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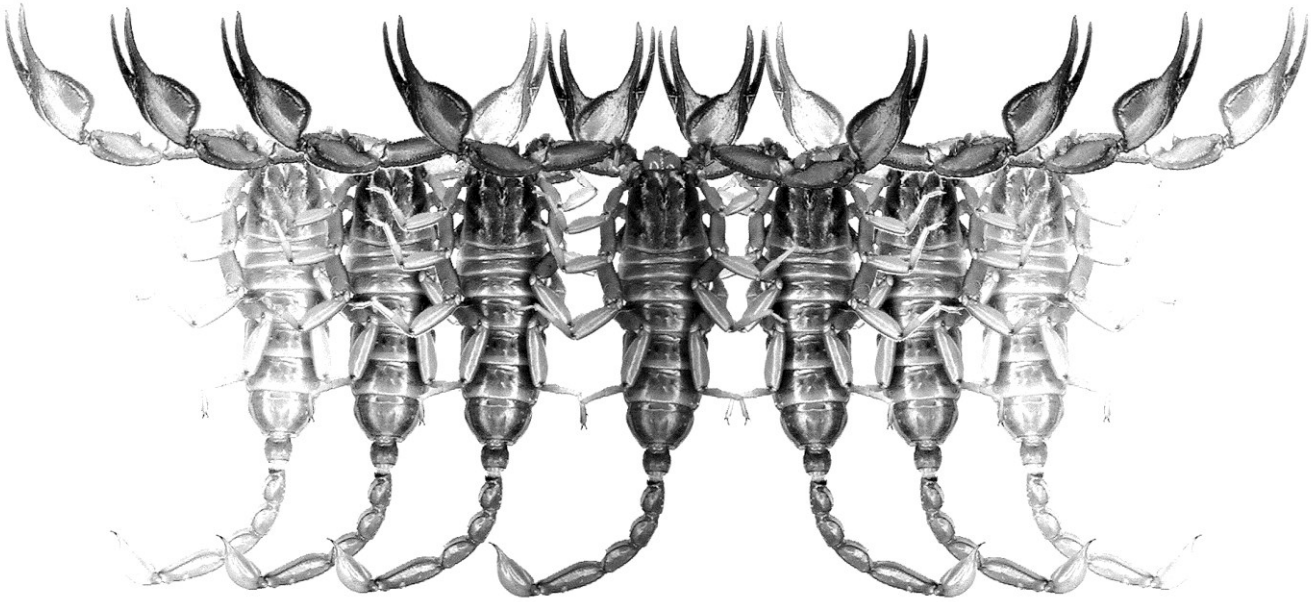

Review of the Genus *Gint* Kovařík et al., 2013, with Description of Two New Species from Somaliland and Somalia (Puntland) (Scorpiones: Buthidae)

František Kovařík & Tomáš Mazuch

September 2015 — No. 209

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Publication date: 24 September 2015
http://zoobank.org/urn:lsid:zoobank.org:pub:F3D7A894-D76C-4AF7-A56C-10162A7442D8

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Review of the genus *Gint* Kovařík et al., 2013, with description of two new species from Somaliland and Somalia (Puntland) (Scorpiones: Buthidae)

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Summary

We describe herein two new species, *Gint dabakalo* **sp**. **n**. from Somaliland and *G. puntlandus* **sp**. **n**. from Somalia (Puntland) (Scorpiones: Buthidae). Additional information is given on taxonomy and distribution of all four species of genus *Gint* Kovařík et al., 2013, fully complemented with color photos of live and preserved specimens, as well as their habitats. True male of *G. calviceps* is documented for first time, and validates original decisions to create separate genus *Gint*, and to transfer *Buthacus calviceps* Pocock, 1900, to that genus.

Introduction

In 1900, Pocock (1900a) described several new scorpions collected from Somaliland by the British big game hunter and naturalist, Charles Victor Alexander Peel. Among these was a small species, *Buthus calviceps*, that was subsequently placed by Birula (1917) into the subgenus *Buthus* (*Buthacus*) (later elevated to genus *Buthacus* by Vachon (1948, 1952)). As the part of a series of studies on the scorpion fauna of the Horn of Africa, Kovařík et al. (2013) examined and analyzed the type of *B. calviceps* and placed them into a separate genus, *Gint* Kovařík et al., 2013 with the type species *Gint gaitako* Kovařík et al., 2013. Small scorpion species are collected rarely at Horn of Africa and male of *Gint calviceps* was unknown so we had no idea about sexual dimorphism and the only one known *Gint* male from this region was located as *Gint calviceps* provisionally (see Kovařík et al., 2013: 18). Recently the second author has collected additional specimens in Somaliland which represented two species *Gint calviceps* and *Gint dabakalo* **sp**. **n**.. Now we can answer the question about sexual dimorphism, document the real male of *Gint calviceps* and describe the previous male as *G. puntlandus* **sp**. **n**.

Methods & Material

Nomenclature and measurements follow Stahnke (1970), Kovařík (2009), and Kovařík & Ojanguren Affilastro (2013), except for trichobothriotaxy (Vachon, 1974).

Specimens studied herein are preserved in 80% ethanol. *Depositories*: BMNH (The Natural History Museum, London, United Kingdom); FKCP (František Kovařík, private collection, Prague, Czech Republic); GL (Graeme Lowe, private collection, Philadelphia, USA).

Systematics

Gint Kovařík, Lowe, Plíšková et Šťáhlavský, 2013
(Figs. 1–89, Tables 1–3)

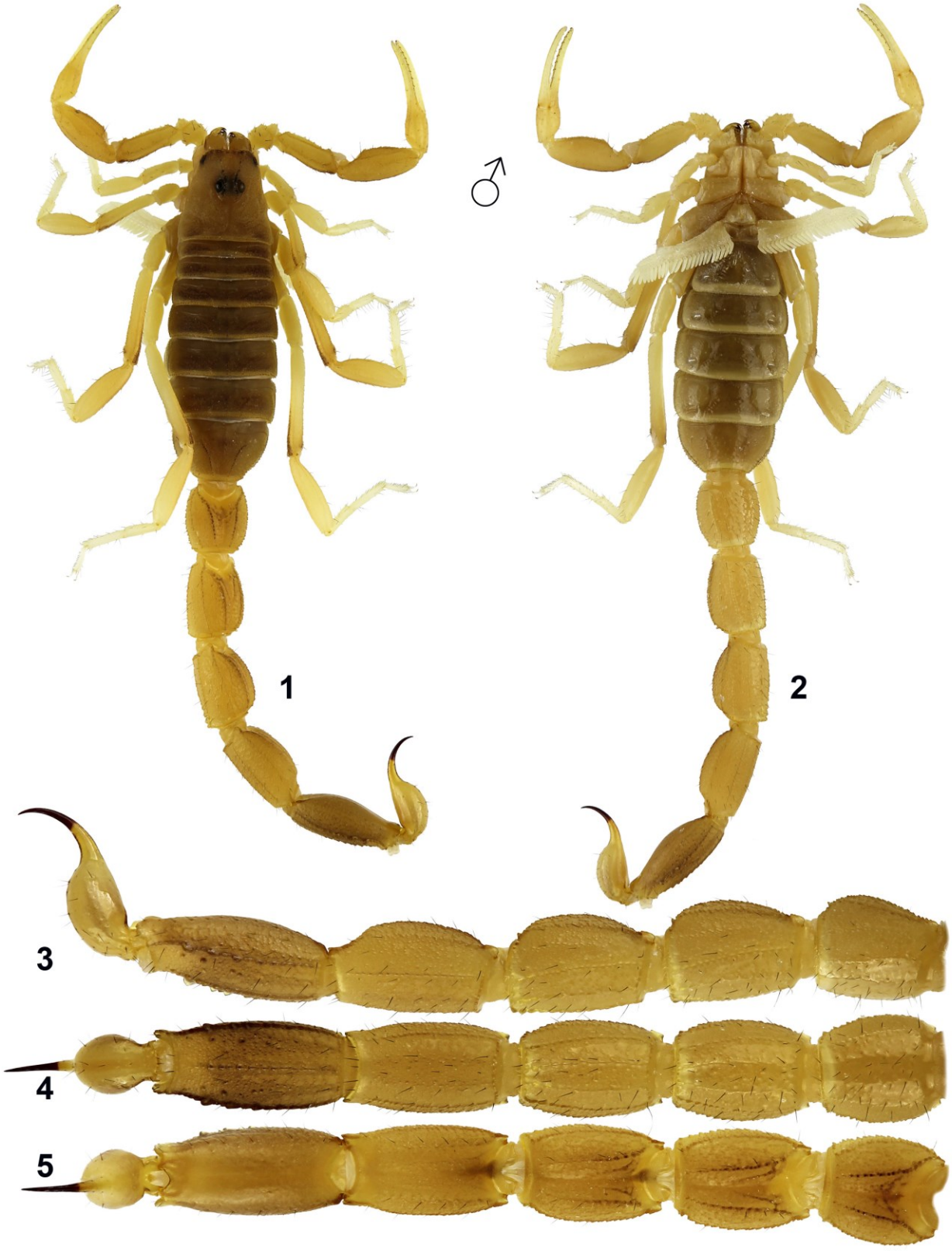
Buthus (*Buthacus*) (in part): Birula, 1917: 21.
Buthacus (in part): Levy, Amitai & Shulov, 1973: 125; Fet & Lowe, 2000: 81; Kovařík, 2005: 1.
Gint Kovařík et al., 2013: 1–18, Figs. 1–4, 6–71.

