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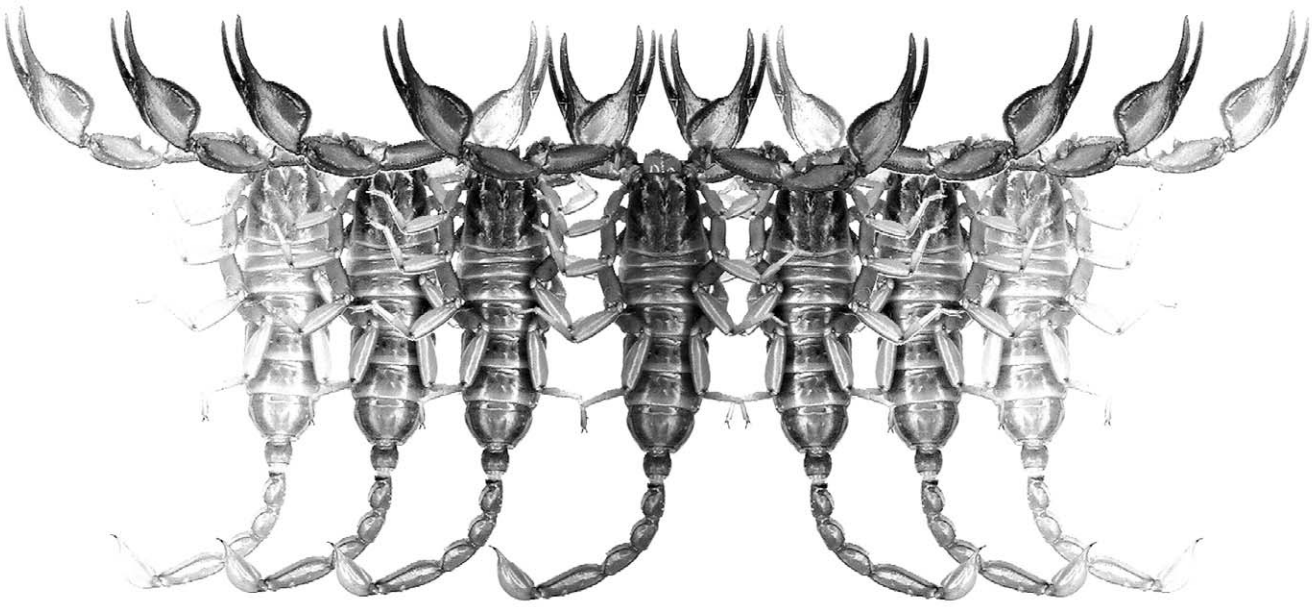

A New Scorpion Species from Kenya, *Gint childsi* sp. n. (Scorpiones: Buthidae)

František Kovařík

July 2018 – No. 266

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Publication date: 10 July 2018

http://zoobank.org/urn:lsid:zoobank.org:pub:8042D7FD-54A9-4BCD-B600-6493A3F07FAC

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Summary

Gint childsi **sp**. **n**. from Kenya is described and compared with other species of the genus. Additional information is provided on the taxonomy and distribution of the genus *Gint*, fully complemented with color photos of preserved specimens of both sexes of the new species, as well as of their habitat.

Introduction

The genus *Gint* Kovařík, Lowe, Plíšková et Šťáhlavský, 2013 with the type species *Gint gaitako* Kovařík, Lowe, Plíšková et Šťáhlavský, 2013 was described and compared with genus *Buthacus* Birula, 1908 in 2013 (Kovařík et al., 2013). Following research in the Horn of Africa, especially in Somaliland, helped to discover other species (Kovařík et al., 2015, 2018). Here, another new species is described from northern Kenya, which represents the southern boundary of the distribution of the genus.

Methods, Material & Abbreviations

Nomenclature and measurements follow Stahnke (1971), Kovařík (2009), and Kovařík & Ojanguren Affilastro (2013), except for trichobothriotaxy (Vachon, 1974).

Depository: FKCP (František Kovařík, private collection, Prague, Czech Republic).

Systematics

Family Buthidae C. L. Koch, 1837

Gint Kovařík, Lowe, Plíšková et Šťáhlavský, 2013
(Figs. 1–42, Table 1)

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; Kovařík & Mazuch, 2015: 1–23, figs. 1–89; ? Rossi, 2015: 53–63, figs. 1–10; Kovařík et al., 2018: 1–41, figs. 1–202, tables 1–3.

