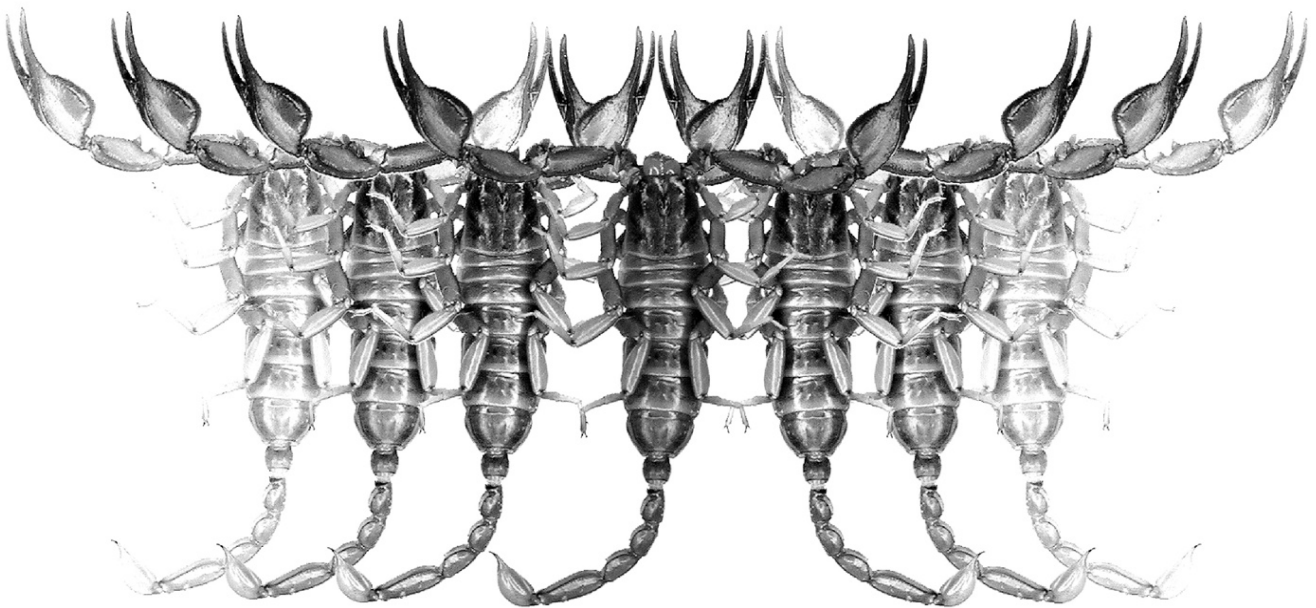


# *Euscorpius*

Occasional Publications in Scorpiology



**Scorpions of the Horn of Africa  
(Arachnida, Scorpiones). Part XXXVI.  
*Compsobuthus starhai* sp. n. from  
Somalia (Puntland) (Buthidae)**

**František Kovařík**

**March 2025 — No. 408**

# *Euscorpius*

## *Occasional Publications in Scorpiology*

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# Scorpions of the Horn of Africa (Arachnida, Scorpiones). Part XXXVI. *Compsobuthus starhai* sp. n. from Somalia (Puntland) (Buthidae)

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<http://zoobank.org/urn:lsid:zoobank.org:pub:F58C85A9-4167-4D3E-BA35-257209562FFB>

## Summary

Occurrence of genus *Compsobuthus* Vachon, 1949 in the Horn of Africa is summarized, including a distribution map. A lectotype of *C. abyssinicus* (Birula, 1903) is designated. *C. starhai* sp. n. from Somalia (Puntland) is described and fully complemented with color photographs.

## Introduction

In 2011–2021, the author had an opportunity to participate in expeditions to the Horn of Africa, confirmed many localities of genus *Compsobuthus* (Fig. 35) and revised all known species from Horn of Africa (Kovařík, 2012, 2018, Kovařík et al., 2016, Kovařík et Lowe, 2022). Analysis of the new material from Puntland collected recently, allowed to describe another new species *C. starhai* sp. n.

## Methods, Material & Abbreviations

Nomenclature and measurements generally follow Stahnke (1971), Sissom et. al. (1990), Kovařík (2009), Kovařík & Ojanguren Affilastro (2013). Nomenclature of trichobothria largely follows Vachon (1974).

*Specimen depositories*: FKCP (František Kovařík, private collection, Prague, Czech Republic; will in future be merged with the collections of the National Museum of Natural History, Prague, Czech Republic); MZUF (Museo Zoologico de “La Specola”, Firenze, Italy); MZUT (Museo Regionale di Scienze Naturali of Turin, Italy); ZISP (Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia); and ZMHB (Museum für Naturkunde der Humboldt-Universität, Berlin, Germany).

*Abbreviations*: morphometrics: D, depth; L, length; W, width.

## Systematics

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

***Compsobuthus*** Vachon, 1949

(Figures 1–37, Table 1)

*Compsobuthus* Vachon, 1949: 93 (1952: 213); Fet & Lowe, 2000: 124 (complete reference list until 1998); Kovařík, 2003a: 88 (in part); Kovařík, 2009: 31; Kovařík & Ojanguren-Affilastro, 2013: 145–158, figs. 777–941;

Kovařík et al., 2016: 1–21, figs. 1–77; Kovařík, 2018: 1–11, figs. 1–39, tab. 1.

TYPE SPECIES. *Buthus acutecarinatus* Simon, 1882.

**DIAGNOSIS** (♂♀). Small to medium-sized buthid scorpions, total length 20–55 mm. Carapace with distinct carinae, central lateral and posterior lateral carinae connected to form continuous linear series of granules, projecting beyond posterior margin as distinct spiniform processes. Carapace in lateral view with entire dorsal surface horizontal, 5 pairs of lateral eyes. Cheliceral fixed finger with two ventral denticles. Sternum type 1, sub-triangular. Pectines with fulcra, pectine teeth number 9–34. Hemispermatophore flagelliform, capsule in ‘3+1’-lobe configuration (‘*Buthus*’ group; Kovařík et al., 2016), with 3 sperm hemiduct lobes well separated from flagellum, basal lobe a well-developed acuminate hook. Tergites I–VI with three carinae projecting beyond posterior margins as distinct spiniform processes. Sternites III–VI with slit-like spiracles. Orthobothriotaxic type A. Pedipalp femur with dorsal trichobothria arranged in  $\beta$ -configuration. Pedipalp patella with trichobothrium  $d_3$  internal to dorsomedian carina; chela with  $db$  basal to  $est$ ,  $eb$  located on fixed finger; chela manus with  $Eb_{1-3}$  triad angled proximally ( $\delta$ -configuration) or almost collinear ( $\lambda$ -configuration). Dentate margin of pedipalp chela movable finger with distinct granules divided into 8–14 linear rows, with 4 terminal granules and one basal terminal granule. Tibial spurs present on third and fourth pairs of legs.

***Compsobuthus abyssinicus*** (Birula, 1903)

(Figures 1–6, 35, 37)

*Buthus acutecarinatus abyssinicus* Birula, 1903: 108.

*Buthus acutecarinatus abyssinicus*: Kraepelin, 1913: 127

*Compsobuthus abyssinicus*: Vachon, 1949: 99 (1952: 219); Fet & Lowe, 2000: 124; Kovařík, 2003a: 88–89; Kovařík,

2003b: 138; Kovařík & Whitman, 2005: 107 (in part); Kovařík & Ojanguren, 2013: 146–147, figs. 777–782, 921–925; Kovařík et al., 2016: 3, figs. 1–4, 15–16, 19–22, 77.

