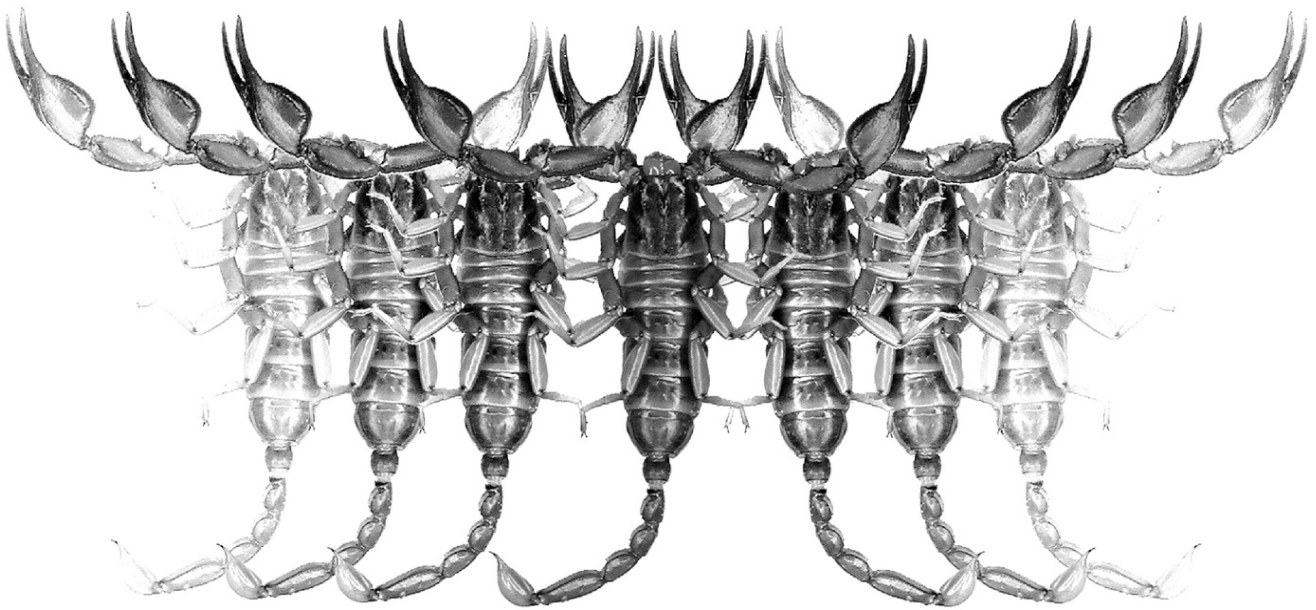


Euscorpius

Occasional Publications in Scorpiology



**Scorpions of the Horn of Africa
(Arachnida: Scorpiones). Part XLIII. *Lanzatus
fuscipalpis* sp. n. from Ethiopia (Buthidae)**

František Kovařík & Graeme Lowe

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Scorpions of the Horn of Africa (Arachnida: Scorpiones). Part XLIII. *Lanzatus fuscipalpis* sp. n. from Ethiopia (Buthidae)

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<http://zoobank.org/urn:lsid:zoobank.org:pub:5E578CBE-72C4-4FAB-8B9C-C61DDD04AD9B>

Summary

The rare Horn of Africa buthid genus *Lanzatus* Kovařík, 2001, known only from Somalia and Somaliland, is recorded for the first time from Ethiopia. We describe a new species *Lanzatus fuscipalpis* sp. n. fully illustrated with color photographs showing its morphology, habitus, hemispermatophore, and collection sites.

Introduction

During expeditions to the Horn of Africa between 2011 and 2025, thousands of specimens of scorpions were collected but only nine of them represented the rare genus *Lanzatus*. For example, in three days and nights of 29.–31.VIII.2018, the first author collected 106 scorpions in total from locality 18SJ, only two of which represented the genus *Lanzatus* (78 specimens of the genus *Gint*, 12 of *Hottentotta*, 14 of *Parabuthus*, and only 2 males of *Lanzatus*). Knowledge about this elusive genus was summarized by Kovařík et al. (2016) and Kovařík & Lowe (2021). During a recent expedition to Ethiopia, the first author discovered another new species, described herein as *L. fuscipalpis* sp. n.

Methods, Material & Abbreviations

Nomenclature and measurements generally follow Stahnke (1971), Kovařík (2009), and Kovařík & Ojanguren Affilastro (2013), except for trichobothriotaxy (Vachon, 1974, 1975) and hemispermatophore (Kovařík et al., 2018).

All material was preserved in 80% ethanol and deposited in 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.

Other abbreviations: ID, inner denticles (see Soleglad & Sissom, 2021, fig. 1 and Kovařík et al., 2020).

COMPARATIVE MATERIAL (FKCP).

Lanzatus huluul Kovařík & Lowe, 2021

Somaliland, Huluul Village, 09.977614°N 46.6932°E, 811 m a. s. l. (Locality No. 21SI), 10.–11.X.2021, 1♂1♀ (holotype, DNA No. 1998, paratype, DNA No. 2035, figs. 2–47, 52–54 in Kovařík et al., 2021, and Figs. 37–38), leg. F. Kovařík.

Lanzatus somalicus Kovařík, 2001

Somalia, Lesnmma, 04.50°N 45.73°E, 268 m a. s. l., 3.VIII.1969, 1♂ (paratype, figs. 11–12, 29, 32–34 in Kovařík et al., 2016, figs. 5–6, 11–12, 29, 32–34 in Kovařík et al., 2018, fig. 48 in Kovařík et al., 2021, and Fig. 39), leg. B. Lanza under a stone in a rainy period.

Lanzatus somalilandus Kovařík & Lowe, 2016

Somaliland, between Sheikh and Laas Caanood, 09.60°N 45.18°E, 1089 m a. s. l. (Locality No. 11SL, fig. 40 in Kovařík et al., 2016), 10.VII.2011, 2♂ (holotype and paratype) 1♀ (paratype) (figs. 1–10, 13–28, 30–31, 35–39 in Kovařík et al., 2016, and Figs. 33–36, 40–41), leg. F. Kovařík; Shansshade Vill., 08.65°N 45.92°E, 790 m a. s. l. (Locality No. 18SJ, see figs. 60–61 in Kovařík et al., 2019: 12 and figs. 163–164 in Kovařík et al., 2019: 31), 29–31.VIII.2018, 2♂ (DNA No. 1525, figs. 111–115 in Kovařík & Njoroge, 2021 and figs. 1, 51 in Kovařík et al., 2021), leg. F. Kovařík, 2022, 1♂ (Som145), leg. H. Elmi.

