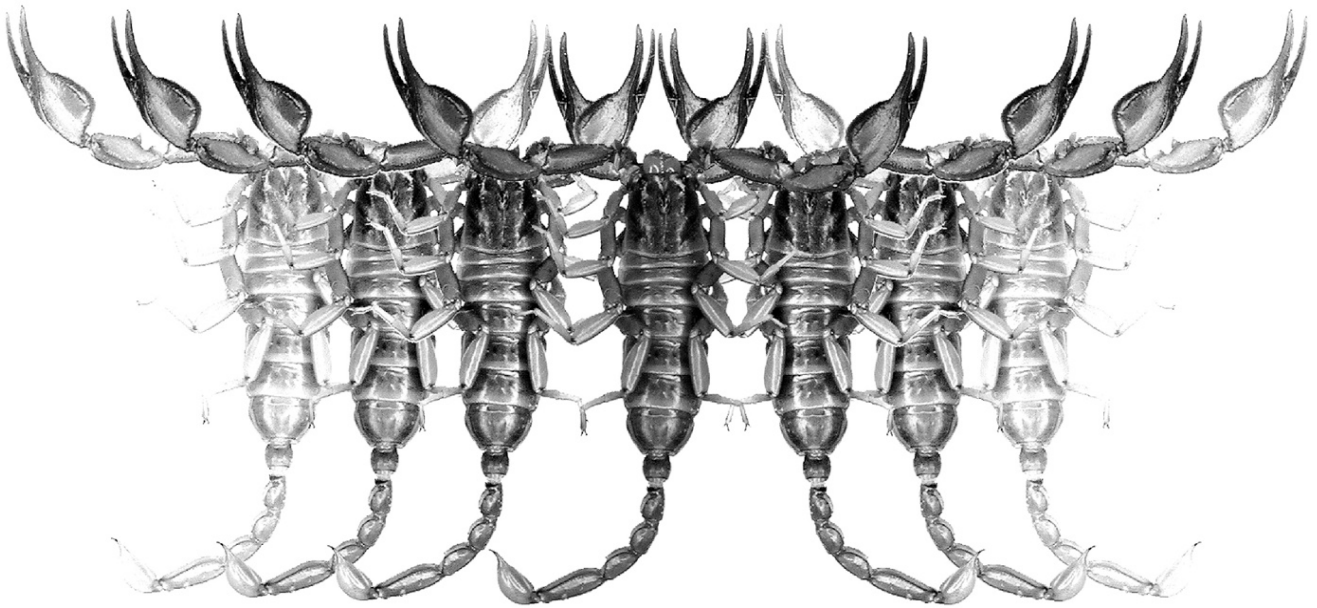


# *Euscorpius*

Occasional Publications in Scorpiology



**Review of *Megacormus* Karsch, 1881,  
with description of a new species  
(Scorpiones: Euscorpiidae)**

**František Kovařík**

**December 2019 — No. 296**

# *Euscorpius*

## *Occasional Publications in Scorpiology*

EDITOR: Victor Fet, Marshall University, 'fet@marshall.edu'

ASSOCIATE EDITOR: Michael E. Soleglad, 'msoleglad@gmail.com'

*Euscorpius* is the first research publication completely devoted to scorpions (Arachnida: Scorpiones). *Euscorpius* takes advantage of the rapidly evolving medium of quick online publication, at the same time maintaining high research standards for the burgeoning field of scorpion science (scorpiology). *Euscorpius* is an expedient and viable medium for the publication of serious papers in scorpiology, including (but not limited to): systematics, evolution, ecology, biogeography, and general biology of scorpions. Review papers, descriptions of new taxa, faunistic surveys, lists of museum collections, and book reviews are welcome.

### **Derivatio Nominis**

The name *Euscorpius* Thorell, 1876 refers to the most common genus of scorpions in the Mediterranean region and southern Europe (family Euscorpidae).

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**Publication date: 23 December 2019**

<http://zoobank.org/urn:lsid:zoobank.org:pub:658463F7-22CB-4A7F-9531-2C593DDE77C5>

## Review of *Megacormus* Karsch, 1881, with description of a new species (Scorpiones: Euscorpiidae)

František Kovařík

P. O. Box 27, CZ-145 01 Praha 45, Czech Republic; <http://www.scorpio.cz>

<http://zoobank.org/urn:lsid:zoobank.org:pub:658463F7-22CB-4A7F-9531-2C593DDE77C5>

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### Summary

*Megacormus franckei* sp. n. from Mexico is described and compared with all other species of the genus. Additional information is provided on the morphology, taxonomy and localities of genus *Megacormus*, mainly through color photographs of live and preserved specimens of all *Megacormus* species, as well as their habitats. Included is a key for all six known species of the genus *Megacormus*.

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### Introduction

Our research team has been studying the European species of family Euscorpiidae for many years (see Štundlová et al., 2019; Kovařík et al., 2019). Recently, for a more comprehensive understanding of the entire family, we included in our studies a very interesting Mexican genus, *Megacormus*. During these studies, I found a new species, described here. Also, I had an opportunity to take many detailed photographs of all six species of *Megacormus*, which are published in this paper, along with a key.

### Methods, Material & Abbreviations

Nomenclature and measurements follow Stahnke (1971), Soleglad & Sissom (2001), Kovařík (2009), and Kovařík & Ojanguren Affilastro (2013), except for trichobothriosity (Vachon, 1974; Lowe & Kovařík, 2019) and sternum (Soleglad & Fet, 2003).

Specimens examined here were collected by a local collector in 2018–2019 (author of Figs. 36–37, 88–89, 123, 156, 179, and 213–214) and are deposited in the author collection (FKCP). In the future they will be deposited at National Museum of Natural History, Prague, Czech Republic.

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

### Systematics

**Family Euscorpiidae Laurie, 1896**  
***Megacormus* Karsch, 1881**  
(Figures 1–215, Table 1)

*Megacormus* Karsch, 1881: 16–18; Francke, 1979: 223–230, figs. 1–6; Sissom, 1994: 265–271, figs. 1–10; Fet & Sissom, 2000: 377–378 (complete references list until

2000); Soleglad & Sissom, 2001: 25–111, figs. 10, 20, 55, 64, 81, 88, 107, 120–122, 135, 142, 153–154, 161–162, 167, 173, 182, 194, 205–215, 218, tables 2, 3, 5, 6, 9–10; Kovařík, 2009: 32; González-Santillán et al., 2017: 221–237, figs. 1–13, table 1.

