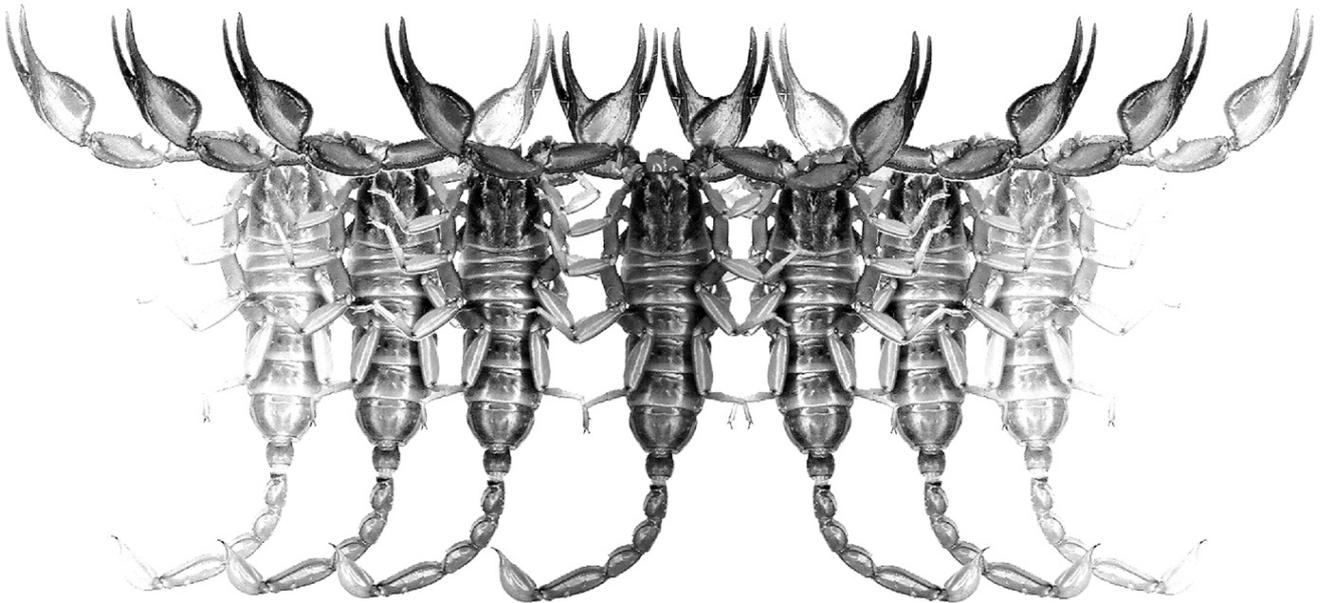


Euscorpius

Occasional Publications in Scorpiology



Scorpions of the Horn of Africa (Arachnida, Scorpiones).

**Part XXXIII. Three new species of *Gint* from
Ethiopia and Somaliland (Buthidae)**

František Kovařík, Hassan Sh Abdirahman Elmi & František Štáhlavský

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Scorpions of the Horn of Africa (Arachnida, Scorpiones).

Part XXXIII. Three new species of *Gint* from Ethiopia and Somaliland (Buthidae)

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<http://zoobank.org/urn:lsid:zoobank.org:pub:F9FEE783-CB69-4DB2-BA38-8230D2B9E134>

Summary

Three new species, *Gint sahil* sp. n. from Somaliland and *Gint abshiri* sp. n. and *G. derbiae* sp. n. from Ethiopia are 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 specimens of the new species, as well as of their habitats. Furthermore, alongside the analyses of external morphology and hemispermatothores, we have provided description of the karyotype of *G. abshiri* sp. n. This species exhibits karyotype with $2n=27$. Included is distribution map and a key for the genus *Gint*.

Introduction

The genus *Gint* Kovařík, Lowe, Plíšková & Šťáhlavský, 2013 with the type species *Gint gaitako* Kovařík, Lowe, Plíšková & Šťáhlavský, 2013 was described and compared with genus *Buthacus* Birula, 1908 in 2013 (Kovařík et al., 2013). Subsequent research in the Horn of Africa, especially in Somaliland and Kenya, led to the discovery of a number of other species (Kovařík et al., 2015, 2018; Kovařík, 2018, 2019). Just et al. (2022) determined the mechanism of karyotype differentiation in scorpions of the genus *Gint*, and employed an integrative approach, combining cytogenetic data and sequence-based phylogeny. Their DNA (fig. 5 in Just et al., 2022: 894) and further phylogenetic (Kovařík & Lowe, 2022) analyses clearly demonstrated that *Gint maidensis* Kovařík et al., 2018 represents a separate, new genus which was described by Kovařík (2024) with the type species *Sanaag maidensis* (Kovařík et al., 2018). Herein are described other three new species from Somaliland and Ethiopia. Currently, genus *Gint* includes 11 species from Ethiopia, Kenya, Somalia, Somaliland.

Methods, Material & Abbreviations

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

Karyotype analyses were conducted on chromosome preparations prepared using the spreading technique, a frequently used method in scorpion (e. g., Kovařík et al., 2009; Sadílek et al., 2015). The chromosomes were stained with a 5% Giemsa solution in Sörensen phosphate buffer for 20 min. Measurements of five spermatocyte nuclei were performed using Image J 1.45r software (<http://rsbweb.nih.gov/ij>) with the Levan plugin (Sakamoto & Zacaro, 2009). The relative length of the chromosomes was calculated for the diploid set.

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).

Morphometrics: D, depth; L, length; W, width.



Figure 1. *Gint abshiri* sp. n., male holotype in vivo habitus.

Systematics

Family Buthidae C. L. Koch, 1837

Gint Kovařík, Lowe, Plíšková et Šťáhlavský, 2013
(Figs. 1–130, Tables 1–2)

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; Kovařík, 2018: 1–9, figs. 1–42, table 1; Kovařík & Lowe, 2019: 1–13, figs. 1–62, table 1; Just et al., 2022: 855–899, figs. 1–7; Kovařík, 2024: 1.

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

DIAGNOSIS (♂♀). Total length 21–30.85 mm in males, respectively 26–38 mm in females; 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 micro-denticulate posterior margins, lacking larger non-contiguous denticles; pectinal tooth count 20–26 in males, 19–25 in females; pectines with fulcra, hirsute; hemispermatophore with small to medium sized, low, rounded, with flagellum separated from a 3-lobed sperm hemiduct, and with a projecting, scoop-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 elongate, length/depth ratio 2.98–3.60 in males, 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,

Dimensions (mm)		<i>Gint abshiri</i> sp. n.	<i>Gint abshiri</i> sp. n.	<i>Gint derbiae</i> sp. n.
		♂ holotype	♀ paratype	♂ holotype
Carapace	L / W	2.73 / 2.85	3.25 / 3.42	2.74 / 2.94
Mesosoma	L	5.82	6.20	5.70
Tergite VII	L / W	1.64 / 2.69	1.80 / 3.55	1.63 / 2.90
Metasoma + telson	L	16.81	18.17	16.43
Segment I	L / W / D	2.14 / 1.69 / 1.49	2.28 / 1.87 / 1.63	2.16 / 1.86 / 1.60
Segment II	L / W / D	2.47 / 1.59 / 1.52	2.63 / 1.72 / 1.61	2.42 / 1.71 / 1.61
Segment III	L / W / D	2.62 / 1.52 / 1.46	2.80 / 1.66 / 1.60	2.60 / 1.64 / 1.64
Segment IV	L / W / D	2.98 / 1.37 / 1.33	3.08 / 1.61 / 1.36	2.89 / 1.55 / 1.52
Segment V	L / W / D	3.46 / 1.39 / 1.19	3.71 / 1.63 / 1.26	3.31 / 1.52 / 1.39
Telson	L / W / D	3.14 / 0.96 / 0.92	3.67 / 1.25 / 1.17	3.05 / 1.01 / 0.96
Pedipalp	L	8.78	9.77	10.09
Femur	L / W	2.28 / 0.71	2.35 / 0.90	2.29 / 0.66
Patella	L / W	2.70 / 0.90	3.07 / 1.12	3.89 / 0.92
Chela	L	3.80	4.35	3.91
Manus	W / D	0.68 / 0.67	0.81 / 0.82	0.65 / 0.68
Movable finger	L	2.60	2.91	2.77
Total	L	25.36	27.62	24.87

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

5–6 terminal granules (4–5 terminal and one proximal terminal); trichobothrial pattern orthobothriotaxitic type A; dorsal trichobothria of femur arranged in β -configuration; pedipalp patella with 7 external trichobothria; patella trichobothrium d_3 internal to dorsomedian carina; tibial spurs present on legs III–IV.

SUBORDINATE TAXA. *Gint abshiri* sp. n.; *G. amoudensis* Kovařík et al., 2018; *G. banfasae* Kovařík & Lowe, 2019; *G. calviceps* (Pocock, 1900); *G. childsi* Kovařík, 2018; *G. dabakalo* Kovařík & Mazuch, 2015; *G. derbiae* sp. n.; *G. gaitako* Kovařík et al., 2013; *G. gubanensis* Kovařík et al., 2018; *G. puntlandus* Kovařík & Mazuch, 2015; *G. sahil* sp. n.

NOTE. *Gint maidensis* Kovařík et al., 2018 placed originally under the genus *Gint* was moved to monotypic genus *Sanaag* Kovařík, 2024 as *S. maidensis* (Kovařík et al., 2018) (see Kovařík, 2024).

For species described by Rossi (2015), see Kovařík et al. (2018: 12).

DISTRIBUTION (Fig. 127). Ethiopia, Kenya, Somalia, Somaliland.

***Gint abshiri* sp. n.**

(Figs. 1–48, 109–114, 127, 129, Table 1)

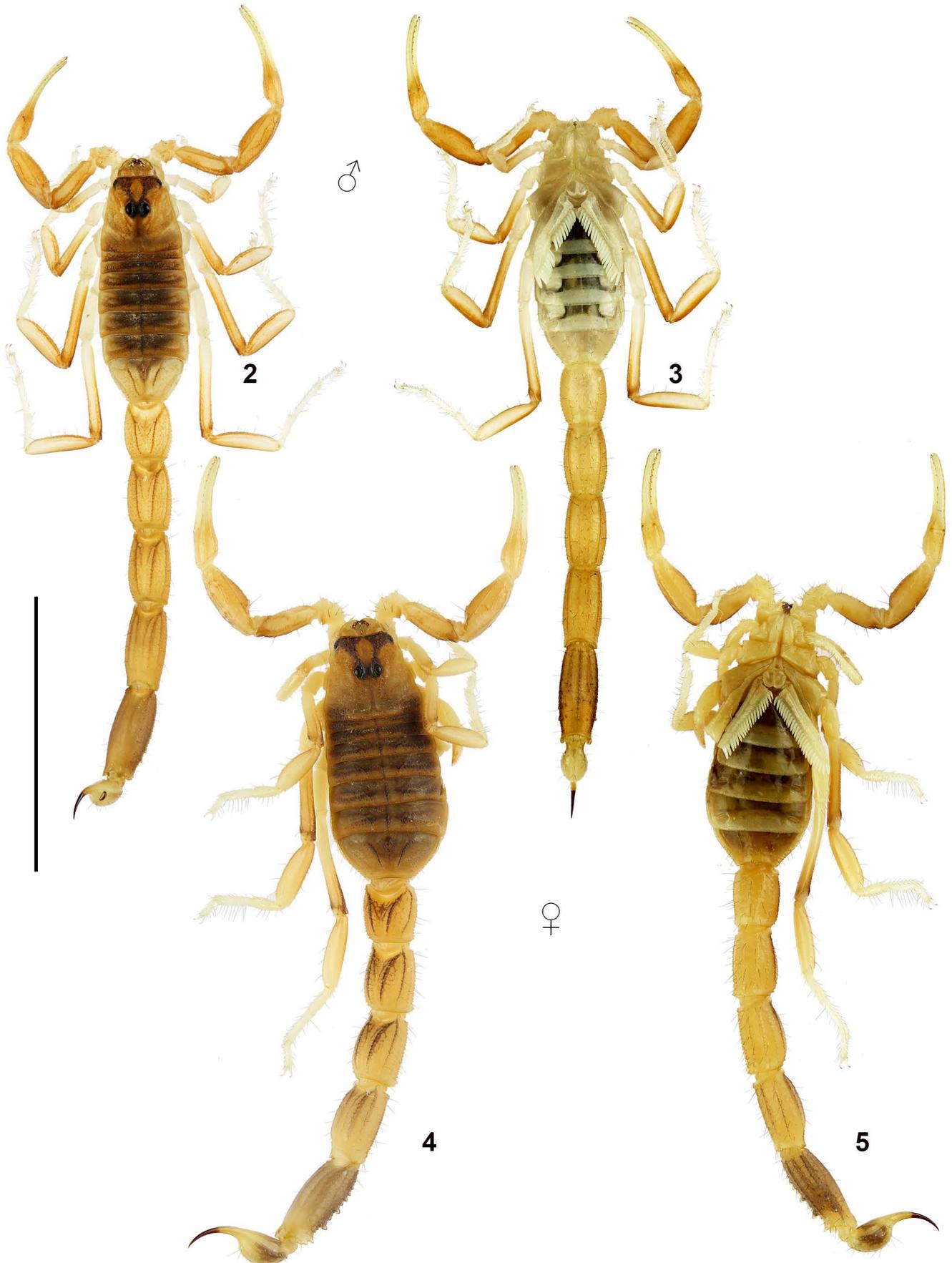
<http://zoobank.org/urn:lsid:zoobank.org:act:64C5D967-50B3-4757-8412-B70EDDABD37C>