Systematics

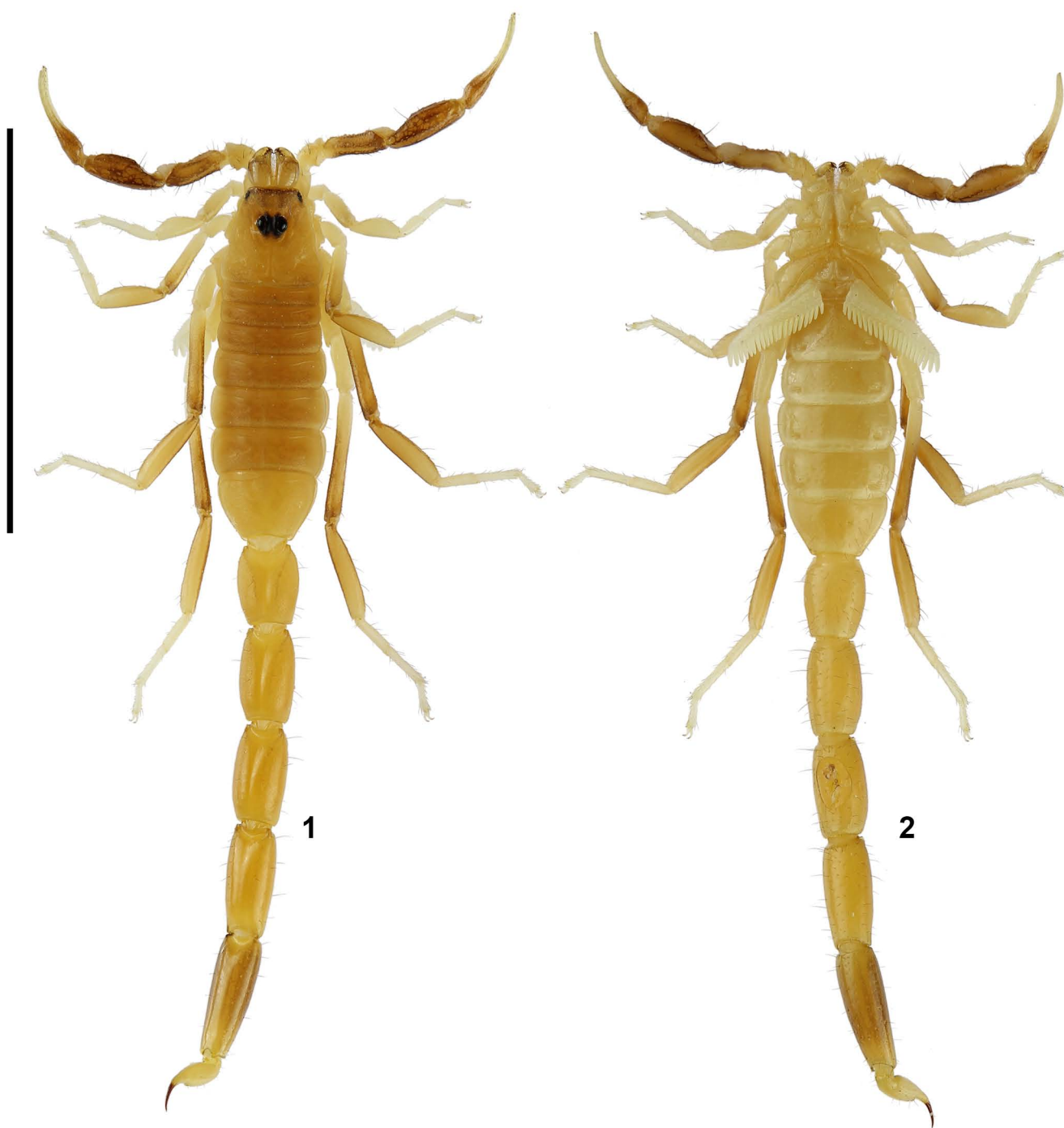
Buthidae C. L. Koch, 1837

Lanzatus Kovařík, 2001

(Figures 1–49, Table 1)

Lanzatus Kovařík, 2001: 41–44, figs. 1–7; Fet & Soleglad, 2005: 11; Fet et al., 2005: 3, 11–12, 20, 22–25, fig. 23–25, tab. 1; Prendini & Wheeler, 2005: 462, 481; Dupré, 2007: 7, 13, 16; Kovařík et al., 2007: 207; Kovařík, 2009: 23, 31; Kovařík et al., 2016: 2–9, figs. 1–40, 123–124, 155, tab. 1; Kovařík, 2018: 10, figs. 24–25; Kovařík & Njoroge, 2020: 3–4, figs. 111–115; Kovařík et al., 2021: 1–12, figs. 1–55, tab. 1.

= *Sabinebuthus* Lourenço, 2001a: 16–18, figs. 1–5; Fet & Soleglad, 2005: 4, 11; Fet et al., 2005: 3, 11, 20, 22–23, fig. 23, tab. 1; Prendini & Wheeler, 2005: 462, 481;



Figures 1–2. *Lanzatus fuscipalpis* sp. n., male holotype in dorsal (1) and ventral (1) views under white light. Scale bar: 10 mm.

Dupré, 2007: 10, 13, 17; Kovařík, 2009: 23, 31 (syn. by Lourenço, 2001b: 174, for more details see Kovařík et al., 2016: 2; Kovařík, 2018: 10).

TYPE SPECIES. *Lanzatus somalicus* Kovařík, 2001.