TYPE SPECIES. *Scorpio granosus* Gervais, 1843

DIAGNOSIS. Inner accessory and outer accessory denticles present on pedipalp chelal fingers. Movable finger dentition with more than 35 outer accessory denticles, which create a second row of denticles. Pedipalp chelal finger median denticles aligned in straight row. Trichobothrial pattern type C. Neobothriosity is present in pedipalp patella external series *eb*, which has seven trichobothria. Two subdistal denticles present on the dorsal edge of cheliceral movable finger. Cheliceral movable finger ventral edge either smooth or with crenulations. Ventral edge of cheliceral movable finger is equipped with one to four denticles on distal half of edge, denticle 1 always present and the largest. Two pedal spurs present on legs. Tarsal spurs of legs absent. Sternum pentagonal in shape. Hemispermatophore lamelliform in shape. Telson without subaculear tubercle. Metasoma I–V with a single ventral carina. Carapace anterior edge with a slight to medium indentation.

SUBORDINATE TAXA.

*Megacormus franckei* sp. n.  
*Megacormus gertschi* Díaz Nájera, 1966  
*Megacormus granosus* (Gervais, 1843)  
*Megacormus grubbsi* Sissom, 1994  
*Megacormus segmentatus* Pocock, 1900  
*Megacormus xichu* González-Santillán et al., 2017

DISTRIBUTION. Mexico (Guanajuato, Hidalgo, Oaxaca, Puebla, Querétaro, San Luis Potosí, Tamaulipas, and Veracruz).



Figures 1–2. *Megacormus franckei* sp. n., male holotype (1) and female paratype (2) in vivo habitus.

Dimensions (MM)		<i>M. franckei</i> sp. n.	
		♂ holotype	♀ paratype
Carapace	L / W	4.61 / 4.62	6.38 / 6.49
Mesosoma	L	9.37	15.63
Tergite VII	L / W	1.73 / 3.88	3.10 / 5.53
Metasoma + telson	L	17.47	20.47
Segment I	L / W / D	1.56 / 2.23 / 2.05	1.87 / 2.94 / 2.47
Segment II	L / W / D	1.79 / 1.97 / 1.88	2.13 / 2.56 / 2.29
Segment III	L / W / D	1.87 / 1.80 / 1.83	2.24 / 2.42 / 2.31
Segment IV	L / W / D	2.39 / 1.67 / 1.72	2.78 / 2.20 / 2.28
Segment V	L / W / D	4.47 / 1.66 / 1.61	5.24 / 2.14 / 1.96
Telson	L / W / D	5.39 / 1.93 / 1.82	6.21 / 2.55 / 2.01
Pedipalp	L	14.39	19.11
Femur	L / W	3.39 / 1.45	4.60 / 2.04
Patella	L / W	3.75 / 1.82	5.14 / 2.24
Chela	L	7.25	9.37
Manus	W / D	2.67 / 2.33	3.37 / 2.89
Movable finger	L	3.88	5.00
<b>Total</b>	<b>L</b>	<b>31.45</b>	<b>42.48</b>

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

***Megacormus franckei* sp. n.**

(Figures 1–37, 47–49, 215, Table 1)

<http://zoobank.org/urn:lsid:zoobank.org:act:837913FC-ADFB-4796-A279-7DF9D33E70D5>

*Megacormus gertschi*: González-Santillán et al., 2017: 237 (in part).

**TYPE LOCALITY AND TYPE REPOSITORY.** Mexico, Queretáro, Pinal de Amoles, oak-pine forest, 21°08'004"N 99°39'988"W, 2,690 m a. s. l.; FKCP.

**TYPE MATERIAL.** Mexico, Queretáro, Pinal de Amoles, oak-pine forest, 21°08'004"N 99°39'988"W, 2690 m a. s. l., 1♂ (holotype) 2♂1♀2juvs.♀ (paratypes, No. 1618).

**ETYMOLOGY.** The specific epithet honors Oscar F. Francke (Mexico) for his lifelong dedication to understanding Mexican scorpions.