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

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

DISTRIBUTION (Fig. 42). Ethiopia, Kenya (new record), Somalia, Somaliland.

DIAGNOSIS. Total length up to 24.5 mm (male) or 48.2 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 are inconspicuous; sternites III–VI with finely microdenticulate posterior margins, lacking larger non-contiguous denticles; pectinal tooth number 19–31; pectines with fulcra, hirsute; hemispermatophore with flagellum separated from a 3-lobed sperm hemiduct, and with a projecting, scoop- or hook-like basal lobe; metasomal segments I–III with 8–10 carinae; metasoma I ventrally smooth, lacking ventromedial carinae; metasoma V with enlarged 'lobate' dentition on ventrolateral carinae which may be reduced; telson rather elongate (except for *G. maidensis*), vesicle with moderate posterior slope, not sharply inclined or truncated, lacking subaculear tubercle, 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 8–10 rows of granules, each with one external and one internal accessory granule, 5–6

terminal granules (4–5 terminal and one proximal terminal); trichobothrial pattern orthobothriotaxic type A; dorsal trichobothria of femur arranged in β-configuration; pedipalp patella with 7 external trichobothria; patella trichobothrium d_3 internal to dorso-median carina; tibial spurs present on legs III–IV.

SUBORDINATE TAXA. *Gint amoudensis* Kovařík et al., 2018; *Gint calviceps* (Pocock, 1900); *Gint childsi* **sp. n.**; *Gint dabakalo* Kovařík et Mazuch, 2015; *Gint gaitako* Kovařík et al., 2013; *Gint gubanensis* Kovařík et al., 2018; *Gint maidensis* Kovařík et al., 2018; *Gint puntlandus* Kovařík et Mazuch, 2015. For species described by Rossi (2015), see Kovařík et al. (2018: 12).

Gint childsi Kovařík, **sp. n.**

(Figs. 1–39, 42, Table 1)

http://zoobank.org/urn:lsid:zoobank.org:act:8D302AB3-B9B6-4568-BA16-51F56D2BA65D

TYPE LOCALITY AND TYPE DEPOSITORY. Kenya, South Horr, near Koros camp, 02°14'26.5"N 36°55'56.1"E; FKCP.

TYPE MATERIAL EXAMINED. Kenya, South Horr, near Koros camp, 02°14'26.5"N 36°55'56.1"E (Fig. 42), 1♂ (holotype) 1♀ (paratype), 2018, leg. A. Child, FKCP.

ETYMOLOGY. The selected epithet is a patronym honoring a herpetologist Anthony Childs, the collector of types of the new species. He is also the author of the photos of type localities (Fig. 42).

DIAGNOSIS. Total length 28.9 mm (male) and 38 mm (female); chelicerae yellow; carapace densely granulated with anterior median carinae developed; anterior margin of carapace straight; pectine teeth 22–25; all sternites lacking carinae; sternite VII with four smooth, weakly indicated carinae; sternites almost smooth in female and bumpy/wrinkled in male; metasoma V length/width ratio 2.33 in both sexes; metasomal segment I–III intercarinal surfaces granulated in male, smooth or almost smooth in female; metasoma I bears 10 carinae; metasoma III–IV bear 8 carinae; metasoma 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 bearing ca. 35 long setae in both sexes; telson rather elongate, telson length/depth ratio 3.14 in male, 3.4 in female; aculeus slightly shorter than vesicle in both sexes; legs I–III with tarsal bristle combs composed of long, thin setae; patellae of legs smooth; movable finger of pedipalp with 8 rows of granules, with external and internal accessory granules.