DIAGNOSIS. Total length 18–28 mm. Carapace subrectangular, anterior margin straight, without distinct carinae, in lateral view with entire dorsal surface horizontal, or nearly so; median ocular tubercle large, located in posterior 2/3 of carapace;

lateral eyes number 5 pairs. Pedipalps orthobothriotaxic type A (Vachon, 1974); dorsal trichobothria of femur arranged in β -configuration (Vachon, 1975); femur with trichobothrium d_2 internal to dorsointernal carina, e_1 proximal to d_3 ; patella with d_3 internal to dorsomedian carina, Esb_2 close (slightly distal) to Esb_1 ; chela manus with Eb_2 proximal to Eb_1 , V_2 located behind, or slightly internal to V_1 ; fixed finger with db in proximal 1/3, proximal to est , dt distal to et , and it sub-distal. Pedipalp chela dentate margins non-undulate, straight; movable finger with distinct denticles, divided into 7 non-imbricated rows

Dimensions (mm)		<i>L. fuscipalpis</i> sp. n. ♂ holotype	<i>L. somalilandus</i> ♂ holotype	<i>L. somalicus</i> ♂ holotype	<i>L. huluul</i> ♂ holotype
Carapace	L / W	2.50 / 2.46	1.90 / 1.85	2.7 / 2.8	2.23 / 2.29
Mesosoma	L	6.41	4.75	7.7	4.79
Tergite VII	L / W	1.71 / 2.43	1.25 / 1.77	–	1.27 / 2.16
Metasoma + telson	L	15.35	11.25	17.2	13.72
Segment I	L / W / D	2.08 / 1.54 / 1.27	1.55 / 0.99 / 0.87	2.3 / 1.6 / –	1.63 / 1.29 / 1.13
Segment II	L / W / D	2.33 / 1.40 / 1.25	1.72 / 0.92 / 0.85	2.7 / 1.4 / –	1.88 / 1.19 / 1.13
Segment III	L / W / D	2.48 / 1.34 / 1.22	1.90 / 0.89 / 0.82	2.9 / 1.4 / –	2.00 / 1.14 / 1.10
Segment IV	L / W / D	2.77 / 1.19 / 1.12	2.05 / 0.80 / 0.72	3.2 / 1.2 / –	2.26 / 1.01 / 0.97
Segment V	L / W / D	3.15 / 1.10 / 1.01	2.15 / 0.75 / 0.70	3.5 / 1.2 / –	3.00 / 0.87 / 0.93
Telson	L / W / D	2.54 / 0.60 / 0.57	1.87 / 0.47 / 0.45	2.6 / – / –	2.95 / 0.49 / 0.53
Pedipalp	L	6.20	4.92	7.4	6.18
Femur	L / W	1.68 / 0.57	1.27 / 0.42	1.9 / 0.6	1.59 / 0.48
Patella	L / W	2.09 / 0.73	1.60 / 0.55	2.5 / 0.9	2.02 / 0.65
Chela	L	2.43	2.05	3.0	2.57
Manus	W / D	0.48 / 0.47	0.42 / 0.39	0.5 / –	0.40 / 0.53
Movable finger	L	1.92	1.32	2.0	1.90
Total	L	24.26	17.90	27.6	20.74

Table 1. Comparative measurements of male holotypes of *Lanzatus* species. Abbreviations: length (L), width (W, in carapace it corresponds to posterior width), depth (D).

(including apical row), with single mid-row internal accessory denticle, without external accessory denticles; all rows oblique except for proximal row. Pectines with fulcra; pectinal tooth count 18–24; basal middle lamella in females not dilated. Sternum subtriangular. Tibial spurs absent on legs I–IV. Tergites I–VI smooth to granulated with one indicated carina, or acarinate; stigmata narrow slits. Metasomal segments all elongate, smooth or finely granulate, without developed carinae. Telson elongate, smooth, without subaculear tubercle, aculeus shorter than vesicle. Hemispermaphore capsule short, with 3-lobed sperm hemiduct and basal lobe; median lobe filamentous; basal lobe a broad, oblique scoop.

SUBORDINATE TAXA. *Lanzatus huluul* Kovařík & Lowe, 2021 (Somaliland), *L. somalicus* Kovařík, 2001 (Somalia), *L. somalilandus* Kovařík & Lowe, 2016 (Somaliland), *L. fuscipalpis* sp. n. (Ethiopia).

***Lanzatus fuscipalpis* sp. n.**

(Figures 1–32, 42–49, Table 1)

<http://zoobank.org/urn:lsid:zoobank.org:act:8DE483F4-BA91-44EB-9563-FC6976BBF1B4>

TYPE LOCALITY AND TYPE REPOSITORY. **Ethiopia**, Somali Province, SE of Degehabur, 82011111°N 43.5691667°E, 1030 m a. s. l., (Locality No. 25EC, Fig. 49 and fig. 129 in Kovařík et al., 2024); FKCP.