? *Compsobuthus acutecarinatus*: Sissom, 1994: 9 (in part, record from Assab, Eritrea)

*Compsobuthus maindroni*: Kovařík, 2003b: 138, fig. 1 (misidentification).

TYPE LOCALITY AND TYPE REPOSITORY. Ethiopia (Abyssinia), Kachenuha [09°04'N 40°12'E; see below]; ZISP.

TYPE MATERIAL EXAMINED. Abyssinia, Kachenuha, 31.I.1899 (“Old [Julian] Style”), leg. N. A. Dmitriev, 1♂1♀ (lectotype and paralectotype, hereby designated, Figs. 1–6), ZISP 47 (see comments below).

OTHER MATERIAL EXAMINED (FKCP). **Djibouti**, Ali Sabieh District, 4km W of Ali Adeh, 23.X.2023, 11°07'30.678"N 42°50'55.456"E (11.12,42.85), 580 m a. s. l., 23DL, 5♂1♀juv. (2580), leg. F. Kovařík. **Ethiopia**, 30 km W Metahara, VIII.1982, 2♀; Awash, Metahara env., 08°54'N 39°54'E, 960–1050 m a. s. l. (11EA), 2008, 1♀, leg. Trailin, 19.–22. VII.2011, 3♂1♀3ims., leg. F. Kovařík; Awash, 09°00'34.5"N 40°17'56.5"E, 1012 m a. s. l. (11EW), 19.VII.2011, 1♂1♀, leg. F. Kovařík; Awash n. p., 08°52'N 40°05'E, 981 m a. s. l. (11EX), 20.VII.2011, 1♀2juvs before first ecdysis, leg. F. Kovařík; 13°43'10"N 39°55'34"E, 879 m a. s. l. (12EI), 18.XI.2012, 1im.1juv., leg. F. Kovařík; 11°29'47"N 40°25'07"E, 766 m a. s. l. (12EL), 20.XI.2012, 1♂1♀, leg. F. Kovařík; Gewane, 10°09'38"N 40°39'45"E, 631 m a. s. l. (12EO), 23.XI.2012, 1♀, leg. F. Kovařík; 09°34'06"N 40°23'45.9"E, 601 m a. s. l. (12EQ), 24.XI.2012, 1♂, leg. F. Kovařík; Awash, 09°00'34.5"N 40°17'56.5"E, 1012 m. a. s. l. (12EW), 1♀, 25.XI.2012, leg. F. Kovařík; Awash, Metahara env., 08°54'N 39°54'E, 960–1050 m a. s. l. (12EX), 25.XI.2012, 1♀, leg. F. Kovařík; Afar State, Awash, 09°09'03.6"N 40°31'38.8"E, 1378 m a. s. l. (14ES), 26.XI.2014, 1♀, leg. F. Kovařík; Afar State, 09°34'06"N 40°23'45.9"E, 601 m a. s. l. (14EU=12EQ), 27.XI.2014, 1♀, leg. F. Kovařík; Oromia State, East Shewa, Fantale zone, volcanic crater Fantale near Metahara, 09°00'56.2"N 39°51'21"E, 1050 m a. s. l. (14EV), 29.XI.2014, 4♂3♀3juvs., leg. F. Kovařík. Jiri, 9.7610586°N 42.6800703°E, VI.2024, 1♂1♀ (Figs. 33–34, ETH099, ETH082), leg. H. Elmii. **Somaliland**, 4 km S of Borama, Awdal, 09°53'01"N 43°11'56"E, 1662 m a. s. l., 17.I.2015, 1♂, leg. T. Mazuch; 5 km of Jidhi village, 10°35'04"N 43°02'16.9"E, 515 m a. s. l. (19SF), 1.VII.2019, 1♂ (No. 1683) 1♀leg. F. Kovařík; Habas village, 10°24'42.6"N 42°48'40.1"E, 866 m a. s. l. (19SD), 30.VI.2019, 1♂ (No. 1679), leg. F. Kovařík; 5 km W of Bown, 10°11'50.9"N 43°03'46.6"E, 1340 m a. s. l. (21SM), 16.X.2021, 1♂ (2036), leg. F. Kovařík.

DIAGNOSIS (♂♀). Total length 28–40 mm. Sexual dimorphism minor, adult males with chela of pedipalps broader and fingers of pedipalps flexed proximally; there is no difference in length

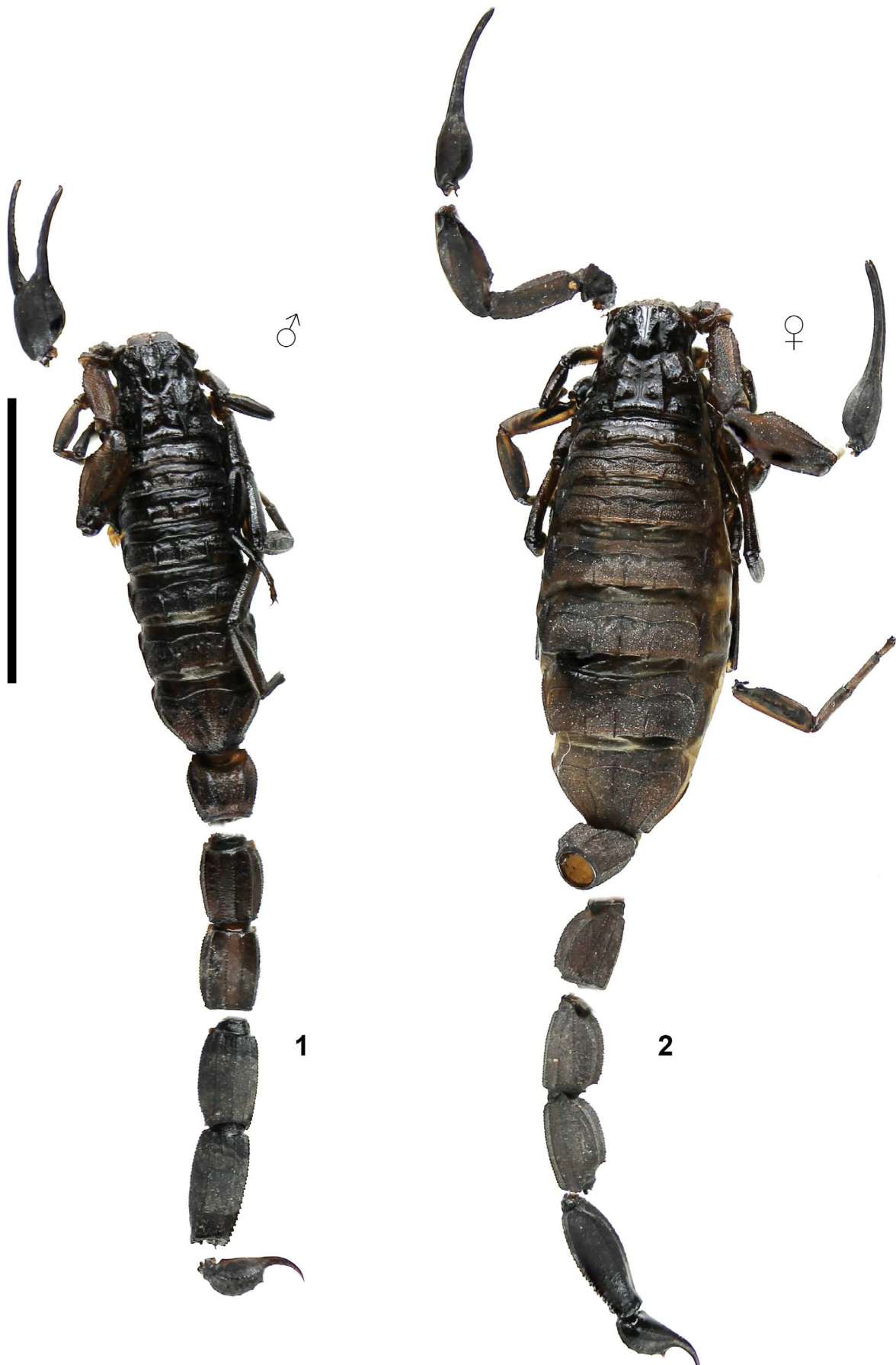
and width of metasomal segments. Base color uniformly reddish to gray. Pedipalps with or without spots. Movable finger of pedipalp bears 10 rows of granules, all without external and with internal accessory granules (*acutecarinatus* group). Pedipalp chela length/width ratio 3.7–3.8 in males and 4.4–4.6 in females. Manus of chela shorter than fixed finger. Trochanter of pedipalps with numerous long setae. Anterior margin of carapace bears eight symmetrically distributed spinae. First to third metasomal segments bear 10 carinae, fourth bears 8 or 10 carinae. All metasomal segments longer than wide. Pectinal teeth number 19–24. Sternites and ventral surface of metasoma granulated and with numerous small black setae. Seventh sternite bears four crenulate carinae. Telson bulbous, aculeus shorter than vesicle. Subaculear tubercle present but not spinoid.