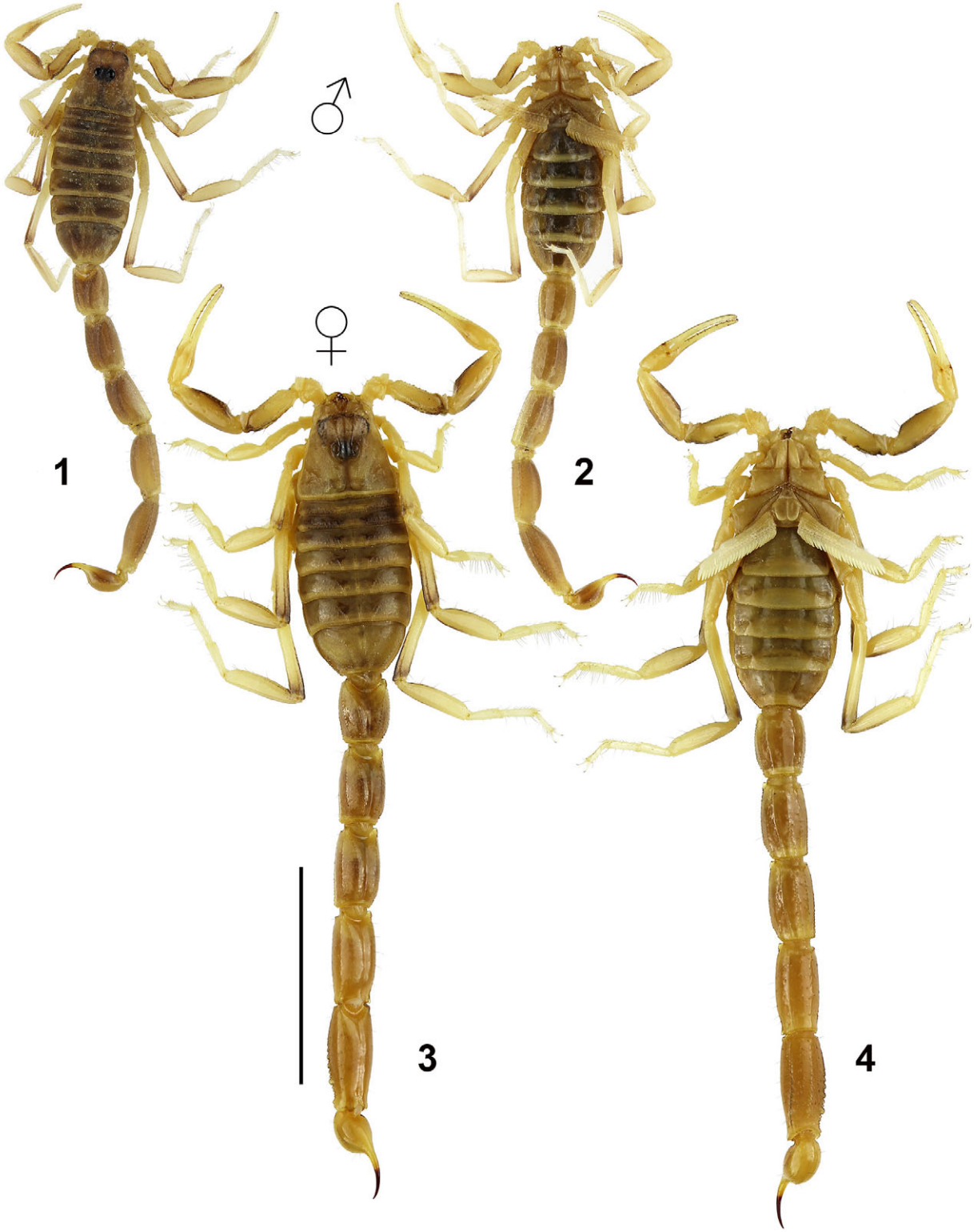
DESCRIPTION. Adult male holotype is 28.9 mm long and the adult female paratype is 38 mm long. For position and distribution of trichobothria of pedipalps see Figs. 13–20. Sexual dimorphism is noticeable. Male is substantially smaller, and has more elongate telson. Pedipalp patella and femur are granulate and matte in males, smooth and glossy in females.

COLORATION (Figs. 1–4). Basic color is yellowish brown with strong dark patterning and spots, but expression of colors is quite variable. The dark spots are also at the end of the femur of the legs. The chelicerae are yellow without reticulation or with reticulation in the anterior part; dentition is reddish.