TYPE SPECIES. *Gint gaitako* Kovařík et al., 2013

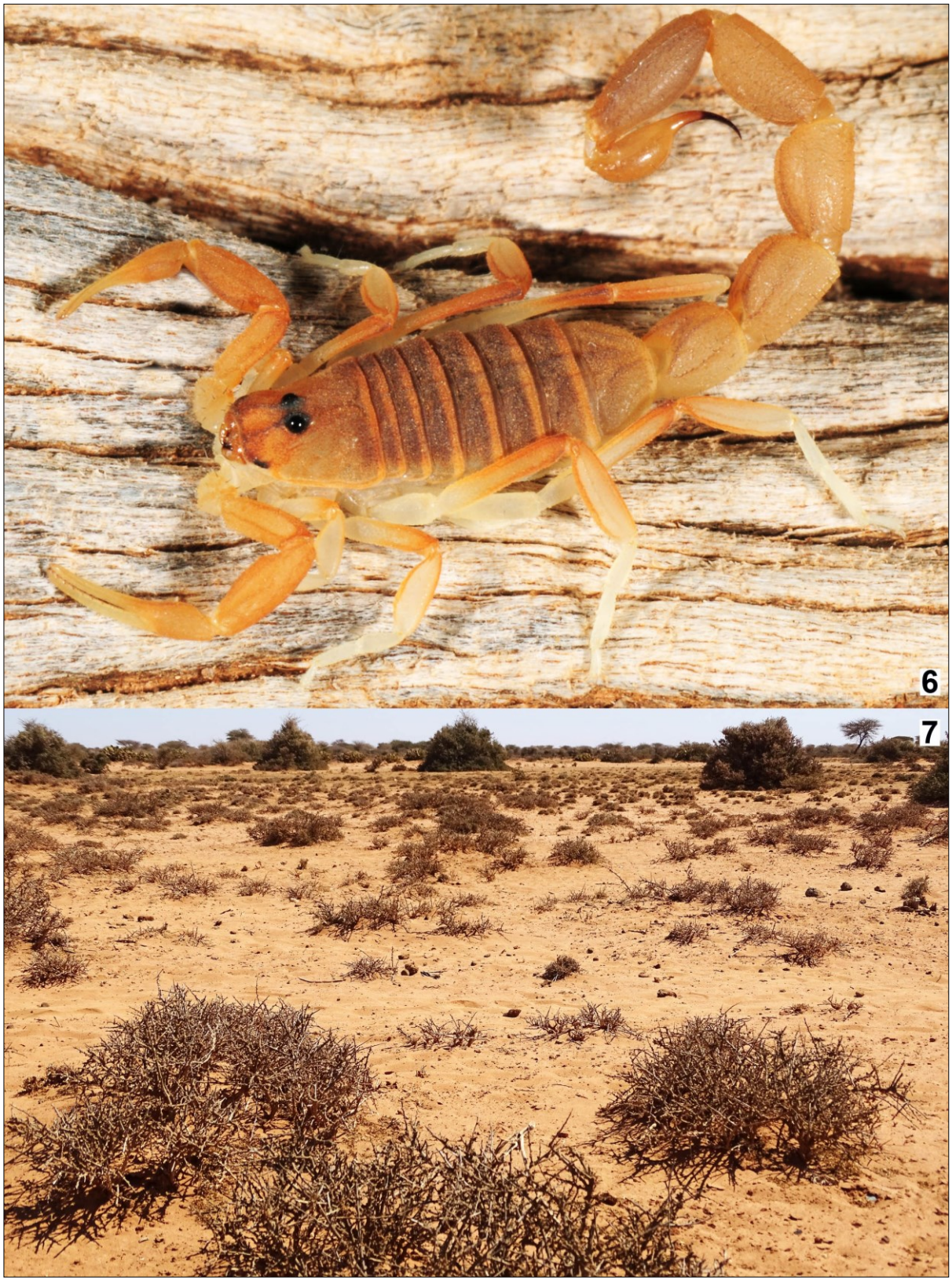
ETYMOLOGY. *Gint* (masculine) means scorpion in Amharian, the official language of Ethiopia.

DISTRIBUTION (Fig. 89). Ethiopia, Somalia, Somaliland.

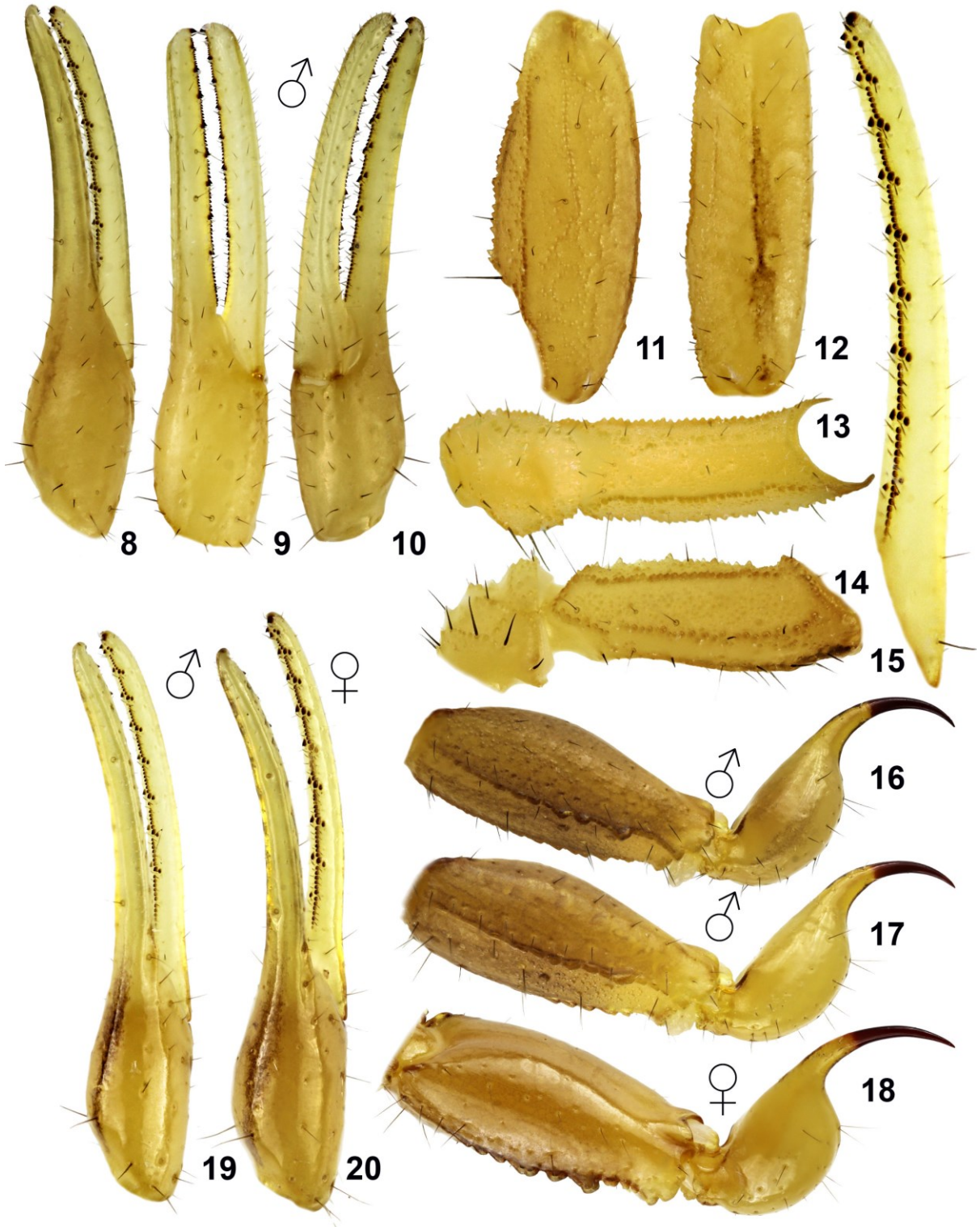
NOTE. We intentionally use here the name Somaliland (Hargeysa) for the northern territory corresponding to the former British colony (British Somaliland), which we distinguish from Somalia (Mogadisho). Somaliland has its own currency, a functional government with rep-



Figures 1–5: *Gint calviceps*, male, Somaliland, south of Qool-Cadday, between Hargeysa and Salahle, Woqooyi Galbeed, 09°11'56"N 44°09'50"E, dorsal (1) and ventral (2) views, and metasoma and telson, lateral (3), ventral (4), and dorsal (5) views.



Figures 6–7: *Gint calviceps*. **Figure 6.** Male at the locality. **Figure 7.** The locality, Somaliland, south of Qool-Cadday, between Hargeysa and Salahle, Woqooyi Galbeed, 09°11'56"N 44°09'50"E.



Figures 8–20: Figures 8–16. *Gint calviceps*, male, Somaliland, south of Qool-Cadday, between Hargeysa and Salahle, Woqooyi Galbeed, 09°11'56"N 44°09'50"E. Pedipalp chela, dorsal (8), external (9), and ventral (10) views. Pedipalp patella, dorsal (11) and external (12) views. Pedipalp femur and trochanter, internal (13) and dorsal (14) views. Telson and fifth metasomal segment lateral (16). **Figures 17–20.** *Gint gaitako*, Ethiopia, Oromia State, Sidamo Province, Wachile env., 115 km N Moyale, 04°32'34"N 39°03'08"E, 1073 m a. s. l., male telson and fifth metasomal segment lateral (17) and chela dorsal (19), female telson and fifth metasomal segment lateral (18) and chela dorsal (20).

Figures 21–26: *Gint gaitako*, Ethiopia, Oromia State, Sidamo Province, Wachile env., 115 km N Moyale, 04°32'34"N 39°03'08"E, 1073 m a. s. l., male metasoma and telson, lateral (21), ventral (22), and dorsal (23) views, female metasoma and telson, lateral (24), ventral (25), and dorsal (26) views.

Figure 27: The locality of *Gint gaitako*, Ethiopia, Oromia State, Sidamo Province, Wachile env., 115 km N Moyale, 04°32'34"N 39°03'08"E, 1073 m a. s. l.

resentation in several countries, and its officials contributed to our safe visit.

