

second and third metasomal segment longer than wide. Second to fourth metasomal segment width ratio is less than 1.1. Length to width ratio of fourth metasomal segment less than 1.4.

DESCRIPTION: Total length 53.8 mm (male holotype). The habitus is shown in Figs. 30–31. Measurements of the carapace, telson, segments of the metasoma and of the pedipalps, and numbers of pectinal teeth in the holotype and allotype are given in Table 1. Trichobothrium *db* on the the fixed finger of pedipalp is situated on level with trichobothrium *est*. Pectinal teeth number 25–26. Chelicerae are yellow to yellowish brown, with reticulation only in anterior part. The male has fingers proximally slightly twisted. Although I have not seen a female, morphological similarity with other species leads me to assume that its manus is narrower than in the male.

COLORATION: The color is uniformly yellow to yellowish brown. Mesosomal segments and carapace usually bear orange spots and longitudinal black stripes. Metasomal carinae may be black as well.

MESOSOMA AND CARAPACE: The mesosoma has three carinae on the dorsal surface and two carinae on the ventral surface with the exception of the seventh segment, whose ventral surface bears four well marked carinae. The dorsal surface is granulated (granules are smaller than the spaces between them), whereas the ventral surface is smooth.

PEDIPALPS: The pedipalps are hirsute, but not densely. The hairs are long. The femur of pedipalp has five carinae and the dorsal surface is covered by granules. The patella is granulated and bears eight carinae, of which some are indistinct. Chela lacks carinae. The movable fingers of pedipalps bear 12 rows of granules and 5 terminal granules.

METASOMA AND TELSON: The first metasomal segment is wider than long, whereas the second and third segments are longer than wide. The first to fourth segments bear 10 carinae, and the fifth segment bears only five carinae. The surface between the carinae is granulated but dorsal granulation is diminished to absent in the center which often bears two short, inconspicuous carinae. The telson is also granulated. The dorsal carinae of metasomal segments bear slightly larger terminal granules. The second through fourth segment width ratio is less than 1.1. Length to width ratio of the fourth metasomal segment is less than 1.4.

AFFINITIES. The described features distinguish *H. finneganae* **sp. n.** from all other species of the genus. They are recounted in the key below. *H. finneganae* **sp.**

n. is closest to *H. stockwelli* **sp. n.** from India. Differences between these two species are discussed under *H. stockwelli* **sp. n.**

Hottentotta franzwerner (Birula, 1914)
(Figs. 7, 32–36)

- Buthus (Hottentotta) franzwerner* Birula, 1914: 636; Werner, 1929: 33; Werner, 1932: 305.
Dasyscorpion franzwerner: Pallary, 1938: 279.
Buthotus franzwerner *franzwerner*: Vachon, 1949: 151 (1952: 237); Pérez Minocci, 1974: 21.
Hottentotta (Hottentotta) franzwerner *franzwerner*: Fet & Lowe, 2000: 138.
Hottentotta franzwerner *franzwerner*: Kovářik, 2002: 7; Lourenço, 2003: 876.
Buthus (Buthus) franzwerner: Roewer, 1943: 206.
Hottentotta franzwerner: Pallary, 1925: 57; Lourenço & Cloudsley-Thompson, 1996: 450; Dupré, Lambert & Gérard, 1998: 61.
Buthotus franzwerner: Vachon, 1949: 147 (1952: 233); Vachon & Stockmann, 1968: 91; Pérez Minocci, 1974: 21; Vial & Vial, 1974: 139; Cloudsley-Thompson, 1986: 185; El-Hennawy, 1992: 115; Goyfon, 1993: 243.
Hottentotta (Hottentotta) franzwerner: Kovářik, 1998: 110; Fet & Lowe, 2000: 137.
 = *Buthus (Hottentotta) ludaudi* Pallary, 1924: 220 (syn. by Vachon, 1949: 151).
Buthus (Hottentotta) ludaudi: Werner, 1932: 305.
Dasyscorpion ludaudi: Pallary, 1938: 279.

TYPE LOCALITY AND TYPE REPOSITORY. Algeria, Beni Ounif de Figuig; NHMW.

TYPE MATERIAL EXAMINED. **Algeria**, Beni Ounif de Figuig, VIII.1910, leg. F. Werner, 1♂ (lectotype hereby designated, Figs. 7, 32–33, 36) 1♀ (paralectotype, Figs. 34–36), NHMW No. 2454, 1♂(im.) 1♀ 1juv. (paralectotypes), NHMW No. 2455; Colomb Bechar, 1911, leg. A. Weidholz, 1♂ (paralectotype), NHMW No. 2456.

OTHER MATERIAL EXAMINED. **Algeria**, Beni Ounif de Figuig, VIII.1910, 1im., leg. F. Werner, SMFD No. 5128; Ouahran env., 1980, 1♀, FKCP. **Morocco**, Figuig, 32°06'11"N 01°13'21"W, 868 m., 6.V.2007, 1♀, leg. M. Velechovský and A. Funk, FKCP.

DIAGNOSIS. Total length 70–110 mm. For habitus see Figs. 32–36. Trichobothrium *db* on the fixed finger of pedipalp located between trichobothria *et* and *est* (Fig. 1). Chelicerae yellow to black, with reticulation. Male with slightly longer and narrower metasomal segments, width of pedipalp chela same in both sexes. Pectinal teeth number 32–38 in males, 26–32 in females. Nearly



Figure 32: *Hottentotta franzwernerii*, dorsal view, male lectotype.



Figure 33: *Hottentotta franzwernerii*, ventral view, male lectotype.