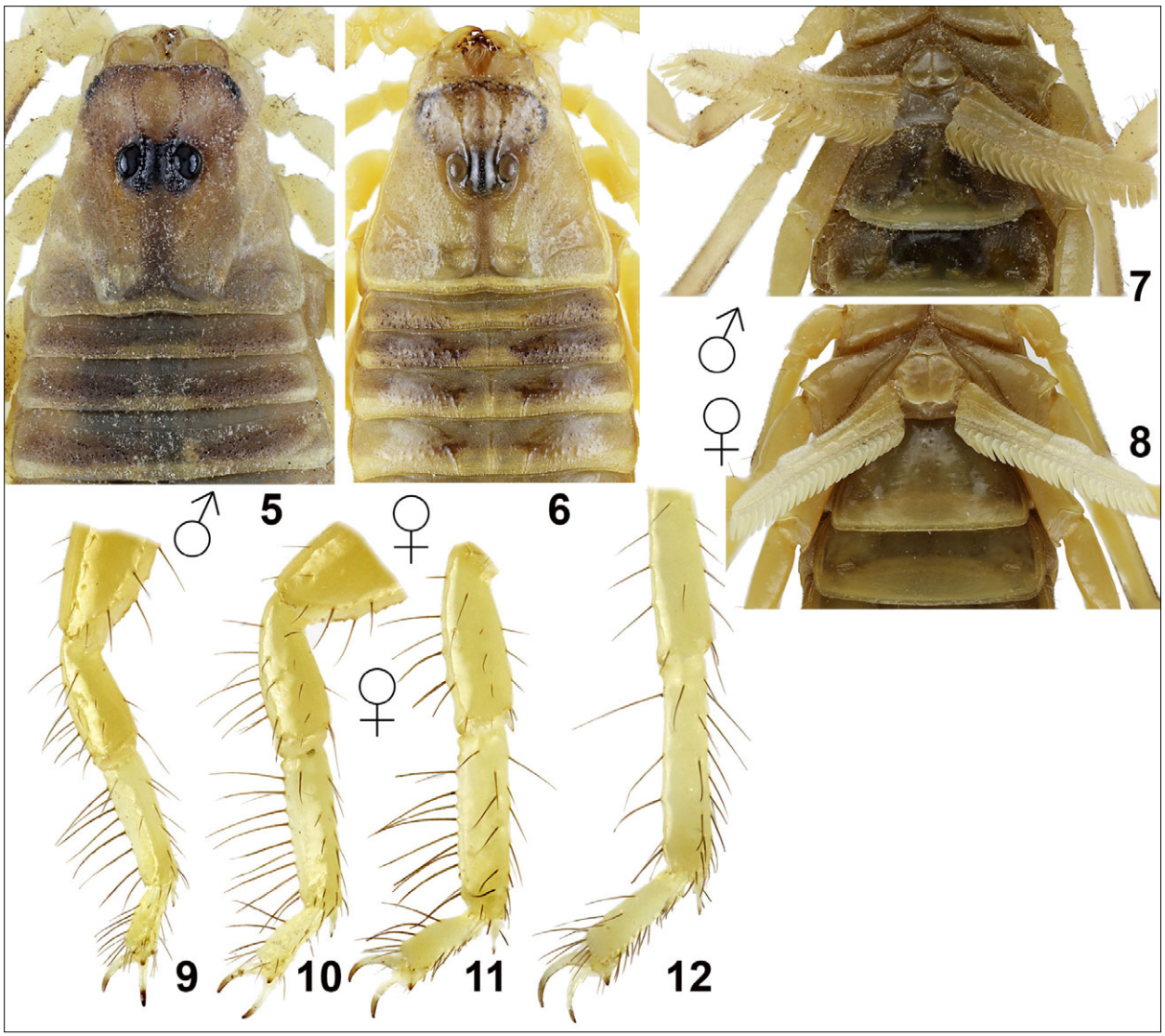
CARAPACE (Figs. 5–6). The surface is densely granulated, more in male. The anterior margin is straight and bears eight macrosetae. Anterior median carinae are developed and coarsely granular in male, almost smooth in female. There are 5 lateral eyes on each side (3 larger, 2 smaller).

MESOSOMA (Figs. 1–8). The tergites bear three coarsely granular carinae, of which the lateral pair on tergites I–II is inconspicuous. All tergites with dense coarse and fine granulation. The pectinal tooth count is 22–23 in male and 25 in female. The marginal tips of the pectines extend to the end of sternite IV in both sexes. The pectines have 3 marginal lamellae and 9–10 middle lamellae. The lamellae bear numerous dark setae, three to six on each fulcrum. Sternites III–VI lack carinae, their surfaces are almost smooth except for finely shagreened lateral areas on sternite III covered by the pectines in female and bumpy/wrinkled in male. Sternite VII has two pairs of poorly indicated carinae and is weakly granulated in the area outside the lateral carinae, more so in males. All sternites bear long macrosetae on their surfaces and margins.

