Seventh metasomal segment with 4 well marked ventral carinae. First metasomal segment with 10 carinae; second segment with 8 carinae and lateral median short row of granules; third and fourth segments with 8 carinae; fifth segment with 5 carinae, 3 ventral (1 median, 2 lateral) and 2 dorsal. All metasomal carinae granulated. Dorsal carinae of metasomal segments bear larger terminal granules. Dorsal surface smooth, fifth metasomal segment bears 2 short, inconspicuous carinae. First metasomal segment of adults usually longer than wide or as long as wide, second metasomal segment always longer than wide. Second to fourth metasomal segment width ratio less than 1.1.

COMMENTS. The lectotype is being designated in order to stabilize the nomenclature. Fet & Lowe (2000: 140) listed the female as the holotype, but Pocock did not designate the holotype.

DISTRIBUTION: United Arab Emirates (Hendrixson, 2006: 79), Oman (Pocock, 1895: 302), Saudi Arabia (Hendrixson, 2006: 79), and Yemen (Al-Safadi, 1992: 97). Record for Iran (Werner, 1929: 243; Farzanpay, 1988: 37) and India (Kraepelin, 1901: 267) must be considered dubious.

Hottentotta judaicus (Simon, 1872)
(Figs. 13, 64–67)

Buthus judaicus Simon, 1872: 252; Thorell, 1876: 115; Simon, 1879: 99; Simon, 1880b: 29; Simon, 1884: 191; Pocock, 1891: 242; Simon, 1892: 83; Kraepelin, 1895: 81(in part); Pavesi, 1895a: 4; Kraepelin, 1899: 19; Kraepelin, 1901: 267; Werner, 1902: 597; Birula, 1905: 136; Schenkel, 1932: 379; Werner, 1935: 211; Bücherl, 1959: 257; Amitai et al., 1981: 1083.

Buthus (*Buthus*) *judaicus*: Pocock, 1890a: 126; Birula, 1900: 12; Werner, 1934: 269; Roewer, 1943: 206.

Buthus (*Hottentotta*) *judaicus*: Birula, 1914: 654; Vachon, 1940b: 255.

Dasyscorpio judaicus: Pallary, 1938: 279.

Buthotus judaicus: Vachon, 1949: 144 (1952: 230); Vachon, 1951: 344; Shulov, 1958: 879; Shulov & Amitai, 1959: 223; Vachon, 1958: 134; Shulov & Amitai, 1958: 354; Vachon, 1966: 210; San Martin & Gambardella, 1967: 18; Vachon & Stockmann, 1968: 91; Pérez Minocci, 1974: 21; Levy & Amitai, 1980: 54; Kinzelbach, 1984: 100; Amr et al., 1988: 373; El-Hennawy, 1988: 14; El-Hennawy, 1992: 116; Amr & El-oran, 1994: 186; Kabakibi, Khalil & Amr, 1999: 80.

Buthotus (*Hottentotta*) *judaicus*: Birula, 1910: 170; Birula, 1917: 200; Vachon, 1947a: 26; Vachon, 1947b: 162.

Hottentotta judaica: Hadley, 1990: 327; Polis & Sissom, 1990: 166; Sissom, 1990: 92; Warburg & Polis, 1990: 225; Dupre & Balliet, 1997: 5; Kovařík, 2002: 7.

Hottentotta judaicus: Kovařík, 1997a: 43; Crucitti, 1999: 82; Stathi & Mylonas, 2001: 288; Karatas, 2003: 315.

Hottentotta (*Hottentotta*) *judaica*: Kovařík, 1998: 110; Fet & Lowe, 2000: 140.

= *Buthus hedenborgii* Thorell, 1876: 113 (syn. by Simon, 1879: 99).

Buthus hottentotta (in part): Kraepelin, 1891: 185 (see Kraepelin, 1899: 19).

TYPE LOCALITY AND TYPE REPOSITORY. Israel, Jerusalem, Jordan Valley, shores of the Dead Sea; MNHN.

MATERIAL EXAMINED. **Israel**, Tel-Aviv, 2♀, SMFD No. 6663/70; Jaffa, 1885, 1♂1♀(im.), leg. H. Simon, SMFD

Figure 64: *Hottentotta judaicus*, dorsal view, male from Jordan, King Talal Dam, FKCP.

Figure 65: *Hottentotta judaicus*, ventral view, male from Jordan, King Talal Dam, FKCP.