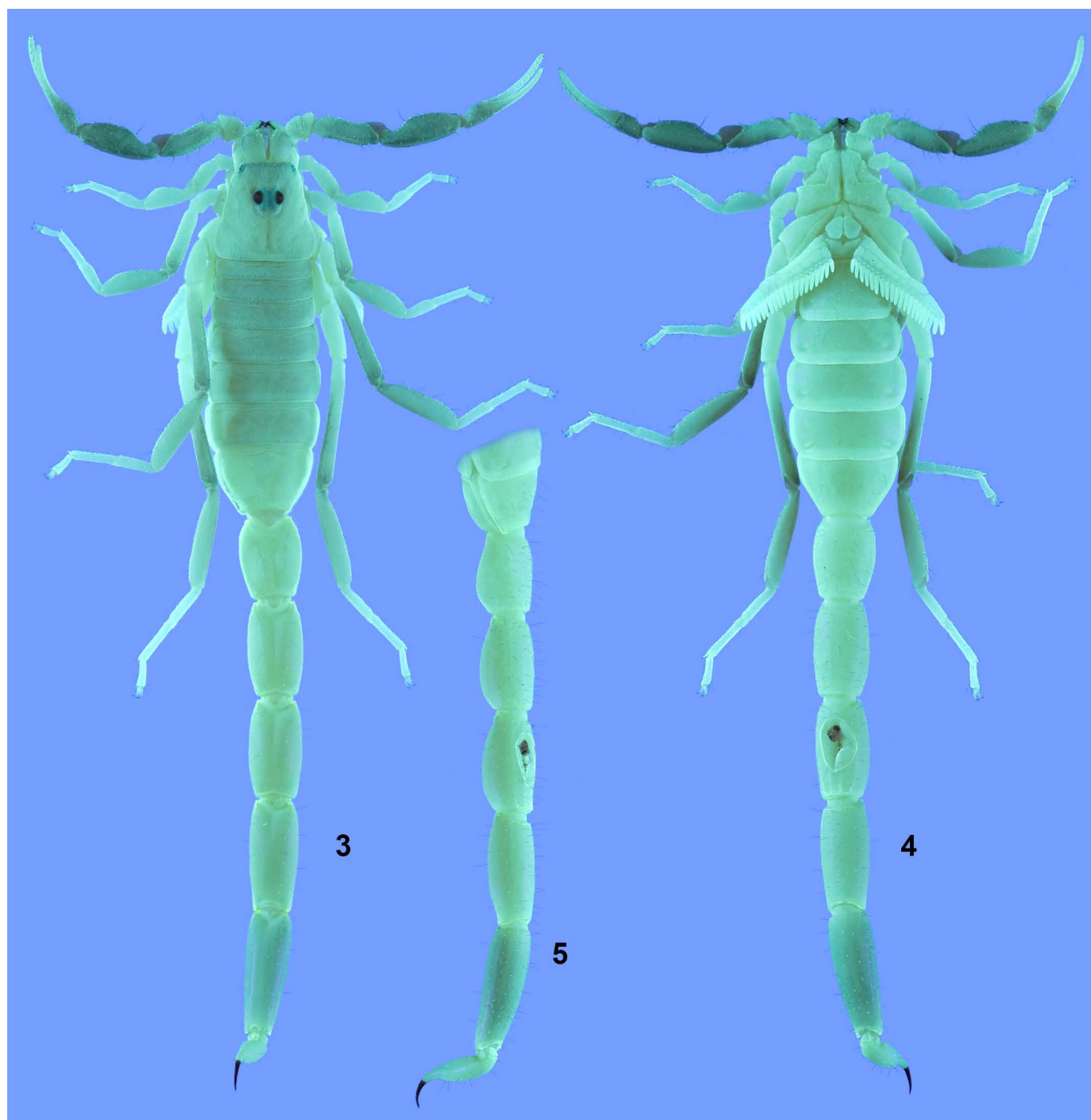
TYPE MATERIAL. **Ethiopia**, Somali Province, SE of Degehabur, 82011111°N 43.5691667°E, 1030 m a. s. l., (Locality No. 25EC), 17.VI.2025, 1♂ (holotype) leg. F. Kovařík, FKCP.

ETYMOLOGY. The specific epithet refers to the dark coloration of the pedipalps (Latin: *fuscus* = dark, *palpus* = hand), a character that distinguishes it from the similar species, *L. somalilandus*.

DIAGNOSIS (♂). Total length of male 24.26 mm, female unknown. Base color uniformly yellowish orange with dark colored pattern on pedipalps; fifth metasomal segment slightly marbled in brownish. Pectinal tooth count 20. Pedipalp chela smooth and narrow; patella with carinae; dentate margins of chela fingers with distinct denticles divided into 7 rows (including short apical row of 4 denticles) on movable finger, 7 rows on fixed finger. Tergites densely granulated with one carina present to indicated; sternites smooth, without carinae. Metasomal segments smooth, setose, without developed carinae, only metasoma I–III dorsally and partly laterally finely granulated; carinae indicated but not developed on metasoma I–IV. Telson extremely elongated, smooth, without aculear ring; telson length/ width ratio 4.23 in male; aculeus weakly curved.

DESCRIPTION (♂). The adult male holotype is 24.26 mm in length; the female is unknown. The habitus is shown in Figs. 1–5. For positions and distribution of trichobothria of pedipalps, see Figs. 19–23 and 25–26. Sexual dimorphism unknown, but adult male integument matte.

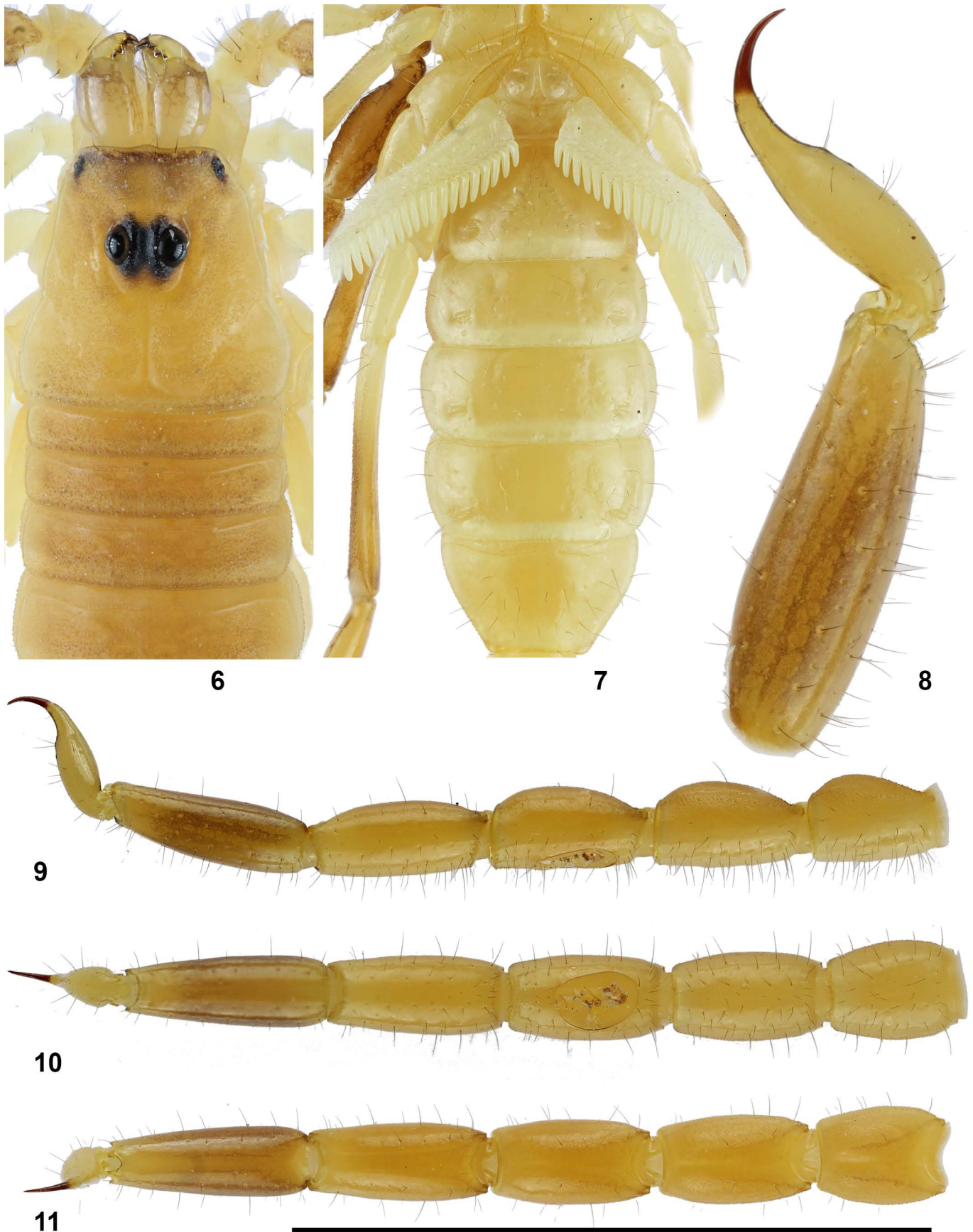
Coloration (Figs. 1–2). Base color uniformly yellowish orange with dark colored pattern on pedipalps and anterior margin of carapace; tarsomeres of legs white, femur and patella marbled in brownish; fifth metasomal segment slightly marbled in brownish; chelicerae yellow with dark reticulation.