HISTORY OF STUDY. Birula (1903) mentioned only the type series that included 12 specimens, all collected by N. A. Dmitriev in “Abyssinia, Kachenuha” on 31.01.1899 [Old Style, the Gregorian calendar used in Russia until 1918]. We examined the two syntypes deposited in ZISP, lot No. 47. Birula’s handwritten, unpublished collection catalog, which is preserved in ZISP, lists their provenance, in Russian, as “Kachenuha” (Fig. 37). The catalog also mentions additional, unpublished Abyssinian specimens (not types, number unspecified), their locality listed (in Russian) as “vill.[age] Kachin-Uokha on the r[iver] Khavash, ZISP 48, 19.03.1903 [Old Style], leg. Dr. Brovtsyn.” Khavash is the modern Awash River, and the Ethiopian gazetteer online lists a locality called Kassin Uha or Cassin Ua at 09°04'N 40°12'E, not far from the Awash town.

The collector of 1903 specimens was Dr. Nikolay Petrovich Brovtsyn, a well-known Russian medical doctor in Abyssinia since 1896, a personal physician of Negus Menelik II since 1899, and an author of an early book on Abyssinian anthropology (Brovtsyn, 1909). Birula’s catalog also lists one specimen from Addis Ababa collected by Brovtsyn earlier, in 1898–1899 (ZISP 1518), as well as a single specimen from the Egyptian Sudan in 1914 collected by Franz Werner (ZISP 49).

We accept “Kachenuha” as a type locality although it is not entirely clear why the 1899 lot collected by Dmitriev (the types) and 1903 lot collected (independently?) by Brovtsyn have the same locality label. Both Dmitriev and Brovtsyn were later mentioned as zoological collectors for ZISP by Birula (1927: 175–176) in his work on the rich ZISP collection of Solifugae (Arachnida):

“...Part of this material was composed of the collections of some members of the official Russian Missions in Abyssinia, as well as of private persons travelling independently in that country. These persons collected the Solifugae chiefly along the usual caravan route from Dshibuti or Zeyla at Tadshurabay on the Red Sea, through Dshildessa in the northern part of the Somalian desert, and Harar in East Abyssinia to the chief town of Abyssinia, Addis-Abbeba, and the residence of the late emperor Menelik, Antoto. The Zoological Museum is especially grateful for the valuable and careful collections of the order Solifugae to the following persons: G. V. Kachovskij,



Figures 1–2. *Compsobuthus abyssinicus* (Birula, 1903), male lectotype (1) and female paralectotype (2) in dorsal views. Scale bar: 10 mm.



Figures 3–6: *Compsobuthus abyssinicus* (Birula, 1903). Figures 3–4. Male lectotype (4) and female paralectotype (3) in ventral views. Figure 5. Movable finger dentition of female paralectotype. Figure 6. Original label.

attaché to the Russian mission in Abyssinia in 1897–1898, N. A. Dmitriev (1899), Dr. Lukjanov (1890), dresser Mr. Sjedov (1903–1905), Dr. Brovzyn (1905), and Dr. I. N. Lebedinskij (1906).”

***Compsobuthus eritreensis* Kovařík et al., 2016**  
(Figure 35)

? *Compsobuthus abyssinicus*: Kovařík & Whitman, 2005: 107 (in part).

*Compsobuthus eritreensis* Kovařík et al., 2016: 3–11, figs. 5–14, 27–60, 77; Kovařík, 2018: 2–4, fig. 39.

TYPE LOCALITY AND TYPE REPOSITORY. **Eritrea**, near Massawa, 15°36'58.7"N 39°22'32.8"E, 74 m a. s. l., 4.-5.XI.2015, (Locality 15EI), FKCP.

TYPE MATERIAL EXAMINED (FKCP). **Eritrea**, near Massawa, 15°36'58.7"N 39°22'32.8"E, 74 m a. s. l. (15EI), 4.-5.XI.2015, 7♂12♀ (holotype and paratypes), leg. F. Kovařík; Dese Island, 15°26'39.2"N 39°45'32.7"E, 8 m a. s. l. (15EJ), 5.-7.XI.2015, 2♂8♀1juv. (paratypes), leg. F. Kovařík; near Massawa, 15°36'55"N 39°24'22"E, 30 m a. s. l. (15EK), 8.XI.2015, 1♀ (paratype), leg. F. Kovařík; route Massawa to Gahtela, 15°36'03.7"N 39°16'38.4"E, 115 m a. s. l. (15EL), 8.XI.2015, 1♀ lim., leg. F. Kovařík.

DIAGNOSIS (♂♀). Total length 26 (male) – 41 mm (female). Sexual dimorphism minor, adult males with chela of pedipalps broader and fingers of pedipalps slightly flexed proximally; there is no difference in length and width of metasomal segments. Base color uniformly yellow to yellowish brown with dark spot on fifth metasomal segment. Movable finger of pedipalp bears 10–11 rows of granules, all without external and with internal accessory granules (*acutecarinatus* group of Levy & Amitati, 1980). Pedipalp chela length/width ratio 4.5 in males and 5.4 in females. Manus of chela shorter than fixed finger. Pedipalp chela length/movable finger length ratio 1.32–1.38 in both sexes. Trochanter of pedipalps with ten to twelve spinules and two setae. Anterior margin of carapace bears 8 symmetrically distributed spinules. First to third metasomal segments bear 10 carinae, fourth bears 8 or 10 carinae. All metasomal segments longer than wide. Pectinal teeth number 22–26 in males and 18–23 in females. Sternites and ventral surface of metasoma granulated, more so in males. Seventh sternite bears four crenulate carinae. Telson bulbous, aculeus shorter than vesicle. Subaculear tubercle present but not spinoid. Ratio of length vesicle/aculeus is 1.1–1.2.

***Compsobuthus maidensis* Kovařík, 2018**  
(Figures 31, 35)

*Compsobuthus maidensis* Kovařík, 2018: 4–6, figs. 1–39, table 1.

TYPE LOCALITY AND TYPE DEPOSITORY. Somaliland, Maid, 11°00'03"N 47°06'30"E, 52 m a. s. l.; FKCP.