METASOMA AND TELSON (Figs. 32–39). Metasoma narrow, metasoma V length/width ratio 2.33 in both sexes. Metasoma I bears 10 carinae, the ventromedial carinae on metasoma I are present but smooth. 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. Metasoma II bears 10 or 8 carinae, metasoma III–IV bear 8 carinae; the lateroventral carinae on metasoma IVare present/indicated but smooth. Metasoma V of both sexes has only ventromedial and ventrolateral carinae developed, which in posterior halves bear several lobate granules. Intercarinal surfaces of segments I–III are granulated in male and almost smooth in female, with granules of approximately equal size. The ventral aspect of metasoma I is smooth in both sexes. The anal arch consists of four not developed lobes in both sexes. All metasomal segments are sparsely setose; the fifth segment has ca. 45 long setae in both sexes. The telson is rather elongate, telson length/depth ratio 3.14 in male, 3.4 in female. The aculeus is slightly



Figures 1–4: *Gint childsi* **sp**. **n**. **Figures 1**–**2**. Holotype male, dorsal (1) and ventral (2) views. **Figures 3**–**4**. Paratype female, dorsal (3) and ventral (4) views. Scale bar: 10 mm.



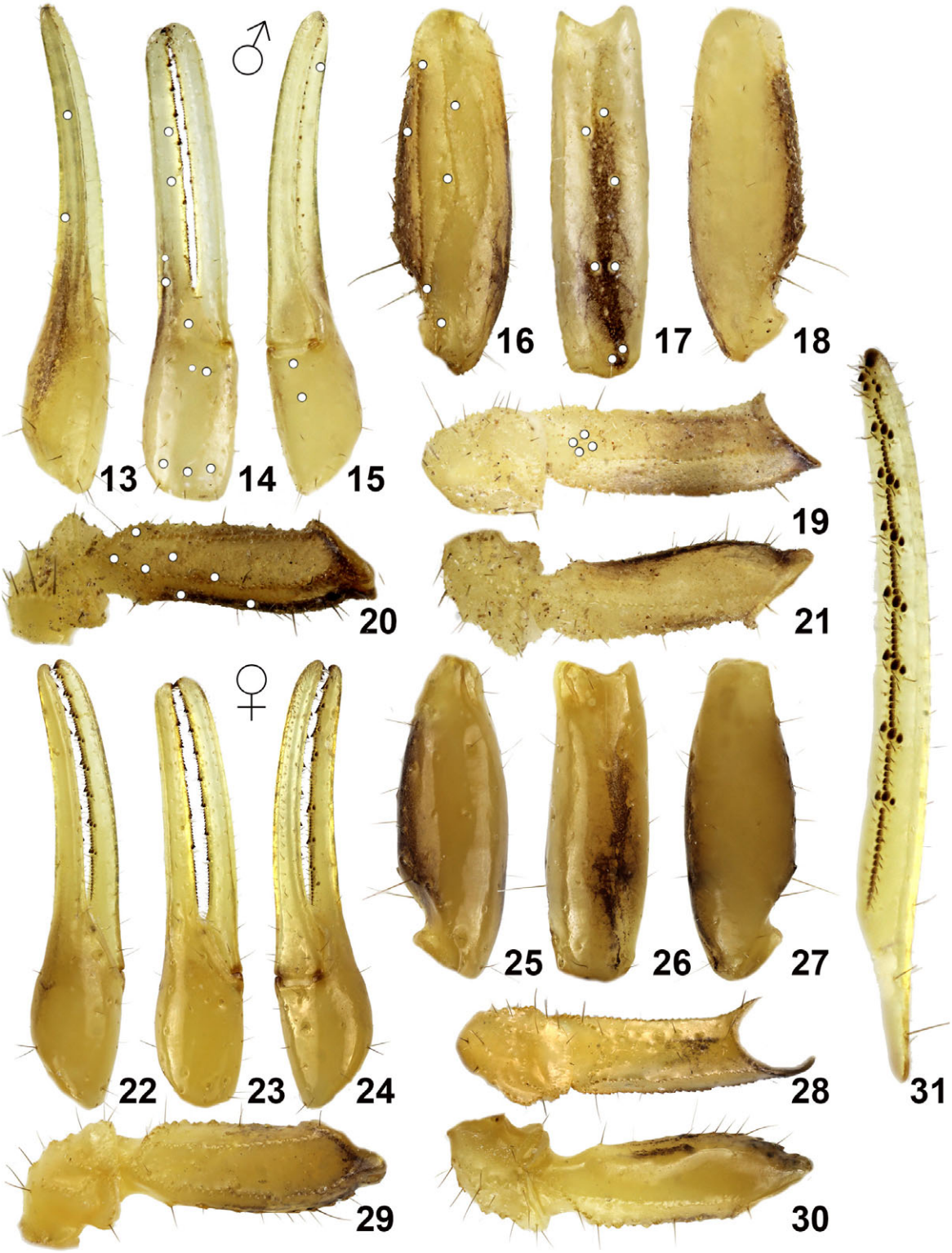
Figures 5–12: *Gint childsi* **sp**. **n**. **Figures 5**, **7**. Holotype male, chelicerae, carapace and tergites I–III (5) and sternopectinal region and sternites III–IV (7). **Figures 6**, **8**, **9–12**. Paratype female, chelicerae, carapace and tergites I–IV (6), sternopectinal region and sternites III–IV (8), distal segments of right legs I–IV, retrolateral views (9–12).