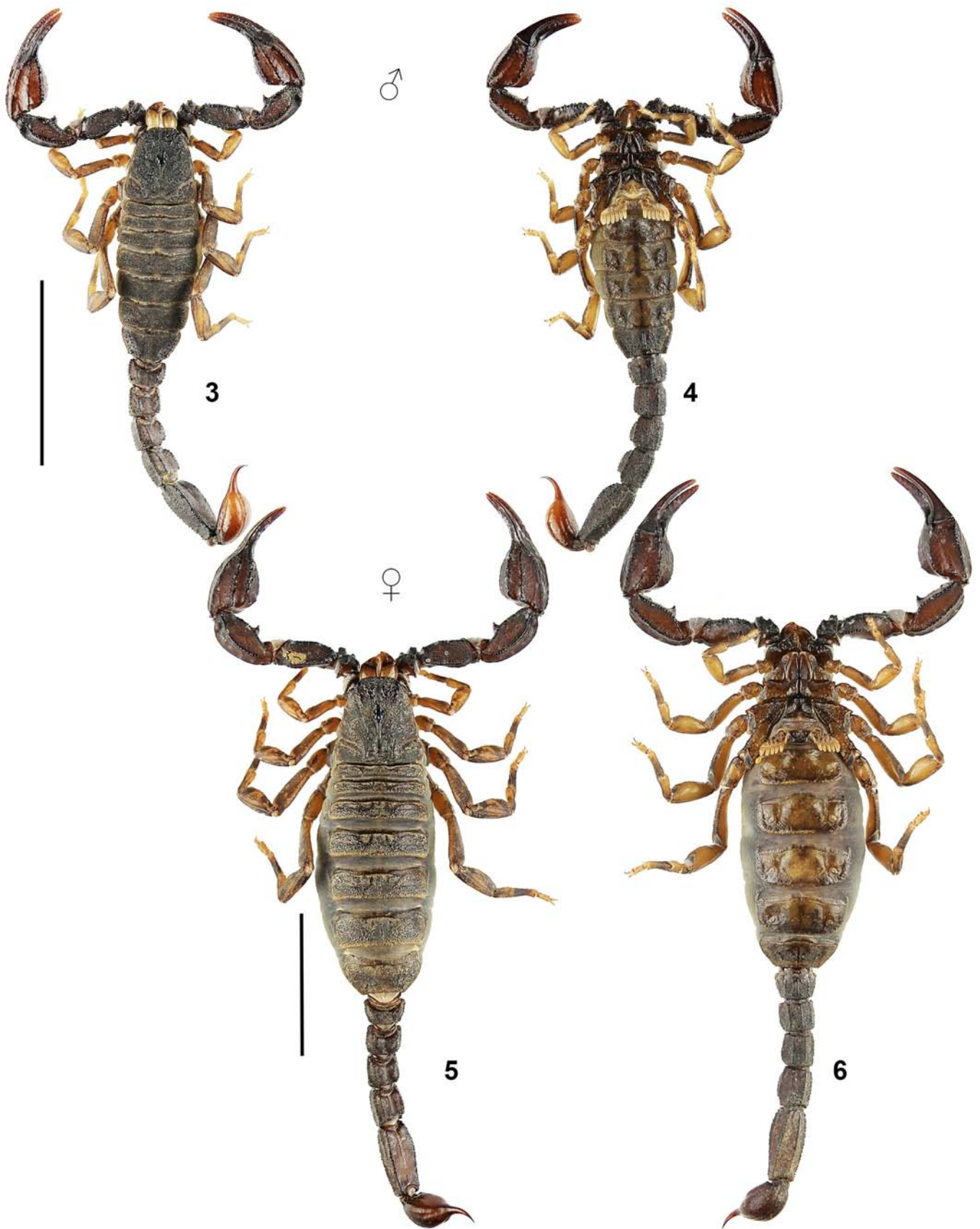
**DIAGNOSIS.** Total length of adult males 25–32 mm, adult female 42.5 mm. Coloration reddish black to black. Patella of pedipalp with 22 external trichobothria (7 *eb*, 2 *esb*, 5 *em*, 4 *est*, 4 *et*) and 6–8 ventral trichobothria. Chelal trichobothrium  $V_4$  located on external surface. Pectinal teeth number 5–6 in males, 5 in females. Both males and females have the fingers

straight, without any flexure. Telson elongate, wider than metasoma V in both sexes. Metasoma V length/width ratio, 2.60–2.80 in males.

**DESCRIPTION.** Total length of adult males 25–32 mm, adult female paratype is 42.5 mm long. Measurements of the carapace, telson, segments of the metasoma and pedipalps are given in Table 1. For habitus, see Figs. 1–6. For position of trichobothria, see Figs. 7–14 and 16–18. Coloration reddish black to black, telson yellowish brown to reddish black, legs yellowish brown with black spots, chelicerae yellow with reticulation (Figs. 28–29). *Sexual dimorphism* minor, adult male has relatively larger pectines, the fingers are straight in both sexes, there is no sexual difference in length and width of the metasomal or pedipalp segments.

**Pedipalp** (Figs. 7–19). Femur granulated, with four granulate carinae. Patella granulated mainly on dorsal surface with five granulate carinae. Chela granulated, with six developed carinae. Movable and fixed fingers with 7–8 pair of inner denticles. The patella bears 22 external trichobothria (7 *eb*, 2 *esb*, 5 *em*, 4 *est*, 4 *et*) and 6–8 ventral trichobothria. Chelal trichobothrium  $V_4$  located on external surface.

**Carapace** (Figs. 20–21). Slightly trapezoidal (narrower anteriorly) and approximately as long as wide; anterior margin almost straight, with some short microsetae. The entire carapace is strongly granulated, without carinae.



**Figures 3–6:** *Megacormus franckei* sp. n. **Figures 3–4.** Male holotype in dorsal (3) and ventral (4) views. **Figures 5–6.** Female paratype in dorsal (5) and ventral (6) views. Scale bars: 10 mm.