TYPE MATERIAL EXAMINED. **Somaliland**, Maid, 11°00'03"N 47°06'30"E, 52 m a. s. l. (Locality No. 17SN), 3.-4.IX.2017, 1♂3♀ (holotype and paratypes), leg. F. Kovařík, FKCP.

OTHER MATERIAL EXAMINED. **Somaliland**, 5 km S of Maid, 10°59'46"N 47°08'14"E, 182 m a. s. l. (18SF), 25.VIII.2018, 1♂ (1526), leg. F. Kovařík, FKCP.

DIAGNOSIS (♂♀). Total length 30–33.5 mm. Sexual dimorphism minor, fingers of pedipalps straight in both sexes; there is no difference in length and width of metasomal segments. Base color uniformly yellow to yellowish brown with dark spot on fifth and four metasomal segment. Movable finger of pedipalp bears 10 rows of granules, all without external and with internal accessory granules (*acutecarinatus* group of Levy & Amitati, 1980). Pedipalp chela length/width ratio 4.49 in males and 4.9 in females. Manus of chela shorter than fixed finger. Pedipalp chela length/movable finger length ratio 1.40–1.41 in both sexes. Trochanter of pedipalps with 3–7 spinules and 2 setae. Anterior margin of carapace bears 8 symmetrically distributed spinules. First to third metasomal segments bear 10 carinae, fourth bears 8 or 10 carinae. All metasomal segments longer than wide. Pectinal teeth number 19–20 in male and 16–18 in females. Sternites and ventral surface of metasoma granulated. Seventh sternite bears four crenulate carinae. Telson bulbous, aculeus shorter than vesicle. Subaculear tubercle present but not spinoid.

***Compsobuthus somalilandus* Kovařík, 2012**  
(Figure 35)

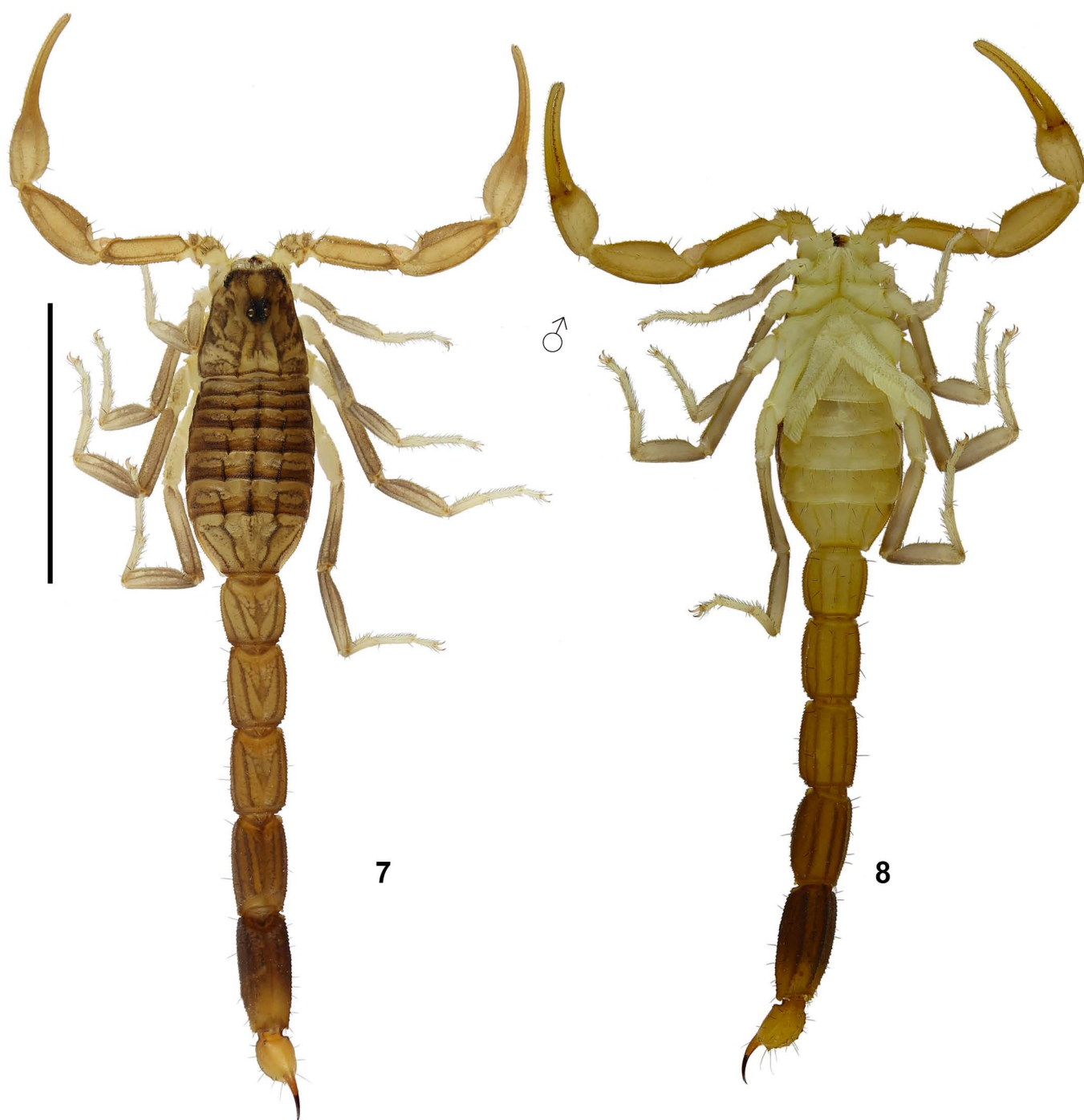
*Compsobuthus somalilandus* Kovařík, 2012: 7–8, figs. 8–19, 37–42; Kovařík & Ojanguren, 2013: 157, figs. 783–794, 926–931; Kovařík et al., 2016: 11–15, figs. 17–18, 23–26, 61–62, 77; Kovařík, 2018: 6–9, fig. 39.

TYPE LOCALITY AND TYPE REPOSITORY. **Somaliland**, near Berbera, 10°14'25.8"N 45°04'55.4"E, 407 m a. s. l.; FKCP.

TYPE MATERIAL EXAMINED (FKCP). **Somaliland**, near Berbera, 10°14'25.8"N 45°04'55.4"E, 407 m a. s. l., 9.VII.2011, 4♂4♀ (holotype and paratypes), leg. F. Kovařík; near Berbera, 10°15'30.5"N 45°06'04.2"E, 376 m a. s. l., 12.VII.2011, 1♀ (paratype), leg. F. Kovařík; near Sheikh, foothills of Goolis Mts., 09°59.881'N 45°09.762'E, 896 m a. s. l., 2♀ (paratypes), XI.2010, leg. T. Mazuch and P. Novák

OTHER MATERIAL EXAMINED (FKCP). **Somaliland**, between Berbera and Burao, 10°02'12"N 44°47'21"E, 60 m a. s. l. (17SG), 30.VIII.2017, 1♂ (1304), leg. F. Kovařík; Gerissa, N of Borama, 10°36'01"N 43°26'07"E, 245 m a. s. l. (17ST), 11.-12.IX.2017, 7♂4♀1juv., 2♂3♀ (Locality No. 19SH = 17ST), 3.VII.2019, leg. F. Kovařík.