shorter than the vesicle in both sexes. The surface of the telson is smooth, sparsely hirsute, without a subaculear tubercle.

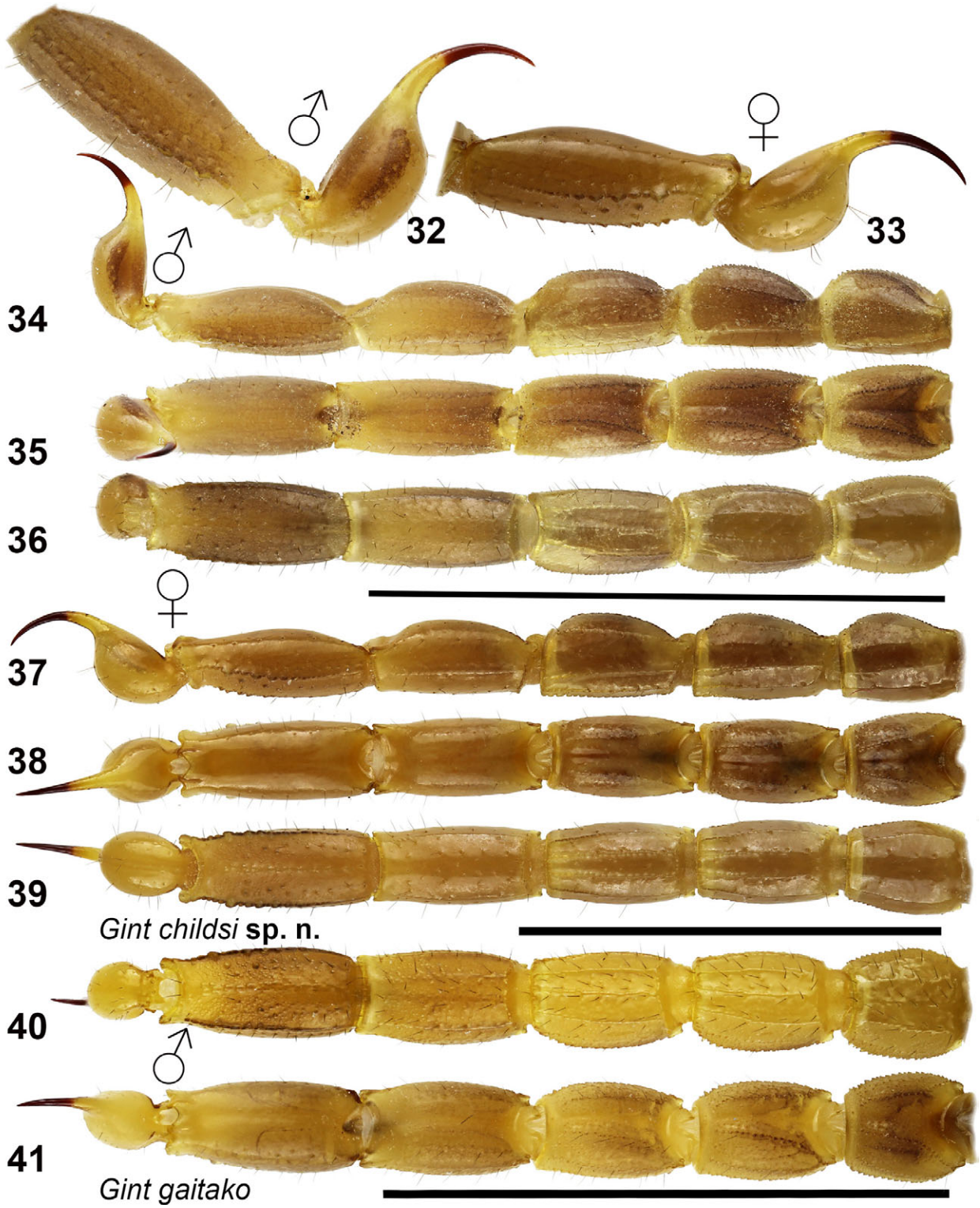
LEGS (Figs. 9–12). The tarsomeres bear two rows of macrosetae on the ventral surface and numerous macrosetae on the other surfaces, which on legs I–III form bristle combs with 8–12 bristles. The macrosetae are thin in both sexes. The femur and patella may bear four to six carinae. The femur bears only solitary macrosetae.