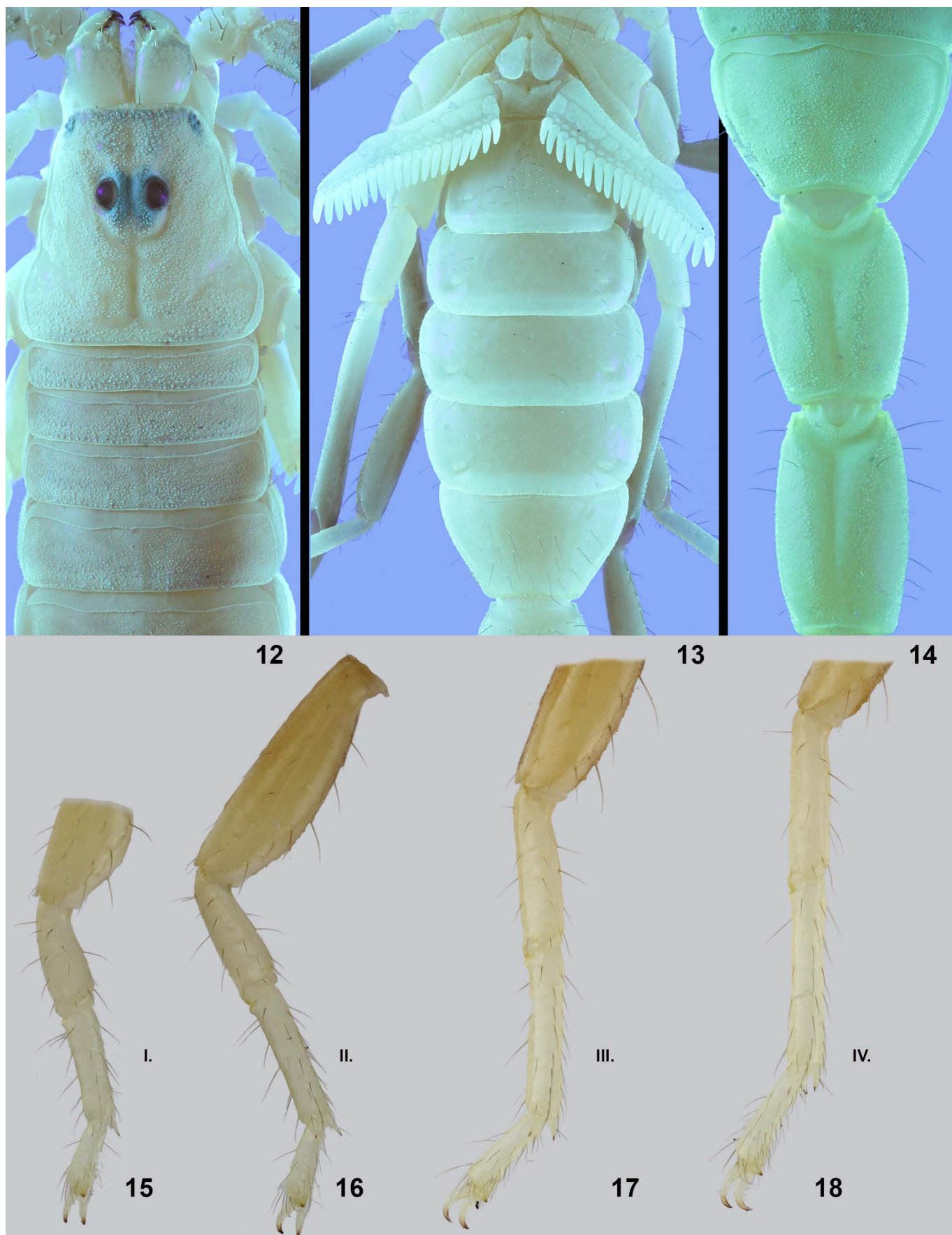
Figures 3–5. *Lanzatus fuscipalpis* sp. n., male holotype in dorsal (3) and ventral (4) views, and metasoma in lateral view under UV fluorescence.

Carapace and mesosoma (Figs. 6–7, 12–14). Carapace with entire surface densely granulated, carinae absent; anterior margin almost straight; median ocular tubercle large, median eyes prominent. Pectinal tooth count 20 in male holotype; pectine marginal tips extend to end of fourth sternite; 3 marginal lamellae and 10 middle lamellae, all lamellae and fulcra with numerous dark macrosetae. Tergites densely granulated with one carina present to indicated; all sternites smooth, setose, without carinae.