DIAGNOSIS (REVISED). Total length 24.5 mm (male) to 37 mm (female); carapace trapezoidal, in lateral view preocular area not distinctly inclined towards anterior margin, level with or higher than postocular area; surface of carapace densely granular, with only anterior median carinae developed; ventral aspect of cheliceral fixed finger with two denticles; tergites densely granular, with three carinae of which lateral pair on I and II inconspicuous; sternites III–VI with finely micro-denticulate posterior margins, lacking larger non-contiguous denticles; pectines with fulcra, hirsute; metasomal segments I–III with 8–10 carinae; metasoma I ventrally smooth, lacking ventromedial carinae; metasoma II–III with strong dentition on ventromedial carinae, more conspicuous in females; metasoma IV lacking ventromedial carinae; metasoma V with enlarged "lobate" dentition on ventrolateral carinae which may be reduced (*Gint puntlandus* **sp. n.**); telson rather elongate, vesicle with moderate posterior slope, not sharply inclined or truncated, aculeus shorter than vesicle; all segments of metasoma and pedipalps sparsely hirsute, with long setae in both sexes, dentate margin of movable finger of pedipalp with 8–9 rows of denticles, each with one external and one internal accessory denticle, 5–6 terminal denticles (4–5 terminal and one basal terminal); trichobothrial pattern orthobothriotaxic type A; dorsal trichobothria of femur arranged in β-configuration; pedipalp patella with 7 external trichobothria; pedipalp femur with petite trichobothrium d_2 on dorsal surface; petite d_2 of pedipalp patella present; patella trichobothrium d_3 internal to dorsomedian carina; tibial spurs present on legs III–IV.

SUBORDINATE TAXA. *Gint calviceps* (Pocock, 1900); *Gint dabakalo* **sp. n.**; *Gint gaitako* Kovařík et al., 2013; *Gint puntlandus* **sp. n.**

Gint calviceps (Pocock, 1900)
(Figs. 1–16, 55–58, 85–86, 89, Tables 1, 3)

Buthus calviceps Pocock, 1900a: 54; Pocock, 1900b: 57; Moriggi, 1941: 84; Lamoral & Reynders, 1975: 505.
Buthus (*Buthacus*) *calviceps*: Birula, 1917: 214, 224.
Buthacus claviceps [sic]: Probst, 1973: 329; El-Hennawy, 1992: 112.
Buthacus calviceps: Levy, Amitai & Shulov, 1973: 138; Levy & Amitai, 1980: 76; Kovařík, 1998: 105; Fet & Lowe, 2000: 82; Kovařík, 2003: 137; Kovařík, 2005: 10.
Gint calviceps Kovařík et al., 2013: 14–18, figs. 67–69 (in part).

Dimensions (MM)		*G. calviceps* ♂	*G. gaitako* ♂ holotype	*G. puntlandus* sp. n. ♂ holotype
Carapace	L / W	3.070 / 3.350	2.750 / 3.000	3.175 / 3.300
Mesosoma	L	8.300	6.850	7.150
Tergite VII	L / W	2.300 / 3.350	1.900 / 2.850	1.925 / 3.150
Metasoma et telson	L	19.480	16.400	20.125
Segment I	L / W / H	2.475 / 2.725 / 1.875	2.050 / 1.825 / 1.700	2.600 / 2.025 / 1.915
Segment II	L / W / H	2.850 / 2.050 / 1.975	2.375 / 1.700 / 1.725	3.050 / 1.875 / 1.900
Segment III	L / W / H	3.030 / 1.980 / 1.960	2.520 / 1.675 / 1.650	3.200 / 1.850 / 1.825
Segment IV	L / W / H	3.375 / 1.850 / 1.820	2.975 / 1.750 / 1.550	3.550 / 1.725 / 1.610
Segment V	L / W / H	3.700 / 1.820 / 1.575	3.475 / 1.637 / 1.475	4.250 / 1.750 / 1.475
Telson	L / W / H	4.050 / 1.202 / 1.125	2.975 / 0.975 / 0.975	3.625 / 1.075 / 1.050
Pedipalp	L	9.400	8.800	9.700
Femur	L / W	2.300 / 0.825	2.150 / 0.675	2.300 / 0.825
Patela	L / W	3.040 / 1.100	2.775 / 0.950	3.125 / 1.115
Chela	L	4.060	3.875	4.275
Manus	L / W / H	1.145 / 0.900 / 0.920	1.150 / 0.725 / 0.750	1.300 / 0.865 / 0.875
Movable finger	L	2.915	2.725	2.975
Total	**L**	**30.85**	**26**	**30.45**

Table 1: Comparative measurements of adult males of *Gint calviceps*, *Gint gaitako*, and *Gint putlandus* **sp. n.** Abbreviations: length (L), width (W, which in carapace corresponds to posterior width), depth (H).

TYPE LOCALITY AND TYPE DEPOSITORY. Northwest Somaliland, Berbera or Hargaisa (see comments below); BMNH.

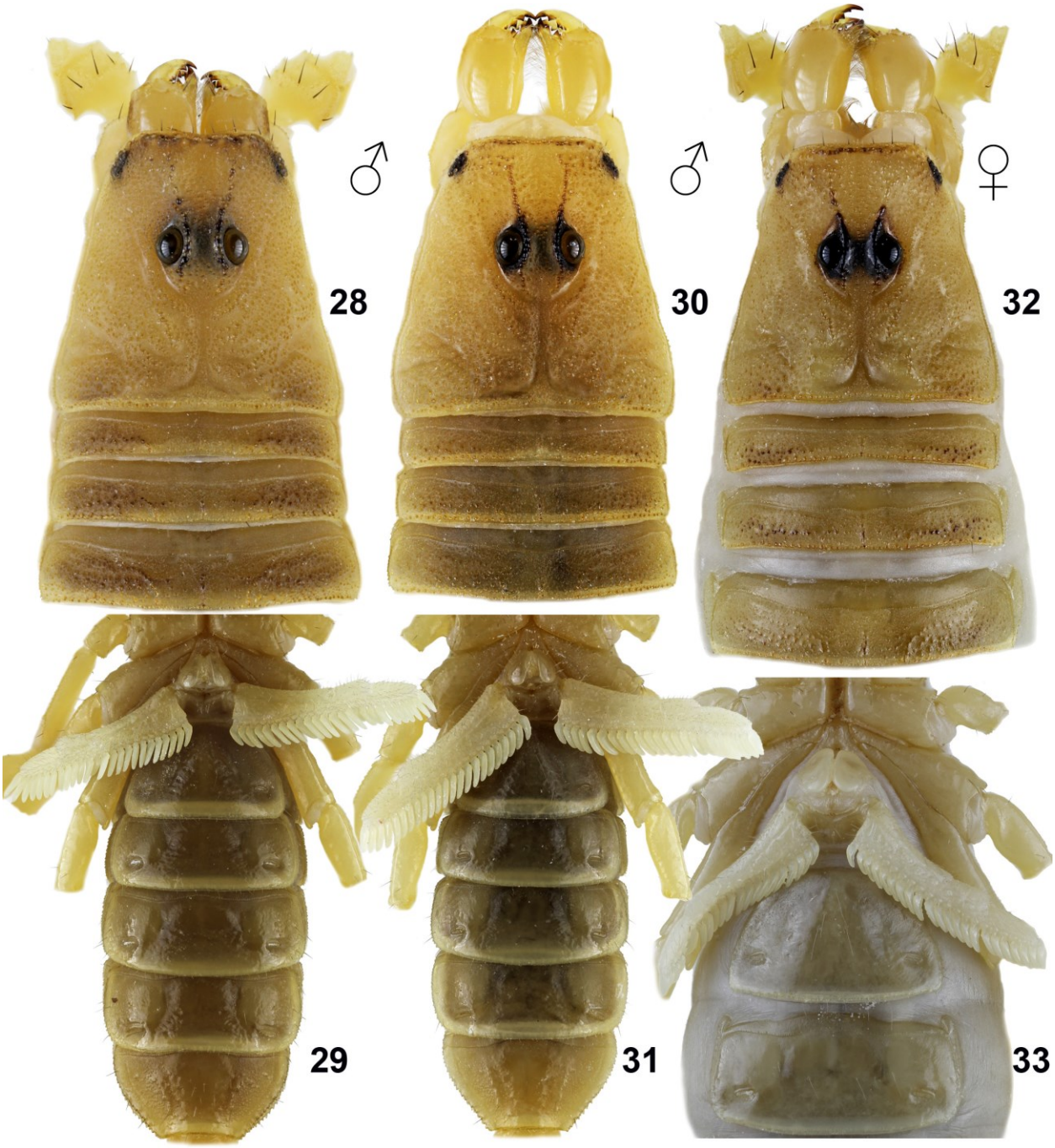
TYPE MATERIAL EXAMINED. Northwest Somaliland, Berbera, 16 April 1895 or Hargaisa, 25.-28 April 1895, leg. C. V. A. Peel, 1♀ (holotype, Fig. 85), BMNH.
ADDITIONAL MATERIAL EXAMINED. Somaliland, south of Qool-Cadday, between Hargeysa and Salahle, Woqooyi Galbeed, 09°11'56"N 44°09'50"E, Locality No. 8, 18 January 2015, 1♂ (Figs. 1–6, 8–16, 55–58, 86), FKCP, leg. T. Mazuch.

ETYMOLOGY. The specific epithet is a Latin-Greek conjunction meaning "bald head", a reference to the obsolescence of most carinae on the carapace.