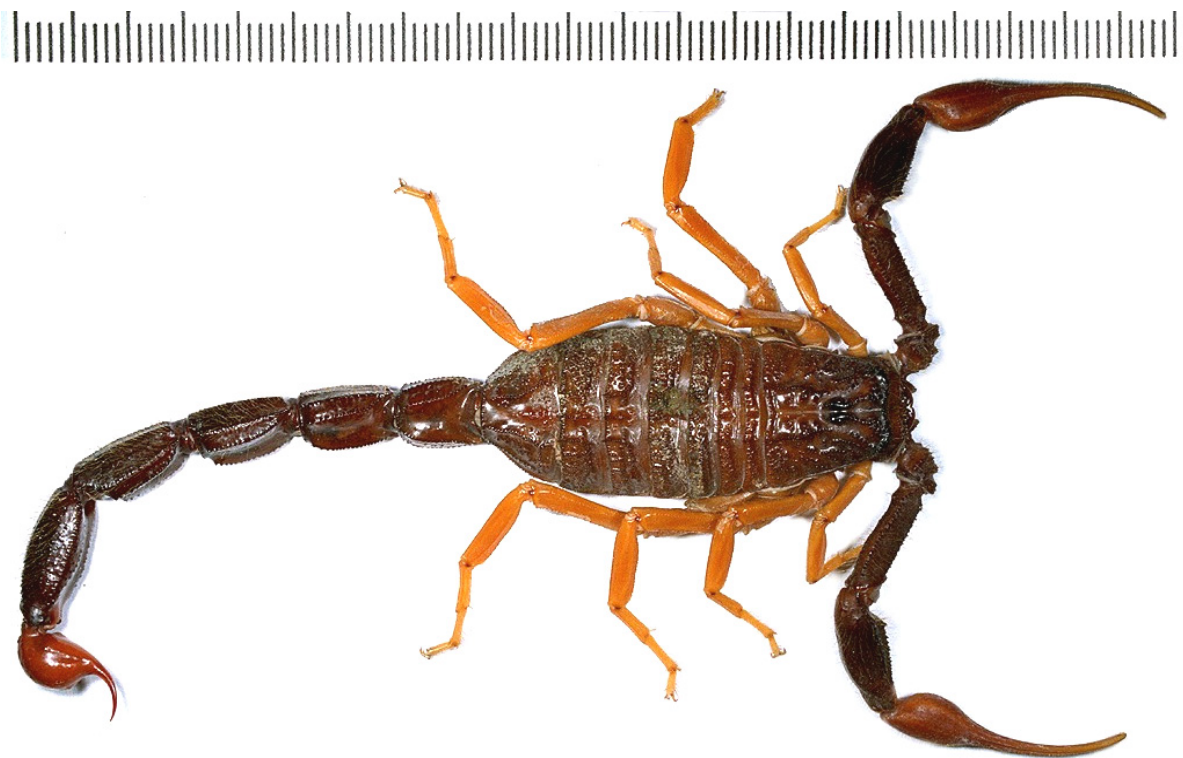


Figure 34: *Hottentotta franzweneri*, dorsal view, female paralectotype.



Figure 35: *Hottentotta franzweneri*, ventral view, female paralectotype.



Figure 36: *Hottentotta franzwernerii*, lateral view of metasoma, male lectotype (top) and female paralectotype (bottom).

entire body hirsute, pedipalps, legs, lateral and ventral surfaces of metasomal segments usually densely hirsute. Vesicle sparsely hirsute. Adult males usually only sparsely hirsute (Fig. 36). Color black except reddish brown chela of pedipalps and telson and yellow legs and tips of fingers of pedipalps. Femur of pedipalps with 5 carinae. Surfaces of femur and patella smooth to glossy. 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 granulated carinae. First metasomal segments with 10 carinae; second segment with 8 carinae and lateral median short row of granules; third and fourth segment with 8 carinae; fifth segment with 5 carinae, 3 ventral (1 median, 2 lateral) and 2 dorsal. Dorsal surface smooth, fifth 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.

COMMENTS. The lectotype is being designated in order to stabilize the nomenclature.

DISTRIBUTION: Algeria (Birula, 1914: 646), Morocco (Pérez Minocci, 1974: 21).

***Hottentotta gentili* (Pallary, 1924) comb. n.**
(Figs. 8, 37–39)

Buthus gentili Pallary, 1924: 219.

Hottentotta gentili: Pallary, 1925: 57; Pallary, 1937: 100; Sergent, 1943: 84.

Buthus (Hottentotta) gentili: Werner, 1932: 305.

Buthotus franzwernerii gentili: Vachon, 1949: 152 (1952: 238); Vachon, 1954: 187; Pérez Minocci, 1974: 21; El-Hennawy, 1992: 116; Kovařík, 1992: 183; Dupre, 1995: 3; Kovařík, 1997a: 43; Dupre & Balliet, 1997: 5.

= *Hottentotta gentili tazerouallensis* Pallary, 1937: 101 (syn. by Vachon, 1949: 152).

Buthotus gentili tazeroualtensis: Pérez Minocci, 1974: 21.

Dasyscorpia gentili: Pallary, 1938: 279.

Hottentotta (Hottentotta) franzwernerii gentili: Kovařík, 1998: 110; Fet & Lowe, 2000: 138.

Hottentotta franzwernerii gentili: Kovařík, 2002: 7; Lourenço, 2003: 876.

TYPE LOCALITY AND TYPE REPOSITORY. Morocco, Grand Atlas entre Mogador et Bou Denib; MNHN.

MATERIAL EXAMINED. **Algeria**, Oran, 1♀, SMFD No. 6668/75. **Morocco**, 3♂3♀5juvs., NMPC; Anti Atlas,



Figure 37: *Hottentotta gentili*, dorsal view, male from Morocco, prov. Tiznit, 25 km SE of Tiznit, 29°37'30"N 09°30'18"W, FKCP.