DIAGNOSIS (♂♀). Total length 28–32 mm. Sexual dimorphism minor, adult males with chela of pedipalps broader and fingers of pedipalps flexed proximally; there is no difference in length and width of metasomal segments. Base color uniformly



Figures 7–8. *Compsobuthus starhai* sp. n., male holotype in dorsal (7) and ventral (8) views. Scale bar: 10 mm.

yellow to yellowish brown, with dark spots. Movable finger of pedipalp bears 10 rows of granules, all without external and with internal accessory granules (*acute carinatus* group of Levy & Amitai, 1980). Pedipalp chela length/width ratio 4.0 in males and 4.8 in females. Manus of chela shorter than fixed finger. Trochanter of pedipalps with one to twelve spinules and without setae. Anterior margin of carapace bears

8 symmetrically distributed spinules. First to third metasomal segments bear 10 carinae, fourth bears 8 or 10 carinae. All metasomal segments longer than wide. Pectinal teeth number 18–21 in males and 15–18 in females. Sternites and ventral surface of metasoma granulated. Seventh sternite bears four crenulate carinae. Telson bulbous, aculeus shorter than vesicle. Subaculear tubercle present, long and spinoid.

| Dimensions (mm)   |           | <i>Compsobuthus starhai</i> sp. n. |
|-------------------|-----------|------------------------------------|
|                   |           | ♂ holotype                         |
| Carapace          | L / W     | 3.73 / 3.88                        |
| Mesosoma          | L         | 6.89                               |
| Tergite VII       | L / W     | 2.13 / 3.81                        |
| Metasoma + telson | L         | 19.22                              |
| Segment I         | L / W / D | 2.41 / 2.26 / 1.98                 |
| Segment II        | L / W / D | 2.90 / 2.11 / 1.95                 |
| Segment III       | L / W / D | 2.94 / 1.92 / 1.98                 |
| Segment IV        | L / W / D | 3.42 / 1.86 / 1.99                 |
| Segment V         | L / W / D | 4.10 / 1.79 / 1.85                 |
| Telson            | L / W / D | 3.45 / 1.37 / 1.29                 |
| Pedipalp          | L         | 12.98                              |
| Femur             | L / W     | 3.26 / 0.87                        |
| Patella           | L / W     | 3.84 / 1.58                        |
| Chela             | L         | 5.88                               |
| Manus             | W / D     | 1.47 / 1.48                        |
| Movable finger    | L         | 4.23                               |
| <b>Total</b>      | <b>L</b>  | <b>29.84</b>                       |

**Table 1.** Comparative measurements of male holotype of *Compsobuthus starhai* sp. n. Abbreviations: length (L), width (W, in carapace it corresponds to posterior width), depth (D).

***Compsobuthus starhai* sp. n.**  
(Figures 7–30, 35–36, Table 1)

<http://zoobank.org/urn:lsid:zoobank.org:act:F9C48522-A160-4FE0-A473-5E0336E9D0E1>

TYPE LOCALITY AND TYPE REPOSITORY. **Somalia**, Puntland, Bio Kulul, Bosaso, 11°14'570"N 49°16'021"E, 68 m a. s. l.; FKCP.

TYPE MATERIAL EXAMINED. **Somalia**, Puntland, Bio Kulul, Bosaso, 11°14'570"N 49°16'021"E, 68 m a. s. l., VI. 2024, 1♂ (holotype, 2856), leg. Roman Štarha, FKCP.

ETYMOLOGY. Named in honour of Roman Štarha (Czech Republic) who collected the type specimen.

**DIAGNOSIS** (♂). Total length 30 mm. Adult male with chela of pedipalps flexed proximally. Base color uniformly reddish to gray. Movable finger of pedipalp bears 11 rows of granules, all without external and with internal accessory granules (*acute carinatus* group). Pedipalp chela length/width ratio 4 in male. Manus of chela shorter than fixed finger. Trochanter of pedipalps with numerous long setae. Anterior margin of carapace with 10 symmetrically distributed spinae. First to third metasomal segments with 10 carinae, fourth with 8 carinae. All metasomal segments longer than wide. Pectinal teeth number 24. Sternites and ventral surface of metasoma granulated and with numerous small black setae. Sternite VI with 18 setae, sternite VII with 12 setae. Posterior margin of sternite VI with 5 setae, sternite V with 10 setae. Seventh

sternite bears four crenulate carinae. Telson bulbous, aculeus shorter than vesicle. Subaculear tubercle present but not spinoid.

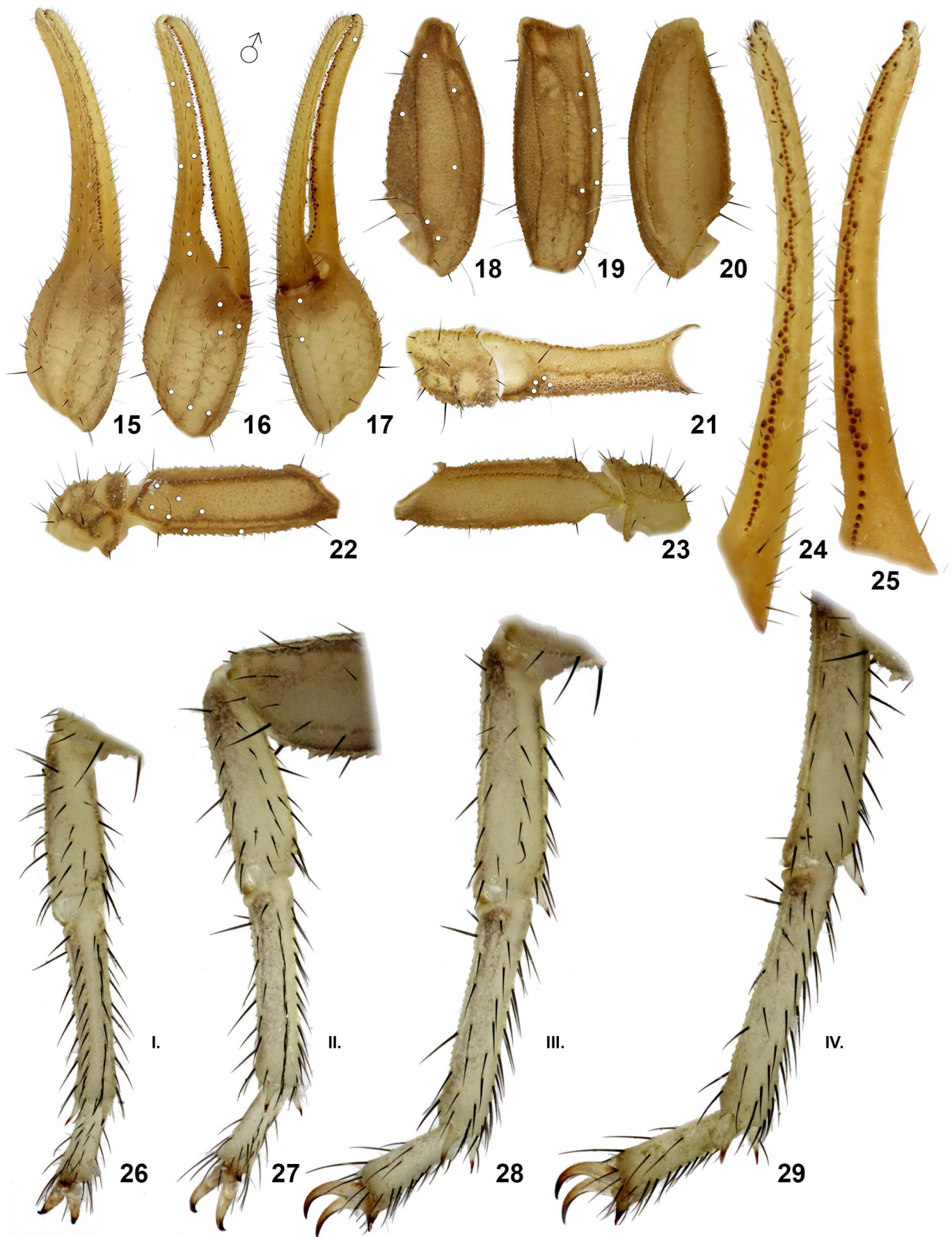
**DESCRIPTION** (♂). Total length 30 mm of male holotype. The habitus is shown in Figs. 7–8. For position and distribution of trichobothria of pedipalps see Figs. 16–19, 21–22. Fingers of pedipalps flexed proximally in male (Fig. 16).