No. 5255; Haifa, 1886, 1♂3♀, leg. H. Simon, SMFD No. 5243. **Jordan**, 1juv., 10.V.1956, leg. J. Klapperich, HNHM; Betlem, 2♂1♀2juvs., 1985, FKCP; Gastel Aulun, 1♂(im.), 5.V.1995, leg. M. Kaftan, FKCP; Jerash, 1♂(im.), 5.V.1995, leg. V. Šejna, FKCP; King Talal Dam, 1♂(Figs. 64–65), 28.IV.1996, leg. D. Modrý, FKCP; NW, Zoubia, 3♀(Figs. 13, 66–67)1♂, IV.1996, leg. D. Modrý, FKCP. "**Palestina**", 1♂1♀(im.), det.1992, FKCP. **Syria**, 1839, 1♂1♀, leg. Rosenbach, SMFD No. 5244; Qunawat, 1juv., 30.VI.1994, leg.

Figure 66: *Hottentotta judaicus*, dorsal view, female from Jordan, Zoubia, FKCP.

Figure 67: *Hottentotta judaicus*, ventral view, female from Jordan, Zoubia, FKCP.

D.Vlasta, FKCP; 1♀, 1994, leg. D. Modrý, FKCP; 1♂, V.1994, leg. D. Modrý, FKCP.

DIAGNOSIS. Total length 60–80 mm, males usually smaller than females. For habitus see Figs. 64–67. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est* (Fig. 1). Chelicerae black, reticulate. Sexual dimorphism not pronounced, width of pedipalp chela same in both sexes. Pectinal teeth number 27–32 in males, 22–27 in females.

Pedipalps sparsely hirsute. Metasoma bears only a few hairs. Color black except for reddish brown fingers of pedipalps; ends of first and second tarsomeres may be yellow in some specimens. Femur of pedipalp with 5 carinae. Surfaces of femur and patella granulate. Patella with 8 carinae. Chela lacks carinae. Movable fingers of pedipalps with 13–14 rows of granules and 5 terminal granules. Seventh metasomal segment with 4 well marked ventral carinae. First metasomal segment with 10 carinae; second segment with 8 or 10 carinae; third segment with 8 carinae and sometimes a short row of granules in center of lateral part; fourth segment with 8 carinae; fifth segment with 5 carinae, 3 ventral (1 median, 2 lateral) and 2 dorsal. Dorsal surface smooth, fifth metasomal segment bears 2 short, inconspicuous carinae. First and second metasomal segments of both sexes longer than wide. Second to fourth metasomal segment width ratio less than 1.2.

DISTRIBUTION: Israel (Simon, 1872: 252), Jordan (Birula, 1914: 654), Lebanon (Vachon, 1966: 210), "Palestine" (Kraepelin, 1899: 19), Syria (Kraepelin, 1899: 19), and Turkey (Birula, 1910: 170).

Hottentotta minax (L. Koch, 1875)
(Figs. 68–74)