TYPE LOCALITY AND TYPE DEPOSITORY. Ethiopia, Somali Province, SE of Degehabur, 08°12'04"N 43°34'09"E; FKCP.

TYPE MATERIAL EXAMINED. Ethiopia, Somali Province, SE of Degehabur, 08°12'04"N 43°34'09"E (Fig. 129), 21–22. VI.2024, 20♂2♀2♂juvs. (holotype and paratypes, Nos. ETH047–ETH071), leg. Hassan Sh Abdirahman Elmi, FKCP.

ETYMOLOGY. Named after Dr. Samatar Mohamed Abshir, Lecturer and Researcher at the College of Veterinary Medicine (CVM) at Jigjiga University, who worked with the collection team in Somalia and Ethiopia.

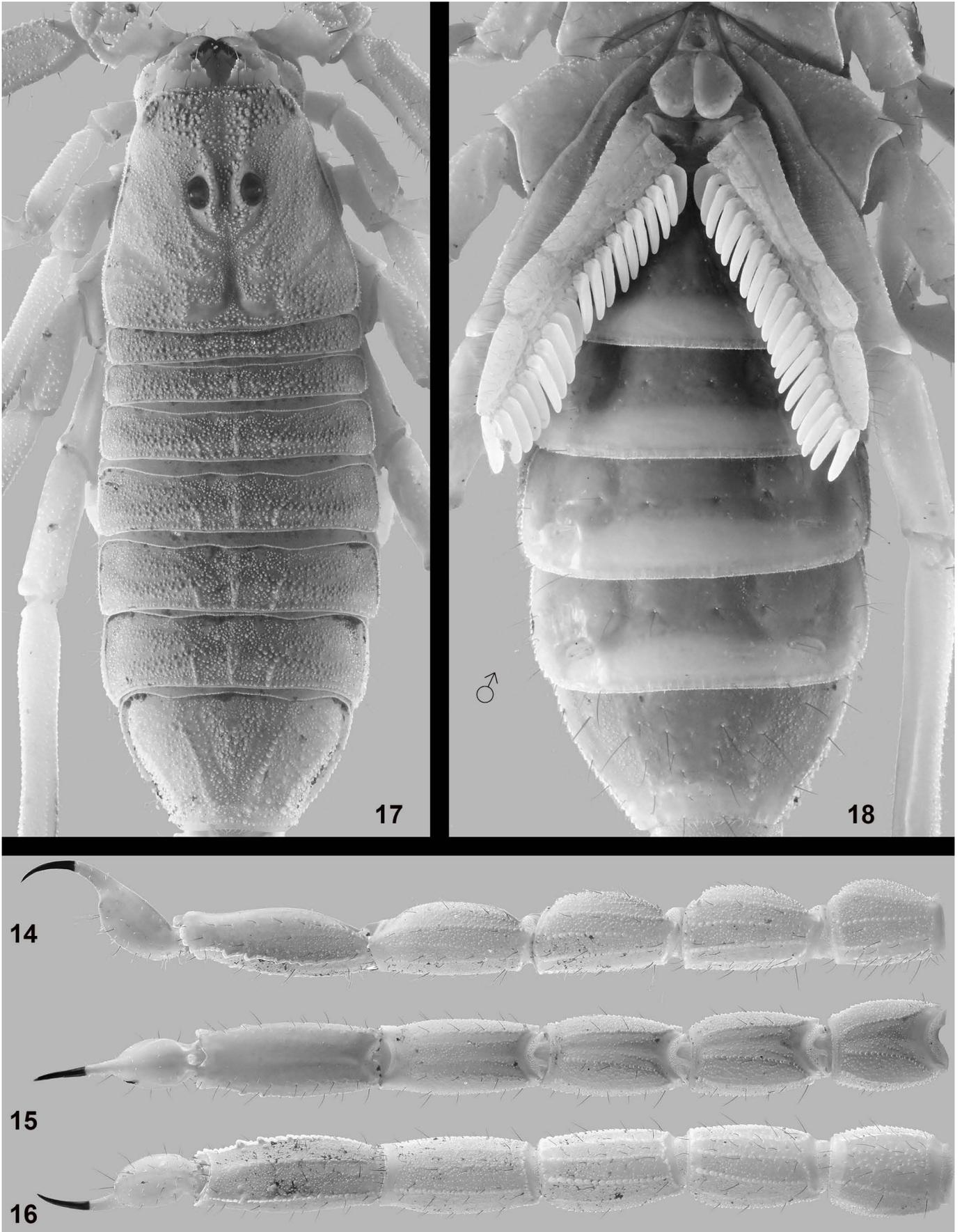
DIAGNOSIS (♂♀). Total length 23–26 mm (males) to 27–28 mm (females); chelicerae yellow with weak reticulation in anterior part; carapace densely granulated with anterior median carinae strongly and posterior median carinae weakly developed; anterior margin of carapace straight or almost straight and dark colored; pectine teeth 20–25 in males and 19–24 in females; sternites III–VI lacking carinae; sternite VII with two weakly indicated carinae, lateral surface granulated; metasomal segment V length/width ratio 2.39–2.49 in male; metasomal segment II–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 with several lobate granules; dorsal surface of segment V smooth and lateral surface weakly granulated (more so in males); all metasomal segments



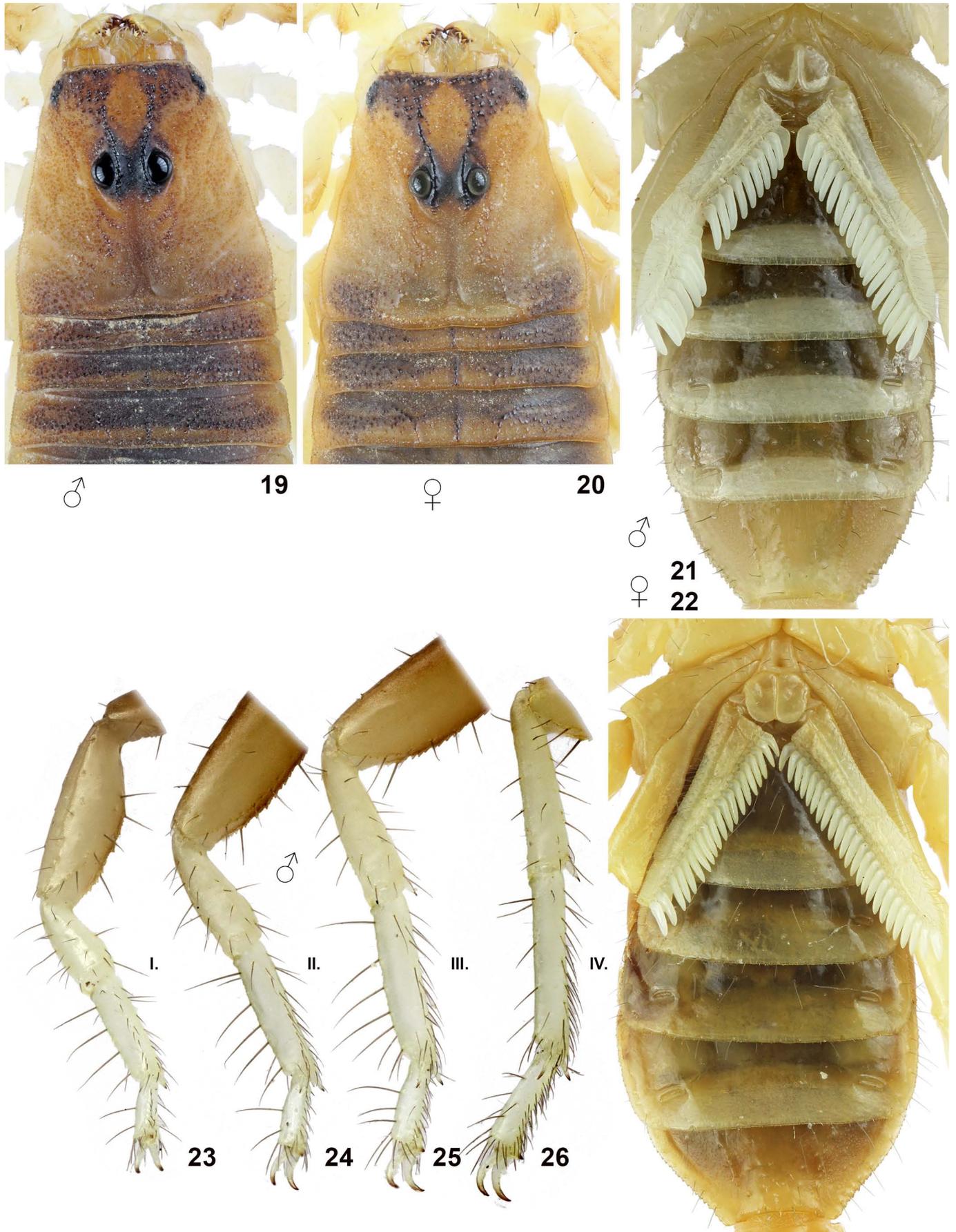
Figures 2–5: *Gint abshiri* sp. n. **Figures 2–3.** Holotype male, dorsal (2) and ventral (3) views. **Figures 4–5.** Paratype female, dorsal (4) and ventral (5) views. Scale bar: 10 mm.