**Coloration** (Figs. 7–8). The base color is uniformly yellowish brown, with dark spot on anterior part of the fifth and fourth metasomal segment; other spots missing or indicated only. Sternites yellow.

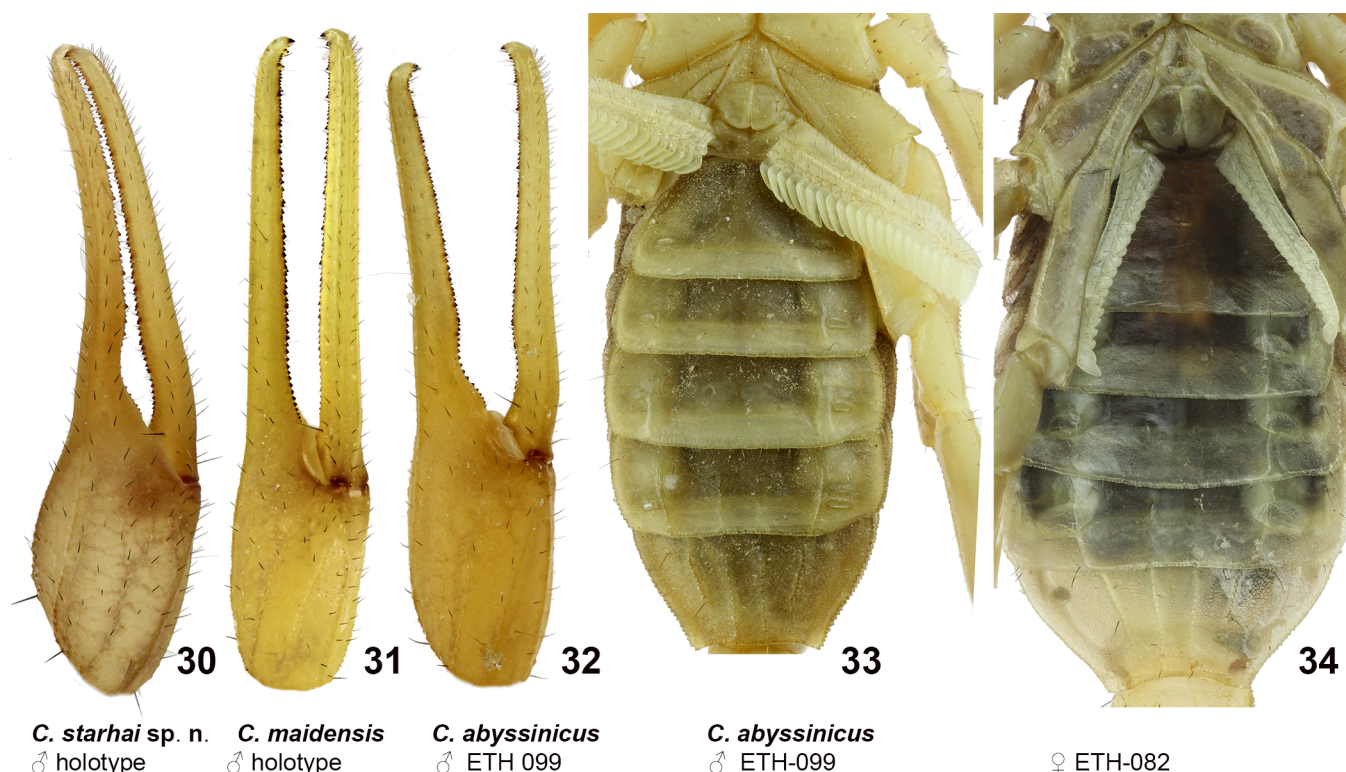
**Carapace and mesosoma** (Figs. 9–10). The entire carapace is covered by granules of different sizes. The carinae are strongly developed and granular. The anterior margin of the carapace is medially weakly concave, and bears 10 symmetrically distributed spinules. The tergites are granulated. Tergites I–VI bear very strong, denticulate lateral carinae. Each carina terminates in a spiniform process that extends well past the posterior margin of the tergite. Tergite VII is pentacarinata, with lateral pairs strong, serratocrenulate and the median carina moderate, crenulate and present only in the proximal half. The pectinal tooth count is 24 in male. The pectine marginal tips extend to half of the fifth sternite in the male. The pectines have three marginal lamellae and six to seven middle lamellae. The lamellae bear numerous dark setae, each fulcrum with two or three dark setae. All sternites are finely granulated. The glabrous wide zone on posterior part of fifth sternite developed medially, indicated also on sternite IV, and absent on other sternites in male. The sternite VII with four



Figures 9–14. *Compsobuthus starhai* sp. n., male holotype. Figures 9–10. Carapace and tergites I–V (9), coxosternal area and sternites (10). Figures 11–14. Lateral view of telson (11), metasoma and telson lateral (12), dorsal (13), and ventral (14) views. Scale bar: 10 mm (12–14).



**Figures 15–29.** *Compsobuthus starhai* sp. n., male holotype. **Figures 15–25.** Ppedipalp chela dorsal (15), externodorsal (16) and ventrointernal (17), pedipalp patella dorsal (18), dorsaloexternal (19) and ventral (20), trochanter and femur internal (21) dorsoexternal (22), and ventrointernal (23), movable (24) and fixed (25) finger dentition. Trichobothrial pattern is indicated in Figures 16–19 and 21–22. **Figures 26–29.** Left legs I–IV, retrolateral aspects.



**Figures 30–34.** Detail for comparison. **Figures 30–32.** Pedipalp chela in external views of males, *C. starhai* sp. n. (30), *C. maidensis* Kovařík, 2018 (31), *C. abyssinicus* (Birula, 1903) (32). **Figures 33–34.** *C. abyssinicus*, Ethiopia, Jiri, 9.7610586°N 42.6800703°E, coxosternal area and sternites in male (33) and female (34).

and sternite VI with two crenulate carinae strongly developed. Sternites with numerous small black setae. Sternite VI with 18 setae, sternite VII with 12 setae. Posterior margin of sternite VI with 5 setae, sternite V with 10 setae.

**Metasoma and telson** (Figs. 11–14). The first to third segments bear 10 carinae, the fourth segment bears 8 carinae and the fifth segment bears five carinae. All segments are sparsely setose by long setae and densely granulated. Accessory rows of granules are present on dorsal surfaces of segments as well as on the ventral surface of the fifth segment. The telson is bulbous, with the aculeus a little shorter than the vesicle. A subaculear tubercle is present but not spinoid.

**Pedipalps** (Figs. 15–25). The pedipalps are granulated and hirsute. The femur with five carinae. The patella with seven granular carinae. The chela bears five carinae. The movable and fixed fingers with 11 rows of granules, all without external and with internal granules. Pedipalp chela length/width ratio 4 in male. Manus of chela shorter than fixed finger. Pedipalp chela length/movable finger length ratio 1.39. The trochanter of pedipalps bears numerous setae.