Buthus minax L. Koch, 1875: 4; Simon, 1879: 99; Pavesi, 1885: 197; Hirst, 1911b: 217; Kraepelin, 1913: 171 (in part); Borelli, 1915: 460; Werner, 1916: 80; Lampe, 1918: 191; King, 1925: 80; Borelli, 1929: 297; Borelli, 1931: 218; Moritz & Fischer, 1980: 319.
Buthus (*Buthus*) *minax* (? in part): Pocock, 1890a: 126.
Buthus hottentotta minax: Kraepelin, 1899: 22; Tullgren, 1909: 2; Gough & Hirst, 1927: 4; Kraepelin, 1929: 87.
Buthus (*Hottentotta*) *minax*: Birula, 1908: 141; Werner, 1911: 185; Birula, 1915a: 123; Birula, 1928: 81; Werner, 1934: 269; Caporiacco, 1947: 231.
Buthus (*Hottentota*) *minax*: Simon, 1910: 72; Moriggi, 1941: 86.
Buthus (*Hottentota*) *hottentotta minax*: Roewer, 1943: 207.
Buthotus minax: Vachon, 1949: 147 (1952: 233); Vachon & Stockmann, 1968: 118; Probst, 1973: 329; Lamoral & Reynders, 1975: 502; Armas, 1986: 16; Cloudsley-Thompson, 1986: 185; El-Hennawy, 1992: 117.
Hottentotta minax: ? Loveridge, 1925: 305; Simard & Watt, 1990: 436; Warburg & Polis, 1990: 229; Kovařík, 2002: 7; Soleglad & Fet, 2003a: 5; Soleglad & Fet, 2003b: 7; Kovařík, 2003: 140; Lourenço, 2004: 216; Kovařík & Whitman, 2005: 106.
Hottentotta (*Hottentota*) *minax*: Kovařík, 1998: 110; Fet & Lowe, 2000: 141.
Buthotus minax minax: Vachon & Stockmann, 1968: 119.
Buthotus minax typicus: Probst, 1973: 329.
Hottentotta (*Hottentota*) *minax minax*: Fet & Lowe, 2000: 141.
Buthus hottentotta minaci: Caporiacco, 1937: 357.
Buthus hottentotta (in part): Pavesi, 1895c: 495; Kraepelin, 1891: 185; Thorell, 1893: 362.
= *Buthus isselii* Pavesi, 1883: 3 (nomen nudum) (syn. by Pavesi, 1895c: 495).
= *Buthus hottentotta tigrinus* Caporiacco, 1937: 355; Bartolozzi, Vanni & Mascherini, 1987: 295; Kovařík & Whitman, 2005: 106 (syn. by Kovařík, 2003: 140).
Buthus (*Hottentotta*) *tigrinus*: Moriggi, 1941: 87; Caporiacco, 1947: 231.
Buthotus hottentotta tigrinus: Vachon & Stockmann, 1968: 124; El-Hennawy, 1992: 117.
Buthotus minax tigrinus: Probst, 1973: 329; Lamoral & Reynders, 1975: 503.
Hottentotta (*Hottentotta*) *minax tigrinus*: Kovařík, 1998: 110; Fet & Lowe, 2000: 142.
Buthotus minax occidentalis Vachon & Stockmann, 1968: 128; Vachon, 1974: 885; Lamoral & Reynders, 1975: 503; Stockmann, 1979: 405; Francke & Sissom, 1984: 12; Dupre & Balliet, 1997: 5.
Hottentotta minax occidentalis: Polis & Sissom, 1990: 197.
Hottentotta (*Hottentotta*) *minax occidentalis*: Kovařík, 1998: 110; Fet & Lowe, 2000: 142.
Hottentotta occidentalis: Lourenço, 2004: 213.
= *Hottentotta acostai* Lourenço, 2004: 213. **Syn. n.**

TYPE LOCALITY AND TYPE REPOSITORY. Egypt, Cairo; ZMHB.

TYPE MATERIAL EXAMINED. **Chad**, South of Tibesti, NE Sherda-Zouar (steppe formation), 1♂1♀1♀(im.) (paratypes of *Hottentotta acostai* Lourenço, 2004, Figs. 73–74), 7.IV.1968, leg. P. M. Brignoli, ZMUH No. A37/04. **Egypt**, Cairo, 1♂(Fig. 68)1im. (lectotype and paralectotype No. 1), leg. Jickeli, ZMHB No. 2518; Habab, 2♂2♀ (paralectotypes Nos. 2–5), leg. Jickeli, ZMHB No. 2519. **Eritrea**, Press Adua, terr. Gherungara, V.1936, 1♂ (lectotype of *Buthus hottentotta tigrinus* Caporiacco, 1937), MZUF No. 780.

OTHER MATERIAL EXAMINED. **Egypt**, 1♂, SMFD No. 5246. **Ethiopia**, presso Adua, torrente Gherungurà, V.1936, 1♀, leg. R. Cimmaruta, MZUF No. 634; 1990, 5♂3♀(Figs. 69–72)1juv., FKCP. **Eritrea**, Adi Ugri, 1900, 1♀, leg. A. Andreini, MZUF No. 634; Ghinda, Val. R. Embatkalla, 29.XII.1900, 8♀3 juvs., leg. A. Andreini, MZUF No. 626; Ghinda, Val. R. Embatkalla, sotto sassi, 29.XII.1900, 3♀, leg. A. Andreini, MZUF No. 625; Saganeiti, IV.1901, 3 juvs., leg. A. Andreini, MZUF No. 628; Saganeiti, IV.1901, 1♂6♀, leg. A.

Figure 68: *Hottentotta minax*, dorsal view, male lectotype.