Hemispermaphore (Figs. 43–47). Flagelliform, trunk elongate, ca. 6.7 times length of capsule region; flagellum with linear pars recta and pars reflecta, separate from sperm hemiduct lobes. Pars recta thicker, tapering distally, pars reflecta thinner, hyaline, cylindrical, filiform. Sperm hemiduct divided into 3 lobes: posterior lobe long, broad, laminate, gently tapered; median lobe small, narrow, filamentous distally; anterior lobe intermediate in size, narrowed distally. Posterior margin of median lobe slightly overlapping posterior



Figures 6–11: *Lanzatus fuscipalpis* sp. n., male holotype. **Figures 6–7.** Carapace and tergites I–III (6) and sternopectinal area and sternites (7). **Figures 8–11.** Metasoma V and telson lateral (8), metasoma and telson lateral (9), ventral (10), and dorsal (11) views. Scale bar: 10 mm (9–11).



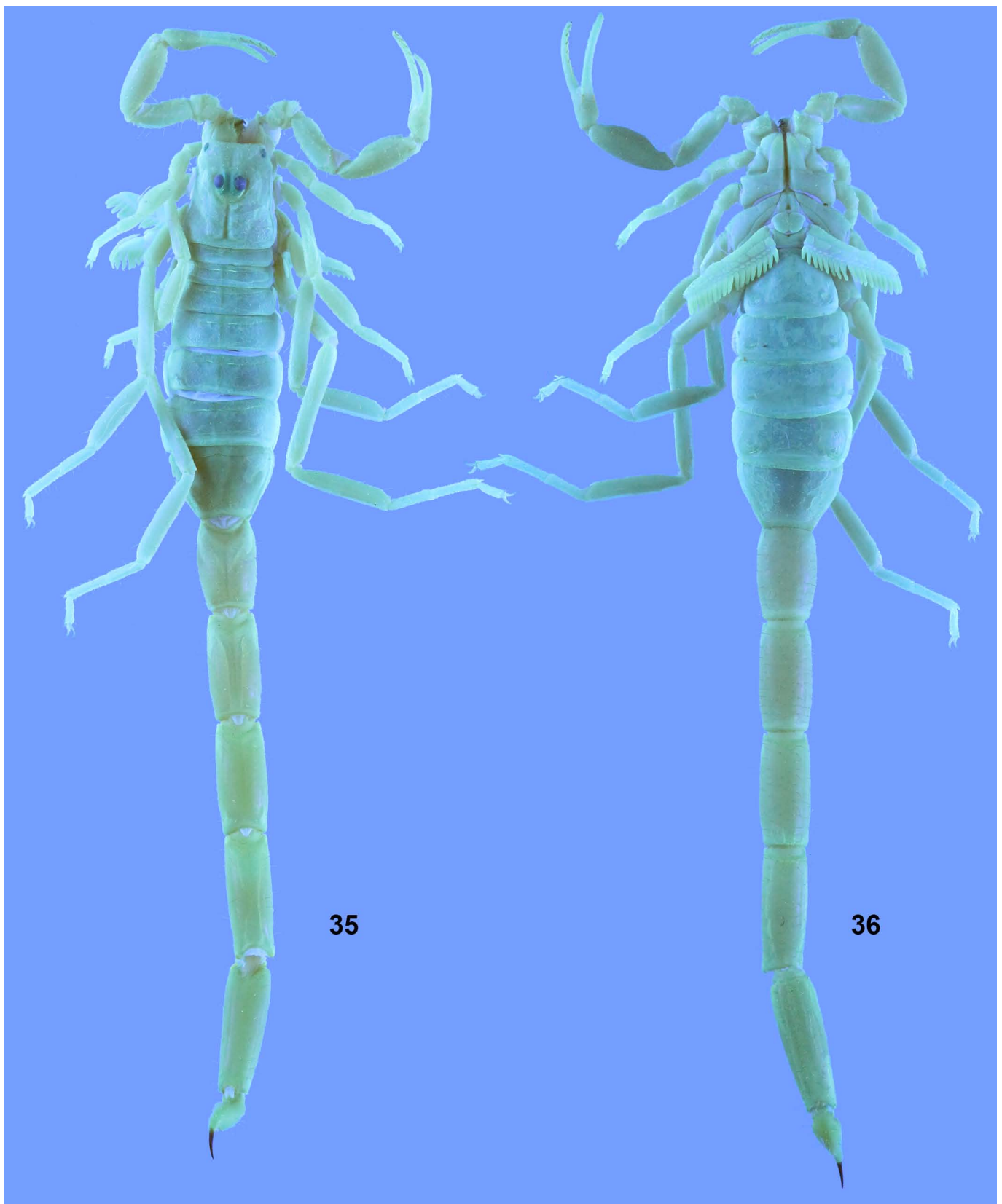
Figures 12–18: Figures 12–14, 15–18: *Lanzatus fuscipalpis* sp. n., male holotype. **Figures 12–14.** Carapace and tergites I–IV (12), sternopectinal area and sternites (13), tergite VII and dorsal metasoma I–II (14) under UV fluorescence. **Figures 15–18.** Left legs I–IV, retrolateral aspect.