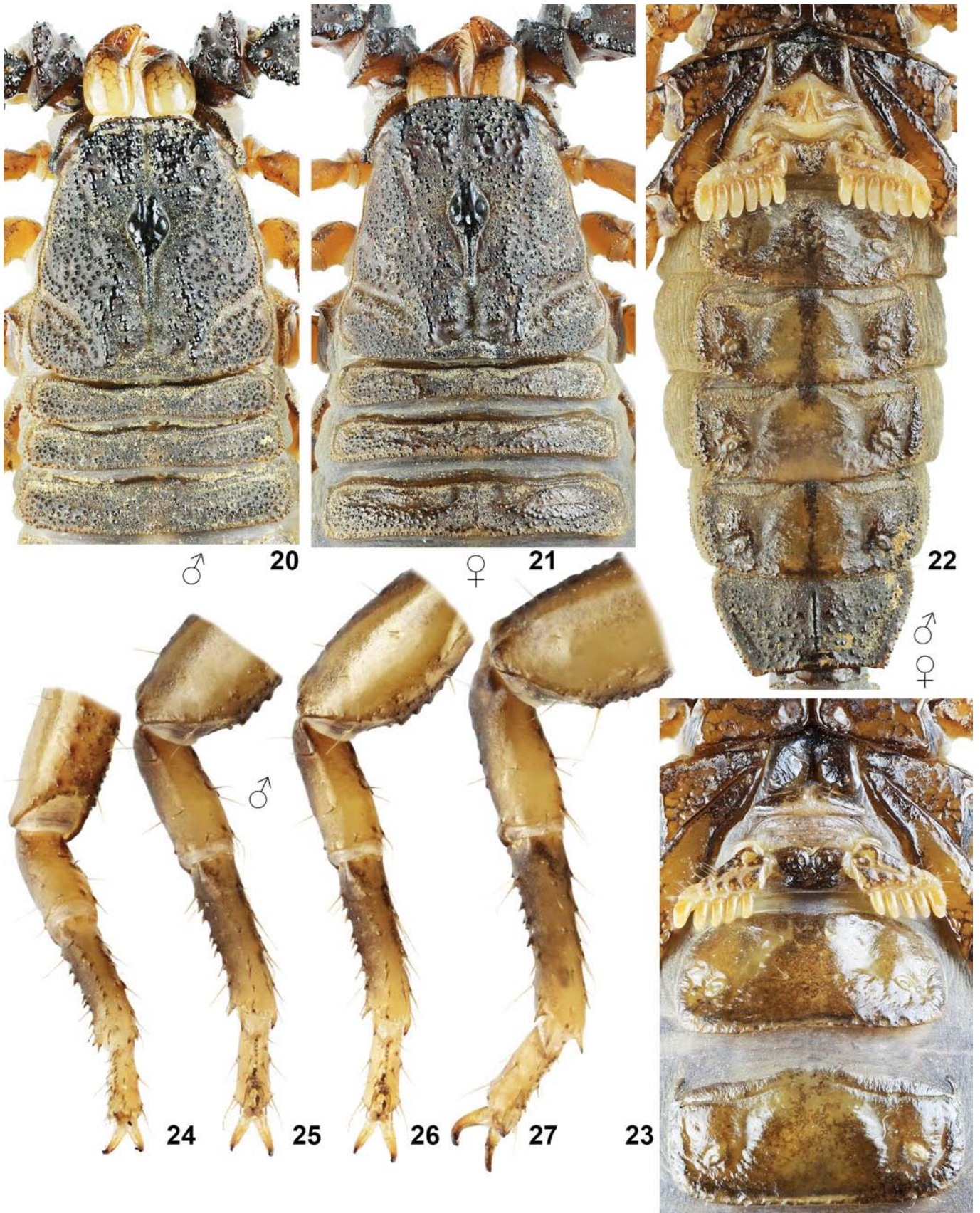


**Figures 7–15:** *Megacormus franckei* sp. n. **Figures 7–14.** Male holotype, pedipalp chela dorsal (7), external (8) and ventral (9) views, patella dorsal (10), external (11) and ventral (12) views, femur and trochanter dorsal (13) and ventral (14) views. **Figure 15.** Female paratype, movable finger dentition.



**Figures 16–19:** *Megacormus franckei* sp. n., female paratype, pedipalp chela and patella dorsal (16), external (17) and ventral (18) views, and fixed finger dentition (19).





**Figures 20–27:** *Megacormus franckei* sp. n. **Figures 20, 22, 24–27.** Male holotype, carapace and tergites I–III (20), coxosternal area and sternites (22), and left legs I–IV, retrolateral aspect (24–27). **Figures 21, 23.** Female paratype, carapace and tergites I–III (21) and coxosternal area and sternites III–IV (23).



Figures 28–29. *Megacormus franckei* sp. n., female paratype, left chelicera dorsal (28) and ventral (29) views.

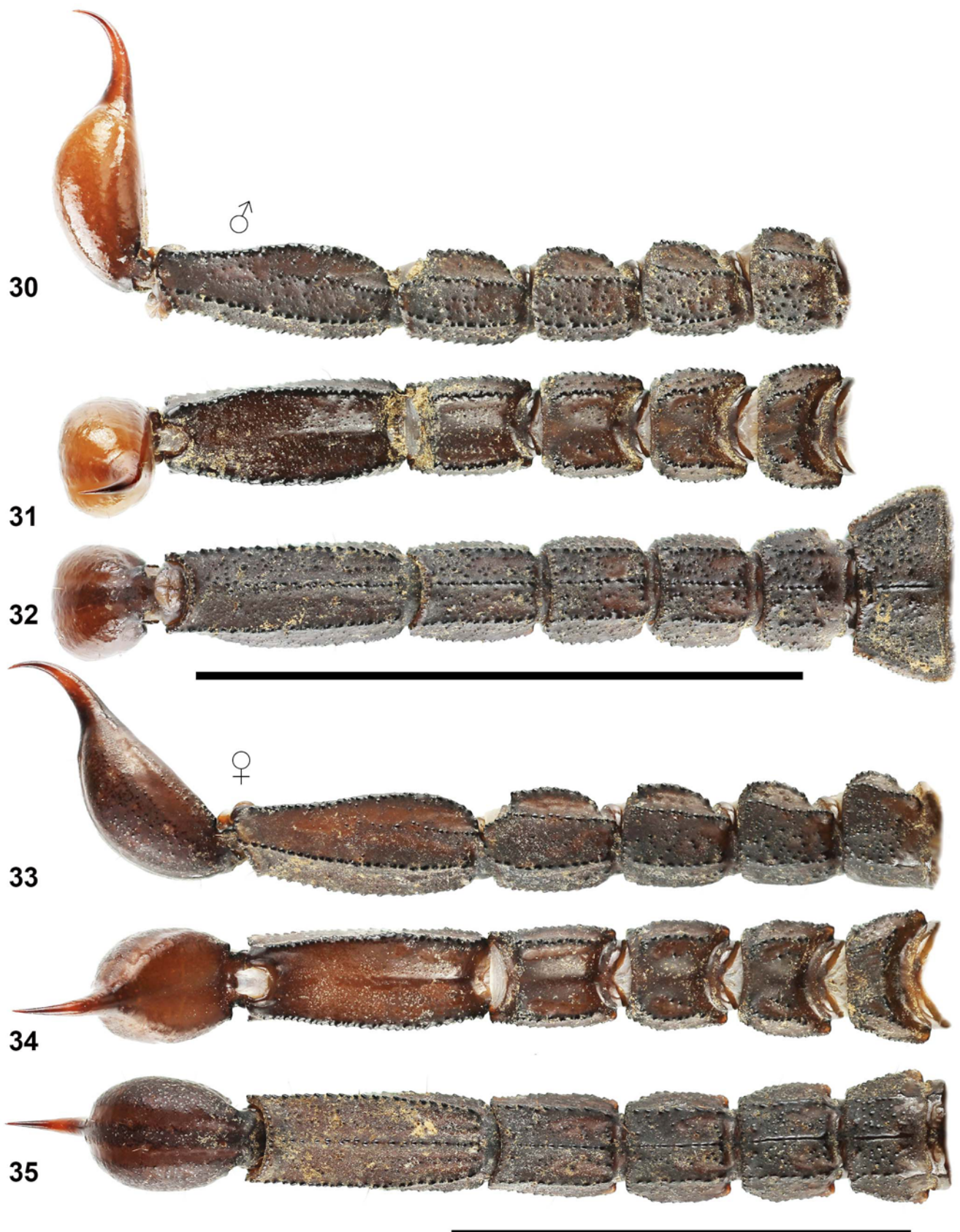
**Mesosoma** (Figs. 20–23). Tergites I–VI bear a single conspicuous median carina. All tergites densely and coarsely granulate. Pectinal teeth number 5–6 in males, 5 in females. Sternites III–VI lacking carinae, surfaces smooth medially and granulated laterally, more in males. Sternite VII strongly granulated, with a developed median carina.