Andreini, MZUF No. 620; Adi Ugri, V.1901, 1♂1♀6 juvs., leg. A. Andreini, MZUF No. 633; Adi Ugri, dintorni, sotto sassi, V.1901, 3♀, leg. A. Andreini, MZUF No. 632; Adi Ugri, VI.1901, 4♂5♀9juvs., leg. A. Andreini, MZUF No. 635; Enda Abba Mali, terr[itorio di] Adi Ugri, 8.VI.1901, 2 ♂2♀, leg. A. Andreini, MZUF No. 630; Enda Abba Mali, Adi Ugri, 8.VI.1901, 1♂2juvs., leg. A. Andreini, MZUF No. 631; Adi Ugri, VII.1901, 1♂, leg. A. Andreini, MZUF No. 636; Adi Caieh, IV.1902, 3♀, leg. A. Andreini, MZUF No. 624; Adi Caieh, dintorni, IV.1902, 2♀2juvs., leg. A. Andreini, MZUF No. 629; Adi Caieh, sotto sassi, V.1902, 1♀, leg. A. Andreini, MZUF No. 627; Adi Caieh, V.1902, 1♀, leg. A. Andreini, MZUF No. 621; Adi Caieh, VI.1902, 1♂, leg. A. Andreini, MZUF No. 623; Adi Caieh, sotto sassi, VII.1902, 1♀, leg. A. Andreini, MZUF No. 622. **? Kenya**, D. O. Afrika, Tabora, 1913, 5♂5♀1juv., leg. Schablitzki, SMFD No. 5220.

DIAGNOSIS. Total length 45–70 mm. For habitus see Figs. 68–74. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est*, may be on level with *est*. Sexual dimorphism not pronounced; manus of pedipalp usually of same width in both sexes, but males have fingers twisted whereas females have them straight. Pectinal teeth number 19–28. Chelicerae yellow, without reticulation, only tips of teeth on cheliceral fingers are black. Pedipalps sparsely hirsute. Metasoma bears only a few hairs. Color usually uniformly yellowish brown, only ventral carinae of metasoma black; mesosoma and carapace may be black in some specimens. Femur of pedipalps with 5 carinae that may be incomplete. Patella with 8 carinae, of which some are smooth, without granules and obsolete. Chela lacks carinae. Movable fingers of pedipalps with 12 or 13 rows of granules and 5 terminal granules. Seventh metasomal segment with 4 well marked ventral carinae. First to third metasomal segments with 10 carinae; fourth segment with 8 or 10 carinae; fifth segment with 5 carinae. Lateral carinae may not be discernible in some males. All carinae granulated, dorsal carinae bear larger terminal granules. Metasoma strongly granulated, accessoric rows of granules present on dorsal surfaces of segments as well as on ventral surface of fifth segment. First metasomal segment of adults always wider than long; second metasomal segment usually also wider than long, but in smaller, less developed specimens of both sexes may be longer than wide. Second to fourth metasomal segment width ratio less than 1.2.

Figure 69: *Hottentotta minax*, dorsal view, male from Ethiopia, FKCP.

Figure 70: *Hottentotta minax*, ventral view, male from Ethiopia, FKCP.

Figure 71: *Hottentotta minax*, dorsal view, female from Ethiopia, FKCP.

Figure 72: *Hottentotta minax*, ventral view, female from Ethiopia, FKCP.

Figure 73: *Hottentotta minax*, dorsal view, male paratype of *Hottentotta acostai*.

Figure 74: *Hottentotta minax*, dorsal view, female paratype of *Hottentotta acostai*.

TYPE LOCALITY AND TYPE REPOSITORY. Chad, South of Tibesti, NE Sherda-Zouar; ZMUH.

COMMENTS. *H. acostai* Lourenço, 2004 is based on six specimens of which I have seen three paratypes. Lourenço (2004: 216) distinguishes *H. acostai* from *H. minax*, actually *H. minax occidentalis*, by 1) smaller size (45 and 51 mm); 2) much more pale coloration; 3) more marked granulation on carapace and tergites; and 4) pectinal tooth counts, which in *H. acostai* show a less number of teeth (22 or 23 in males and 19 or 20 in females). As for character 1), I found one female paratype to be 59 mm long (Fig. 74). Characters 2) and 3) are valueless and, as is apparent from Figs. 68–74, do not show any difference. And neither character 4) shows anything that would separate the paratypes from *H. minax* (see diagnosis). The only difference, which Lourenço does not mention, may be a somewhat narrower metasoma (see Figs. 71 and 74), however that is common even in the same population (see discussion below) and e.g. in the MZUF collection have specimens with narrower metasoma often been labeled as *Hottentotta minax tigrinus*. Also the females para-lectotypes of *H. minax* have the metasoma narrower than the specimen in Fig. 71.