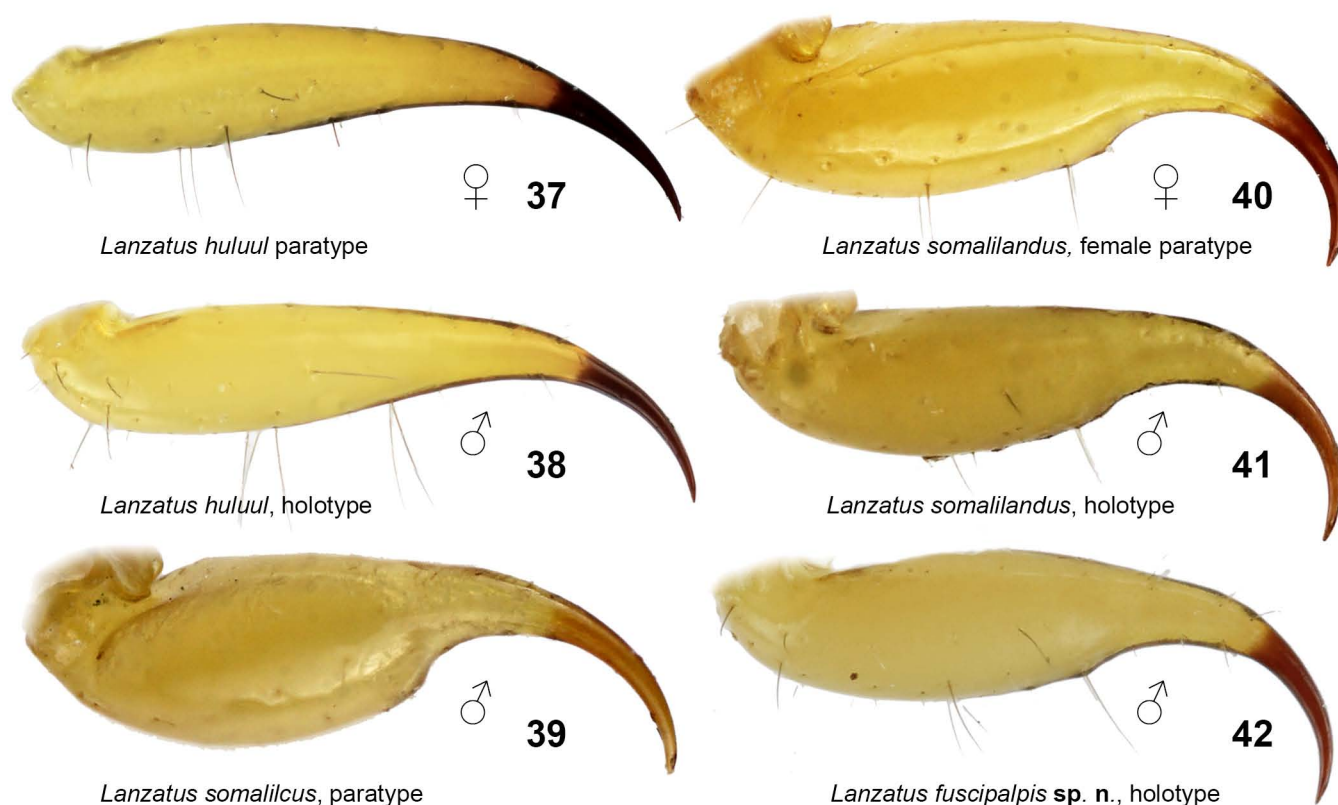
Figures 19–32: *Lanzatus fuscipalpis* sp. n., male holotype, right pedipalp. **Figures 19–29.** Chela in dorsal (19), external (20) and ventral (21) views, patella in dorsal (22), external (23) and ventral (24) views, femur and trochanter in internal (25), dorsal (26) and ventral (27) views, dentate margins of movable (28) and fixed (29) fingers. Trichobothrial pattern indicated in Figures 19–23 and 25–26 by white circles. **Figures 30–32.** Right pedipalp in dorsal (30), external (31), and ventral (32) under UV fluorescence.



Figures 33–34. *Lanzatus somalilandus*, male paratype in dorsal (33) and ventral (34) views under UV fluorescence.



Figures 35–36. *Lanzatus somalilandus*, female paratype in dorsal (35) and ventral (36) views under UV fluorescence.



Figures 37–42: Comparison of telsons of *Lanzatus* species. **Figures 37–38.** *Lanzatus huluul*, female paratype (37) and male holotype (38). **Figures 39.** *Lanzatus somalicus*, male paratype. **Figures 40–41.** *Lanzatus somalilandus*, female paratype (40), male holotype (41). **Figure 42:** *Lanzatus fuscipalpis* sp. n., male holotype.

lobe, the two partially joined along axial suture or carina; basal lobe obliquely-angled at base of carina, broad, curved, scoop-shaped. The scoop-like basal lobe is very similar to those of *L. somalilandus* and *L. huluul* (cf. Kovařík & Njoroge, 2020; Kovařík & Lowe, 2021), further confirming that this is a valid diagnostic character for the genus.

Metasoma and telson (Figs. 3–5, 8–11, 14). Metasomal segments smooth and setose, bearing numerous long macrosetae, without developed carinae, only metasoma I–III dorsally and partly laterally finely granulated; carinae indicated but not developed on metasoma I–IV. Dorsal surfaces of metasoma I–IV bearing shallow longitudinal groove; posterior metasomal segments successively more narrow than anterior segments. Metasoma V non-uniform in width, tapering posteriorly. Telson extremely elongated, smooth, without aculear ring; posterior ventral aspect of vesicle concave in lateral profile; aculeus stout, weakly curved; telson length/width ratio 4.23 in male.

Chelicerae (Fig. 6). Manus 1.4 times longer than wide, dorsal surface smooth, glossy, with anterior marginal and dorsointernal carinae; fingers robust, with typical buthid dentition (Vachon, 1963). Dorsal margin of movable finger armed with 5 teeth: dorsal distal tine, subdistal, median and

apparently two small basal teeth fused into a bicusp. Ventral margin of movable finger with 3 teeth: ventral distal tine, median and basal teeth. Fixed finger margin with 4 teeth: distal tine, subdistal, median and basal teeth fused into bicusp. Ventral surface of fixed finger armed with a single tooth.

Pedipalps (Figs. 19–32). Pedipalps hirsute, with inconspicuous smooth carinae on chela; patella and femur with four carinae partly granulated, other smooth carinae indicated on patella. Chela narrow, chela length/width ratio 5.06 in male holotype. Dentate margins of chela fingers with distinct denticles divided into 7 rows (including short apical row of 4 denticles) on movable finger, 7 rows on fixed finger; rows oblique except for proximal row, which is parallel to finger axis. Movable finger with 7 and fixed finger with 6 ID. Both fingers with enlarged terminal denticle.

Legs (Figs. 15–18). Legs I–IV with tibial spurs absent, retrolateral and prolateral pedal spurs present; all legs smooth, without distinct carinae; telotarsi bear two rows of fine macrosetae on ventral surfaces, and several additional macrosetae on other surfaces. Basitarsi of legs I–III with 4 to 7 macrosetae, not arranged in regular rows (bristle combs absent).

Measurements. See Table 1.



Figures 43–47: *Lanzatus fuscipalpis* sp. n., male holotype, left hemispermatophore. **Figure 43.** Whole hemispermatophore, convex view. **Figures 44–47.** Capsule region in posterior (44), convex (45, 47), and anterior (46) views, under transmitted and reflected light (43–46), or differential interference contrast (47). Abbreviation: s, scoop-like basal lobe. Scale bars: 1 mm (43), 200 µm (44–47).