**Legs** (Figs. 24–27). Typical for the genus (see diagnosis for genus above and in González-Santillán et al., 2017: 230). Tarsomeres I bearing median row of macrosetae on their ventral surface.

**Metasoma and telson** (Figs. 30–35). The metasoma segments I–IV have a total of 7, and metasoma V has 5 well defined carinae, granules on lateral surfaces of segments II and V can indicate another incomplete carina. All metasomal segments

are granulated sparsely by strong granules, and densely by smaller granules. Metasoma with only several solitary setae. Telson granulate in female and almost smooth in males. Subaculear tubercle absent. Vesicle elongate, ellipsoidal, telson length/depth ratio 2.95–3.10 in both sexes. Aculeus slender, curved, shorter than vesicle.

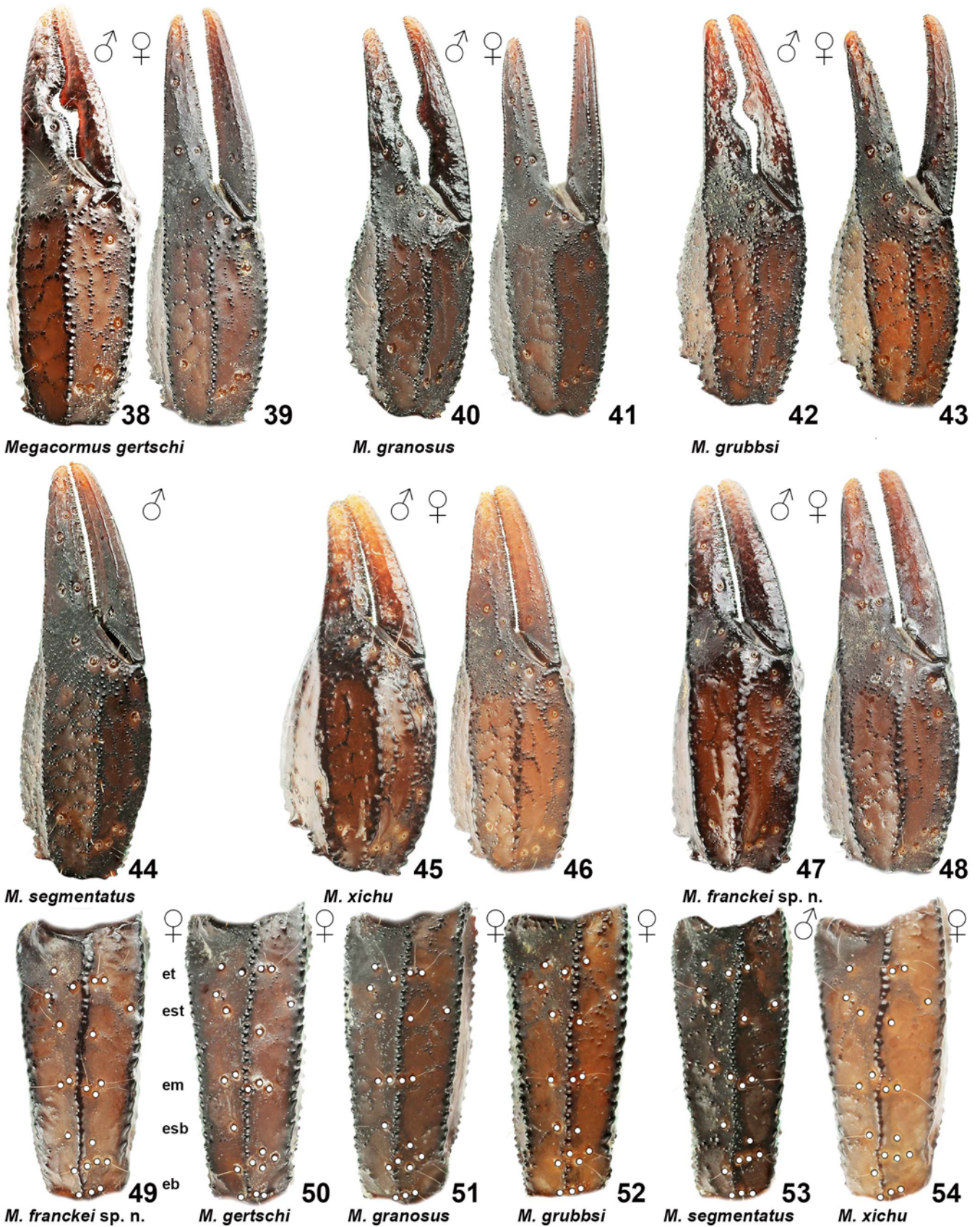
**AFFINITIES.** The described features distinguish *Megacormus franckei* sp. n. from all other species of the genus (see the key below). Figures 44–48 show that only *M. segmentatus* Pocock, 1900 and *M. xichu* González-Santillán et al., 2017 share with *M. franckei* sp. n. presence of straight fingers, without any flexure in both sexes. González-Santillán et al., (2017: 237) cited a population of *Megacormus franckei* sp. n. as *M. gertschi*;



**Figures 30–35.** *Megacormus franckei* sp. n. **Figures 30–32.** Male holotype, metasoma and telson in lateral (30), dorsal (31) and ventral (32) views together with sternite VII (32) views. **Figures 33–35.** Female paratype, metasoma and telson in lateral (33), dorsal (34) and ventral (35) views. Scale bars: 10 mm.



Figures 36–37. *Megacormus franckei* sp. n., type locality.



Figures 38–54. *Megacormus*, pedipalp chela external of males (38, 40, 42, 44, 45, 47) and females (39, 41, 43, 46, 48), and patella external of male (53) and females (49–52, 54). Figures 38–39, 50. *M. gertschi*. Figures 40–41, 51. *M. granosus*. Figures 42–43, 52. *M. grubbsi*. Figures 44, 53. *M. segmentatus*. Figures 45–46, 54. *M. xichu*. Figures 47–49. *M. franckei* sp. n.

however, they studied only females so they could not detect the sexual dimorphism. Figures 49–54 show number and position of pedipalp patella external trichobothria in studied specimens of all species of the genus *Megacormus*. This character, however, should be used with caution at the species level since it is variable; e.g. González-Santillán et al. (2017: 229) cited intraspecific variability in *M. xichu* as from 3 to 5 in *em* series, from 3 to 4 in *est* series, and from 2 to 4 in *et* series.