DIAGNOSIS. Total length 31 mm in both sexes; carapace densely granulated, with only anterior median carinae developed; anterior margin of carapace straight; pectinal teeth 25 in male, 21 in female; all sternites lack carinae; sternites III–VII smooth in both sexes; ratio metasomal segment V length/width 2.03 in male; metasomal segments I–III between carinae granulated in males, smooth and sparsely punctate in female; metasomal segment IV ventrally granulated in both sexes; metasomal segment V of both sexes has only ventrolateral carinae, which in posterior halves bear several lobate granules; dorsal and lateral surfaces of metasoma V granulated in males (Fig. 86); all metasomal segments sparsely setose; metasomal segment V bearing sparse, long setae in both sexes; telson rather elongate, aculeus slightly shorter than vesicle in both sexes; legs I–III with bristle combs composed of long, thin setae; patella of legs smooth; movable finger of pedipalp with 8 rows of denticles, with external and internal accessory denticles and four terminal and one basal terminal denticles.

COMMENTS. *Buthus calviceps* Pocock, 1900 was based on a single female first kept dry and later relaxed and placed in alcohol (Fig. 85 and figs. 67–69 in Kovařík et al., 2013: 17). Kovařík et al. (2013: 14–18) transferred this species to the genus *Gint*. Apart from the female holotype, which is colorless and damaged, thay have had an opportunity to also examine a male and a juvenile (13 mm long). Kovařík et al. (2013: 18) wrote: "Their transfer to the new genus as *Gint calviceps* (Pocock, 1900) comb. n. should thus be regarded as provisional. Certain species level characters remain to be determined, e. g. differences between juveniles and adults, and expressions of sexual dimorphism. Additional fieldwork is needed to acquire more adult specimens of both sexes from a single locality."

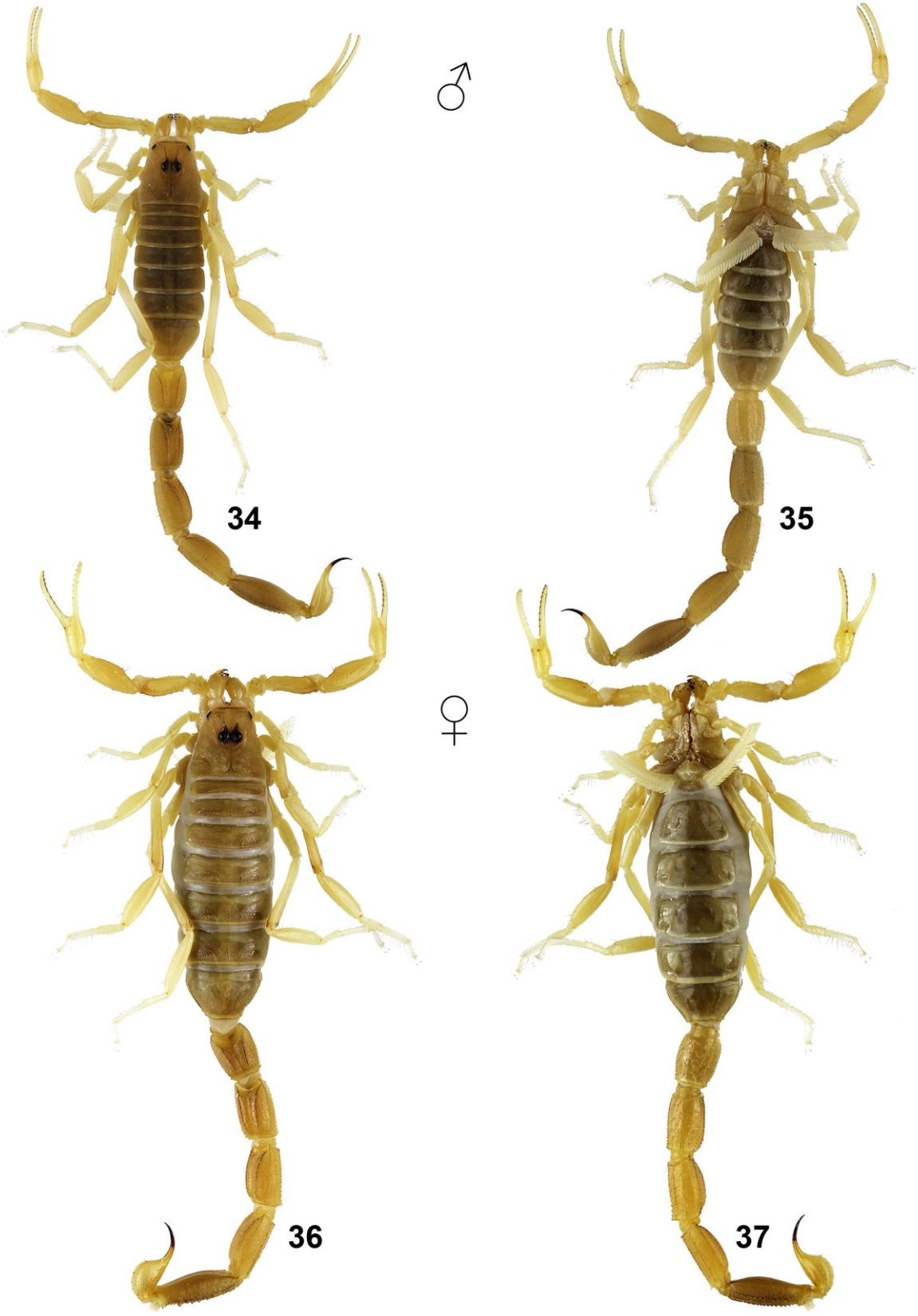
Additional specimens cited in this paper justify this opinion. In the genus *Gint* there is no sexual dimorphism in shape and elongation of the metasomal and the pedipalp segments; on the contrary, these morphometrical differences have interspecific diagnostic value, serving to characterize *Gint dabakalo* **sp**. **n**., which has narrower and longer metasomal and pedipalp segments



Figures 28–33: Figures 28–29. *Gint gaitako*, Ethiopia, Oromia State, Sidamo Province, Wachile env., 115 km N Moyale, 04°32'34"N 39°03'08"E, 1073 m a. s. l., male, chelicerae, carapace and tergites I–III (28), sternopectinal region and sternites III–VII (29). **Figures 30–33**. *Gint dabakalo* **sp. n.**, male holotype, chelicerae, carapace and tergites I–III (30), sternopectinal region and sternites III–VII (31), female paratype, chelicerae, carapace and tergites I–III (32), sternopectinal region and sternites III–IV (33).

in both sexes (Figs. 34–37, 63–64, Tables 2–3). A study of a true male of *Gint calviceps* collected recently near to the type locality demonstrated that the male has no wrinkled sternites III–VI (Fig. 2), and the male from Puntland cited as *Gint calviceps* provisionally by Kovařík et al. (2013: 18) belongs to a new species, *Gint puntlandus* **sp**. **n**.

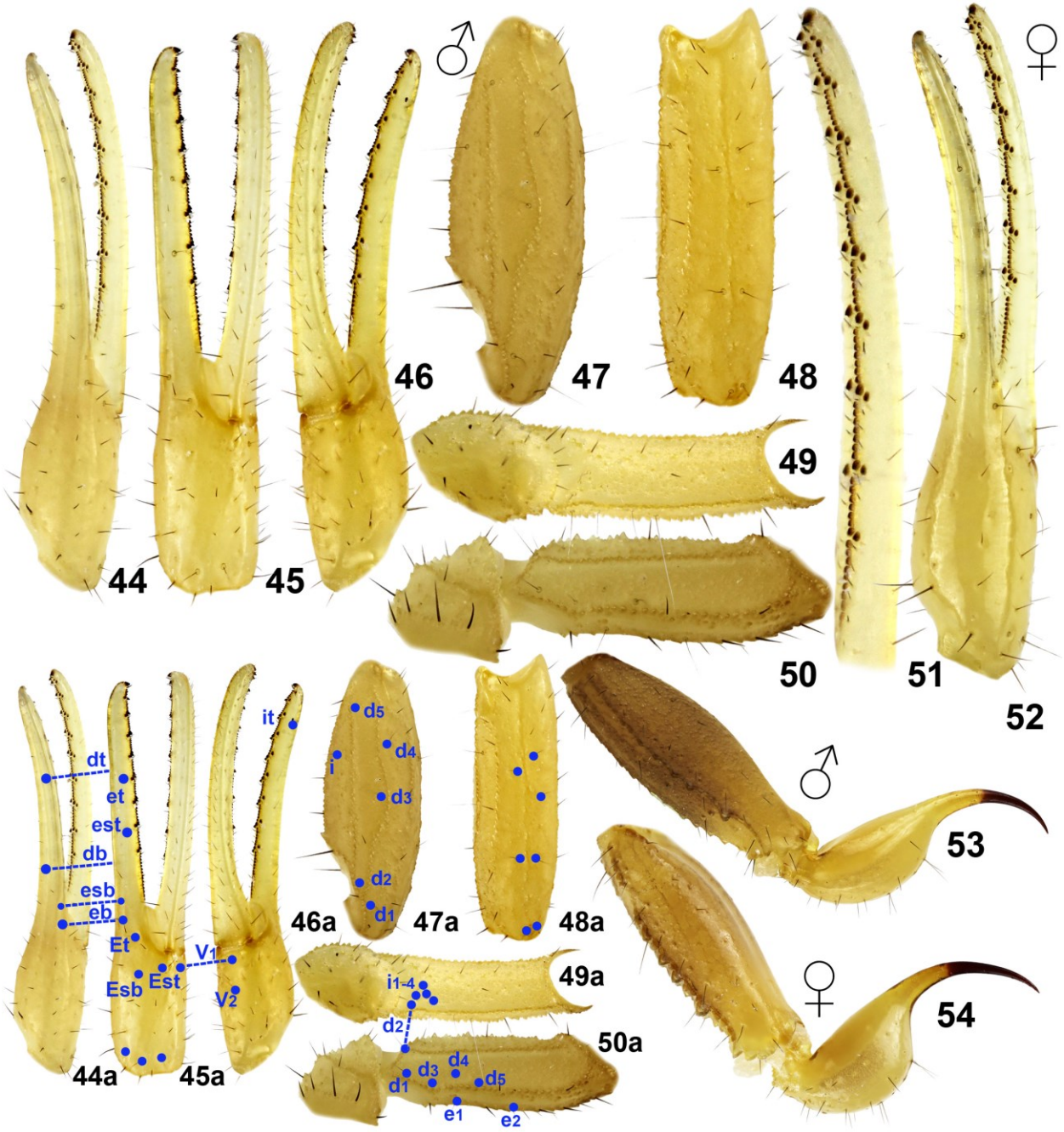
Pocock (1900a: 54) defined the type locality of *Buthus calviceps* as Berbera (16.IV.1895) or Hargaisa (25.-28 April 1895). We visited both these localities, and



Figures 34–37: *Gint dabakalo* **sp. n. Figures 34–35:** holotype male, dorsal (34) and ventral (35) views. **Figures 36–37:** paratype female, dorsal (36) and ventral (37) views.