Anezi, 1♀(im.), 18.IV.1968, leg. P. Teisig, SMFD; 2juvs., det. 1988, FKCP; 2♀(Fig. 38), 10.V.1991, leg. V. Šípál, FKCP; Irhem, 1♂1im.1juv., 20.IV.1990, leg. S. Bečvář, FKCP; Tata, 1juv., 22.IV.1990, leg. S. Bečvář, FKCP; Tata, 1♀(im.), 22.IV.1990, leg. S. Bečvář, NMPC; Tizi-n-test, 1♀, 1.V.1990, leg. M. Král, FKCP; 1♀, VII.1990, 1♀, 10.V.1991, 1im., det. 1992, FKCP; Tenerhir, Gorges du Todre, 1♀, 14.V.1992, leg. A. Olexa, FKCP; 1♀, 1993, FKCP; Bouizakame, Timoulye, 9.IV.1995, 1♀(Figs. 8 and 39), leg. M. Snížek, FKCP; Tata, 1♂1juv., 10.IV.1995, leg. M. Snížek, FKCP; Anti Atlas, Ighrem, 1706 m., 1im.5juvs., 12.IV.1995, leg. M. Snížek, FKCP; Zagora, Jbel Amergou mer., Oued bou Tious, 1♀, 15.IV.1995, leg. M. Snížek, FKCP; Akka, Tisgui-El-Haratine, 1♂, 10.IV.1995, leg. M. Snížek, FKCP; Jbel Amergou, 1juv., 15.IV.1995, leg. M. Šárovec, FKCP; Erfoud, 1juv., 16.V.1995, leg. I. Šklíba, FKCP; Al-Rachidia, lake Barrage, Hasan-Adakhil, 1♂(im.), 24.IV.1995, FKCP; Haut Atlas, 1juv., 1997, FKCP; Quazazate, 1998, 1♀, FKCP; Tarfrount env., I. 2005, 1♀, leg. R.+H. Fouquè & S. Bečvář, FKCP; Tiznit prov., 25 km SE of Tiznit, 29°37'30"N 09°30'18"W, 10.II.2005, WGS84, 1♂(Fig. 37)2ims.(♂♀), leg. R.+H. Fouquè & S. Bečvář, FKCP; Haut Atlas mts., Agadir, 2 km S of Azazoul, 30°33.0'N 09°43.4'W, 86 m, 6.V.2007, 2ims.2juvs., leg. F. Kovařík, FKCP; Haut Atlas mts., Tizi-n-Test, 30°50.1'N, 08°22.6'W, 1521 m, 7.V.2007, 1im.1juv., leg. F. Kovařík, FKCP; Haut Atlas mts., Tizi-n-Test, 30°48.0'N 08°24.4'W, 1170 m, 8.V.2007, 1juv., leg. F. Kovařík, FKCP; Anti Atlas mts., Tezenakht env.,

30°41.2'N 07°16.3'W, 1593 m, 10.V.2007, 2♂7♀6ims.3juvs., leg. F. Kovařík, FKCP; Anti Atlas mts., NW of Anezi, 29°45.6'N 09°22.2'W, 399 m, 15.–16.V.2007, 2♀, leg. F. Kovařík, FKCP; Anti Atlas mts., NW of Anezi, 29°42.2'N 09°23.5'W, 246 m, 15.–16.V.2007, 1♀6ims.5juvs., leg. F. Kovařík, FKCP; Anti Atlas mts., 62 km SE of Agadir, 30°03.35'N, 09°04.4'W, 798 m, 16.V.2007, 1♀, leg. F. Kovařík, FKCP.

DIAGNOSIS. Total length 70–110 mm, males usually smaller than females. For habitus see Figs. 38–39. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est* (Fig. 1). Chelicerae black or yellow, reticulate. Sexual dimorphism not pronounced, width of pedipalp chela same in both sexes. Pectinal teeth number 32–35 in males, 26–31 in females. Nearly entire body hirsute, pedipalps, legs, lateral and ventral surfaces of metasomal segments usually densely hirsute. Vesicle sparsely hirsute. Adult males usually only sparsely hirsute. Color black except reddish brown chela of pedipalp and telson. Femur of pedipalp with 5 carinae. Surfaces of femur and patella smooth to glossy. Patella with 8 carinae. Chela lacks carinae. Movable fingers of pedipalps with 14–16 rows of granules and 5 terminal granules. Seventh metasomal segment with 4 well marked ventral granulated carinae. First metasomal segment with 10 carinae; second segment with 8 carinae and a short row of granules in center of lateral part; third and fourth segments with 8 carinae; fifth segment with 5 carinae, 3



Figure 38: *Hottentotta gentili*, dorsal view, female from Morocco, FKCP.



Figure 39: *Hottentotta gentili*, ventral view, female from Morocco, Bouizakame, Timoulye, FKCP.

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.

COMMENTS. Since 1949, this species has been regarded as a subspecies of *Hottentotta franzwernerii* (Birula, 1914). However, the two species are easily separated on color of the legs, which are black in *H. gentili* and yellow in *H. franzwernerii*.

DISTRIBUTION: Algeria (Vachon, 1949: 152), Morocco (Pallary, 1924: 220).

***Hottentotta hottentotta* (Fabricius, 1787)**

(Figs. 9–10, 40–47)

Scorpio hottentotta Fabricius, 1787: 348; Fabricius, 1793: 435; Zimsen, 1964: 637.

Scorpio (Androctonus) hottentottus: Gervais, 1844b: 47.

Prionurus hottentotta: Karsch, 1881: 89.

Buthus (Prionurus) hottentotta: Karsch, 1885: 134.