AFFINITIES. *Lanzatus fuscipalpis* sp. n. is differentiated from *L. somalicus* and *L. huluul* mainly by the morphology of the telson, which is similar to the telson of *L. somalilandus*: without an aculear ring, with aculeus strongly curved, and with telson length/ width ratio 4.23 in the male (Figs. 37–42). *L. somalilandus* has telson length/ width ratio 3.94 in the male and *L. huluul* 6.02 in the male.

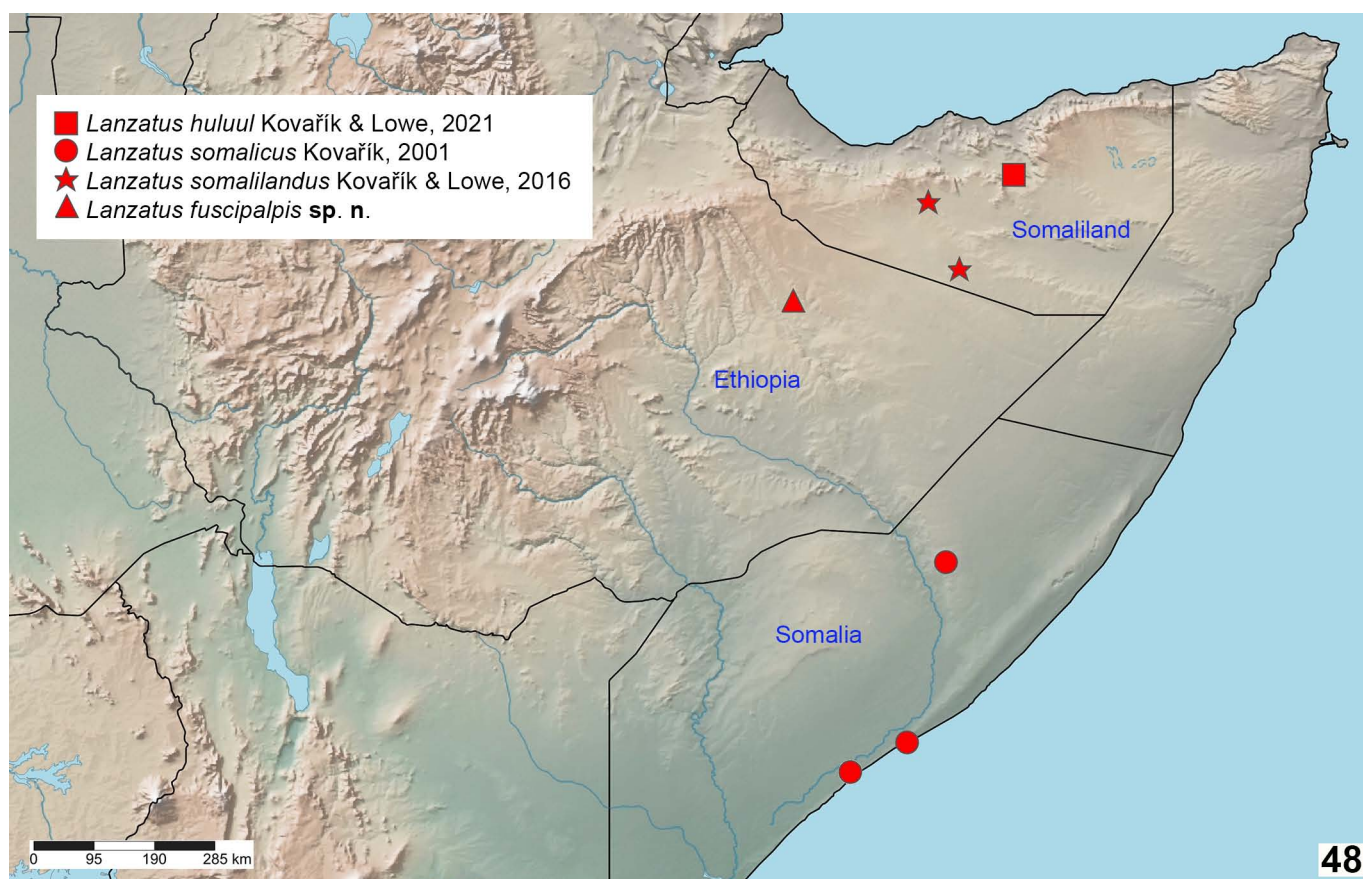
Lanzatus fuscipalpis sp. n. and *L. somalilandus* can be differentiated according to several characters:

- Dentate margins of pedipalp chela fixed fingers with denticles divided into 6 rows in *L. somalilandus* (fig. 19 in Kovářík et al., 2016) versus 7 rows in *L. fuscipalpis* sp. n. (Fig. 29).
- Pedipalp movable finger with 6 ID in *L. somalilandus* (figs. 15–16 in Kovářík et al., 2016) and 7 ID in *L. fuscipalpis* sp. n. (Fig. 28).
- Basitarsi of legs I–III have macrosetae arranged in regular rows (bristle combs present) in *L. somalilandus*, and irregularly (bristle combs absent) in *L. fuscipalpis* sp. n.
- Pedipalp femur smooth in *L. somalilandus* versus granulated with carinae in *L. fuscipalpis* sp. n. (Figs. 25–27, 30–32).
- Pedipalps uniformly yellowish orange in *L. somalilandus* versus pedipalps with dark colored pattern in *L. fuscipalpis* sp. n. (figs. 38–39 in Kovářík et al., 2016 and Figs. 1–4, 19–32).

COMMENTS ON LOCALITY AND LIFE STRATEGY. The type locality, 25EC is semi-desert with red sands (Fig. 49 and fig. 129 in Kovářík et al., 2024). The holotype was recorded at night during UV collecting together with *Gint abshiri* Kovářík et al., 2024 (type locality, most common scorpion species on the locality) and *Parabuthus robustus* Kovářík et al., 2019.

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Figures 48–49: Figure 48. Map showing known distribution of the genus *Lanzatus*. Figure 49. Ethiopia, SE of Degehabur, type locality of *Lanzatus fuscipalpis* sp. n.

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