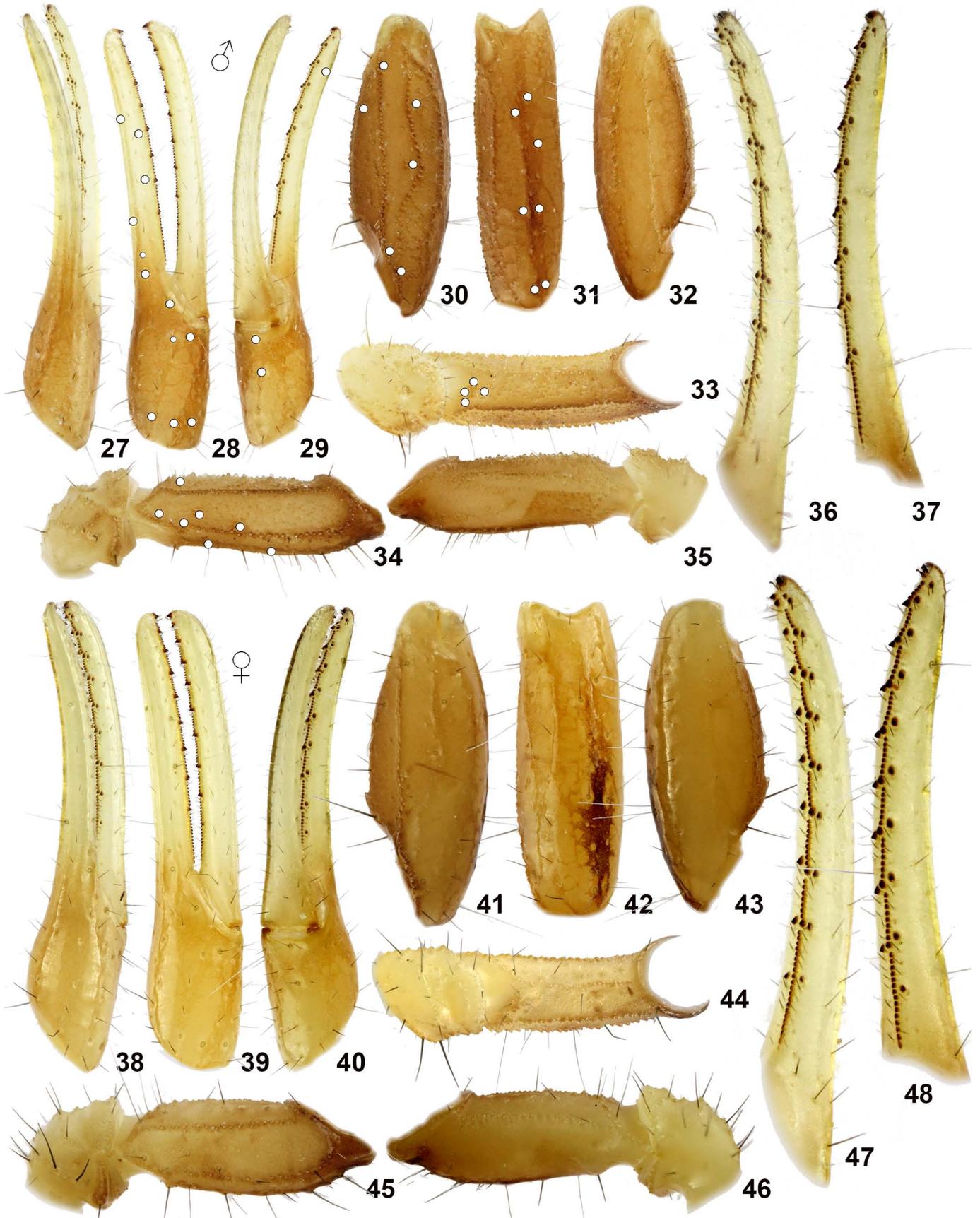
Figures 6–13: *Gint abshiri* sp. n. **Figures 6, 8–10.** Holotype male, telson lateral view (6), metasoma and telson, lateral (8), ventral (9), and dorsal (10) views. **Figures 7, 11–13.** Paratype female, telson lateral view (7), metasoma and telson, lateral (11), ventral (12), and dorsal (13) views. Scale bar: 10 mm (35–40).



Figures 14–18: *Gint abshiri* sp. n., holotype male, UV fluorescence. Figures 14–16. Metasoma and telson lateral (14), dorsal (15) and ventral (16) views. Figure 17. Carapace and tergites. Figure 18. Sternopectinal region and sternites.



Figures 19–26: *Gint abshiri* sp. n. **Figures 19, 21, 23–26.** Holotype male, chelicerae, carapace and tergites I–III (19), sternopectinal region and sternites (21), and distal segments of left legs I–IV, retrolateral views (23–26). **Figures 20, 22.** Paratype female, chelicerae, carapace and tergites I–III (20), sternopectinal region and sternites (22).



Figures 27–48: *Gint abshiri* sp. n. **Figures 27–37.** Holotype male. Pedipalp chela, dorsal (27), external (28), and ventrointernal (29) views. Pedipalp patella, dorsal (30), external (31), and ventral (32) views. Pedipalp femur and trochanter, internal (33), dorsal (34) and ventral (35) views. Pedipalp chela, movable (36) and fixed (37) fingers dentate margin. The trichobothrial pattern is indicated in Figures 28–31, 33–34 (white circles). **Figures 38–48.** Paratype female. Pedipalp chela, dorsal (38), external (39), and ventrointernal (40) views. Pedipalp patella, dorsal (41), external (42), and ventral (43) views. Pedipalp femur and trochanter, internal (44), dorsal (45) and ventral (46) views. Pedipalp chela, movable (47) and fixed (48) fingers dentate margin.

sparsely setose; telson elongate without annular ring, more elongated in male than in female, aculeus very slightly shorter than vesicle in both sexes; legs I–III with tarsal bristle combs composed of 4 to 9 long, thin setae; patella of leg IV very finely granulated; movable finger of pedipalp with 8 rows of granules, with external and internal accessory granules; eight row of granules of movable finger with both accessory granules internal and external.

DESCRIPTION. Adult males are 23–26 mm long and the adult females are 27–28 mm long. For position and distribution of trichobothria of pedipalps see Figs. 28–31, 33–34. Sexual dimorphism is noticeable. Males are substantially smaller, with more elongated telson. Pedipalp patella and femur are granulate and matte in males, smooth and glossy in females.

Coloration (Figs. 1–5). Basic color is yellow to orange with dark patterning. The carinae on the metasoma can be dark. Anterior part of carapace dark colored. Metasomal segment V is darker than the other metasomal segments. The chelicerae are yellow with weak reticulation in the anterior part; dentition is reddish.

Carapace (Figs. 17, 19–20). The surface is densely granulated. The anterior margin is straight or almost straight and bears 8–10 macrosetae. Anterior median carinae are coarsely granular. There are 5 lateral eyes on each side (3 larger, 2 smaller).

Mesosoma (Figs. 17–18, 21–22). The tergites bear three coarsely granular carinae. All tergites with dense coarse and fine granulation. The pectinal tooth count is 20–25 (1x20, 3x21, 8x22, 14x23, 3x24, 4x25) in males and 19–24 (1x19, 1x21, 1x24) in females. The marginal tips of the pectines extend from the first quarter of sternite V in females, and from the half of sternite V in males. The pectines have 3 marginal lamellae and 8–10 middle lamellae. The lamellae bear numerous dark setae, three to six on each fulcrum. Sternites III–VI lack carinae, their surfaces are smooth in females and wrinkled with finely shagreened lateral areas in males. Sternite VII has one pair of poorly indicated carinae and is granulated in the area outside the lateral carinae, more so in males. All sternites bear several long macrosetae on their surfaces and margins.

Metasoma and telson (Figs. 6–16). Metasoma I–III bear 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 IV bears 8 carinae that are complete and granulate plus median lateral carinae which can be also almost complete 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 II–IV are granulated in both sexes. The ventral aspect of metasoma I is sparsely granulated in both sexes. Dorsal and lateral

surfaces of this segment are granulated in both sexes densely. The lateral anal arch consists of three or four lobes in both sexes. All segments are sparsely setose. The telson is elongate without annular ring, more elongated in male than in female. The aculeus is very slightly shorter than the vesicle in both sexes. The surface of the telson is smooth, sparsely hirsute, without a subaculear tubercle.

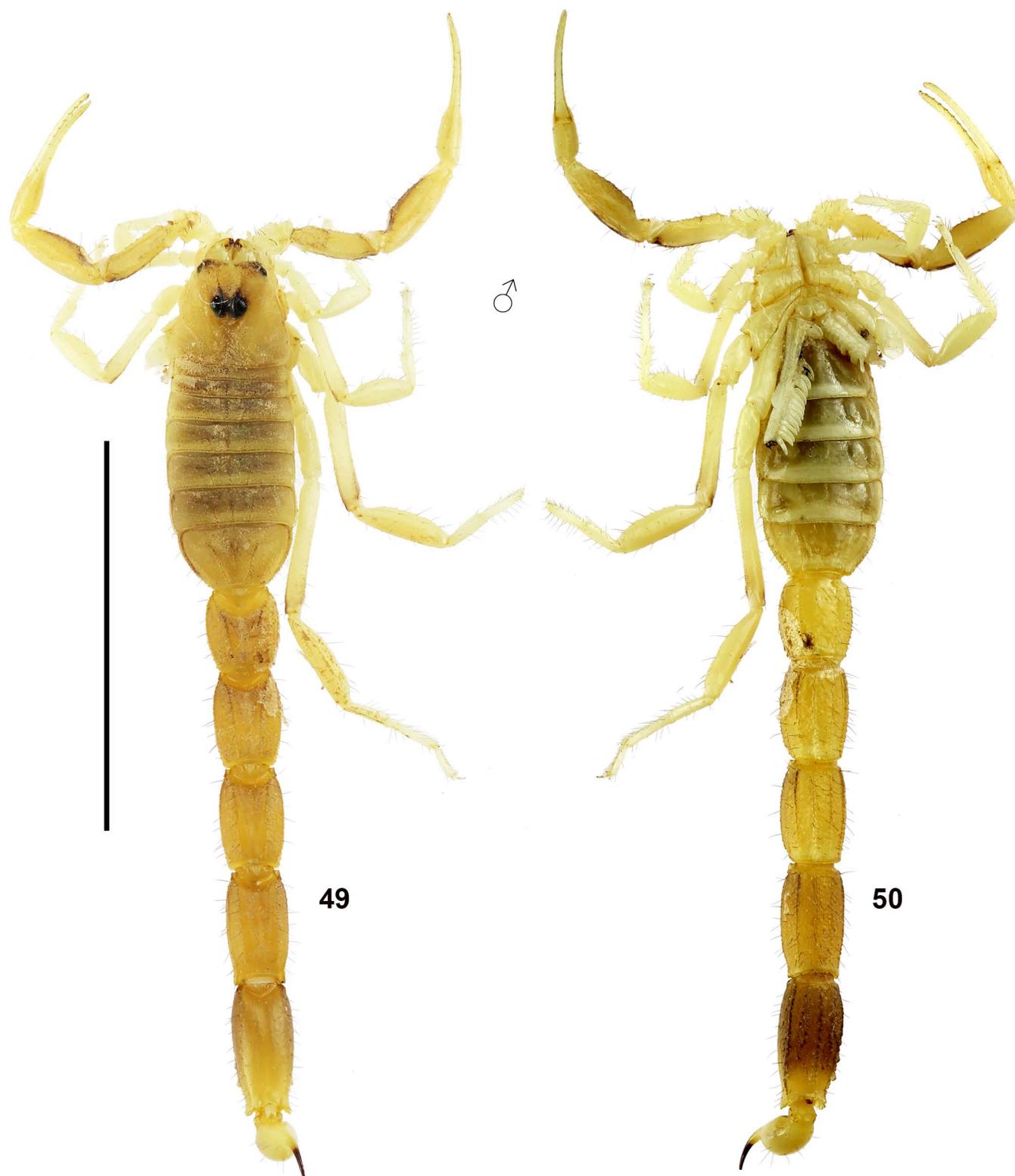
Legs (Figs. 23–26). The tarsomeres bear two rows of macrosetae on the ventral surface and numerous macrosetae on the other surfaces, which on legs I–III form bristle combs with 4–9 bristles. The macrosetae are thin in both sexes. The femur and patella may bear four to six smooth carinae. The femur bears only solitary macrosetae. Patella of leg IV very finely granulated;

Pedipalps (Figs. 27–48, 109–114). The femur and patella are matte and granulated in males, and smooth and glossy in females. The femur bears four granular carinae in both sexes. The patella bears seven coarsely granular carinae, in females dorsal and ventral carinae may be either smooth or missing. 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); eight row of granules of movable finger has both accessory granules internal and external. The fixed finger has nine rows of granules, nine with or without one internal granule.