Buthus hottentotta: Pavesi, 1881: 556; Thorell, 1893: 362 (in part); Pavesi, 1897: 156; Kraepelin, 1891: 185 (in part); Pocock, 1889: 336; Kraepelin, 1898: 3; Kraepelin, 1899: 22; Pocock, 1899: 834; Werner, 1902: 597; Birula, 1908: 143; Kraepelin, 1913: 170; Lampe, 1918: 191; Kraepelin, 1929: 87; Belfield, 1956: 44.

Buthus hottentotta: Simon, 1885: 386; Kraepelin, 1901: 266; Borelli, 1911: 8; Borelli, 1913: 218; Monard, 1939: 83; Geeraerts, 1953: 1066.

Buthus (Buthus) hottentotta: Pocock, 1890a: 126.

Buthus (Hottentotta) hottentotta: Birula, 1908: 141; Werner, 1934: 269; Werner, 1936: 174; Vachon, 1940a: 170; Frade, 1947: 8.

Buthotus hottentotta: Vachon, 1949: 147 (1952: 233); Vachon, 1961: 31; Vachon & Stockmann, 1968: 110; Lamoral & Reynders, 1975: 501; Levy & Amitai, 1980: 53; Prost, 1982: 6; Cloudsley-Thompson, 1986: 185; El-Hennawy, 1992: 116.

Hottentotta hottentotta: Hadley, 1990: 327; Hjelle, 1990: 10; Dupre, 1990: 8; Warburg & Polis, 1990: 229; Lourenço & Cuellar, 1994: 22; Dupre & Balliet, 1997: 5; Maury, 1997: 5; Schmidt & Bauer, 1997: 1; Dupré, Lambert & Gérard, 1998: 52; Lourenço & Cuellar, 1999: 149; Delfosse, 2001: 26; Kovářík, 2002: 7; Bultel, 2003: 31; Toscano-Gadea, 2005: 866; Lourenço & Ythier, 2006: 71.

Hottentotta (Hottentotta) hottentotta: Kovářík, 1998: 110; Fet & Lowe, 2000: 139.

Buthus (Hottentotta) hottentotta hottentotta: Roewer, 1943: 207 (? in part).

Buthus hottentotta hottentotta: Monard, 1951: 237.

Hottentotta (Hottentotta) hottentotta hottentotta: Fet & Lowe, 2000: 139.

= *Androctonus margarelon* C. L. Koch, 1838a: 47, fig. 367; C. L. Koch, 1850: 89 (syn. by Kraepelin, 1891: 185).

= *Androctonus pandarus* C. L. Koch, 1838b: 94, fig. 402; C. L. Koch, 1850: 90 (syn. by Simon, 1885: 386).

= ? *Androctonus panopeus* C. L. Koch, 1839: 125, fig. 418; C. L. Koch, 1850: 90 (syn. by Kraepelin, 1899: 22).

= *Androctonus thessandrus* C. L. Koch, 1840: 77, fig. 486; C. L. Koch, 1850: 90 (syn. by Kraepelin, 1891: 185).

Buthus nigro-carinatus Simon, 1874: 280.

Buthus nigrocarinatus: Simon, 1885: 386.

Buthotus hottentotta nigrocarinatus: Vachon & Stockmann, 1968: 115.

Buthotus hottentotta nigrocarinatus: Lamoral & Reynders, 1975: 502.

Hottentotta (Hottentotta) hottentotta nigrocarinatus: Kovářík, 1998: 110; Fet & Lowe, 2000: 139.

Hottentotta nigrocarinatus: Lourenço & Ythier, 2006: 71.

Buthus judaicus: Kraepelin, 1895: 81 (in part).

= *Hottentotta caboverdensis* Lourenço & Ythier, 2006: 72. **Syn. n.**

TYPE LOCALITY AND TYPE REPOSITORY. Sierra Leone; original type lost. Neotype from Sierra Leone hereby designated; NMPC.

TYPE MATERIAL EXAMINED. **Sierra Leone**, 1♀ (neotype hereby designated, Fig. 40), 1985, collector unknown, NMPC.

OTHER MATERIAL EXAMINED. **Burkina Faso** (Volta Haute), Garango, 11°48'N 00°33'W, 17.X.1966, 1♂ (Figs. 10, 46–47), leg. Lamontellorie, SMFD No. 39339; Region Bobodioulasso, 2♀ (Figs. 42, 45), 1995, FKCP. **Cameroon**, 4.X.1911, 1♀, leg. Schubotz, SMFD No. 5248; Duala, 16.XII.1913, 1♀, leg. A. Haas, SMFD No. 5247; Edea, 1♀, SMFD No. 8863/205; 52 mi S Garoua, Boki River, 330 m., 29.IX.1966, 1♀, leg. E. S. Ross & K. Lorenzen, CASC; Ngaoundéré, 1100 m., 1.X.1966, 1♀1juv., leg. E. S. Ross & K. Lorenzen, CASC. **Cape Verde Islands**, Ribeira da Praia, 1993, 3♀ (Fig. 44), leg. Santos, SMFD No. 38561. **Congo**, Frz. Kongo, Kobo, 15.III.1911, 1juv., leg. Schubotz, SMFD No. 5249; Fort Archambault, 1911, 1juv., leg. Schubotz, SMFD No. 5250; Fort Crampel, 1911, 2juvs., leg. Schubotz, SMFD No. 5232. **Ghana**, Damongo, 2♀, 14.I.1972, leg. S. Y. Endrödy (Locality No. 515), HNHM; Wa, 1juv., 26.X.1971, leg. S. Y. Endrödy (Locality No. 509), HNHM; Tumu, 3♂3♀6juvs., 27.X.1971, leg. S. Y. Endrödy (Locality No. 511),



Figure 40: *Hottentotta hottentotta*, dorsal view, female neotype.