### Key to species of *Megacormus*

1. In contrast to females, males have fingers of pedipalps strongly flexed (Figs. 38–43). ..... 2
  - Both males and females have the fingers straight, without any flexure (Figs. 44–48). ..... 4
2. Pectines with marginal and median lamellae fused, sulcus indistinguishable in females and vestigial in males ..... *M. granosus* (Gervais, 1843)
  - Pectines with marginal and median lamellae completely separated by a deep sulcus in both sexes. .... 3
3. Telson wider than metasoma V. ..*M. grubbsi* Sissom, 1994
  - Metasoma V wider than telson. .... *M. gertschi* Díaz Nájera, 1966
4. Metasoma V wider than telson. .... *M. segmentatus* Pocock, 1900
  - Telson wider than metasoma V. .... 5
5. Metasoma narrow. Metasoma V length/width ratio, 2.60–2.80 in males. .... *M. franckei* sp. n.
  - Metasoma V length/width ratio, 1.94–2.13 in males. .... *M. xichu* González-Santillán et al., 2017

### References

- FET, V. & G. LOWE. 2000. Family Buthidae C. L. Koch, 1837. Pp. 54–286 in Fet, V., W. D. Sissom, G. Lowe & M. E. Braunwalder. *Catalog of the Scorpions of the World (1758–1998)*. New York: The New York Entomological Society, 689 pp.
- FRANCKE, O. F. 1979. Observations on the reproductive biology and life history of *Megacormus gertschi* Diaz. *The Journal of Arachnology*, 7: 223–230.
- GONZÁLEZ-SANTILLÁN E., J. M. GONZÁLEZ-RUIZ & L. A. ESCOBEDO-MORALES. 2017. A new species of *Megacormus* (Scorpiones, Euscorpiidae) from an oak-pine forest in Guanajuato, México with an identification key to the species in the genus. *Zootaxa*, 4299(2): 221–237.
- KARSCH, F. 1881. Ueber eine neue Gattung Scorpione. *Archiv für Naturgeschichte*, 47(1): 16–18.
- KOVAŘÍK, F. 2009. *Illustrated catalog of scorpions. Part I. Introductory remarks; keys to families and genera; subfamily Scorpioninae with keys to Heterometrus and Pandinus species*. Prague: Clairon Production, 170 pp.
- KOVAŘÍK, F. & A. A. OJANGUREN AFFILASTRO. 2013. *Illustrated catalog of scorpions. Part II. Bothriuridae; Chaerilidae; Buthidae I. Genera Compsobuthus, Hottentotta, Isometrus, Lychas, and Sassanidotus*. Prague: Clairon Production, 400 pp.
- KOVAŘÍK F., J. ŠTUNDLOVÁ, V. FET & F. ŠTÁHLAVSKÝ. 2019. Seven new Alpine species of the genus *Alpiscorpius* Gantenbein et al., 1999, stat. n. (Scorpiones: Euscorpiidae). *Euscorpium*, 287: 1–29.
- LOWE, G. & F. KOVAŘÍK. 2019. Review of *Grosphus* Simon, 1880, with description of *Teruelius* gen. n., a new buthid genus from Madagascar (Scorpiones: Buthidae). *Euscorpium*, 281: 1–128.
- SISSOM, W. D. 1994. Systematic studies on the genus *Megacormus* (Scorpiones, Chactidae, Megacorminae), with descriptions of a new species from Oaxaca, Mexico and of the male of *Megacormus segmentatus* Pocock. *Insecta Mundi*, 8(3–4): 265–271.
- SOLEGLAD, M. E. 1976. A revision of the scorpion subfamily Megacorminae (Scorpionida, Chactidae). *The Wassmann Journal of Biology*, 34(2): 251–303.
- SOLEGLAD, M. E. & V. FET. 2003. The scorpion sternum: structure and phylogeny (Scorpiones: Orthosterni). *Euscorpium*, 5: 1–34.
- SOLEGLAD, M. E. & W. D. SISSOM. 2001. Phylogeny of the family Euscorpiidae Laurie, 1896 (Scorpiones): a major revision. Pp. 25–111 in: Fet, V. & P. A. Selden (eds). *Scorpions 2001. In Memoriam Gary A. Polis*. British Arachnological Society, Burnham Beeches: Bucks, 404 pp.
- STAHNKE, H. L. 1971. Scorpion nomenclature and mensuration. *Entomological News*, 81: 297–316.
- ŠTUNDLOVÁ, J., J. ŠMÍD, P. NGUYEN & F. ŠTÁHLAVSKÝ. 2019. Cryptic diversity and dynamic chromosome evolution in Alpine scorpions (Euscorpiidae: *Euscorpium*). *Molecular Phylogenetics and Evolution*, 134: 152–163.
- VACHON, M. 1974. Études des caractères utilisés pour classer les familles et les genres des scorpions (Arachnides). 1. La trichobothriotaxie en arachnologie. Sigles trichobothriax et types de trichobothriotaxie chez les Scorpions. *Bulletin du Muséum national d'Histoire naturelle*, 3e série, 140 (Zoologie, 104): 857–958.

**Appendix.** Material examined.*Megacormus gertschi* Díaz Nájera, 1966

**Mexico**, Hidalgo, Zacualtipan, pine forest, 20°40'407"N 98°40'079"W, 2117 m a. s. l., 8♂2♀ (Figs. 38–39, 50, 55–89), topotypes, Nos. 1619, 1620, 1627, 1628.

*Megacormus granosus* (Gervais, 1843)

**Mexico**, Veracruz, Atotonilco, pine forest, 19°08'860"N 97°11'830"W, 2180 m a. s. l., 2♂2♀ (Figs. 40–41, 51, 90–123), No. 1621.