Karyotype (Figs. 131–132). We analyzed the chromosomes of one paratype male (No. ETH69). The diploid complement of this sample is composed of 27 chromosomes (Fig. 131). In all observed postpachytene nuclei, we observed nine bivalents and three trivalents (Fig. 132). The chromosomes of the first pair are considerably longer (6.22%) than the consequent chromosomes. These following chromosomes gradually decrease in size from 5.41% to 1.72% of the diploid set. The number of chromosomes and presence of multivalent associations correspond to the characteristics of the genus *Gint* ($2n = 18–45$) (Just et al., 2022).

Measurements. See Table 1.

AFFINITIES. The described features distinguish *Gint abshiri* sp. n. from all other species of the genus (see the key below). According to morphological characters is *G. abshiri* sp. n. most similar to *G. gubanensis* Kovařík et al., 2018 which has eight row of granules of pedipalp chela movable finger without accessory granules (fig. 71 in Kovařík et al., 2018: 17) but *G. abshiri* sp. n. has eight row of granules of movable finger with both accessory granules internal and external (Figs. 36 and 47; metasomal segment V length/width ratio is 2.39–2.49 in males of *G. abshiri* sp. n. but 3.02 in male *G. gubanensis*; telson length/depth ratio is 3.40–3.42 in males of *G. abshiri* sp. n. but 3.03 in male *G. gubanensis*).



Figures 49–50. *Gint derbiae* sp. n., holotype male, dorsal (49) and ventral (50) views. Scale bar: 10 mm.

Gint derbiae sp. n.

(Figs. 49–76, 103–108, 127, 130, Table 1)

<http://zoobank.org/urn:lsid:zoobank.org:act:F988EAFD-16CF-4F50-8CBC-77889CE9E4F9>

TYPE LOCALITY AND TYPE DEPOSITORY. **Ethiopia**, Somali Province, S of Kebri Dahar, NE of Wabiyar vill. (farm), 06°33'20.188"N 44°15'04.391"E; FKCP.

TYPE MATERIAL EXAMINED. **Ethiopia**, Somali Province, S of Kebri Dahar, NE of Wabiyar vill. (farm), 06°33'20.188"N 44°15'04.391"E (Fig. 130), 19.–21.VI.2024, 1♂ (holotype, No. ETH040), leg. Hassan Sh Abdirahman Elmi, FKCP.

ETYMOLOGY. Named after Fadumo Yusuf Derbi who is the author of two books and has worked in the medical device industry as an engineer in Minnesota, USA. Fadumo enjoys being out in nature, writing uplifting stories and Somali poems, and exploring her cultural identities. Moreover, she hosted the collection team at her farm in Wabiyar, Qorahay, Somali State, Ethiopia.

DIAGNOSIS (♂). Total length 24.9 mm (male, holotypes), female unknown; chelicerae yellow; carapace densely granulated with anterior median carinae strongly and posterior median carinae weakly developed; anterior margin of carapace straight; pectine teeth ca 23 in male; sternites III–VI lacking carinae; sternite VII with two weakly indicated smooth carinae, lateral surface weakly finely granulated; metasomal segment V length/width ratio 2.18 in male; metasomal segment III–IV intercarinal surfaces granulated; metasomal segment IV bears 8 carinae that are complete and granulate; metasomal segment V has only ventromedial and ventrolateral carinae that in posterior halves bear several lobate granules; dorsal surface of segment V smooth and lateral surface weakly granulated; all metasomal segments sparsely setose; telson elongate without annular ring, length/depth ratio 3.02 in male, aculeus shorter than vesicle; legs I–III with tarsal bristle combs composed of 9 to 10 long, thin setae; pedipalp chela length/width ratio in male 6.01; movable finger of pedipalp with 8 rows of granules, with external and internal accessory granules; eight row of granules of movable finger without both accessory granules internal and external.

DESCRIPTION. Adult male holotype is 24.9 mm long, female unknown. For position and distribution of trichobothria of pedipalps see Figs. 52–55, 57–58.

Coloration (Figs. 49–50). Basic color is yellow to orange with weak dark patterning. The carinae on the metasoma can be dark. Anterior margin of carapace dark colored. Metasomal segment V is darker than the other metasomal segments. The chelicerae are yellow without reticulation, dentition is reddish.

Carapace (Figs. 66, 72). The surface is densely granulated. The anterior margin is straight. Anterior median carinae are coarsely granular. There are 5 lateral eyes on each side (3 larger, 2 smaller).

Mesosoma (Figs. 66–67, 72–73). The tergites bear three coarsely granular carinae. All tergites with dense coarse and fine granulation. The pectinal tooth count ca 23 in male (damaged). The marginal tips of the pectines extend from the first quarter to half of sternite V in male. The pectines have 3 marginal lamellae and 10 middle lamellae. The lamellae bear numerous dark setae, three to five on each fulcrum. Sternites III–VI lack carinae, their surfaces are smooth in male. Sternite VII has one pair of poorly indicated carinae and is weakly finely granulated in the area outside the lateral carinae. All sternites bear several long macrosetae on their surfaces and margins.

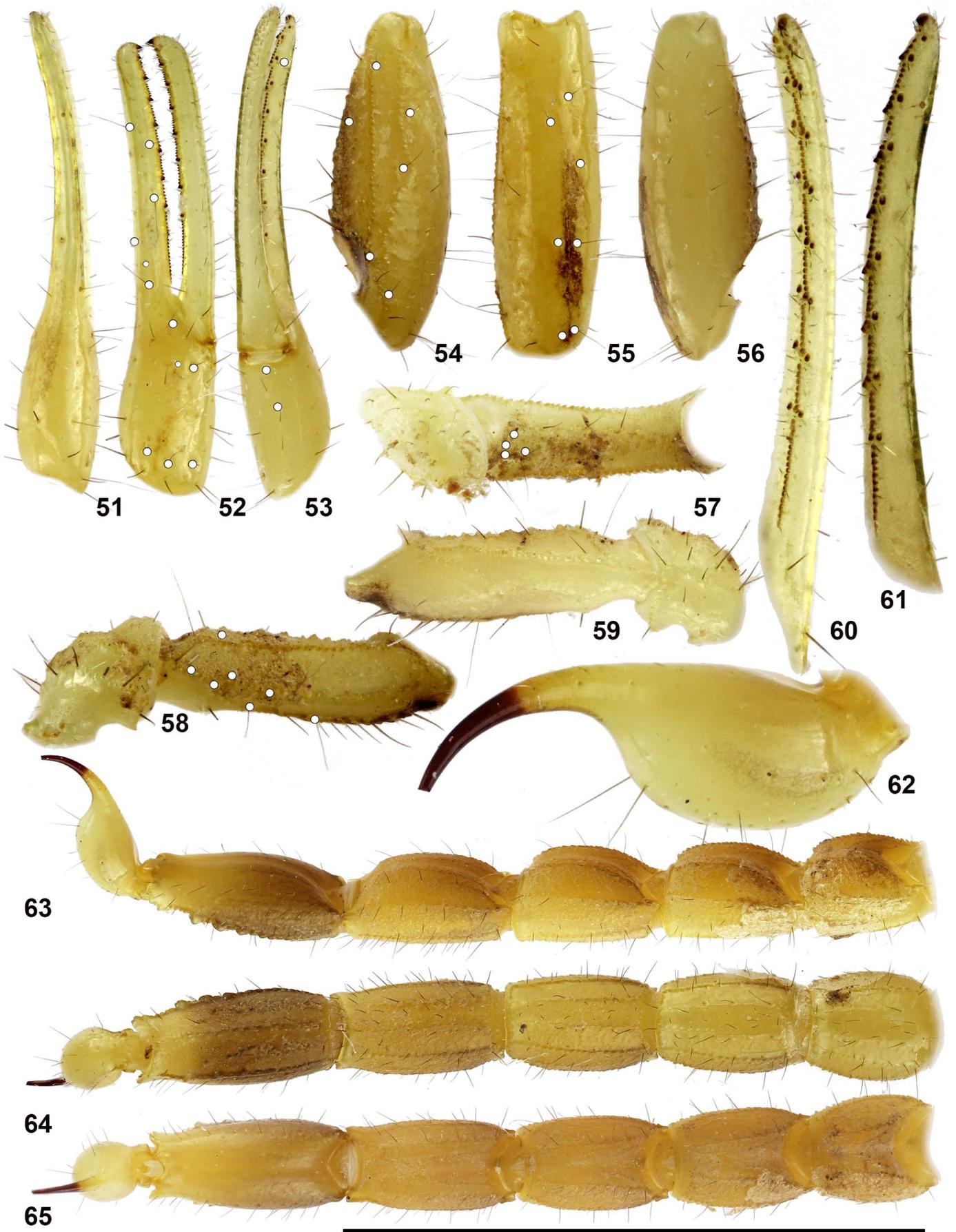
Metasoma and telson (Figs. 62–65, 74–76). Metasoma I–III bear 10 carinae, the ventromedial carinae on metasoma I are present but smooth. Median lateral carinae are complete or almost complete on I–III. Ventromedial and ventrolateral carinae on metasoma II–III are granulated, with larger granules posteriorly, and strong granulation. Metasoma IV bears 8 carinae that are complete and granulate, additional median lateral carinae is absent. Metasoma V has only ventromedial and ventrolateral carinae, which in posterior halves bear several lobate granules. Intercarinal surfaces of segments III–IV are granulated. The ventral aspect of metasoma I–II is smooth. Dorsal and lateral surfaces of this segment are granulated densely. The lateral anal arch consists of three lobes. All segments are sparsely setose. The telson is elongate without annular ring. The aculeus is shorter than the vesicle. The surface of the telson is smooth, sparsely hirsute, without a subaculear tubercle.

Legs (Figs. 68–71). 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 9–10 bristles. The macrosetae are thin in both sexes. The femur and patella may bear four to six smooth carinae. The femur bears only solitary macrosetae.