Figure 41: *Hottentotta hottentotta*, ventral view, female from Nigeria, 6 mi. S Jos, 1250 m., CASC.



Figure 42: *Hottentotta hottentotta*, dorsal view, female from Burkina Faso (Volta Haute), Region Bobodiolasso, FKCP.

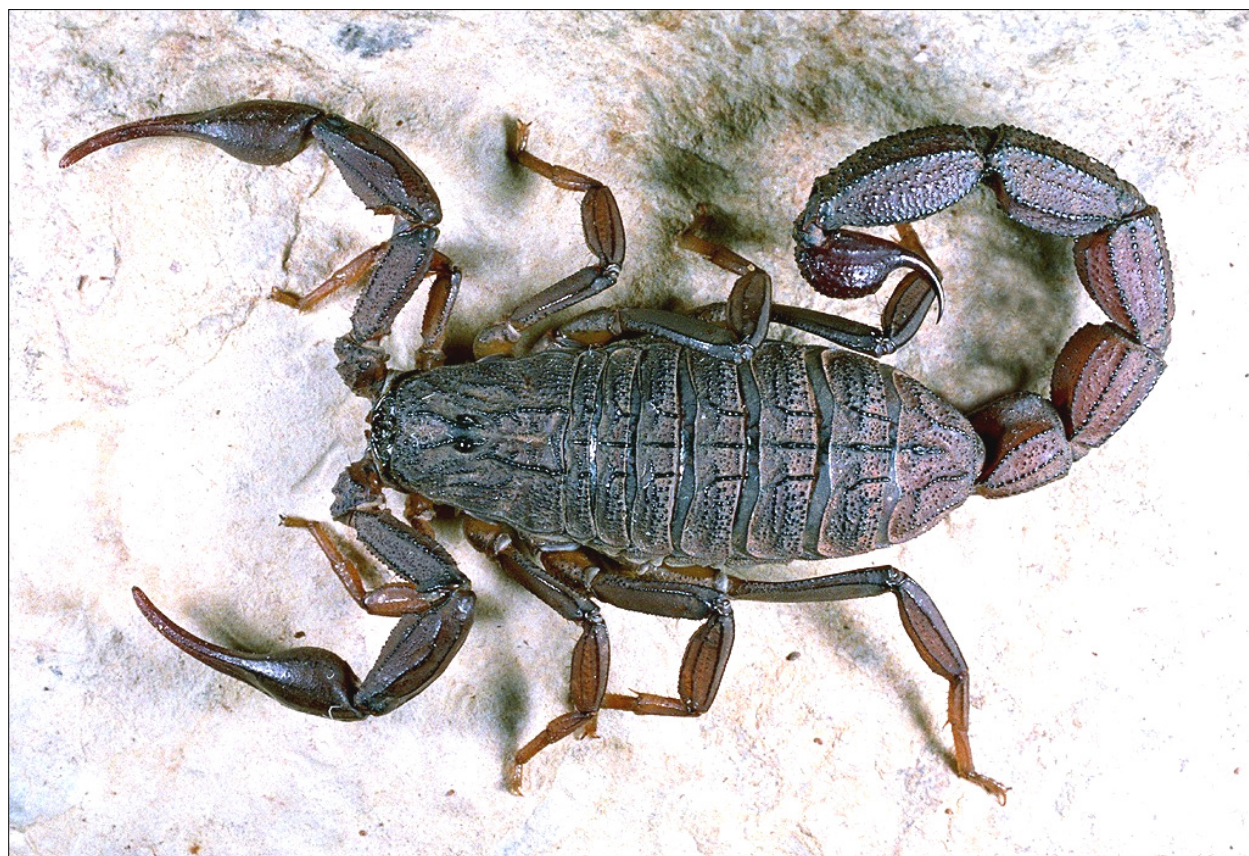


Figure 43: *Hottentotta hottentotta*, dorsal view, female from Ghana, FKCP.

HNHM; 1♀, 1990, 1♀(Figs. 9, 43), 2005, FKCP. **Guinea**, Franz. Guinea, 1♀, SMFD No. 6666/73. **Guinea-Bissau**, Portug. Guinea, 1♀1juv., SMFD No. 8862/204. **Ivory Coast**, M'Bahiakro, 3♀1juv., VI.1995, leg. M. Forti, FKCP. **Mali**, 13 mi. N Manankoro, 375 m., 22.VIII.1966, 1♀(im.), leg. E. S. Ross & K. Lorenzen, CASC; nort of lake Sélingue, 1♂, I.1980, FKCP. **Niger**, Say, Parc Natl. W, 17 km ENE La Tapoa, 12°30'N 2°33'E, 170 m., 23.XII.1996, 1♀, leg. J. Lattke, CASC. **Nigeria**, 19 mi. N Bokani, 250 m., 10.IX.1966, 1♀(im.), leg. E. S. Ross & K. Lorenzen, CASC; 45 mi. SW Kano, 680 m., 12.IX.1966, 1juv., leg. E. S. Ross & K. Lorenzen, CASC; 10 mi. NW Jos, 1225 m., 14.IX.1966, 1♀2juvs., leg. E. S. Ross & K. Lorenzen, CASC; 28 mi. NE Zaria, 720 m., 14.IX.1966, 1♀(im.)1juv., leg. E. S. Ross & K. Lorenzen, CASC; 6 mi. S Jos, 1250 m., 16.IX.1966, 1♀(Fig. 41)4juvs., leg. E. S. Ross & K. Lorenzen, CASC. **Senegal**, Niokolo Koba n. p., 2♀, VII.1995, FKCP. **Tanzania**?, probably error localities, 1♀, 1920–1950, 1♀, 2006, FKCP. **Togo**, 2♀, leg. Bayer, SMFD No. 37466.