Figures 38–43: *Gint dabakalo* **sp. n. Figures 38–40.** Holotype male, metasoma and telson, lateral (38), ventral (39), and dorsal (40) views. **Figures 41–43.** Paratype female, metasoma and telson, lateral (41), ventral (42), and dorsal (43) views.

according to the knowledge of the six localities where specimens of the genus *Gint* were collected, we believe that the type locality is Hargaisa because it has a typical habitat for this genus, the fine red sand (Fig. 7, 27, 65–66) as in all the six other localities of *Gint*, which we know. In contrast, around Berbera there is rather quite rough, yellow sand inhabited by another psammophilous genus and species, *Neobuthus berberensis* (Hirst, 1911) (see figs. 9 and 13 in Kovařík & Lowe, 2012: 5 and figs. 11, 23–27 in Kovařík & Mazuch, 2011: 3–7).



Figures 44–54: *Gint dabakalo* **sp. n. Figures 44–51, 53.** Holotype male. Pedipalp chela, dorsal (44), external (45), and ventral (46) views. Pedipalp patella, dorsal (47) and external (48) views. Pedipalp femur and trochanter, internal (49) and dorsal (50) views. Telson and fifth metasomal segment lateral (53). The trichobothrial pattern is indicated in Figures 44a–50a. **Figures 52, 54.** Paratype female, pedipalp chela dorsal (52), and telson and fifth metasomal segment lateral (54).

Gint gaitako Kovařík, Lowe, Plíšková et Šťáhlavský, 2013 (Figs. 17–29, 87–89, Tables 1, 3)

Gint gaitako Kovařík et al., 2013: 4–14, figs. 1–4, 6–63.

TYPE LOCALITY AND TYPE DEPOSITORY. Ethiopia, Oromia State, Borana Province, 04°25'31.5"N 38°58'14"E, 1171 m a.s.l.; FKCP.

TYPE MATERIAL EXAMINED. Ethiopia, Oromia State, Borana Province, 04°25'31.5"N 38°58'14"E, 1171 m a.s.l. (Locality No. 13EI), 27-28 June 2013, 1♂ (holotype), 1♀, 4♀ims., 3juvs. (paratypes), FKCP, 1♂, 1♀im., 1juv. (paratypes), GL, UV detection, leg. F. Kovařík.

ADDITIONAL MATERIAL EXAMINED. Ethiopia, Oromia State, Sidamo Province, Wachile env., 115 km N Mo-

Figures 55–62: Figures 55–58. *Gint calviceps*, male, Somaliland, south of Qool-Cadday, between Hargeysa and Salahle, Woqooyi Galbeed, 09°11'56"N 44°09'50"E, distal segments of legs I–IV, retrolateral view. **Figures 59–62**. *Gint dabakalo* **sp. n.**, holotype male, distal segments of legs I–IV, retrolateral view.

Dimensions (MM)		*G. dabakalo* **sp. n.** ♂ **holotype**	*G. dabakalo* **sp. n.** ♀ **paratype**
Carapace	L / W	2.750 / 2.950	3.350 / 3.800
Mesosoma	L	7.350	11.500
Tergite VII	L / W	2.120 / 2.850	2.500 / 3.950
Metasoma et telson	L	17.460	20.630
Segment I	L / W / H	2.275 / 1.800 / 1.475	2.600 / 2.050 / 1.800
Segment II	L / W / H	2.575 / 1.625 / 1.550	3.075 / 1.850 / 1.750
Segment III	L / W / H	2.725 / 1.600 / 1.575	3.225 / 1.850 / 1.750
Segment IV	L / W / H	3.110 / 1.490 / 1.450	3.600 / 1.800 / 1.575
Segment V	L / W / H	3.600 / 1.490 / 1.275	4.125 / 1.800 / 1.450
Telson	L / W / H	3.175 / 0.985 / 0.938	4.000 / 1.350 / 1.325
Pedipalp	L	8.925	10.500
Femur	L / W	2.275 / 0.775	2.600 / 0.920
Patela	L / W	2.800 / 1.000	3.30 / 1.200
Chela	L	3.850	4.600
Manus	L / W / H	0.975 / 0.775 / 0.720	1.325 / 0.950 / 0.950
Movable finger	L	2.875	3.275
Total	**L**	**27.56**	**35.48**

Table 2: Comparative measurements of adults of *Gint dabakalo* **sp. n.** Abbreviations: length (L), width (W, in carapace it corresponds to posterior width), depth (H).

yale, 04°32'34"N 39°03'08"E, 1073 m a. s. l., 22-23 May 2015, 1♂, 3♀, UV detection, leg. P. Kučera, FKCP; Oromia State, Sidamo Province, Goba Village env., 60 km SSW Negele-Borana, 04°51'48"N 39°18'35"E, 750 m a. s. l., 24 May 2015, 2♂, leg. P. Kučera, FKCP.

ETYMOLOGY. *Gaitako* (phonetically, the language does not have a written form) means scorpion in Tsamai, an East Cushitic language spoken by the Tsamai people of southwestern Ethiopia.

DIAGNOSIS. Total length 24.5–27.3 mm (males) and 37–39 mm (females); carapace densely granulated with only anterior median carinae developed; anterior margin of carapace straight; pectine teeth 19–22; all sternites lacking carinae; sternite VII with four smooth, poorly indicated carinae, may be weakly granulated (mainly in males); ratio metasomal segment V length/width 2.11–2.12 in males; metasomal segments I–IV intercarinal surfaces granulated in males, smooth or almost smooth in females; metasomal segment V of both sexes has only ventrolateral carinae that in posterior halves bear several lobate granules; dorsal and lateral surfaces of this segment smooth, without granules and carinae in both sexes; all metasomal segments sparsely setose; metasomal segment V ca. 35 long setae in both sexes; telson rather elongate, aculeus slightly shorter than vesicle in both sexes; legs I–III with bristle combs composed of long, thin setae; patella of legs smooth; movable finger of pedipalp with 8 rows of denticles, with external and internal accessory denticles.

Gint dabakalo Kovařík et Mazuch, **sp**. **n**.
(Figs. 30–54, 59–64, 63–66, 83–84, 89, Tables 2–3)
http://zoobank.org/urn:lsid:zoobank.org:act:84BF295F-2BAF-41CE-98EA-7F391AB1ACEC

Gint calviceps Kovařík et al., 2013: 14–18, figs. 70–71 (in part).

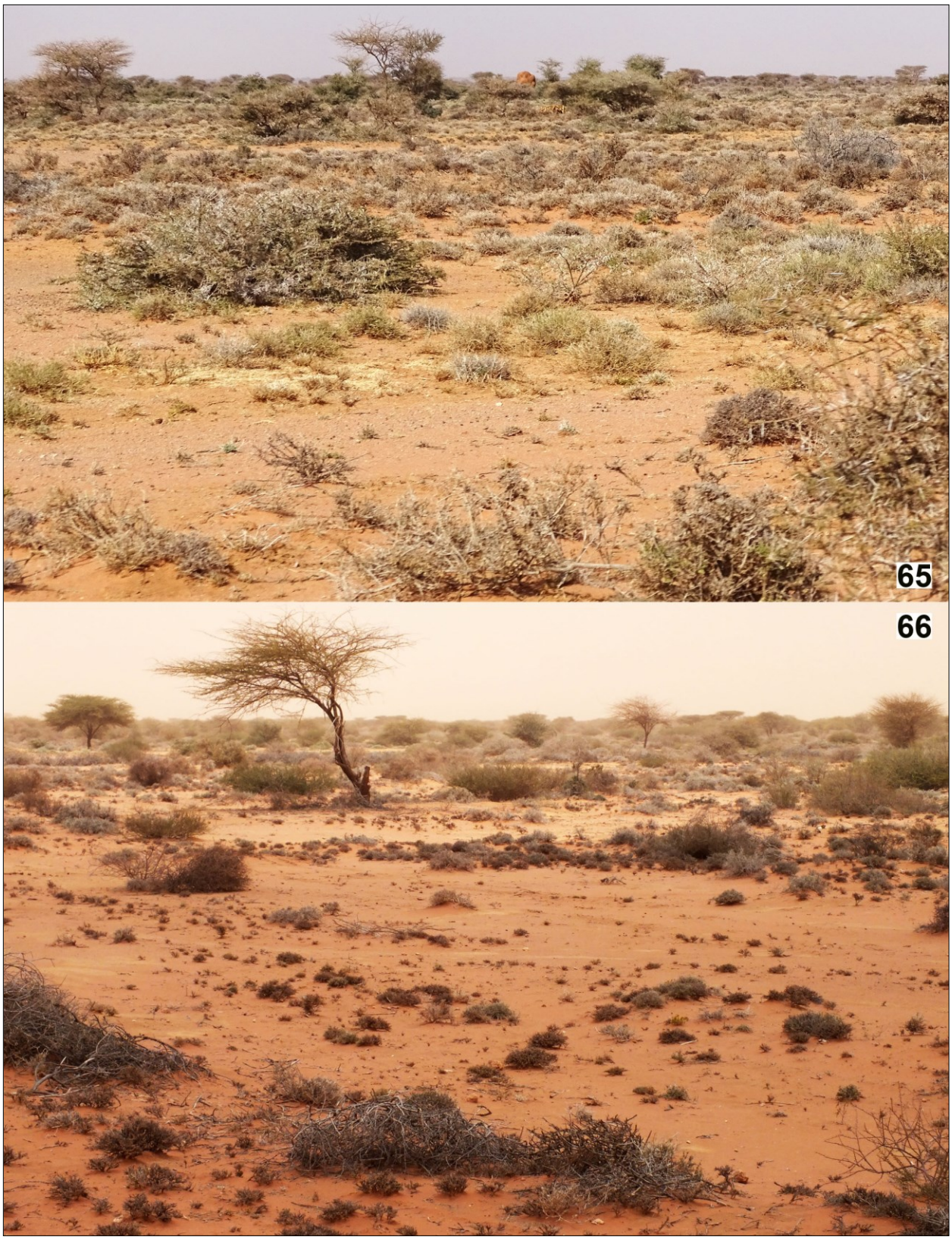
TYPE LOCALITY AND TYPE DEPOSITORY. Somaliland, N of Burao, Togdheer, surrounding of Egal Hotel, 9°33' 24"N 45°31'58" E, 1052 m a.s.l.; FKCP.