The taxonomic position of the subspecies *H. minax occidentalis* is questionable. Vachon & Stockmann (1968: 128) described this taxon (type locality and type repository: Chad, Djermaya; MNHN) as a subspecies and distinguished it from other populations only on the positions of trichobothria on the femur of pedipalp, whose difference (figs. 36 and 37 in Vachon & Stockmann, 1968: 117) are due to variability and therefore not taxonomically useful. Another difference is ventral granules on the fifth metasomal segment that, however, are also quite variable. Lourenço (2004: 213) elevated this subspecies to species without giving any reasons for the status change. Due to unavailability of MNHN types (see Kovařík, 2004: 27), I have no choice but to regard this taxon recorded from Chad and Cameroon as a subspecies of *H. minax*, with the stipulation that only a thorough study of the types can decide whether it is a synonym or a valid species.

DISTRIBUTION. Chad, Cameroon (Vachon & Stockmann 1968: 129), Egypt (L. Koch, 1875: 7), Eritrea, Ethiopia (Borelli, 1915: 460), Kenya, Libya (Fet & Lowe, 2000: 142), Sudan (Birula, 1908: 141). This species has been reported also from Tanzania (Lampe, 1918: 191; Werner, 1916: 80; Loveridge, 1925: 305; Werner, 1936: 175), however I suspect all such reports to concern misidentified *H. trilineatus*. Also Uganda records (Birula, 1908: 141) are most likely dubious.

Hottentotta niloticus (Birula, 1928)
(Figs. 14, 75–76)

Buthus (*Hottentotta*) *minax niloticus* Birula, 1928: 82.
Buthotus minax niloticus: Vachon & Stockmann, 1968: 124; Probst, 1973: 329; Lamoral & Reynders, 1975: 502; El-Hennawy, 1992: 117.
Hottentotta (*Hottentotta*) *minax niloticus*: Kovařík, 1998: 110; Fet & Lowe, 2000: 142.
Hottentotta niloticus: Kovařík, 2003: 140.
Buthotus minax: Kovařík, 1992: 183.

TYPE LOCALITY AND TYPE REPOSITORY. Sudan, Nile River valley, Kordofan and Sennaar regions; ZISP.

MATERIAL EXAMINED. **Sudan**, south, 1♂, FKCP; Wad Medani, 2♂, 8.VIII.1982, leg. J. Kotásek, FKCP, 1♂2♀, NMPC; Khartoum, Sunt Forest, 1♂(Figs. 14, 75–76), 29.IX.1967, leg. P. Štys, FKCP; Khartoum, 1♀, 10.VIII.1973, leg. V. Seichert, FKCP.

DIAGNOSIS. Total length 45–70 mm. For habitus see Figs. 75–76. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est*, may be level with *est*. Male manus of pedipalp broader and fingers of pedipalps twisted (straight in female). Pectinal teeth number 22–27. Chelicerae yellow, without reticulation, only tips of teeth on cheliceral fingers are black. Pedipalps sparsely hirsute. Metasoma bears only a few hairs. Color usually uniformly yellowish brown, only ventral carinae of metasoma black; mesosoma and carapace may be black in some specimens. Femur of pedipalps with 5 carinae that may be incomplete. Patella with 8 carinae, of which some are smooth, without granules and obsolete. Chela lacks carinae. Movable fingers of pedipalps with 12 or 13 rows of granules and 5 terminal granules. Seventh metasomal segment with 4 well marked ventral carinae. First to third metasomal segments with 10 carinae; fourth segment with 8 or 10 carinae; fifth segment with 5 carinae. Lateral carinae may not be discernible in some males. All carinae granulated, dorsal carinae bear larger terminal granules. Metasoma strongly granulated, accessoric rows of granules present on dorsal surfaces of segments as well as on ventral surface of fifth segment. First metasomal segment of adults always wider than long; second metasomal segment of both sexes usually also wider than long. Second to fourth metasomal segment width ratio less than 1.2.

COMMENTS. *H. niloticus* is very closely related to *H. minax*, from which it differs only in being more sexually dimorphic – the male manus of pedipalp in adult *H. niloticus* is markedly broader than that of the female. In the examined specimens of *H. minax* the width of the manus is the same in both sexes.

Figure 75: *Hottentotta niloticus*, dorsal view, male from Sudan, Khartoum, Sunt Forest, FKCP.