DIAGNOSIS. Total length 55–80 mm. For habitus see Figs. 40–47. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est* or on level with trichobothrium *est*. Sexual dimorphism not readily apparent, width of pedipalp chela same in both sexes. Males have fingers of pedipalps more twisted than females. Pectinal teeth number 25–29 in males, 22–26 in females (in the subspecies *H. h. nigrocarinatus* there may be 33 pectinal teeth in males and up to 32 in females). Much of female chelicera reticulate, only base smooth. The male chelicera is often only weakly reticulate and sometimes lacks reticulation altogether. Fingers of chelicerae black. Pedipalps hirsute, but not densely. Metasoma bears only a few hairs. Color usually uniformly reddish brown, but some populations colored yellowish brown to black. Mesosomal segments and carapace usually with orange spots and longitudinal black stripes. Metasomal carinae may be black as well. The coloration of juveniles is variable, in some uniformly brown and in others with the chela dark and the remaining segments of pedipalps yellow; they may also have the fifth metasomal segment darker than the preceding segments. Femur of pedipalp with 3 complete and 2 incomplete carinae. Patella with 8 carinae, of which some are smooth, without granules and obsolete. Chela lacks carinae. Movable fingers of pedipalps with 13–14 rows of granules and 5 or 6 terminal granules. Seventh metasomal segment with 4 well marked ventral carinae. First and second metasomal segments with 10 carinae; third and fourth segment with 8 or 10 carinae; fifth segment with 5 carinae, two lateral and two ventral rows of granules. All carinae granulated, dorsal carinae bear larger terminal granules. First metasomal segment of adults wider than long, second metasomal segment

usually longer than wide. Length to width ratio of fourth metasomal segment less than 1.6.

COMMENTS. *H. hottentotta* is the type species of *Hottentotta*, and as the bearer of characters that define the genus should have a type specimen. Fixing a neotype is important particularly because there have been attempts to split off some populations as separate species (*H. nigrocarinatus* (Simon, 1874) and *H. caboverdensis* Lourenço & Ythier, 2006). For this reason I designate a female from the type locality (Sierra Leone) as the neotype. It is a 67 mm long specimen that corresponds well with the above diagnosis.

The taxonomic position of the subspecies *H. h. nigrocarinatus* (type locality and type repository: Senegal, Saint Louis; MNHN) is questionable. Vachon & Stockmann (1968: 137) classified this taxon as a subspecies of *H. hottentotta* and distinguished it from other populations by *H. h. nigrocarinatus* having 33 pectinal teeth in the male and 30–32 in the female and *H. h. hottentotta* having 25–29 pectinal teeth in the male and 22–26 in the female. They saw other indications of subspecific status in granulation of the fourth metasomal segment and in subtle (from the standpoint of variation negligible) morphometric differences. Lourenço & Ythier (2006: 71) elevated this subspecies to species without giving any reasons for the status change. However, they state that the females have 28–30 pectinal teeth, which differs from Vachon and Stockmann (1968: 116). It is also worth noting that the type of *H. nigrocarinatus* measures 53 mm and Simon (1874: 281–282) compares it only with *Buthus tunetanus* and *Buthus peloponnensis*. Due to unavailability of MNHN types (see Kovářik, 2004: 27), I have no choice but to regard this taxon recorded from Senegal as a subspecies of *H. hottentotta*, with the stipulation that only a thorough study of the types can decide whether it is a synonym or a valid species.

Lourenço & Ythier (2006: 72) described *H. caboverdensis* (type locality and type repository: Cape Verde Islands, Island of São Tiago, region of Praia; MNHN), which they distinguish from *H. h. hottentotta* and *H. h. nigrocarinatus* by (1) smaller size (55 to 62 mm), (2) much darker coloration than in *H. hottentotta*, (3) more strongly marked granulations on the carapace and tergites than in *H. hottentotta* and *H. nigrocarinatus*, and (4) smaller number of pectinal teeth than are found in female specimens (22 to 24). As to characters (1), (2) and (4), I do not see any difference from *H. hottentotta* (see diagnosis), and character (3) lacks any objective value. I also studied three SMFD females from the type locality of *H. caboverdensis* and am certain that they are *H. hottentotta*. Their total length (1) is 61 to 78 mm, the coloration (2) is dark (Fig. 44) but not quite as black as in e.g. the population from Ghana (Fig. 43), granulation (3) is within the variation limits known for *H. hottentotta*, and the pectinal teeth (4) number 23–24 (in



Figure 44: *Hottentotta hottentotta*, dorsal view, female from Cape Verde Islands, Ribeira da Praia, SMFD No. 385.



Figure 45: *Hottentotta hottentotta*, dorsal view, female from Burkina Faso, Region Bobodiolasso, with offspring after the first ecdysis.



Figure 46: *Hottentotta hottentotta*, dorsal view, male from Burkina Faso (Volta Haute), Garango, 11°48'N 00°33'W, SMFD No. 39339.



Figure 47: *Hottentotta hottentotta*, ventral view, male from Burkina Faso (Volta Haute), Garango, 11°48'N 00°33'W, SMFD No. 39339.

other examined females of *H. hottentotta* the number of pectinal teeth is 22–26). I therefore consider *H. caboverdensis* a synonym of *H. hottentotta*.

DISTRIBUTION: Benin (Fet & Lowe, 2000: 139), Burkina Faso (Volta Haute), Cameroon, Chad (Roewer, 1943: 207; Vachon & Stockmann, 1968: 112), Cape Verde Islands (Schmidt & Bauer, 1997: 1), Congo (Kraepelin, 1929: 87), Cote d'Ivoire (Vachon & Stockmann, 1968: 111), Gambia (Pocock, 1889: 336), Guinea (Borelli, 1913: 218), Guinea-Bissau (Monard, 1939: 83), Mali (Vachon & Stockmann, 1968: 112), Niger (Pocock, 1889: 336), Nigeria (Pocock, 1899: 834), Central African Republic (Vachon & Stockmann, 1968: 112), Senegal (Kraepelin, 1901: 266), Sierra Leone (Fabricius, 1787: 348), Togo (Werner, 1902: 597).