**Legs** (Figs. 26–29). Legs III and IV bear moderate tibial spurs. Retrolateral and prolateral pedal spurs are present on all legs. The tarsomeres bear two rows of macrosetae on the ventral surface and several macrosetae on the other surfaces. Bristlecombs are absent. The femur bears four carinae and the patella bears four to six carinae. The femur and patella bear only solitary macrosetae and are granulated except for external lateral surfaces which are smooth.

**Measurements.** See Table 1.

**AFFINITIES.** The described features distinguish *Compsobuthus starhai* sp. n. from all other species of the genus. *C. starhai* sp. n. is morphologically the most similar to *C. abyssinicus* but these two species occur in widely separated areas (Fig. 35) and can be morphologically unequivocally separated by the following characters: 1) movable finger of pedipalp bears 11 rows of granules in *C. starhai* sp. n. and 10 in *C. abyssinicus*; 2) Sternite VI with 18 setae in *C. starhai* sp. n. versus 10–12 in *C. abyssinicus*, sternite VII with 12 setae in *C. starhai* sp. n. versus 8 in *C. abyssinicus* (Figs. 10 and 33).

Geographically, the closest occurring species is *C. maidensis* which differs from *C. starhai* sp. n. mainly by shape of fingers of pedipalp chela which are flexed proximally in *C. starhai* sp. n. (Fig. 16) but are straight in *C. maidensis* (Fig. 31).

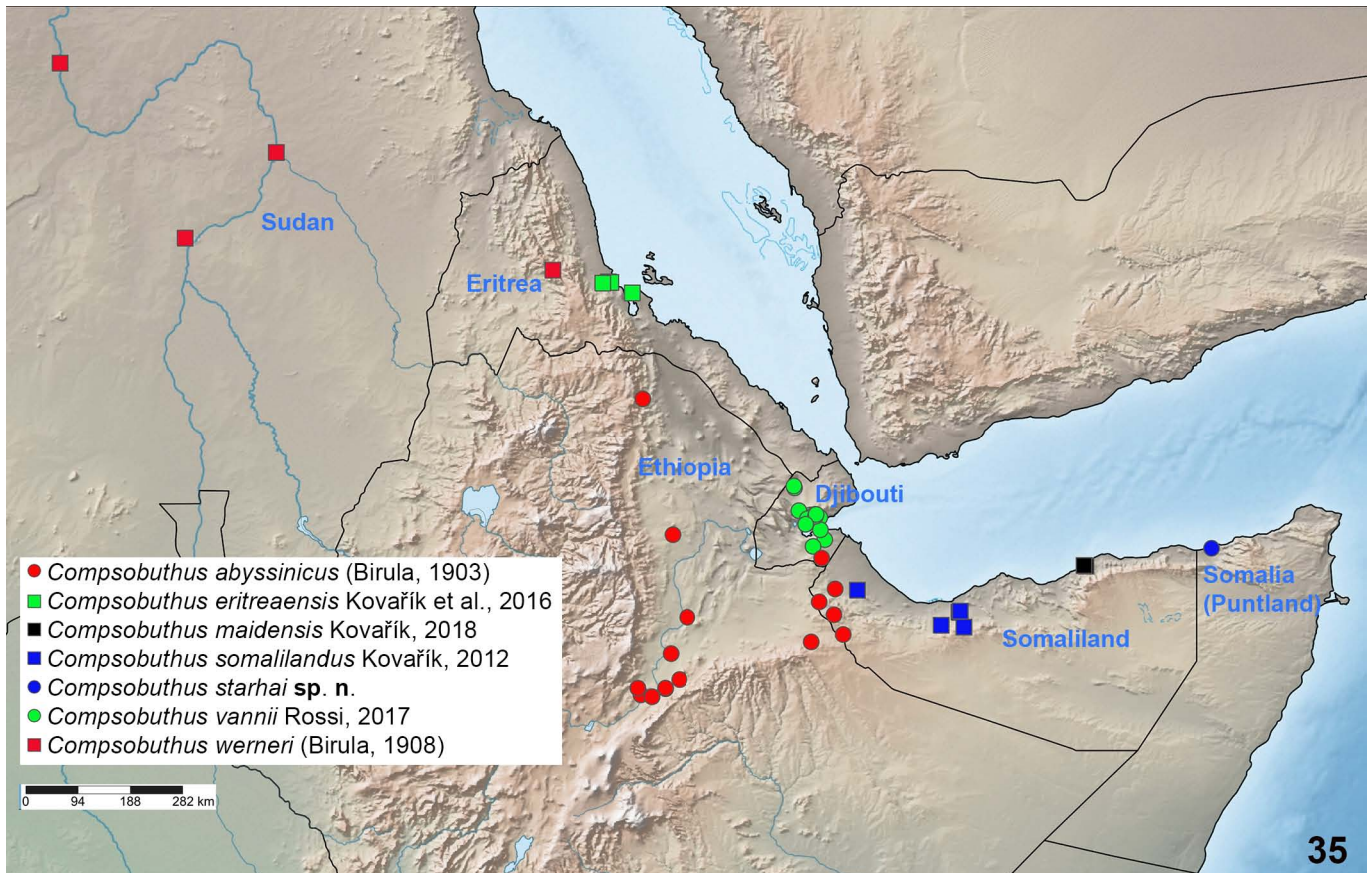
### *Compsobuthus vannii* Rossi, 2017 (Figure 35)

*Buthus acutecarinatus abyssinicus*: Werner, 1916: 79–80; Lampe, 1918: 190.

*Compsobuthus abyssinicus*: Fet & Lowe, 2000: 124 (in part); Kovařík & Ojanguren Affilastro, 2013: 146–147 (in part); Kovařík, 2018: 2 (in part).

*Compsobuthus vannii* Rossi, 2017 (2016): 3–5, figs. 1–2; Kovařík & Lowe, 2022: 5, figs. 21–62, 113.

**TYPE LOCALITY AND TYPE REPOSITORY.** **Djibouti**, Tadjoura Province, Bankoualé, 11°49'N 42°40'E (11.82°N 42.67°E); MZUF.



35



36

**Figures 35–36.** Figure 35. Map showing confirmed distribution of *Compsobuthus* spp. In Djibouti, Eritrea, Ethiopia, Somalia (Puntland), Somaliland and partly in Sudan. Figure 36: The type locality of *C. starhai* sp. n., Somalia, Puntland, Bio Kulul, Bosaso.

| № входящего журн. |    | Число экз. |        |        | Пол. | МЕСТО СБОРА.                              | Время сбора. | КОЛЛЕКТОРЪ.    | Кто определял. | ОТМѢТКА.            |
|-------------------|----|------------|--------|--------|------|-------------------------------------------|--------------|----------------|----------------|---------------------|
|                   |    | Сух.       | Сухих. | Мертв. |      |                                           |              |                |                |                     |
| 47.               | 12 |            |        |        |      | Абиссиния: Нагелука на р. Гаване          | 31 I 1899    | И. Димурский   | А. Бирюль      | Sp. Orig! 1249-1899 |
| 48. (27-1906)     |    |            |        |        |      | Абиссиния: Дар. Качинго-Гоха на р. Гаване | 12 III 1903  | Др. Ч. В. Брод | ид.            |                     |
| 49.               | 1  |            |        |        |      | Эфиопия: Судан                            | 1914         | F. Werner      | ид.            |                     |
| 1518.             | 1. |            |        |        |      | Абиссиния, Агис-Абба                      | 1898-1899    | Д. Г. Тробиус  | ,              |                     |