Figure 76: *Hottentotta niloticus*, ventral view, male from Sudan, Khartoum, Sunt Forest, FKCP.

DISTRIBUTION. Sudan (Birula, 1928: 82).

Hottentotta pachyurus (Pocock, 1897)
(Figs. 15, 77–81)

Buthus pachyurus Pocock, 1897a: 107; Kraepelin, 1899: 20; Pocock, 1900a: 27; Kraepelin, 1913: 129 (in part); Lindberg, 1946: 152; Takashima, 1945: 75.
Buthus pachyurus typicus: Kraepelin, 1913: 130.
Buthus (*Buthus*) *pachyurus*: Roewer, 1943: 206.
Buthotus pachyurus: Vachon, 1949: 147 (1952: 233); Vachon & Stockmann, 1968: 91; Kovařík, 1992: 183.
Hottentotta (*Hottentotta*) *pachyurus*: Kovařík, 1998: 110.
Hottentotta pachyura: Kovařík, 2001b: 83; Kovařík, 2002: 7.
Mesobuthus pachyurus: Tikader & Bastawade, 1983: 236; Fet & Lowe, 2000: 178; Bastawade, 2002: 294.
= *Hemibuthus kraepelini* Roewer, 1943: 213 (syn. by Kovařík, 1999: 291).
Hottentotta (?) *kraepelini*: Fet & Lowe, 2000: 141.
= *Hottentotta* (*Deccanobuthus*) *geffardi* Lourenço, 2000: 192; Lourenço, 2004: 211; Lourenço & Ythier, 2006: 71. **Syn. n.**
Hottentotta rugiscutis: Kovařík, 1999: 291 (in part); Kovařík, 2002: 7.

TYPE LOCALITY AND TYPE REPOSITORY. India, Maharashtra, Mundla; BMNH.

TYPE MATERIAL EXAMINED. **India**, ***Maharashtra***, Mundla, 1♀ (lectotype hereby designated, Figs. 77–78), leg. A. N. Cacia, BMNH No. 1896.9.26.17–19; ***Tamil Nadu***; Dekan, Nilgiris, 1♀ (lectotype of *Hemibuthus kraepelini* Roewer, 1943, Figs. 80–81) and 2♂ (paralectotypes Nos 1–2 of *Hemibuthus kraepelini* Roewer, 1943), SMFD No. 8880/222; ***Maharashtra***, Deccan Kurduvadi, 18º05'N 75º26'E, VII.1939, 1♀ (holotype of *Hottentotta* (*Deccanobuthus*) *geffardi* Lourenço, 2000, Fig. 79), leg. K. Lindberg, ZMUH No. A70/00.

OTHER MATERIAL EXAMINED. **India**, ***Tamil Nadu***, Deccan, Nilgiris, 1♂2♀1juv., SMFD No. 8851/193 and No. 1084/15; Deccan, 2♀(Fig. 15), 1985, FKCP.

DIAGNOSIS. Total length 35–50 mm. For habitus see Figs. 77–81. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est*. Male with fingers proximally twisted, manus and metasomal segments slightly wider than female, and with slightly longer and narrower metasomal segments. Pectinal teeth number 20–24. Chelicerae yellow to green, usually reticulate. Nearly entire body hirsute, pedipalps, dorsal surface of mesosoma, legs, lateral and ventral surfaces of metasomal segments, and vesicle densely hirsute. The hairs on patella of pedipalps are long. Color uniformly reddish brown to black. Femur of pedipalp with 5 carinae. Dorsal surface of femur granulated. Patella usually with 2 carinae on internal surface, other carinae poorly defined or absent. Chela lacks carinae. Movable fingers of pedipalps with 12 rows of granules and 5 terminal granules. Seventh metasomal segment with 4 well marked ventral granulated carinae. Dorsal surfaces of mesosoma and carapace granulated. First to fourth metasomal segments with 10 carinae; fifth segment with 5 carinae. Entire metasoma (except smooth dorsal surface with but a few solitary granules) densely granulated. Granules large, conspicuous, may obscure carinae. Telson also densely granulated. First to third metasomal segments of adult females wider than long. Second to fourth metasomal segment width ratio about 1.1. Length to width ratio of fourth metasomal segment less than 1.2.