PEDIPALPS (Figs. 13–31). The femur and patella are matte and granulated in males, and smooth and glossy in females. The femur bears three to four carinae; the ventroexternal carina is absent, the other carinae are granular. The patella bears seven smooth to developed carinae. The chela is smooth in both sexes, with only traces of 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 has eight rows of granules, each with one external and one internal granule, and 5 terminal granules (4 terminal and one proximal terminal). The fixed finger has eight or nine rows of granules, each with one external and one internal granule.

AFFINITIES. *G. childsi* **sp**. **n**. is morphologically similar to *G. gaitako* and these two species agree in all characters used in the key in Kovařík et al. (2018: 38). Nevertheless, these two species can be distinguished easily by several morphological characters: **1)** metasoma



Figures 13–31: *Gint childsi* **sp**. **n**. **Figures 13–21**. Holotype male. Pedipalp chela, dorsal (13), external (14), and ventrointernal (15) views. Pedipalp patella, dorsal (16), external (17), and ventral (18) views. Pedipalp femur and trochanter, internal (19), dorsal (20) and ventral (21) views. **Figures 22–31**. Paratype female. Pedipalp chela, dorsal (22), external (23), and ventrointernal (24) views. Pedipalp patella, dorsal (25), external (26), and ventral (27) views. Pedipalp femur and trochanter, internal (28), dorsal (29) and ventral (30) views. Pedipalp chela, movable finger dentate margin (31). The trichobothrial pattern is indicated in Figures 13–17, 19–20 (white circles).



Figures 32–41: **Figures 32–39**: *Gint childsi* **sp**. **n**. **Figures 32**, **34–36**. Holotype male, metasoma V and telson lateral view (32), metasoma and telson, lateral (34), dorsal (35), and ventral (36) views. **Figures 33**, **37–39**. Paratype female, metasoma V and telson lateral view (33), metasoma and telson, lateral (37), dorsal (38), and ventral (39) views. **Figures 40–41**. *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., metasoma and telson, ventral (40), and dorsal (41) views. Scale bars: 10 mm (34–41).