TYPE MATERIAL EXAMINED. Somaliland, N of Burao, Togdheer, surrounding of Egal Hotel, 9°33'24"N 45°31' 58" E, 1052 m a.s.l., (Loc. No. 16), 1♂ (holotype, Figs. 30–31, 34–35, 38–40, 44–51, 53, 59–62, 64, 84), 1♀ (paratype, Figs. 32–33, 36–37, 41–43, 52, 54, 63, 83), 1juv. ♂ (paratype, 23 mm long), 20 January 2015, FKCP, leg. T. Mazuch; between Sheikh and Laas Caanood, 09°36'40.1"N 45°29'35.7"E, 1089 m a.s.l. (Locality No. 2011L), 10 July 2011, 1juv.(paratype), leg. F. Kovařík, FKCP.

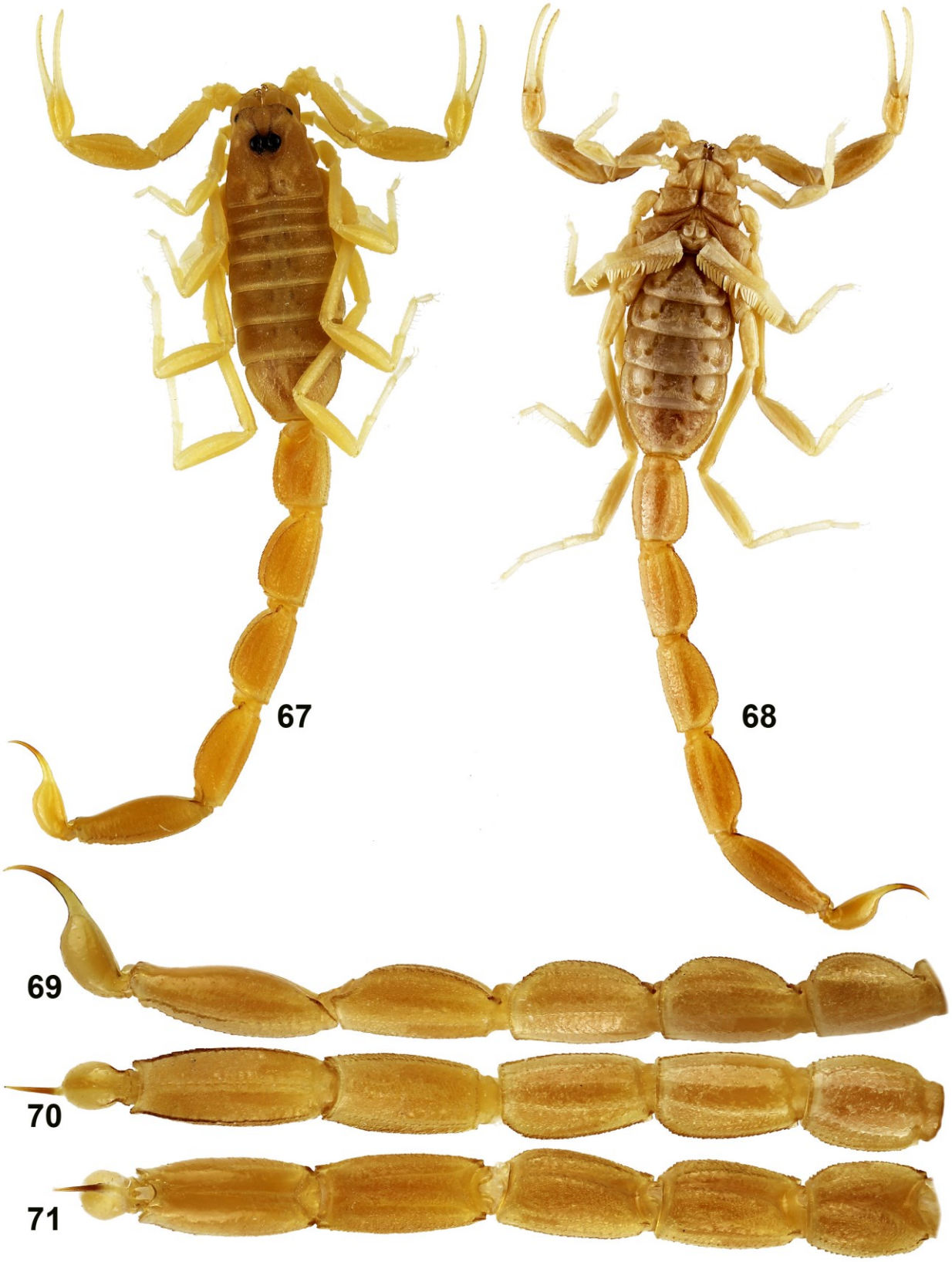
ETYMOLOGY. *Dabakalo* (phonetically; written form could be DabaQalooc or dabaqallooc) means a small scorpion in Somali language.

DIAGNOSIS. Total length 27.5 mm (male) and 35.5 mm (female); carapace densely granulated with only anterior median carinae developed; anterior margin of carapace straight; pectinal teeth 21–22 in female and 23–26 in males; all sternites lacking carinae; sternite VII with four

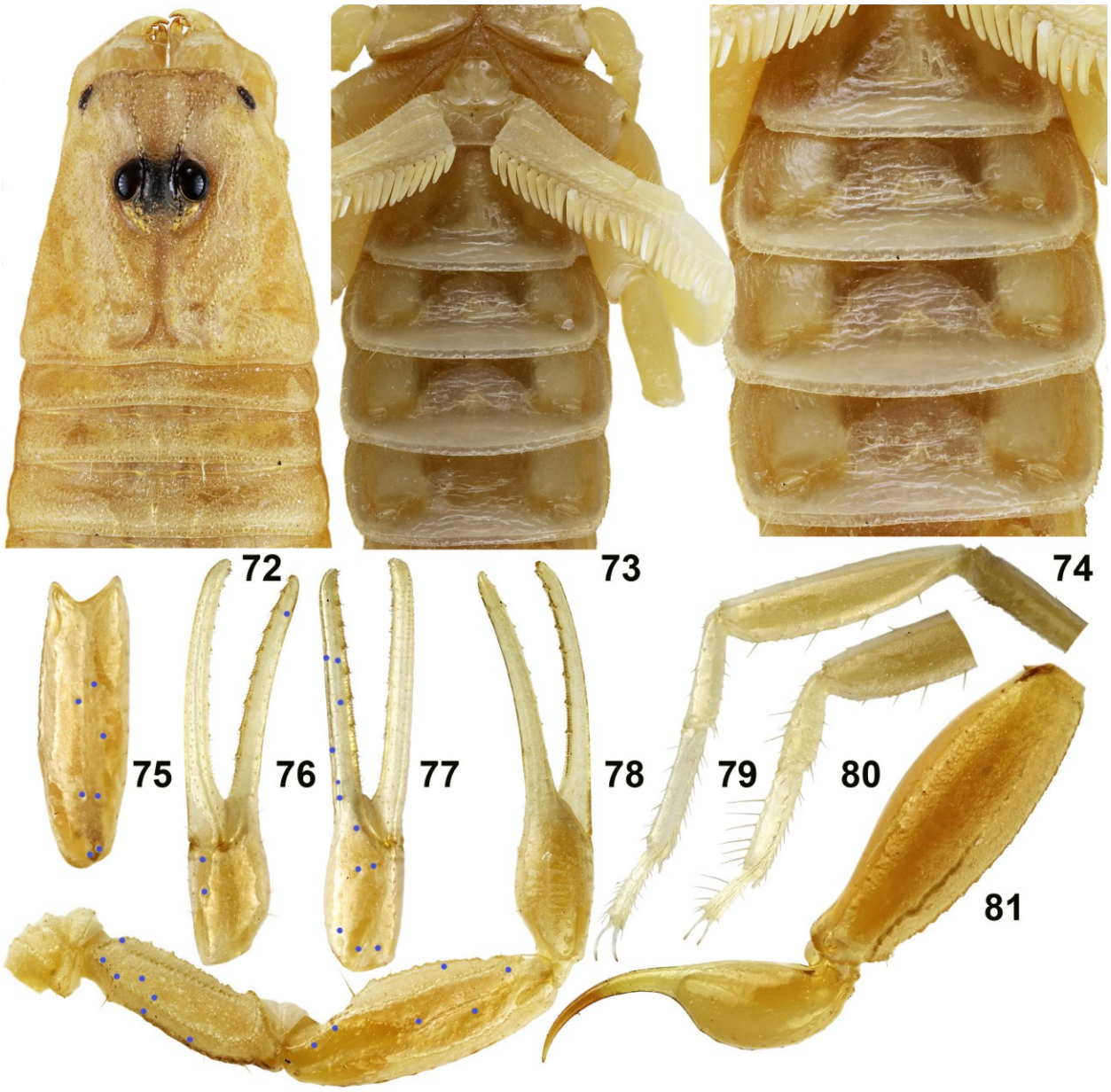
Figures 63–64: *Gint dabakalo* **sp. n.**, paratype female (63) and holotype male (64) at the type locality.