*Megacormus grubbsi* Sissom, 1994

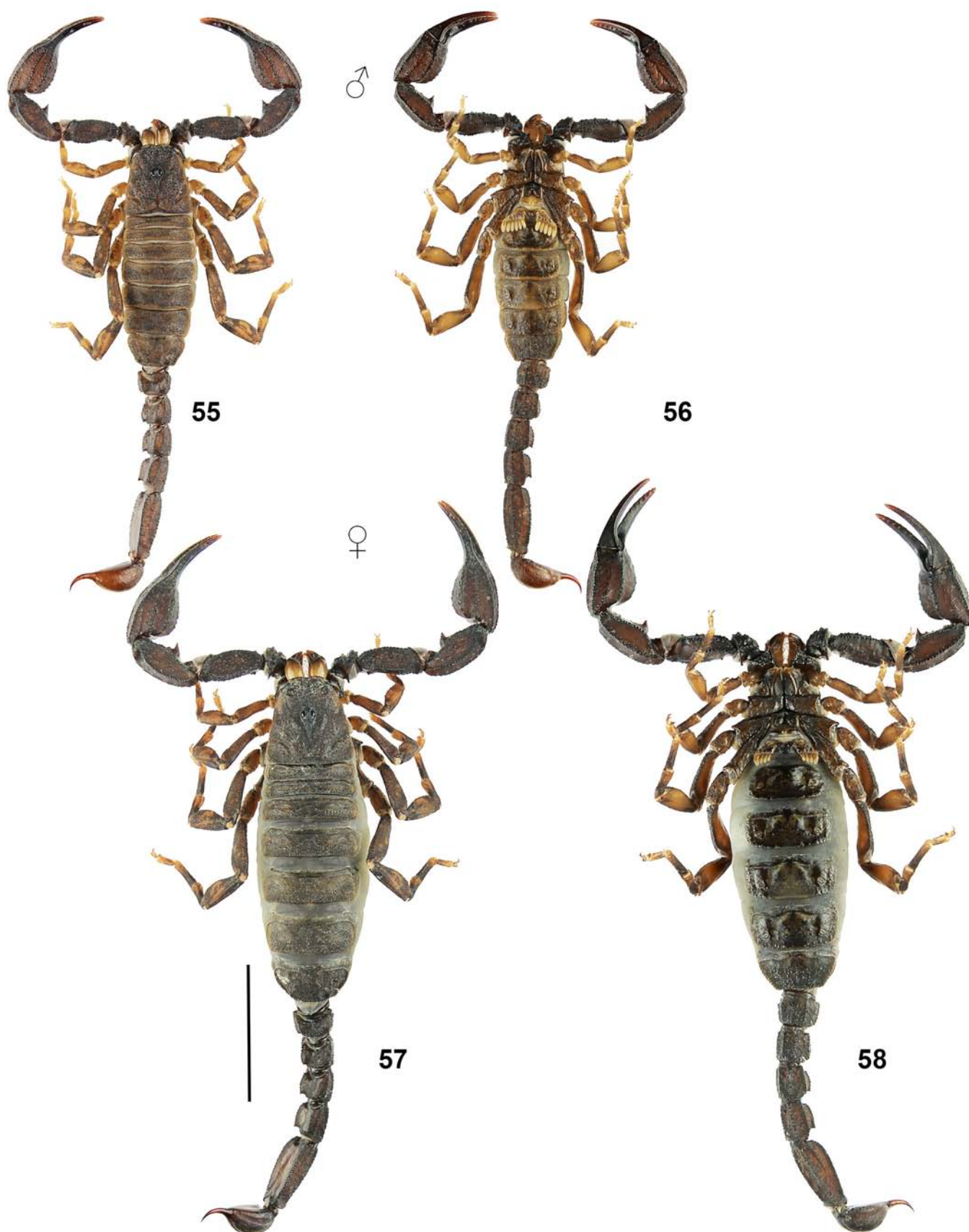
**Mexico**, Oaxaca, Huautla de Jiménez, green mountain tropical forest, 18°09'248"N 96°59'290"W, 2400 m a. s. l., 2♂2♀ (Figs. 42–43, 52, 124–156), No. 1623.

*Megacormus segmentatus* Pocock, 1900

**Mexico**, Veracruz, Atoyac, green tropical forest, 18°55'205"N 96°46'100"W, 466 m a. s. l., 1♂ (Figs. 44, 53, 157–179), topotype, No. 1622.

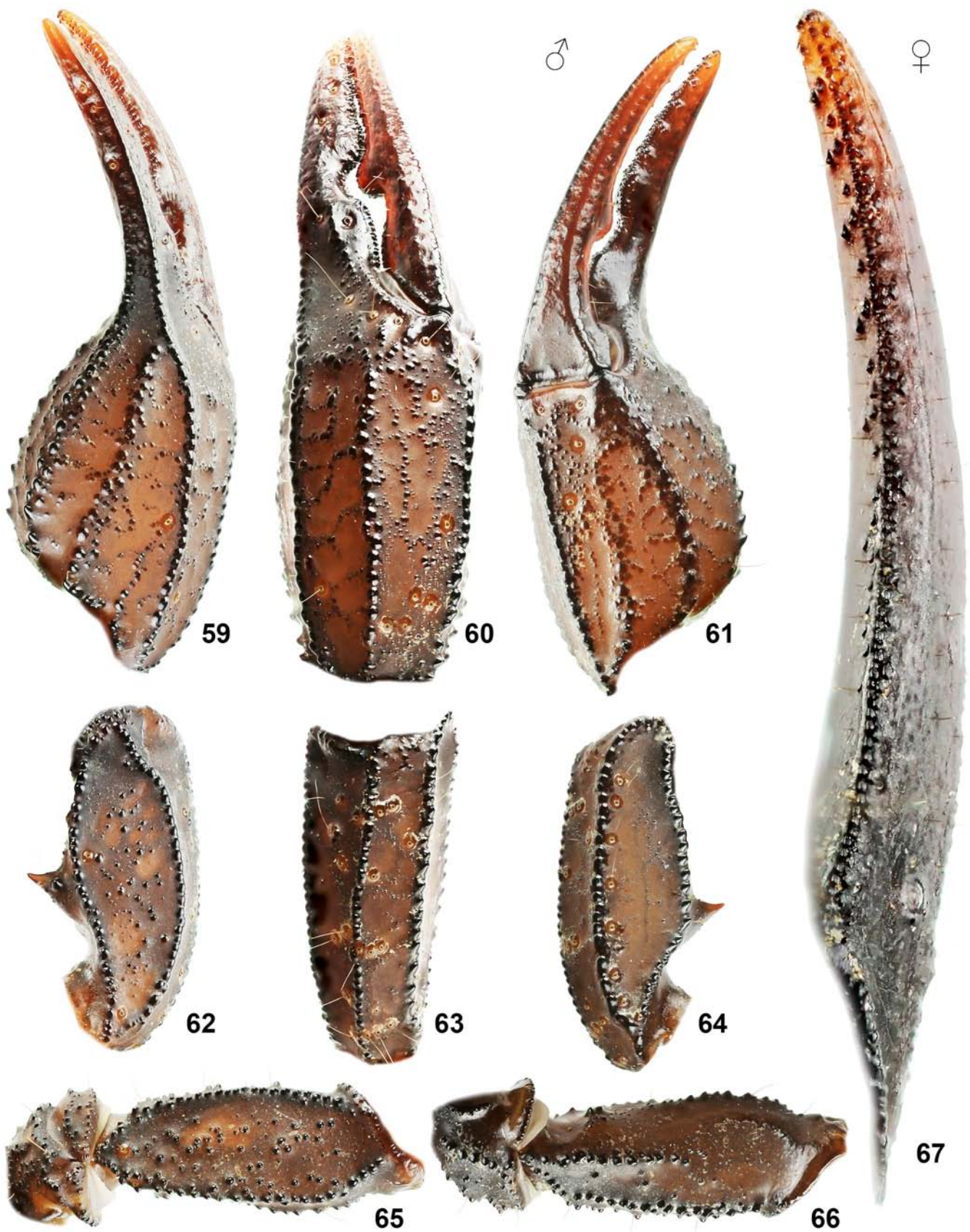
*Megacormus xichu* González-Santillán et al., 2017