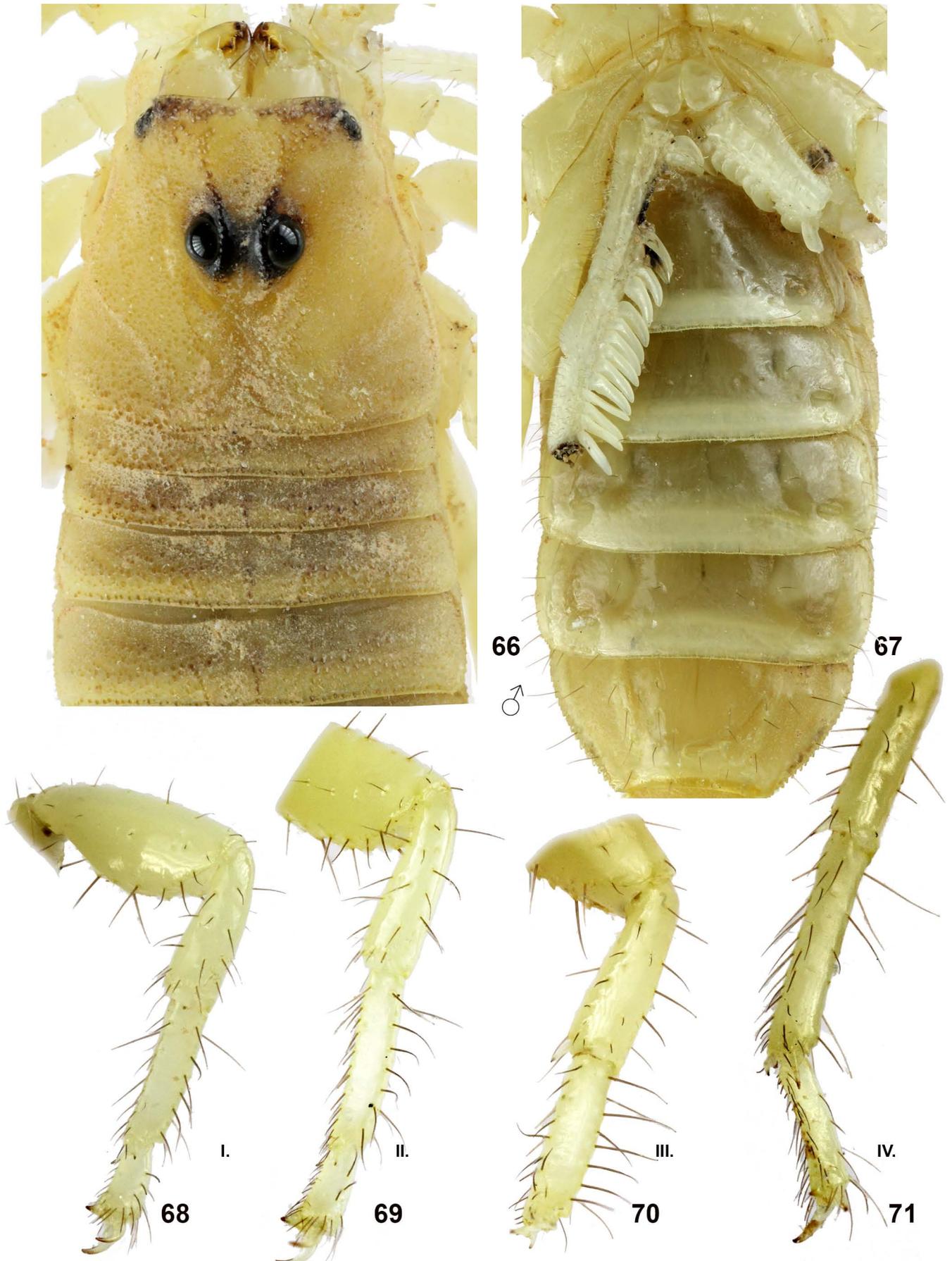
Pedipalps (Figs. 51–61, 103–108). The femur and patella are matte and granulated in male. The femur bears four granular carinae and is ventrally smooth. The patella bears seven coarsely granular carinae and is dorsally almost smooth. The chela is smooth, with only traces of incomplete obsolete carinae. All pedipalp segments including the trochanter are sparsely hirsute, with long, dark macrosetae. 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); eight row of granules of movable finger without both accessory granules internal and external. The fixed finger has nine rows of granules, nine without accessory granules.

Measurements. See Table 1.

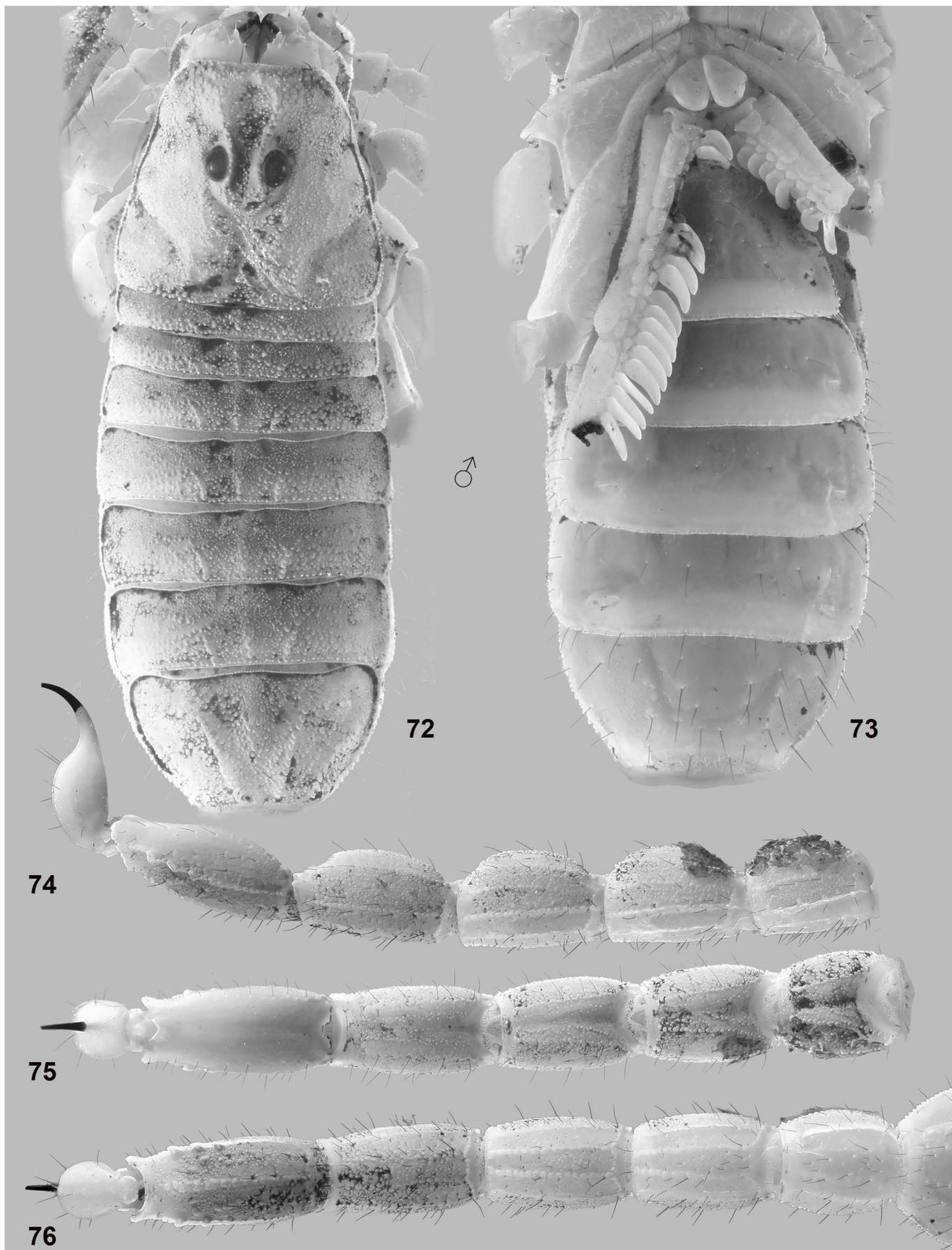
AFFINITIES. The described features distinguish *Gint derbiae* sp. n. from all other species of the genus (see the key below). *G. derbiae* sp. n. could be distinguished from all other *Gint* species by elongated and narrow pedipalp chela of male. Pedipalp chela length/width ratio in male *G. derbiae* sp. n. is 6.01 versus 4.51–5.72 in other species of the genus (see Tables 1–2; table 3 in Kovařík et al., 2018: 28; tab. 1 in Kovařík, 2018: 8; table 1 in Kovařík & Lowe, 2019: 11).



Figures 51–65: *Gint derbiae* sp. n., holotype male. **Figures 51–61.** Pedipalp chela, dorsal (51), external (52), and ventrointernal (53) views. Pedipalp patella, dorsal (54), external (55), and ventral (56) views. Pedipalp femur and trochanter, internal (57), dorsal (58) and ventral (59) views. Pedipalp chela, movable (60) and fixed (61) fingers dentate margin. The trichobothrial pattern is indicated in Figures 52–55, 57–58 (white circles). **Figure 62.** Telson lateral view. **Figures 63–65.** Metasoma and telson, lateral (63), ventral (64), and dorsal (65) views. Scale bar: 10 mm (63–65).



Figures 66–71: *Gint derbiae* sp. n., holotype male. **Figure 66.** Chelicerae, carapace and tergites I–IV. **Figure 67.** Sternoplectinal region and sternites. **Figures 68–71.** Distal segments of right legs I–IV, retrolateral views.



Figures 72–76: *Gint derbiae* sp. n., holotype male, UV fluorescence. **Figure 72.** Carapace and tergites. **Figure 73.** Sternoplectinal region and sternites. **Figures 74–76.** Metasoma and telson lateral (74), dorsal (75) and ventral (76) views.



Figure 77. *Gint sahil* sp. n., male holotype in vivo habitus.

***Gint sahil* sp. n.**

(Figs. 77–102, 127, 128, Table 2)

<http://zoobank.org/urn:lsid:zoobank.org:act:2E53F85F-D431-45FA-9EC0-5E3A747153D1>

TYPE LOCALITY AND TYPE DEPOSITORY. **Somaliland**, Sahil Region, Laas Dhuure village, 10.176807°N 45.983479°E, ca 540 m a. s. l.; FKCP.

TYPE MATERIAL EXAMINED. **Somaliland**, Sahil Region, Laas Dhuure village, 10.176807°N 45.983479°E, ca 540 m a. s. l. (Locality No. 21SK, Fig. 128 and fig. 32 in Kovařík, 2024: 10), 11.-12.X.2021, 3♂1juv. (holotype and paratypes, DNA No. 2034), leg. F. Kovařík, FKCP.

ETYMOLOGY. The species epithet *sahil* is given after the region of occurrence.

DIAGNOSIS (♂). Total length 24–29 mm (males), female unknown; chelicerae yellow with reticulation indicated; carapace densely granulated with anterior median carinae strongly and posterior median carinae weakly developed; anterior margin of carapace straight; pectine teeth 25–26 in males; sternites III–VI lacking carinae; sternite VII with two indicated smooth carinae, lateral surface finely granulated; metasomal segment V length/width ratio 2.69–2.93 in males;

metasomal segment I–IV intercarinal dorsal and lateral surfaces finely granulated; metasoma I–III with 8, metasoma IV with 6 carinae; metasoma V has only ventromedial and ventrolateral carinae that in posterior halves bear several lobate granules; dorsal surface of segment V smooth and lateral surface very weakly granulated; all metasomal segments sparsely setose; telson elongate without annular ring, length/depth ratio 3.48–3.49 in males, aculeus shorter than vesicle; legs I–III with tarsal bristle combs composed of 5–7 long, thin setae; pedipalp chela length/width ratio in male 5.10–5.44; movable finger of pedipalp with 8 rows of granules, with external and internal accessory granules; eight row of granules of movable finger without both accessory granules internal and external.

DESCRIPTION. Adult males are 24–29 mm long, female unknown. For position and distribution of trichobothria of pedipalps see Figs. 88–92, 94–95.

Coloration (Figs. 77–79). Basic color is yellow with dark patterning. The carinae on the metasoma can be dark. Anterior margin of carapace dark colored. The chelicerae are yellow with reticulation indicated, dentition is reddish.

Carapace (Figs. 99, 101). The surface is densely granulated. The anterior margin is straight. Anterior median carinae are coarsely granular. There are 5 lateral eyes on each side (3 larger, 2 smaller).