COMMENTS. Tikader & Bastawade (1983: 185–188) placed this species together with *H. tamulus* and *H. rugiscutis* in *Mesobuthus*. However, according to Fet & Lowe (2000: 134) the placement of this "Indian lineage" in *Mesobuthus* is uncertain. Lourenço (2000: 192) accepted the transfer of Indian species from *Hottentotta* to *Mesobuthus*, but left the Indian *Hottentotta* (*Deccanobuthus*) *geffardi* Lourenço, 2000 in *Hottentotta*. Examination of the holotype (Fig. 79) has shown this taxon to be a synonym of *H. pachyurus* (Fig. 77). In this revision, all Indian species of *Mesobuthus* are moved back to *Hottentotta*.

I originally synonymized *Hemibuthus kraepelini* Roewer, 1943 (Figs. 80 and 81) with *H. rugiscutis* (see Kovařík, 1999: 291). At that time I did not see the types of *H. rugiscutis*, *H. hendersoni*, and *H. pachyurus* and based the synonymy only on published information. Now, upon examination of types of the said taxa and of several hundred other specimens from India I am convinced that *Hemibuthus kraepelini* Roewer, 1943 is a synonym of *H. pachyurus*. The lectotype is being designated in order to stabilize the nomenclature.

DISTRIBUTION: India (Pocock, 1897a: 108).

Hottentotta penjabensis (Birula, 1897) **comb. n.**
(Figs. 82–83)

Buthus hottentotta (in part): Kraepelin, 1891: 192 (Birula, 1897: 377).
Buthus alticola forma beta (*penjabensis*) Birula, 1897: 382.
Buthus alticola penjabensis: Kraepelin, 1899: 21; Pocock, 1900a: 22; Kraepelin, 1913: 127; Vachon, 1958: 139.
Buthus (*Hottentotta*) *alticola pendjabensis*: Birula, 1914: 654.

Figure 77: *Hottentotta pachyurus*, dorsal view, female lectotype.

Figure 78: *Hottentotta pachyurus*, ventral view, female lectotype.

Figure 79: *Hottentotta pachyurus*, dorsal view, female holotype of *Hottentotta* (*Deccanobuthus*) *geffardi*.

Buthus (*Hottentotta*) *alticola pendschabensis*: Birula, 1917: 241.
Buthotus alticola penjabensis: Pérez Minocci, 1974: 21.
Buthotus alticola punjabensis: Tikader & Bastawade, 1983: 164.
Hottentotta (*Hottentotta*) *alticola penjabensis*: Kovařík, 1998: 109; Fet & Lowe, 2000: 136.

TYPE LOCALITY AND TYPE REPOSITORY. Northern Punjab, India; now Pakistan or India; ZISP.

MATERIAL EXAMINED. **Pakistan**, Baluchistan, Hazarganji Chiltan n. p., 10 km W from Quetta, 18.VII.1998, 2♂1♀, leg. L. Černý, FKCP; Baluchistan, Zhob, VI. 2006, 2♂(Figs. 82–83), leg. Zubair Ahmed, FKCP.

DIAGNOSIS. Total length 60–90 mm. For habitus see Figs. 82–83. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est* (Fig. 1). Chelicerae yellow to black, reticulate. Male with slightly longer and narrower metasomal segments, width of pedipalp chela same in both sexes. Pectinal teeth number 29–34 in males, 23–26 in females. Pedipalps and metasoma sparsely hirsute. The hairs on patella of pedipalps are long. Color yellow to yellowish green or brown except black anterior part of carapace and fingers of pedipalps; in some specimens entire carapace and mesosomal segments except seventh tergite may be black (Fig. 82). Femur of pedipalp with 5 carinae, patella with 8 carinae, chela lacks carinae. Movable fingers of pedipalps with 14 or 15 rows of granules and 6 terminal granules. Seventh metasomal segment with 4 well marked ventral carinae. First metasomal segment with 10 carinae; second segment with 8 or 10 carinae; third and fourth segments with 8 carinae; fifth segment with 5 carinae, 3 ventral (1 median, 2 lateral) and 2 dorsal. Dorsal carinae of metasomal segments bear larger terminal granules. Dorsal surface smooth, but fourth and fifth segments bear 2 short, inconspicuous carinae each. First and second metasomal segments of both sexes longer than wide. Second to fourth metasomal segment width ratio less than 1.1.