Records from Egypt, Ethiopia, Somalia (see Fet & Lowe, 2000: 139) and Democratic Republic of Congo (Zaire; Geeraerts, 1953: 1066) must be considered dubious. Also records from Tanzania may in some instances be erroneous and probably concern *H. trilineatus* (Peters, 1862).

***Hottentotta jabalpurensis* sp. n.**

(Figs. 48–51, 136–141, Table 1)

TYPE LOCALITY AND TYPE REPOSITORY. India, Madhya Pradesh, Jabalpur; CASC and FKCP.

TYPE MATERIAL. **India, Madhya Pradesh**, Jabalpur, VIII.1957–VIII.1958, 23♂16♀21juvs. (holotype, allotype and paratypes, Figs. 48–51), leg. P. Susai Nathan. Holotype, allotype and most of paratypes are in CASC, 6 paratypes (3♂3♀) are in FKCP.

ETYMOLOGY. Named after the type locality.

DIAGNOSIS. Total length 50–80 mm. For habitus see Figs. 48–51. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est* or level with trichobothrium *est*. Male with fingers proximally twisted, manus of pedipalps wider than female. Pectinal teeth number 30–36 in males, 26–30 in females. Chelicerae yellow, reticulate. Nearly entire body hirsute, pedipalps, dorsal surface of mesosoma, legs, lateral and ventral surfaces of metasomal segments, and vesicle densely hirsute. The hairs are long. Color uniformly yellow to reddish brown. Ventral carinae on metasomal segments usually black. Femur of pedipalp with 5 carinae. Patella with 2 or 4 carinae on internal surface, no other carinae. Chela lacks carinae. Movable fingers of pedipalps with 13–14 rows of granules and 5 or 6 terminal granules. Seventh mesosomal sternite smooth, with 4 well marked black carinae. First to fourth metasomal segments with 10 carinae; fifth segment with 5 or 7 carinae. Metasoma granulated between carinae.

Dorsal surface often very finely granulated, often bears 2 short, inconspicuous marginal carinae. Telson also granulated. Dorsal carinae of metasomal segments bear terminal granules of size approximately equal to preceding granules. First metasomal segments of adult female wider than long (in male usually as longer than wide), second metasomal segment longer than wide for both sexes. Second to fourth metasomal segment width ratio about 1.1. Telson bulbous, especially in large females.

DESCRIPTION: Total length of both sexes is 50 to 80 mm. The habitus is shown in Figs. 48–51. Measurements of the carapace, telson, segments of the metasoma and of the pedipalps, and numbers of pectinal teeth in the holotype and allotype are given in Table 1. Trichobothrium *db* on the fixed finger of pedipalp is situated between trichobothria *et* and *est* (Fig. 1), rarely is on the same level as trichobothrium *et*. Pectinal teeth number 30–36 in males and 26–30 in females. Chelicerae yellow, reticulate. The male has fingers proximally twisted, manus of pedipalps wider than female.

COLORATION: The color is uniformly yellow to reddish brown. Ventral carinae on metasomal segments are usually black. The specimens have been preserved in alcohol since 1958.

MESOSOMA AND CARAPACE: The mesosoma has three carinae on the dorsal surface and two carinae on the ventral surface with the exception of the seventh segment, whose ventral surface bears four well marked carinae. The dorsal surface is sparsely to densely granulated, whereas the ventral surface is smooth.

PEDIPALPS: The pedipalps are densely hirsute. The hairs are long. The femur of pedipalps has five carinae and the dorsal surface is covered by very fine granules. The ventral surfaces of femur and patella are smooth to glossy. The patella with 2 or 4 carinae on internal surface, no other carinae. Chela lacks carinae. The movable fingers of the pedipalps have 13–14 cutting rows of granules and 5 or 6 terminal granules.

METASOMA AND TELSON: The first metasomal segment of adult female wider than long (in male usually as longer than wide), second metasomal segment longer than wide for both sexes. The first through fourth segments bear 10 carinae, and the fifth segment bears five carinae and on the ventral surface has additional rows of granules that may form two more carinae. The dorsal surface is often very finely granulated and may bear two short, inconspicuous marginal carinae. Surfaces between carinae are sparsely to densely granulated. Dorsal carinae of metasomal segments bear terminal



Figure 48: *Hottentotta jabalpurensis*, **sp. nov.**, dorsal view, male holotype.



Figure 49: *Hottentotta jabalpurensis*, **sp. nov.**, ventral view, male holotype.

granules of size approximately equal to preceding granules. Second to fourth metasomal segment width ratio about 1.1. Telson bulbous, especially in large females.

AFFINITIES. The described features distinguish *H. jabalpurensis* **sp. n.** from all other species of the genus. They are recounted in the key below. *H. jabalpurensis* **sp. n.** is closest to *H. tamulus*, from which it differs in having the entire body and especially the metasoma densely hirsute, and the patella of pedipalp with long hairs. In contrast, *H. tamulus* has the metasoma only

sparsely hirsute and the patella of pedipalp bears dense but short hairs.

***Hottentotta jalalabadensis* sp. n.**
(Figs. 11, 52–59, 142–147, Table 1)

Hottentotta alticola: Kovařík, 1993: 201 (in part).

TYPE LOCALITY AND TYPE REPOSITORY. **Afghanistan**, prov. Nengrahar, Jalalabad; MMBC and FKCP (for description of the type locality see Jakeš & Povolný, 1967).