Mesosoma (Figs. 99–102). The tergites bear three coarsely granular carinae. All tergites with dense coarse and fine

Dimensions (mm)		<i>Gint sahil</i> sp. n.	
		♂ holotype	♂ paratype
Carapace	L / W	3.19 / 2.91	2.68 / 2.68
Mesosoma	L	7.06	5.33
Tergite VII	L / W	1.99 / 2.89	1.46 / 2.38
Metasoma + telson	L	18.58	16.1
Segment I	L / W / D	2.39 / 1.74 / 1.52	1.95 / 1.45 / 1.37
Segment II	L / W / D	2.71 / 1.50 / 1.51	2.33 / 1.32 / 1.28
Segment III	L / W / D	2.95 / 1.45 / 1.49	2.50 / 1.25 / 1.19
Segment IV	L / W / D	3.31 / 1.40 / 1.33	2.85 / 1.12 / 1.14
Segment V	L / W / D	3.80 / 1.41 / 1.22	3.37 / 1.15 / 1.03
Telson	L / W / D	3.42 / 0.98 / 0.96	3.10 / 0.89 / 0.84
Pedipalp	L	9.12	8.20
Femur	L / W	2.32 / 0.70	2.06 / 0.62
Patella	L / W	2.92 / 0.96	2.57 / 0.91
Chela	L	3.88	3.57
Manus	W / D	0.76 / 0.76	0.66 / 0.68
Movable finger	L	2.56	2.30
Total	L	28.83	24.11

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

granulation. The pectinal tooth count 25–26 (5 x 25, 1 x 26) in males. The marginal tips of the pectines extend from the first quarter to half of sternite V in male. The pectines have 3 marginal lamellae and 10–11 middle lamellae. The lamellae bear numerous dark setae, three to five on each fulcrum. Sternites III–VI lack carinae, their surfaces are smooth in male. Sternite VII has one pair of indicated carinae and is weakly finely granulated in the area outside the lateral carinae. All sternites bear several long macrosetae on their surfaces and margins.

Metasoma and telson (Figs. 80–83). Metasoma I–III with 8, metasoma IV with 6 carinae, the ventromedial carinae on metasoma I and IV are present or indicated but smooth. Median lateral carinae are incomplete on I–III. Ventromedial and ventrolateral carinae on metasoma II–III are granulated, with larger granules posteriorly, and strong granulation. Metasoma V has only ventromedial and ventrolateral carinae, which in posterior halves bear several lobate granules. The ventral aspect of metasoma I–IV is smooth. Dorsal and lateral surfaces of segments I–II and partly IV are granulated. The lateral anal arch consists of three or four lobes. All segments are sparsely setose. The telson is elongate without annular ring. The aculeus is slightly longer than the vesicle. The surface of the telson is smooth, sparsely hirsute, without a subaculear tubercle.

Legs (Figs. 84–87). 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 5–7 bristles. The macrosetae are thin in both sexes. The femur and patella may bear four to six smooth carinae. The femur bears only solitary macrosetae.

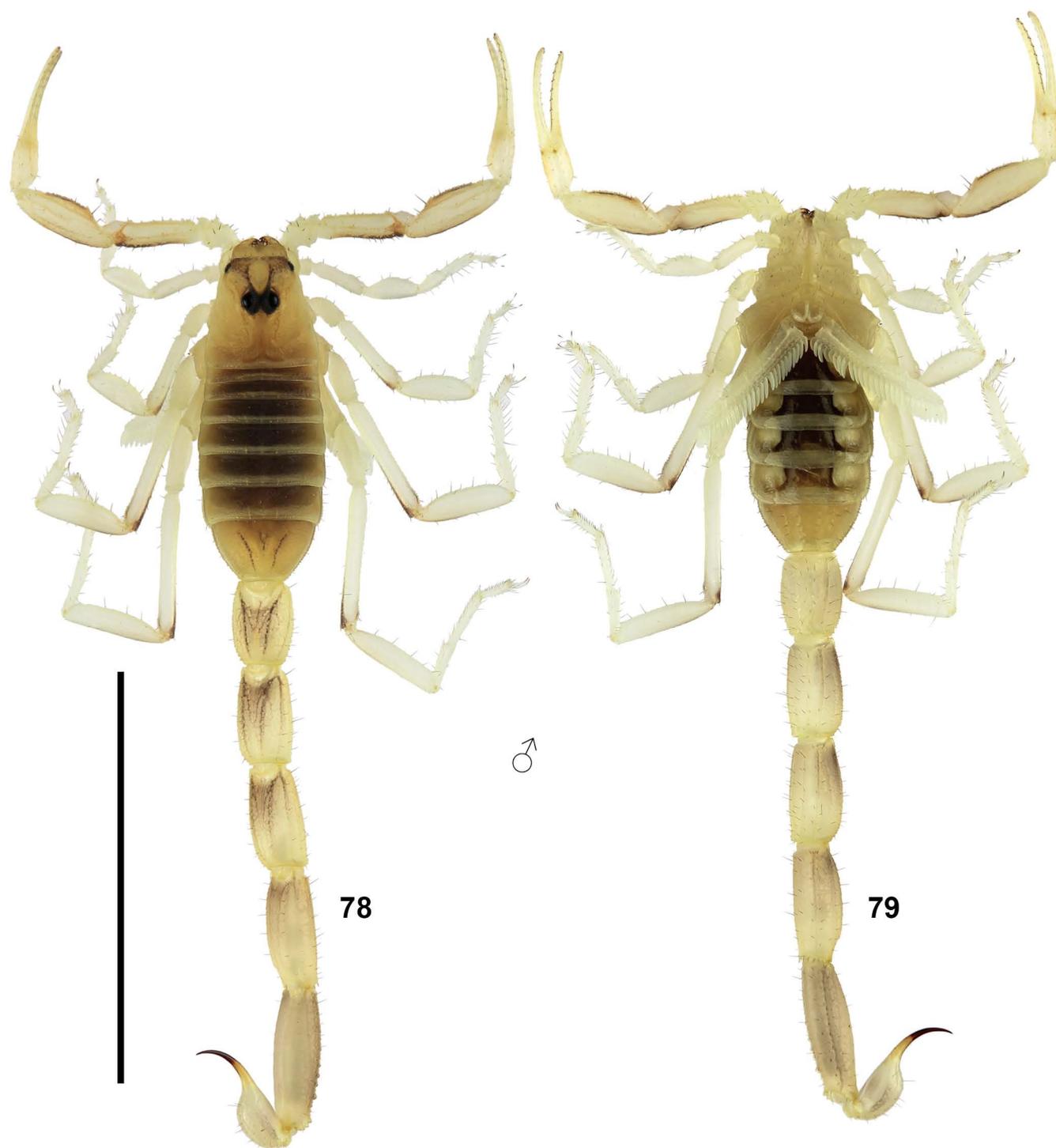
Pedipalps (Figs. 88–98). The femur and patella are matte and granulated in male. The femur bears four granular carinae and is ventrally smooth. The patella bears seven coarsely granular carinae and is dorsally sparsely granulated. The chela is smooth, with only traces of incomplete obsolete carinae. All pedipalp segments including the trochanter are sparsely hirsute, with long, dark macrosetae. 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); eight row of granules of movable finger without both accessory granules internal and external. The fixed finger has 7–8 rows of granules, eight with accessory internal granule.

Measurements. See Table 2.

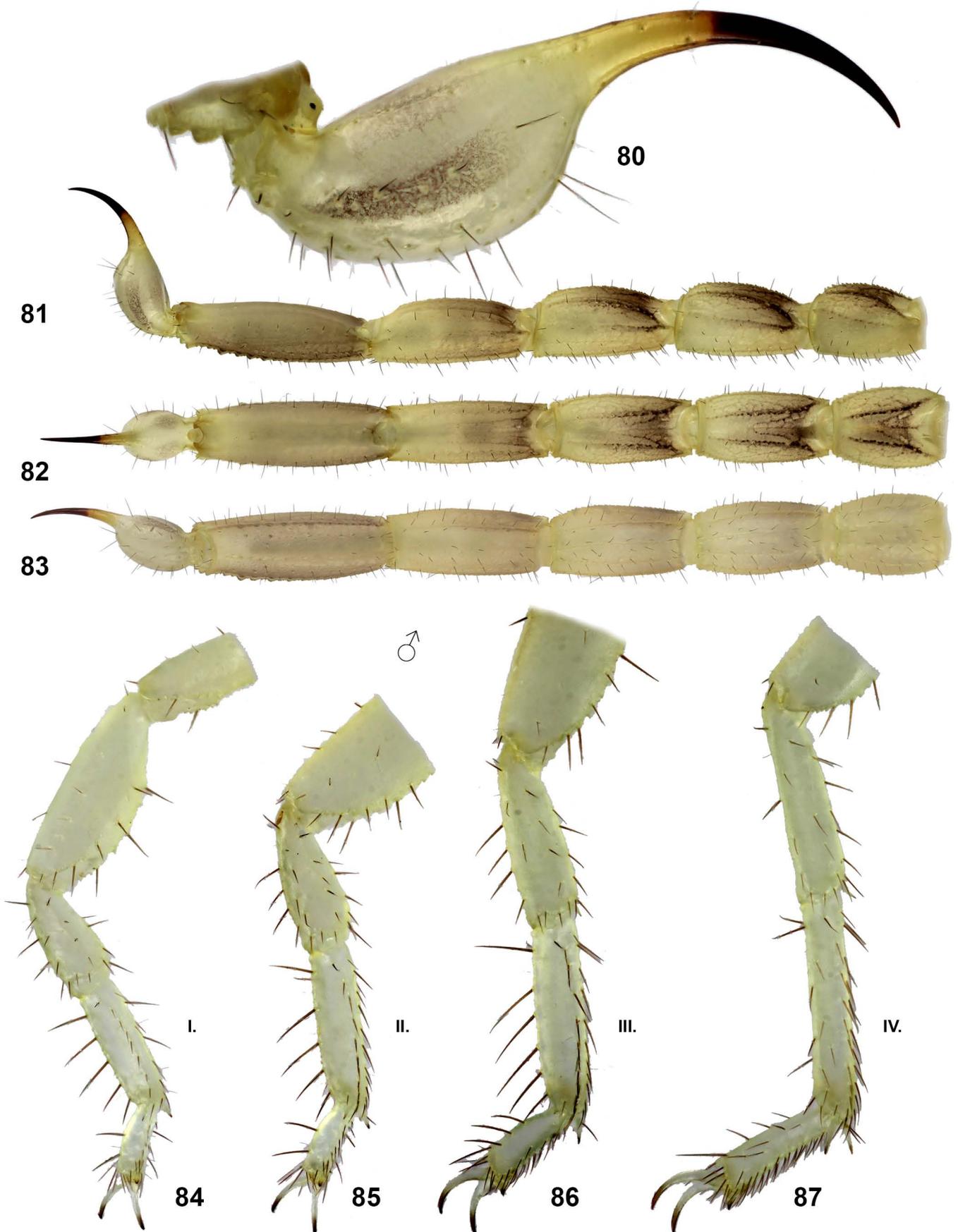
AFFINITIES. The described features distinguish *Gint sahil* sp. n. from all other species of the genus (see the key below). *G. sahil* sp. n. could be distinguished from all other *Gint* species through elongated and narrow metasoma of male. Metasomal segment V length/width ratio in males *G. sahil* sp. n. is 2.69–2.93 versus 2.03–2.49 in other species of the genus (see Tables 1–2; table 3 in Kovařík et al., 2018: 28; table 1 in Kovařík, 2018: 8; table 1 in Kovařík & Lowe, 2019: 11).