COMMENTS. Fet & Lowe (2000: 136) state that the type locality is probably in Pakistan, not in India as assumed by previous authors. An occurrence of this species in Pakistan, Quetta, published by Vachon (1959: 139) was based on BMNH specimens. Also, specimens in my collection are from the vicinity of Quetta (Hazarganji Chiltan n. p.). Two males were found by the Pakistani arachnologist Zubair Ahmed at Zhob (Figs. 82–83). The species is known from only a small number of specimens. Vachon (1959: 139) measured an immature male from Quetta (BMNH) at 46 mm, but Tikader & Bastawade (1983: 165) gave length of the same specimen as 50 mm. An adult male collected by Zubair Ahmed is 85 mm long. Total length of 87 mm is given by Birula (1914: 656).

Figure 80: *Hottentotta pachyurus*, dorsal view, male lectotype of *Hemibuthus kraepelini*.

Figure 81: *Hottentotta pachyurus*, ventral view, male lectotype of *Hemibuthus kraepelini*.

Figure 82: *Hottentotta penjabensis*, dorsal view, male from Pakistan, Baluchistan, Zhob, FKCP.

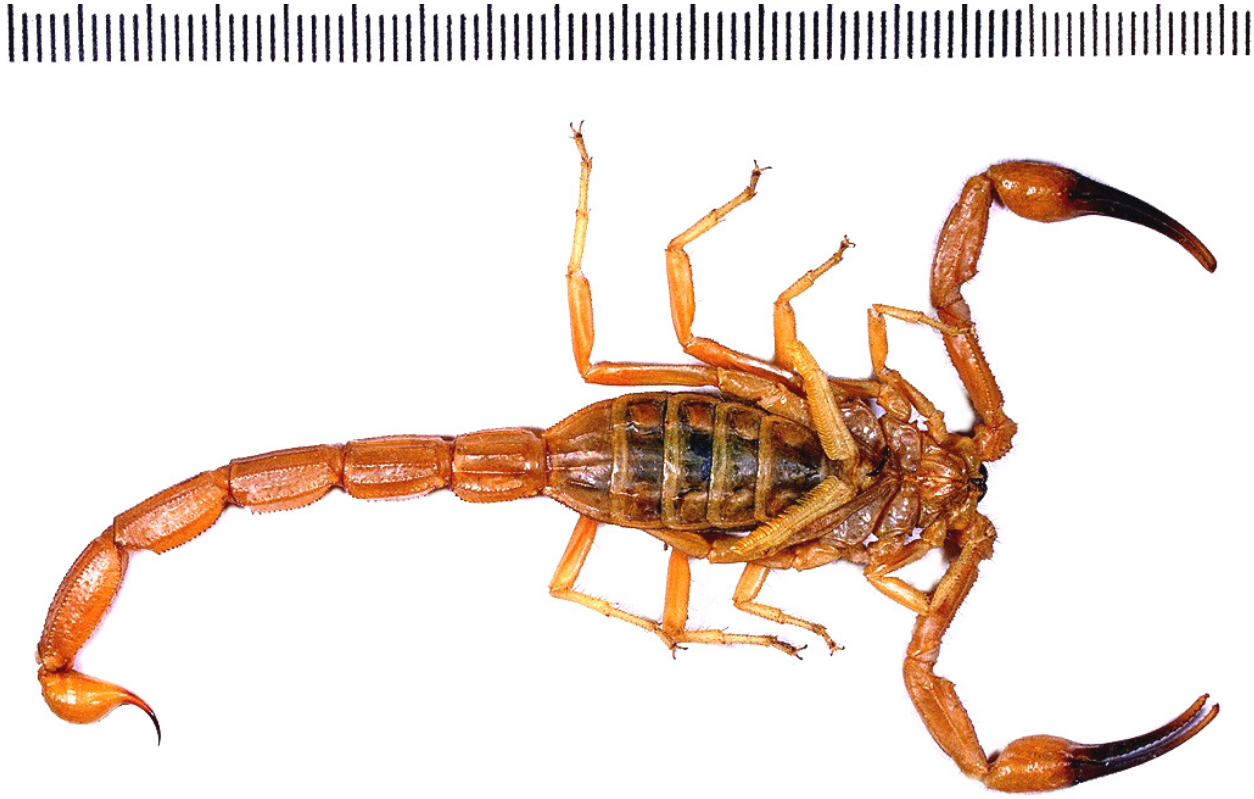

Figure 83: *Hottentotta penjabensis*, ventral view, male from Pakistan, Baluchistan, Zhob, FKCP.

Figure 84: *Hottentotta polystictus*, dorsal view, female holotype.

Figure 85: *Hottentotta polystictus*, dorsal view, female from Kenya, North Horr, FKCP.