Figure 50: *Hottentotta jabalpurensis*, sp. nov., dorsal view, female allotype.



Figure 51: *Hottentotta jabalpurensis*, sp. nov., ventral view, female allotype.

TYPE MATERIAL. **Afghanistan**, prov. Nengrahar, Jalalabad, 28.I–30.III.1965, 9♂14♀15juvs. (holotype, allotype and paratypes, Figs. 11, 52–59), IV–V.1967, 4♀ (paratypes), leg. D. Povolný; 8km ESE of Jalalabad, 16.II.1966, (PT 11), 3♂ (paratypes); 28.II.1966, 1♀1juv. (paratypes), (PT 22), 5.III.1966, 2♀1juv. (paratypes), (PT 25), leg. D. Povolný & F. Tenora; 10km ESE of Jalalabad, 19.II.1966, 1♀(im.) (paratype), (PT 15), 21.II.1966, 1♀ (paratype), (PT 16), 23.II.1966, 1♀2juvs. (paratypes), (PT 18), leg. D. Povolný & F. Tenora; 12–20km ESE of Jalalabad, 7.III.1966, 2♂2juvs. (paratypes), (PT 26), 16.III.1966, 1♂2♀1juv. (paratypes), (PT 36), leg. D. Povolný & F. Tenora; Samrchel, 15.II.1966, 4♀1♀(im.)1♂(im.)8juvs. (paratypes), (PT 9), leg. D. Povolný & F. Tenora; Nemla, 18.II.1966, 2♀2ims. (paratypes), (PT 14), leg. D. Povolný & F. Tenora. Holotype, allotype and most of paratypes are in MMBC, 12 paratypes (6♂6♀) are in FKCP. Data in parentheses, for example (PT 11), give a more accurate description of the locality (see Jakeš & Povolný, 1967).

ETYMOLOGY. Named after the type locality.

DIAGNOSIS. Total length 65–90 mm. For habitus see Figs. 52–54. Trichobothrium *db* on the fixed finger of pedipalp situated between trichobothria *et* and *est*, close to or on level with *est* (Fig. 1). Chelicerae yellow to black, reticulate. Male with slightly longer and narrower metasomal and pedipalp segments, width of pedipalp chela same in both sexes. Pectinal teeth number 31–35 in males, 24–29 in females. Pedipalps and metasoma very sparsely hirsute. Carapace and mesosoma black except seventh tergite. Seventh mesosomal segment, metasoma, legs and pedipalps including fingers uniformly yellow to yellowish brown. Femur of pedipalp with 5 carinae, patella with 8 carinae, chela lacks carinae. Movable fingers of pedipalps with 15–16 rows of granules and 5 or 6 terminal granules. Seventh mesosomal segment with 4 well marked ventral granulated carinae. First and second metasomal segments with 10 carinae; third segment bears 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 carinae of metasomal segments bear larger terminal granules. Dorsal surface smooth, fifth metasomal segment bears 2 short, inconspicuous carinae. First metasomal segments of both sexes wider than long, in female also second metasomal segment wider than long. Second through fourth metasomal segment width ratio in females 1.26–1.29.

DESCRIPTION. Total length of both sexes is 65 to 90 mm. The habitus is shown in Figs. 52–54. Measurements of the carapace, telson, segments of the metasoma and of the pedipalps, and numbers of pectinal teeth in the

holotype and allotype are given in Table 1. Trichobothrium *db* on the the fixed finger of pedipalp is situated between trichobothria *et* and *est* (Fig. 1), rarely is on the same level as trichobothrium *et*. Pectinal teeth number 31–35 in males and 24–29 in females. Chelicerae are yellow to black, reticulate, fingers of chelicerae are black. The male has slightly longer and narrower metasomal and pedipalp segments, width of the pedipalp chela is the same in both sexes. The female has very broad first through third metasomal segments, the first and second segments are also wider than long (see Table 1).

COLORATION. Carapace and mesosoma are black except the seventh tergite. The seventh mesosomal segment, metasoma, legs and pedipalps including fingers are uniformly yellow to yellowish brown. Immature specimens may be yellow with a black spot only in the anterior part of carapace.

MESOSOMA AND CARAPACE. The mesosoma has three carinae on the dorsal surface and two carinae on the ventral surface with the exception of the seventh segment, whose ventral surface bears four well marked carinae. The dorsal surface is granulated, whereas the ventral surface is smooth.

PEDIPALPS. The pedipalps are hirsute, but not densely. The hairs are long. The femur of pedipalps has five carinae and the dorsal surface is covered by very fine granules. The ventral surfaces of femur and patella are smooth to glossy. The patella has eight carinae. The chela lacks carinae. The movable fingers of the pedipalps have 15–16 cutting rows of granules and 5 or 6 terminal granules.

METASOMA AND TELSON. The first metasomal segment of both sexes is always wider than long, and the female has also the second metasomal segment wider than long. In females, the second through fourth metasomal segment width ratio is 1.26–1.29. The first and second segments bear 10 carinae, the third segment bears eight carinae and sometimes a short row of granules in the center of lateral part; the fourth segment bears eight carinae, and the fifth segment bears only five carinae. The dorsal surface is smooth and glossy, with the fifth segment and sometimes also the fourth segment bearing two short, inconspicuous carinae. Lateral carinae are smooth and ill-defined, whereas dorsal carinae of all segments are well granulated and have larger terminal granules. Surfaces between carinae are smooth, without granules, only the ventral surface of the fifth segment bears additional rows of granules. A subaculear tooth is absent; the telson is essentially smooth, with only a few scattered granules.



Figure 52: *Hottentotta jalalabadensis*, sp. nov., dorsal view, male holotype.



Figure 53: *Hottentotta jalalabadensis*, sp. nov., dorsal view, female paratype.