Key to species of the genus *Gint*

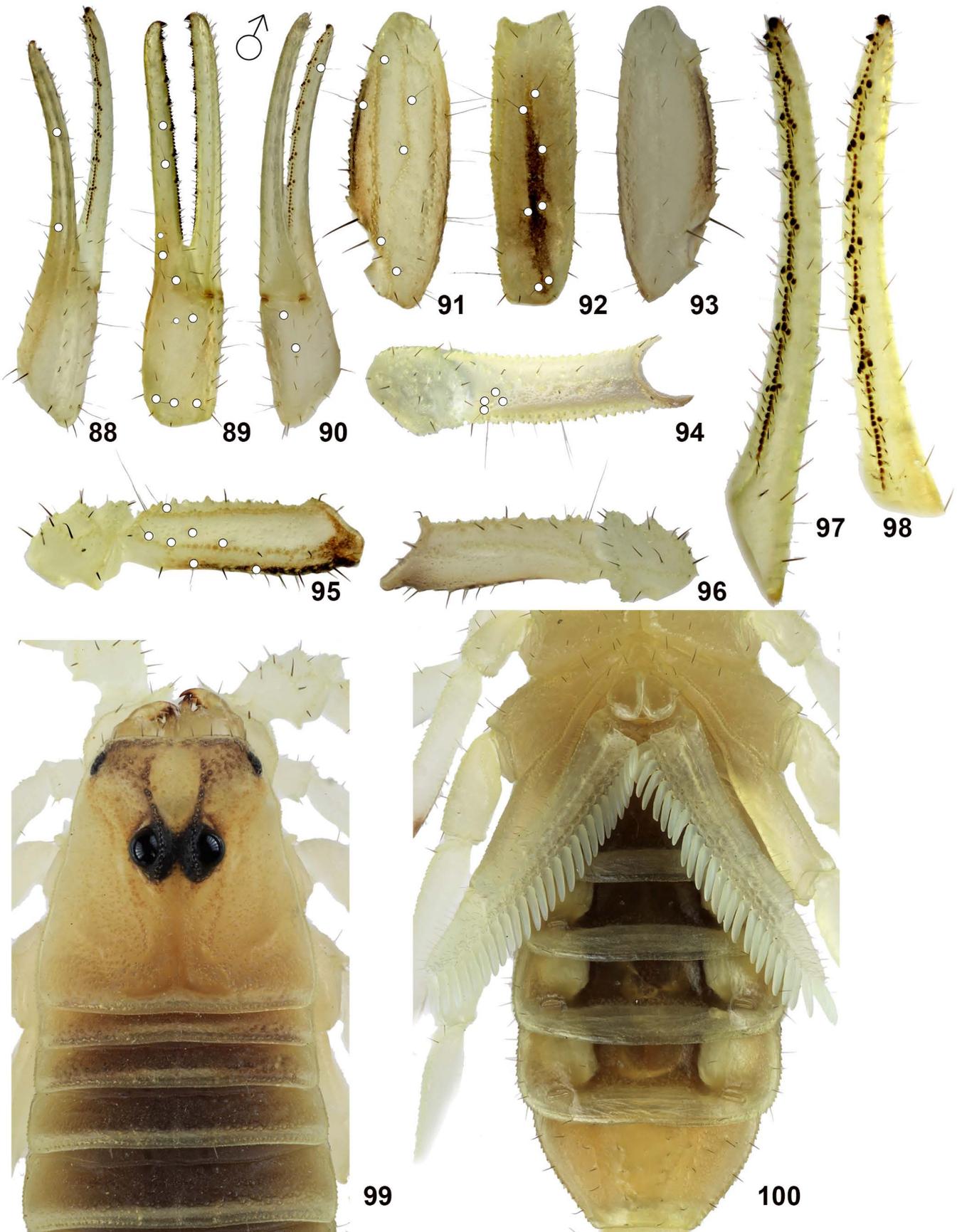
1. Telson exhibiting an annular ring at the vesicle/aculeus juncture (fig. 146 in Kovařík et al., 2018). Metasoma V with enlarged ‘lobate’ dentition on ventrolateral carinae reduced *G. puntlandus* Kovařík & Mazuch, 2015



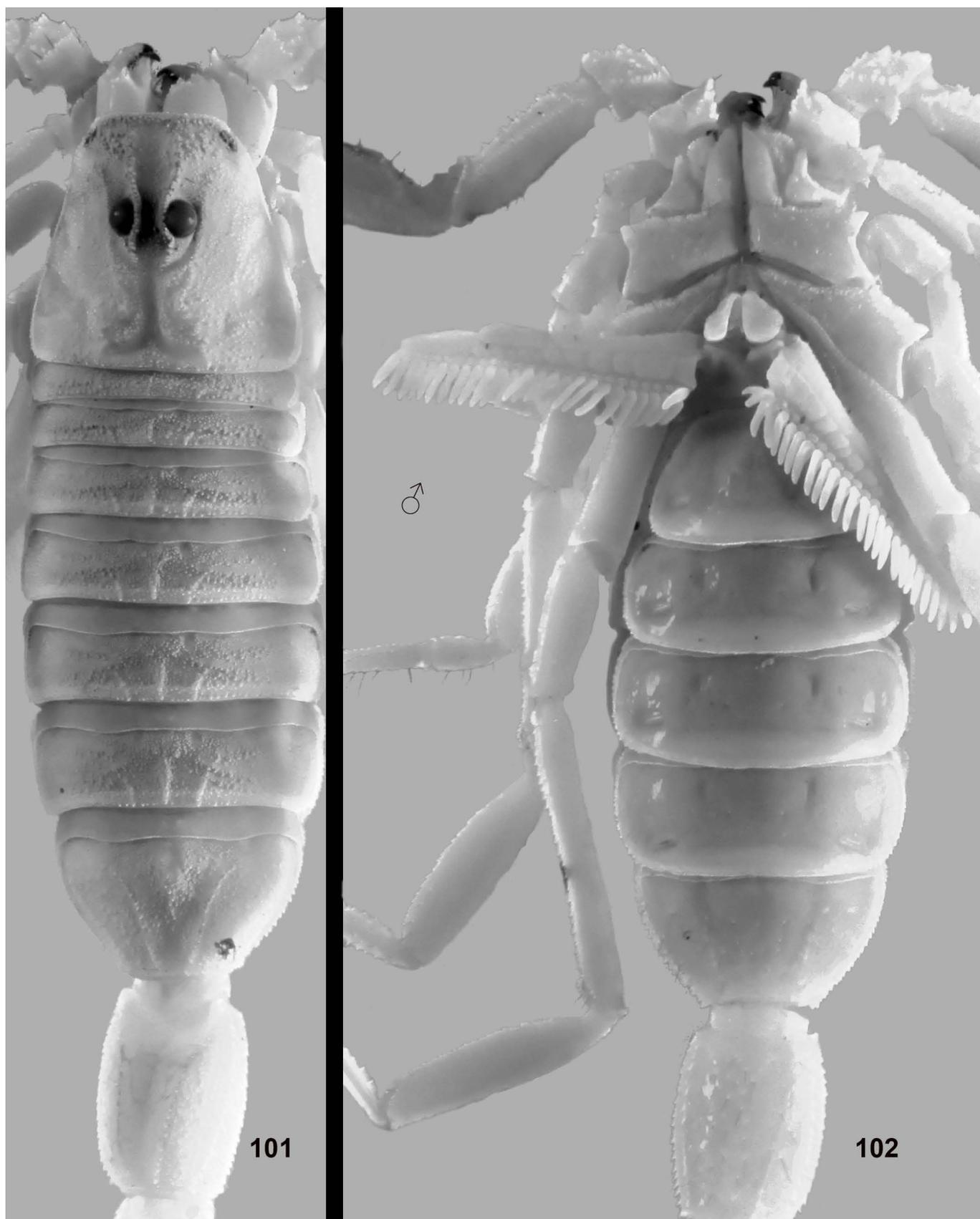
Figures 78–79. *Gint sahil* sp. n., holotype male, dorsal (78) and ventral (79) views. Scale bar: 10 mm.



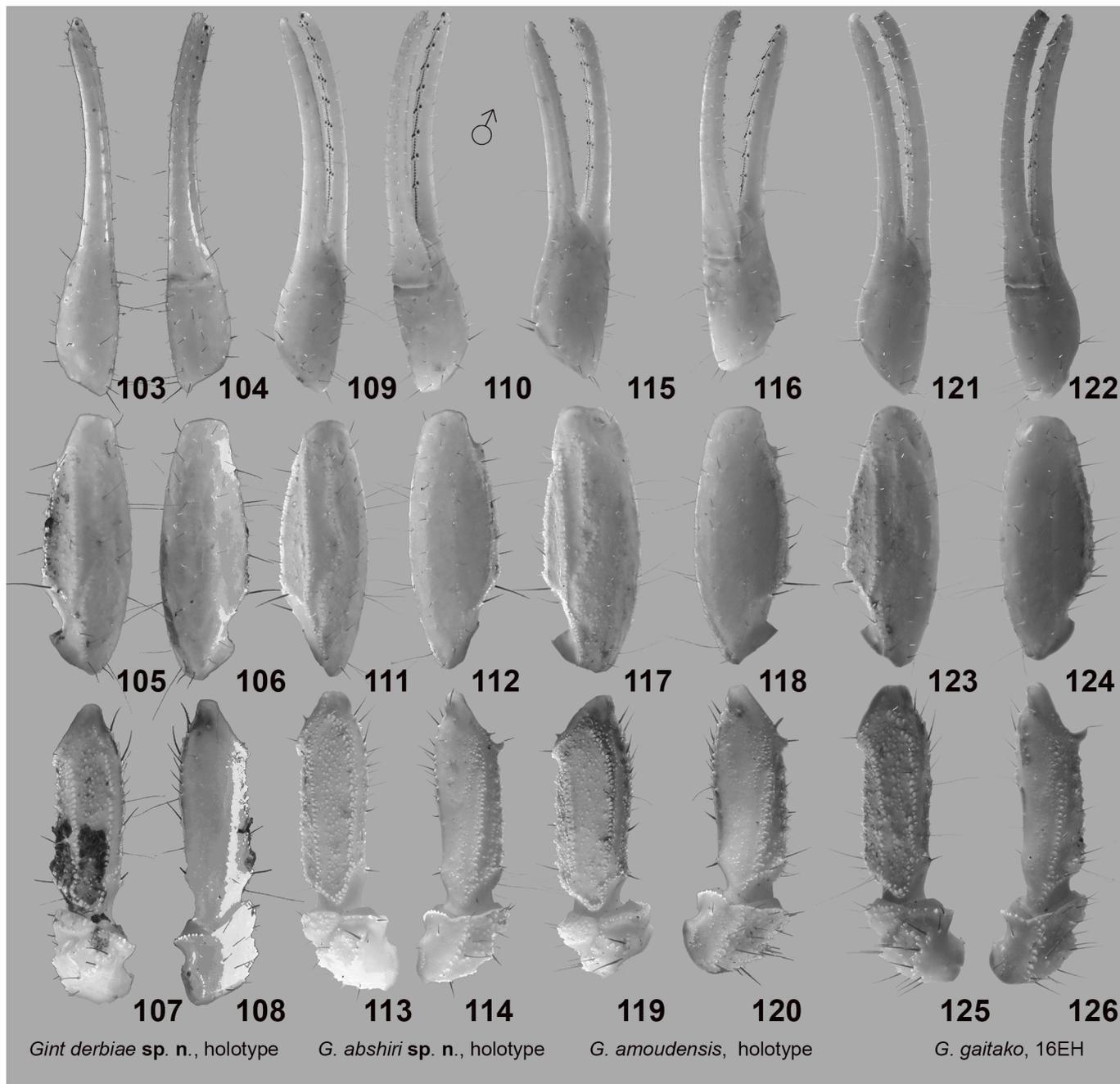
Figures 80–87: *Gint sahil* sp. n., holotype male. **Figure 80.** Telson lateral view. **Figures 81–83.** Metasoma and telson, lateral (81), dorsal (82), and ventral (83) views. **Figures 84–87.** Distal segments of left legs I–IV, retrolateral views.