Figures 65–66: *Gint dabakalo* **sp. n.**, the type locality, Somaliland, N of Burao, Togdheer, surrounding of Egal Hotel, 9°33'24"N 45°31'58" E, 1052 m a.s.l.



Figures 67–71: *Gint puntlandus* **sp. n.**, holotype male, dorsal (67) and ventral (68) views, and metasoma and telson, lateral (69), ventral (70), and dorsal (71) views.



Figures 72–81: *Gint puntlandus* **sp. n.**, holotype male, chelicerae, carapace and tergites I–III (72), sternopectinal region and sternites III–VI (73–74), pedipalp patella external (75), Pedipalp chela, ventral (76) and external (77) views, right pedipalp dorsal (78), distal segments of legs III–IV, retrolateral view (79–80), telson and fifth metasomal segment lateral (81). The trichobothrial pattern is indicated in Figures 75–78.

poorly indicated carinae, weakly granulated (mainly in males); ratio metasomal segment V length/width 2.41 in male; metasomal segments I–IV intercarinal surfaces granulated in both sexes; metasomal segment IV bears 8 carinae that are complete and granulate in both sexes; metasomal segment V of both sexes has only ventromedial and ventrolateral carinae that in posterior halves bear several lobate granules; dorsal surface of this segment smooth and lateral surface may be weakly granulated (more in males); all metasomal segments sparsely setose; metasomal segment V ca. 35 long setae in both sexes; telson rather elongate, more in males, aculeus slightly shorter than vesicle in both sexes; legs I–III with bristle combs composed of long, thin setae; patella of legs smooth; movable finger of pedipalp with 8–9 rows of denticles, with external and internal accessory denticles.

DESCRIPTION. Adult male is 27.5 mm long and the adult female is 35.5 mm long. For position and distribution of

trichobothria of pedipalps see Figs. 44–50. Sexual dimorphism is noticeable. Males are substantially smaller, have somewhat more elongate telson and longer pectines than females. Other differences, such as in metasomal carination, are described below.

COLORATION (Figs. 34–37, 63–64). Basic color is yellow to orange with dark patterning and spots, but expression of colors is quite variable, and some specimens may be described as yellow to white with brown to black overtones. Dorsal and ventral carinae on the metasoma can be dark. Segment V of the metasoma is usually darker than the others, but may also be quite light-colored. The chelicerae are yellow without reticulation; dentition is reddish.

CARAPACE (Figs. 30 and 32). The surface is densely granulated. The anterior margin is straight and bears six to eight macrosetae. Anterior median carinae coarsely granular. There are 5 lateral eyes on each side (3 larger, 2 smaller).

MESOSOMA (Figs. 30, 32, 34–37). The tergites bear three coarsely granular carinae, of which the lateral pair on the tergites I–II are inconspicuous. All tergites with dense coarse and fine granulation. The pectinal tooth count is 23–26 (2 × 23, 1 x 25, 1 × 26) in males and 21–22 in female (1 × 21, 1× 22). The marginal tips of the pectines extend to the anterior quarter of sternite IV in females, and to the anterior half of sternite V in males. The pectines have 3 marginal lamellae and 7–9 middle lamellae. The lamellae bear numerous dark setae, four to six on each fulcrum. Sternites III–VI lack carinae, and surfaces are smooth except for finely shagreened lateral areas on sternite III covered by the pectines. Sternite VII has one or two pairs of poorly indicated carinae weakly granulated in the area outside the lateral carinae, more so in males. All sternites bear many long macrosetae on their surfaces and margins.

METASOMA AND TELSON (Figs. 38–43, 53–54). Metasoma I bears 8 carinae, the ventromedial pair being obsolete. Metasoma II–III bear 10 carinae. Median lateral carinae are complete or almost complete on I–III. Ventromedial and ventrolateral carinae on metasoma II–III are granulated, with larger granules posteriorly, and strong granulation in females. Metasoma IV bears 8 carinae that are complete and granulate in both sexes. Metasoma V of both sexes has only ventromedial and ventrolateral carinae, which in posterior halves bear several lobate granules. Intercarinal surfaces of segments I–IV are densely granulate in both sexes (Figs. 83–84), with granules of approximately equal size, except for the ventral aspect of metasoma I which is smooth in both sexes. Dorsal surface of this segment smooth and lateral surface may be weakly granulated (more in males). The anal arch consists of three lobes in both sexes. All segments are sparsely setose; the fifth segment has ca. 35 long setae in both sexes. The telson is rather elongate, more in males (Figs. 53–54). The aculeus is slightly shorter than the vesicle in both sexes. The surface of the telson is smooth, sparsely hirsute, without a subaculear tubercle.

LEGS (Figs. 59–62). The tarsomeres bear two rows of macrosetae on the ventral surface and numerous macrosetae on the other surfaces, which on legs I–III form bristle combs. The macrosetae are thin in both sexes. The femur and patella may bear four to six carinae, which however may be obsolete. The femur bears only solitary macrosetae.

PEDIPALPS (Figs. 44–52). The femur is granulated and bears three to four carinae; the ventroexternal carina is absent, the other carinae are granular. The patella is granular, with seven coarsely granular carinae. The chela is smooth, with only indicated incomplete obsolete carinae. All pedipalp segments including the trochanter are sparsely hirsute, with long, dark macrosetae in both sexes. The dentate margin of the movable finger (Figs. 51–52) has 8 or 9 rows of denticles, each with one external and one internal denticle, and 5 terminal denticles (4 terminal and one basal terminal). The fixed finger has 8 or 9 rows of denticles, each with one external and one internal denticle (Fig. 46).

AFFINITIES. Shape of metasoma (Figs. 83–84, Table 3, for example ratio metasomal segment V length/width is 2.41 in male) differentiates *G. dabakalo* **sp. n.** from *G. calviceps* (Figs. 85–86) and *G. gaitako* (Figs. 87–88). Males of these two species have ratio of metasomal segment V length/width 2.03–2.12. According to this character, *G. dabakalo* **sp. n.** is similar to *G. puntlandus* **sp. n.**, which could be distinguished from all other *Gint* species by: wrinkled sternites III–VI (Fig. 74); reduced lobate granules in posterior halves of metasoma V ventrolateral carinae (Fig. 81); granulated surface of patella of legs (Figs. 79–80); and other characters cited in description of *G. puntlandus* **sp. n.**

Gint puntlandus Kovařík et Mazuch, **sp. n.**
(Figs. 67–82, 89, Tables 1, 3)
http://zoobank.org/urn:lsid:zoobank.org:act:3F255A63-6724-4193-AD72-C6546FB0A3EB

Gint calviceps Kovařík et al., 2013: 14–18, figs. 64–66 (in part).

TYPE LOCALITY AND TYPE DEPOSITORY. Somalia (Puntland), Galgalo, 10º59'N 49º03'E; FKCP.

TYPE MATERIAL EXAMINED. Somalia (Puntland), Galgalo, 10º59'N 49º03'E, 1980, 1♂(holotype) (figs. 67–82), FKCP, leg. Dorsak.

ETYMOLOGY. Named after the country of occurence.

DIAGNOSIS. Total length 30.45 mm of male holotype, female unknown; carapace densely granulated with only

Figures 82–88: Metasoma and telson ventral, comparation of all four *Gint* species. **Figure 82**. *Gint puntlandus* **sp. n.**, holotype male. **83–84.** *Gint dabakalo* **sp. n.**, paratype female (83) and holotype male (84). **Figures 85–86**. *Gint calviceps*, holotype female uncolored (85) and male from Somaliland, south of Qool-Cadday, between Hargeysa and Salahle, Woqooyi Galbeed, 09°11'56"N 44°09'50"E (86). **Figures 87–88**. *Gint gaitako*, female (87) and male (88) from Ethiopia, Oromia State, Sidamo Province, Wachile env., 115 km N Moyale, 04°32'34"N 39°03'08"E, 1073 m a. s. l.

Ratios of adult males	*G. calviceps* (n = 1)	*G. gaitako* (n = 4)	*G. dabakalo* sp. n. (n = 1)	*G. puntlandus* sp. n (n = 1)
Metasomal segment I (L/W)	0.90	1.12–1.17	1.26	1.28
Metasomal segment II (L/W)	1.39	1.40–1.45	1.58	1.63
Metasomal segment IV (L/W)	1.82	1.70–1.83	2.08	2.06
Metasomal segment IV (L/H)	1.85	1.83–1.92	2.14	2.20
Metasomal segment V (L/W)	2.03	2.11–2.12	2.41	2.42
Metasomal segment V (L/H)	2.35	2.31–2.36	2.82	2.88
Telson (L/H)	3.60	3.05–3.22	3.38	3.45
Pedipalp chela (L/W)	4.51	5.34–5.40	4.97	4.94
Pedipalp chela (L) / movable finger (L)	1.39	1.42–1.49	1.34	1.44
Total (L)	**30.85**	**24.5–27.3**	**27.56**	**30.45**

Table 3: Comparison among *Gint* species (specimens), based upon selected morphometric ratios of adult males. Abbreviations: length (L), width (W), depth (H).

anterior median carinae developed and posterior median carinae indicated; anterior margin of carapace straight; pectine teeth 26 in male; all sternites lacking carinae; sternites III–VI wrinkled; sternite VII without carinae, weakly granulated; ratio metasomal segment V length/ width 2.42 in male; metasomal segments I–IV intercarinal surfaces granulated; metasoma l segment IV bears 8 carinae that are complete and granulate; metasomal segment V has only ventromedial and ventrolateral carinae; "lobate" dentition on ventrolateral carinae of metasoma V reduced; dorsal surface of this segment smooth and lateral surface weakly granulated; all metasomal segments sparsely setose; telson rather elongate, aculeus slightly shorter than vesicle in both sexes; legs I–III with bristle combs composed of long, thin setae; patella of legs granulated; movable finger of pedipalp with 8 rows of denticles, with external and internal accessory denticles.