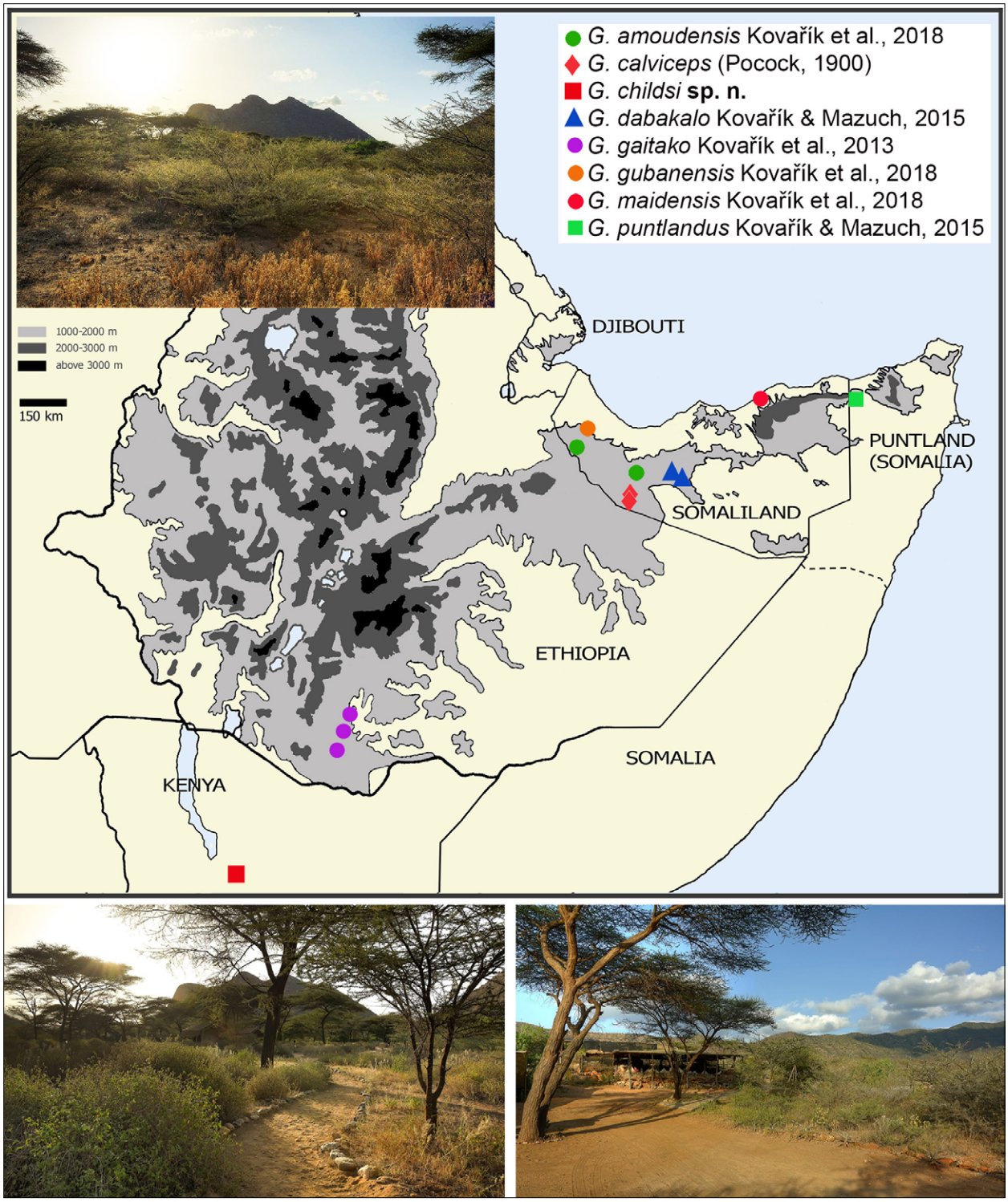


Figure 42: Map showing confirmed distribution of *Gint* spp. The photos show the type locality of *Gint childsi* **sp**. **n**.

very narrow in *G. childsi* **sp**. **n**., metasoma V length/ width ratio 2.33 in *G. childsi* **sp**. **n**. and 2.11–2.12 in males *G. gaitako* (Figs. 34–41); **2)** sternites bumpy/ wrinkled in the male in *G. childsi* **sp**. **n**. versus smooth in *G. gaitako*; **3)** metasoma III bears 8 carinae in *G. childsi* **sp**. **n**. versus 10 carinae in *G. gaitako*; **4)** telson more elongated in the male than in the female of *G. childsi* **sp**. **n**. versus no sexual difference in the shape of telson in *G. gaitako*; **5)** pectinal teeth number 22–25 in *G. childsi* **sp**. **n**. and 19–22 in *G. gaitako*.

Dimensions (MM)		*G. childsi* **sp. n.** ♂ **holotype**	*G. childsi* **sp. n.** ♀ **paratype**
Carapace	L / W	2.900 / 3.350	4.150 / 4.605
Mesosoma	L	7.200	9.290
Tergite VII	L / W	2.075 / 3.200	2.550 / 4.400
Metasoma et telson	L	18.788	24.560
Segment I	L / W / D	2.163 / 1.775 / 1.625	3.050 / 2.525 / 2.313
Segment II	L / W / D	2.875 / 1.638 / 1.605	3.675 / 2.200 / 2.300
Segment III	L / W / D	2.950 / 1.575 / 1.600	3.800 / 2.100 / 2.225
Segment IV	L / W / D	3.700 / 1.475 / 1.425	4.350 / 2.083 / 1.950
Segment V	L / W / D	3.675 / 1.575 / 1.350	5.010 / 2.150 / 1.775
Telson	L / W / D	3.425 / 1.138 / 1.088	4.675 / 1.725 / 1.375
Pedipalp	L	9.425	12.125
Femur	L / W	2.275 / 0.675	3.050 / 0.975
Patella	L / W	3.000 / 0.950	3.875 / 1.388
Chela	L	4.150	5.200
Manus	W / D	0.725 / 0.725	1.063 / 1.125
Movable finger	L	2.775	3.625
Total	**L**	**28.90**	**38.00**

Table 1: Comparative measurements of adults of *Gint childsi* **sp. n.** Abbreviations: length (L), width (W, in carapace it corresponds to posterior width), depth (D).

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