Figures 88–100: *Gint sahil* sp. n., holotype male. **Figures 88–98.** Pedipalp chela, dorsal (88), external (89), and ventrointernal (90) views. Pedipalp patella, dorsal (91), external (92), and ventral (93) views. Pedipalp femur and trochanter, internal (94), dorsal (95) and ventral (96) views. Pedipalp chela, movable (97) and fixed (98) fingers dentate margin. The trichobothrial pattern is indicated in Figures 88–92, 94–95 (white circles). **Figure 99.** Chelicerae, carapace and tergites I–IV. **Figure 100.** Sternopectinal region and sternites.

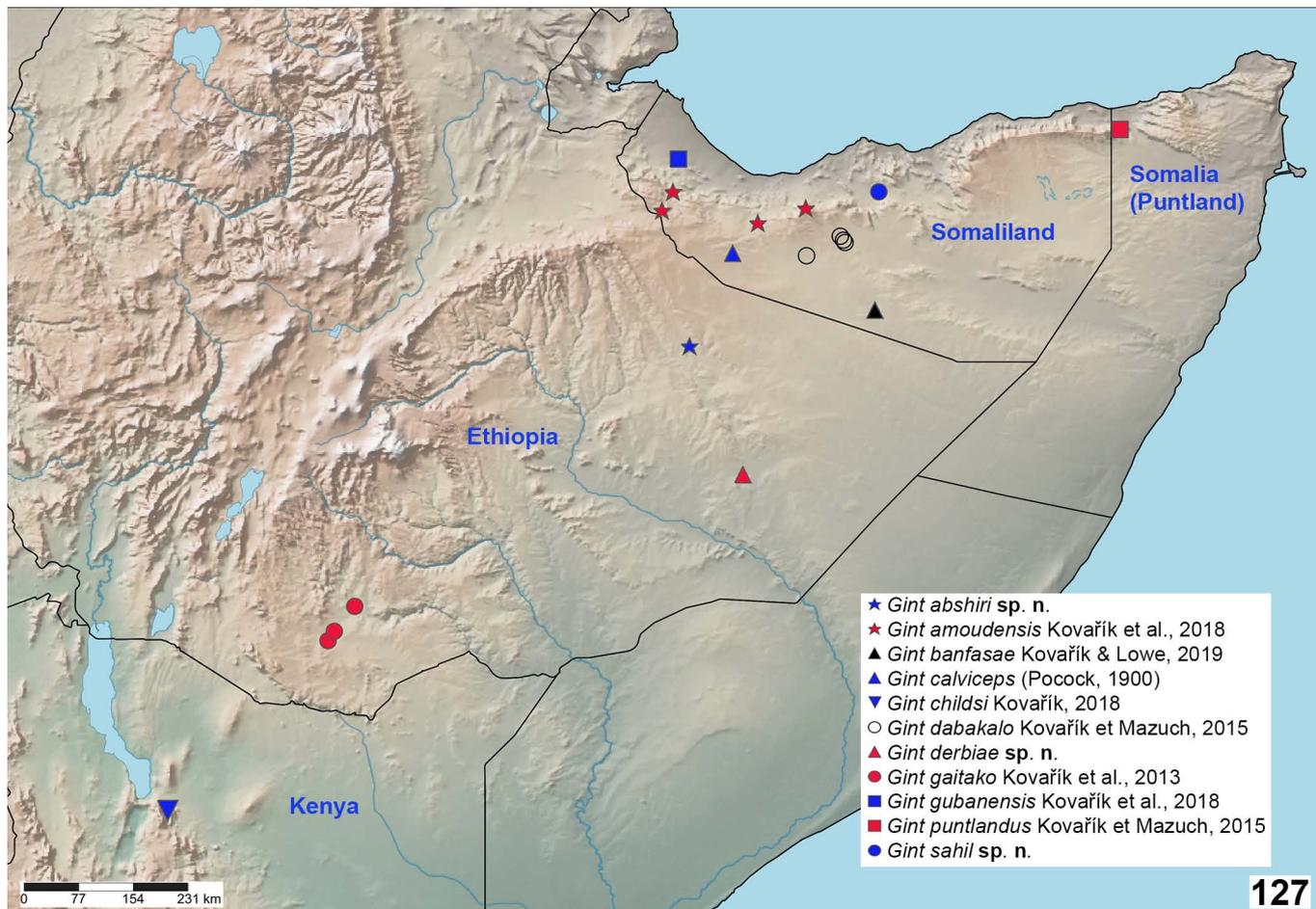


Figures 101–102: *Gint sahil* sp. n. holotype male, carapace and tergites (101), coxosternal area and sternites (102). UV fluorescence.



Figures 103–126: Comparison pedipalp in dorsal and ventral views in male, UV fluorescence, chela dorsal (103, 109, 115, 121) and ventral (104, 110, 116, 122), patella dorsal (105, 111, 117, 123) and ventral (106, 112, 118, 124), femur and trochanter dorsal (107, 113, 119, 125) and ventral (108, 114, 120, 126) views. **Figures 103–108.** *Gint derbiae* sp. n., male holotype. **Figures 109–114.** *Gint abshiri* sp. n., male holotype. **Figures 115–120.** *Gint amoudensis* Kovařík et al., 2018, male holotype. **Figures 121–126.** *Gint gaitako* Kovařík et al., 2013, male from locality 16EH (Ethiopia, Oromia State, Sidamo Province, Wachile, 04°32'33"N 39°03'07"E, 1051 m a. s. l.).

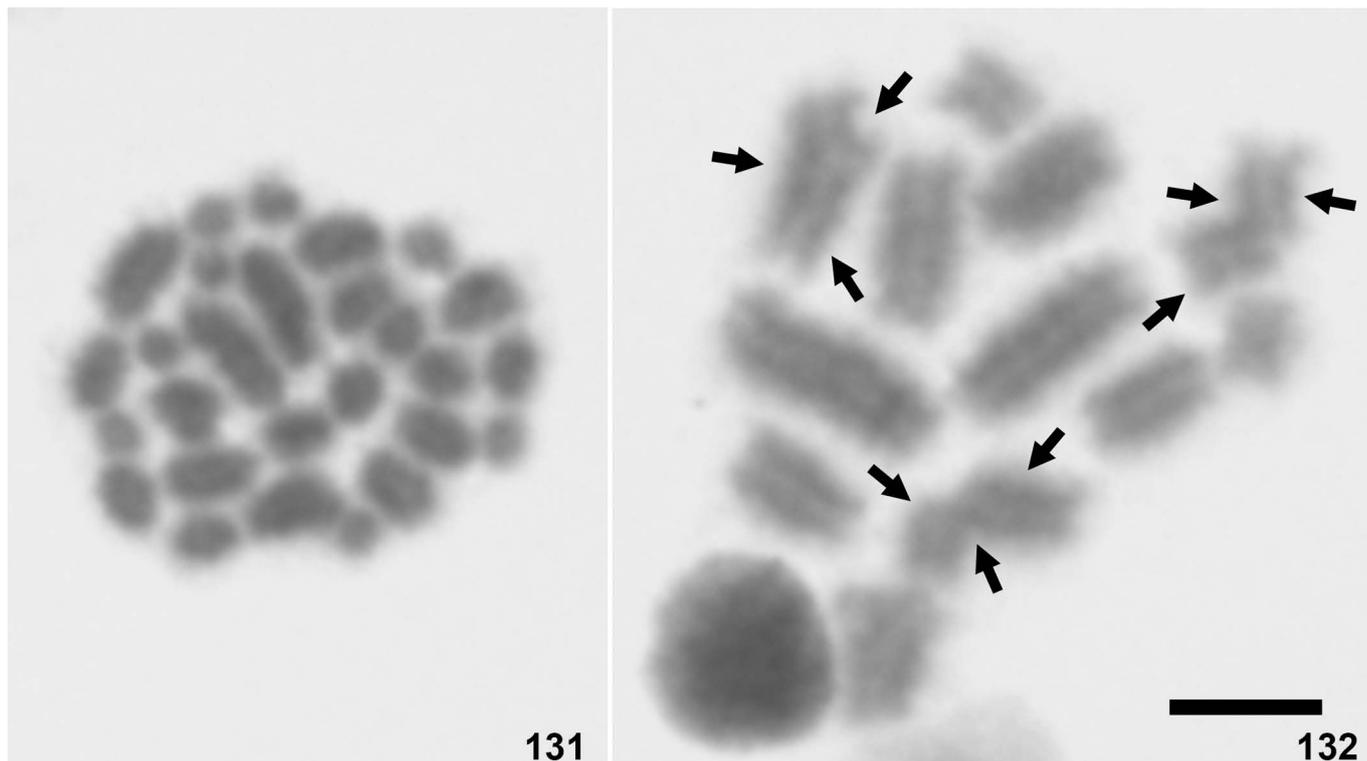
- Telson without annular ring (Fig. 80). Metasoma V with enlarged ‘lobate’ dentition on ventrolateral carinae present 2
- 2. Metasoma elongate, metasomal segment V length/width ratio 2.40–2.93 in males (figs. 122–123, table 3 in Kovařík et al., 2018) 3
- Metasoma short and wide, metasomal segment V length/width ratio 2.03–2.38 in males (Figs. 38–40, Table 1) 6
- 3. Metasomal segment V length/width ratio 2.40–2.49 in males. 4
- Metasomal segment V length/width ratio 2.69–2.93 in males. *G. sahil* sp. n.
- 4. Anterior part of carapace dark colored. Patella of leg IV very finely granulated 5
- Carapace colored uniformly yellow. Patella of leg IV smooth *G. dabakalo* Kovařík & Mazuch, 2015



Figures 127–128. Figure 127. Map showing confirmed distribution of *Gint* spp. Figure 128. Type locality of *Gint sahil* sp. n.



Figures 129–130. Type localities of *Gint abshiri* sp. n. (129) and *Gint derbiae* sp. n. (130). Photographed by David Král.



FFigures 131–132: Male mitotic metaphases (131) and postpachytene (132) of *Gint abshiri* sp. n. (sample ETH69) ($2n=27, 9II+3XCIII$). Arrows show chromosomes in multivalent association during postpachytene. Scale bar: 5 μ m.

- 5. Eight row of granules of movable finger with both accessory granules internal and external (Figs. 36 and 47). *G. abshiri* sp. n.
- Eight row of granules of movable finger without accessory granules (fig. 71 in Kovařík et al., 2018: 17). *G. gubanensis* Kovařík et al., 2018
- 6. Telson narrow, telson length/depth ratio 3.38–3.60 in male *G. calviceps* (Pocock, 1900)
- Telson length/depth ratio 2.98–3.28 in male 7
- 7. Metasoma III bears 10 carinae 8
- Metasoma III bears 8 carinae *G. childsi* Kovařík, 2018
- 8. Sternites III–VI wrinkled in males. Metasomal segment V length/width ratio 2.35–2.38 *G. banfasae* Kovařík & Lowe, 2019
- Sternites III–VI smooth. Metasomal segment V length/width ratio 2.03–2.33 9
- 9. Pedipalp chela length/width ratio in male 6.01. Pedipalp patella dorsally almost smooth (Fig. 105). Pedipalp femur ventrally smooth (Fig. 108). *Gint derbiae* sp. n.
- Pedipalp chela length/width ratio in male 4.8–5.4. Pedipalp patella dorsally densely granulated (Figs. 117 and 123). Pedipalp femur ventrally granulated (Figs. 120 and 126). .. 10
- 10. Pedipalp chela length/width ratio in male 4.8–5.29. Metasomal segment IV ventrally granulated in both sexes. Metasomal segment V length/width ratio 2.06–2.33 in

- male. Pedipalp patella ventrally finely granulated (Fig. 118 *G. amoudensis* Kovařík et al., 2018
- Pedipalp chela length/width ratio in male 5.34–5.4. Metasomal segment IV ventrally granulated only in males and smooth in females Metasoma V length/width ratio 2.11–2.12 in males. Pedipalp patella ventrally smooth (Fig. 124). *G. gaitako* Kovařík et al., 2013

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