DESCRIPTION. Adult male is 30.45 mm long, female unknown. For position and distribution of trichobothria of pedipalps see Figs. 75–78. Sexual dimorphism unknown.

COLORATION (Figs. 67–68). Basic color is yellow to orange with dark patterning and spots, but the only one male holotype is colorless.

CARAPACE (Fig. 72). The surface is densely granulated. The anterior margin is straight and bears six to eight macrosetae. Anterior median carinae coarsely granular, posterior median carinae indicated only. There are 5 lateral eyes on each side (4 larger, 1 smaller).

MESOSOMA (Figs. 72–74). The tergites bear three coarsely granular carinae, of which the lateral pair on the tergites I–II are inconspicuous. All tergites with dense coarse and fine granulation. The pectinal tooth count is 26 in male. The marginal tips of the pectines extend to the anterior half of sternite V in males. The pectines have 3 marginal lamellae and 8–9 middle lamellae. The lamellae bear numerous dark setae, four to six on each fulcrum. Sternites III–VI lack carinae, and surfaces are wrinkled. Sternite VII weakly granulated without carinae. All sternites bear long macrosetae on their surfaces and margins.

METASOMA AND TELSON (Figs. 69–71, 81). Metasoma I bears 8 carinae, the ventromedial pair being obsolete. Metasoma II–III bear 8–10 carinae. Median lateral carinae are almost complete on I–III. Ventromedial and ventrolateral carinae on metasoma II–III are granulated, with larger granules posteriorly, and strong granulation in females. Metasoma IV bears 8 carinae that are complete and granulate. Metasoma V has pronounced only ventromedial and ventrolateral carinae, "lobate" dentition on ventrolateral carinae of metasoma V reduced. Intercarinal surfaces of segments I–IV are densely granulate (Figs. 69–71), with granules of approximately equal size, except for the ventral aspect of metasoma I which is smooth. Dorsal and lateral surfaces of this segment granulated. The anal arch consists of three lobes. All segments are sparsely setose. The telson is rather elongate. The aculeus is slightly shorter than the vesicle in both sexes. The surface of the telson is smooth, sparsely hirsute, without a subaculear tubercle.

LEGS (Figs. 79–80). The tarsomeres bear two rows of macrosetae on the ventral surface and numerous macrosetae on the other surfaces, which on legs I–III form bristle combs. The macrosetae are thin. The femur and patella may bear four to six obsolete carinae. The femur bears only solitary macrosetae. The patella is granulated.

PEDIPALPS (Figs. 75–78). The femur is granulated and bears four carinae; the ventroexternal carina is absent, the other carinae are granular. The patella is granular, with seven coarsely granular or obsolete carinae. The chela is smooth, with only indicated incomplete obsolete carinae. All pedipalp segments including the trochanter are very sparsely hirsute. The dentate margin of the movable finger (Figs. 78) has 8 rows of denticles, each with one external and one internal denticle, and 5 terminal denticles (4 terminal and one basal terminal). The fixed

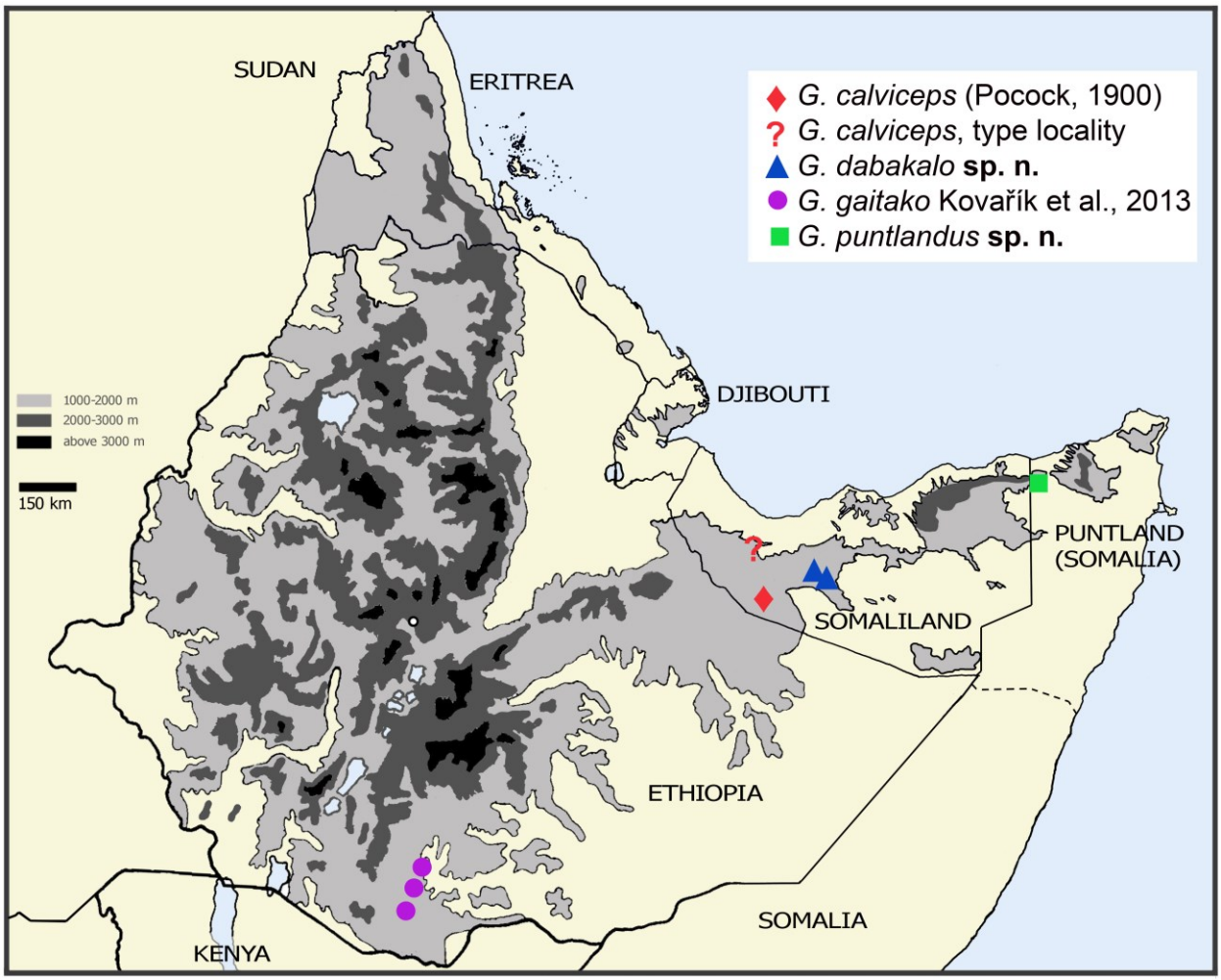


Figure 89: Map showing the distribution of *Gint*.

finger has nine rows of denticles, each with one external and one internal denticle (Fig. 76).

AFFINITIES. *G. puntlandus* **sp. n.** could be distinguished from all other *Gint* species by: wrinkled sternites III–VI (Figs. 73–74); reduced lobate granules in posterior halves of metasoma V ventrolateral carinae (Fig. 81); granulated surface of patella of legs (Figs. 79–80); and other characters cited in the description.

Key to the species of the genus *Gint*

1. Metasoma elongate, ratio of metasomal segment V length/width 2.41–2.42 in males (Figs. 82–84, Table 3). 2
– Metasoma short and wide, ratio of metasomal segment V length/width 2.03–2.12 in males (Figs. 85–88, Table 3). 3

2. Sternites III–VI wrinkled in males (Figs. 73–74). Patella of legs granulated (Figs. 79–80) ..... *G. puntlandus* **sp. n.**
– Sternites III–VI smooth, not wrinkled in males (Fig. 31). Patella of legs smooth (Figs. 59–62). ..... *G. dabakalo* **sp. n.**

3. Metasomal segment IV ventrally granulated in both sexes (Figs. 85–86). ..... *G. calviceps*
– Metasomal segment IV ventrally granulated only in males and smooth in females (Figs. 87–88)..... *G. gaitako*

Acknowledgments

Thanks are due to Pavel Hanáček, David Hegner, Pavel Kučera, Pavel Novák, Jana Plíšková, Vít Socha, Roman Štarha, Vladimír Trailin, and David Vašíček (Czech Republic), Dereje Belay, Daneil Denbi, Aba Gragn, Zelalem Kebede, and Zelalem Mandefro (Ethiopia), Mohamed Abdirizak, Ahmed, Bashiir, Farah, and Mohamed (Somaliland), Peter Bruyns and Frans Noltee (South Africa) who participated and helped in the expeditions to Ethiopia and Somaliland; and to Graeme

Lowe for his help in understanding the taxonomical position of the genus *Gint*. Special thanks to Pavel Kučera who collected additional *Gint gaitako* specimens and discovered two other localities of this species in Ethiopia in 2015. Further, we thank two anonymous reviewers for their comments to the manuscript.

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