Figure 37. A page from Birula's handwritten, unpublished collection catalog (ZISP), listing specimens of *C. abyssinicus* (in Russian)

MATERIAL EXAMINED (FKCP). **Djibouti**, Arta Province, Arta, 11.5286°N 42.8508°E, 690 m a. s. l., 26.XI.2010, 2juvs. (No. 4711), leg. J. Lips; Arta Province, Arta plage, 11.5857°N 42.8286°E, 24.XII.2020, 1juv. (No. 23107), leg. J. Lips; Tadjourah Province, Ditolou, 11.781°N 42.6934°E, 665 m a. s. l., 11.III.2001, 1juv. (No. 4936), 6.XI.2011, 2♂3juvs. (No. 6697) 27.VI.2014, 1♀ (No. 9903), 27.VI.2014, 1♀ (No. 9897), leg. J. Lips; Tadjourah Province, Day, 11.7813°N 42.6408°E, 1490 m a. s. l., 24.I.2013, 1♂ (No. 7196), leg. J. Lips; Tadjourah Province, Abourma, 11.8941°N 42.4877°E, 800 m a. s. l., 27.XII.2013, 1♀1juv. (No. 8500), leg. J. Lips; Barra Yer (Petit Barre), 11.31°N 42.71°E (11°18'33.56"N 42°42'39.17"E), 585 m a. s. l., I. 2017, 1♂2juvs., leg. R. Štarha; Tadjoura District, 7km W of Tadjoura, 14.X.2023, 11°46'48.893"N 42°49'5.195"E (11.78,42.82), 50 m a. s. l., 23DB, 3♂1juv. (2565), leg. F. Kovařík; Tadjoura District, 20km NW of Randa, 15.X.2023, 11°49'44.771"N 42°44'18.079"E (11.83,42.74), 400 m a. s. l., 23DC, 1♀, leg. F. Kovařík; Tadjoura District, Goda mts., Day vill., 15.X.2023, 11°46'59.410"N 42°38'28.390"E (11.78,42.64), 1500 m a. s. l., 23DD, 3♂, leg. F. Kovařík; Tadjoura District, Goda mts., S of Mouda'a, 16.X.2023, 11°45'42.726"N 42°36'59.915"E (11.76,42.62), 1510 m a. s. l., 23DF, 4♂2♀3juvs., leg. F. Kovařík; Tadjoura District, Dougoum env., 17.X.2023, 11°47'56.166"N 42°44'54.665"E (11.80,42.75), 280 m a. s. l., 23DG, 1♂, leg. F. Kovařík; Tadjoura District, 2km E of Ditolou, 18.X.2023, 11°46'48.279"N 42°42'25.509"E (11.78,42.71), 500 m a. s. l., 23DH, 20♂17♀7juvs. (2634, 2635, 2628), leg. F. Kovařík; Tadjoura District, Andaba env., 20.X.2023, 12°15'58.989"N 42°24'49.003"E (12.26,42.41), 290 m a. s. l., 23DI, 5♂4♀2juvs. (2625, 2572, 2638), leg. F. Kovařík; Tadjoura District, Forêt d'Andaba, 3km SW of Boubâ, 21.X.2023, 12°17'39.135"N 42°23'49.921"E (12.29,42.40), 290 m a. s. l., 23DJ, 15♂17♀4juvs. 1♂ (2620), leg. F. Kovařík; Tadjoura District, Afalloina env., 22.X.2023, 11°50'0.740"N

42°45'39.857"E (11.83,42.76), 240 m a. s. l., 23DK, 4♂3♀, leg. S. Snäll; Tadjoura District, 4km S of Galina, 24.X.2023, 11°40'0.516"N 42°35'45.178"E (11.67,42.59), 570 m a. s. l., 23DM, 1♂1♀, leg. F. Kovařík.

DIAGNOSIS. Total length 24–40 mm. Sexual dimorphism minor, adult males with chela of pedipalps flexed proximally only little, smaller males almost straight; there is no difference in length and width of metasomal segments. Base color uniformly reddish to gray. Pedipalps with or without spots. Movable finger of pedipalp bears 10 rows of granules, all without external and with internal accessory granules (*acutecarinatus* group). Manus of chela shorter than fixed finger. Trochanter of pedipalps with numerous long setae. Anterior margin of carapace bears eight symmetrically distributed spinae. First to third metasomal segments bear 10 carinae, fourth bears 8 or 10 carinae. All metasomal segments longer than wide. Pectinal teeth number 19–27. Seventh sternite bears four crenulate carinae. Telson bulbous, aculeus shorter than vesicle. Subaculear tubercle present but not spinoid.

COMMENTS. Taxonomic position of the species is unclear. Preliminary results of DNA analysis (paper in preparation) indicate that it could be a synonym of *Compsobuthus abyssinicus* (Birula, 1903).

***Compsobuthus weneri* (Birula, 1908)**  
(Figure 35)

*Buthus acutecarinatus weneri* Birula, 1908: 131.

*Compsobuthus weneri* (in part): Vachon, 1949: 97 (1952: 217); Fet & Lowe, 2000: 128; Kovařík, 2003a: 104, fig. 5; ? Kovařík, 2003b: 138, fig. 2; ? Kovařík & Whitman, 2005: 107.

*Compsobuthus weneri*: Kovařík & Ojanguren, 2013: 158, figs. 831–838, 850; Kovařík et al., 2016: 16–18, figs. 63–77; Kovařík, 2018: 9–10, fig. 39.

TYPE LOCALITY AND TYPE REPOSITORY. **Sudan**, Wadi-Halfa, northern Nubia; MZUT.

MATERIAL EXAMINED. **Eritrea**, Keren, 15°48'33"N 38°28'14.6"E, 1328 m a. s. l. (15EG), 2.XI.2015, 3♂, leg. F. Kovařík, FKCP. **Sudan**, Khartoum, I–III.1966, 2♀, leg. P. Štys, FKCP; Sabaloro, 16.VIII.1966, 1juv., leg. P. Štys, FKCP; Hasa Heisa, 1♂, XI.1973, leg. V. Seichert, FKCP; Sabaloka Mt., ca 16°20'N 32°30'E, 24.X.–14.XI.2011, 10♂3♀, leg. P. Pokorný, FKCP; Northern State, Dongola farm, 19°10'11.37"N 30°28'29.62"E, 7.VI.2016, 1♂1♀, leg. Manal Siyam, ZMHB; River Nile State, Atbara farm, 17°43'N 33°59'E, 30.X.2016, 1♂im, leg. Manal Siyam, ZMHB; Northern State, El Gaab wadi, 6.V.2017, 1♀, leg. Manal Siyam, ZMHB.

DIAGNOSIS. Total length 24–40 mm. Movable finger of pedipalp bears 10–11 rows of granules, with external and internal accessory granules (*weneri* group). Sexual dimorphism minor, there is no difference between males and females in length of pedipalps and metasomal segments. Male with fingers of pedipalps very slightly flexed proximally. Carapace, mesosoma, metasoma, telson, and pedipalp femur and patella of adults densely granulated. First and second metasomal segments bear 10 carinae, third bears 8 or 10 carinae. Fifth metasomal segment length/width ratio less than 2.4. All metasomal segments sparsely setose and densely granulated. Telson with very small subaculear tubercle. Pectinal teeth number 16–22. Seventh sternite bears 4 well developed carinae. Telson elongate, with aculeus approximately as long as vesicle.

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