**Mexico**, Guanajuato, Xichú, Charco Azul, El Ocotero, ca 4 km NE of Xichú, oak forest, 21°18'54"N 100°06'38"W, 2283 m a. s. l., 5♂5♀ (Figs. 45–46, 54, 180–214), topotypes, Nos. 1617, 1626.

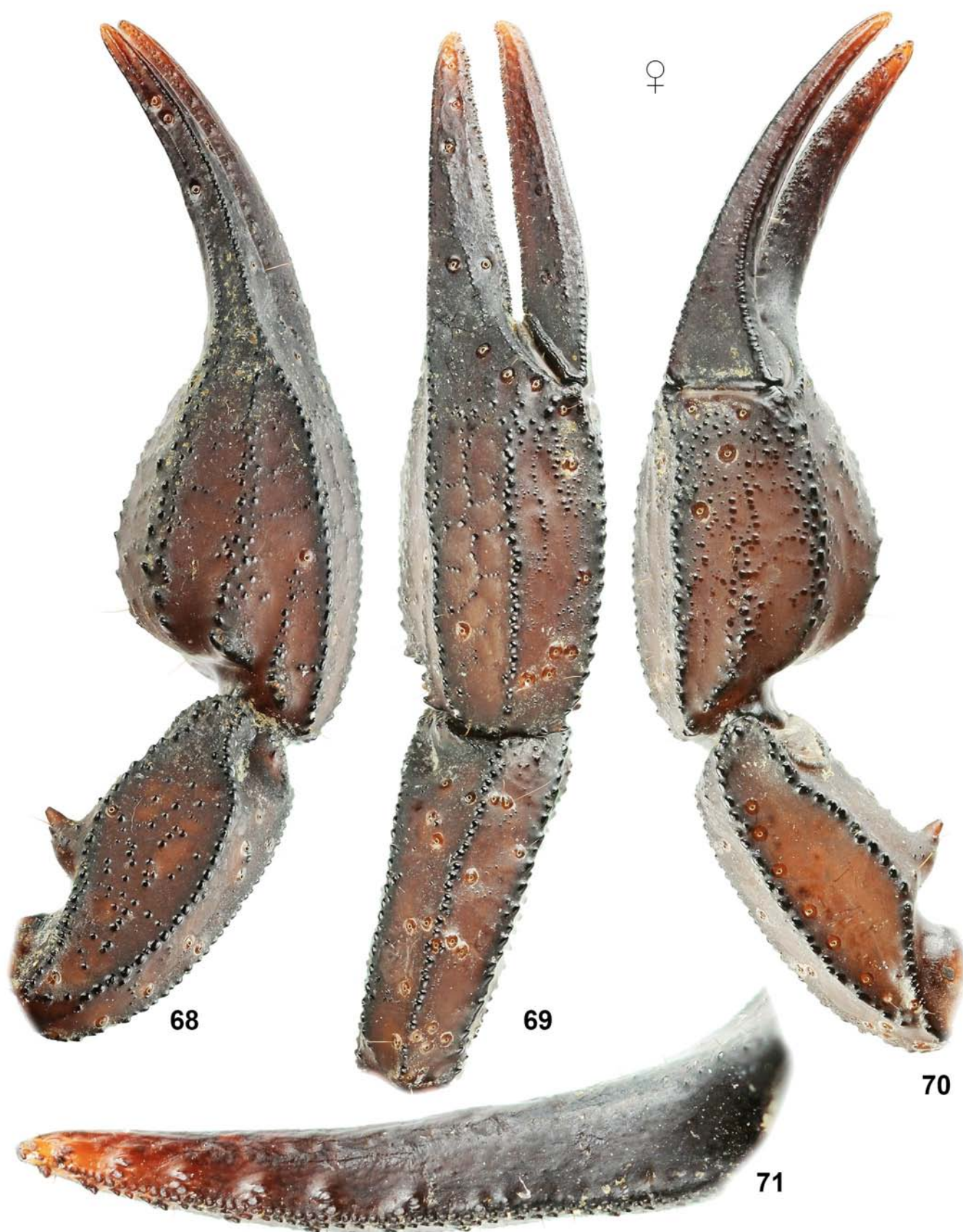


Figures 55–58: *Megacormus gertschi*. Figures 55–56. Male in dorsal (55) and ventral (56) views. Figures 57–58. Female in dorsal (57) and ventral (58) views. Scale bar: 10 mm.

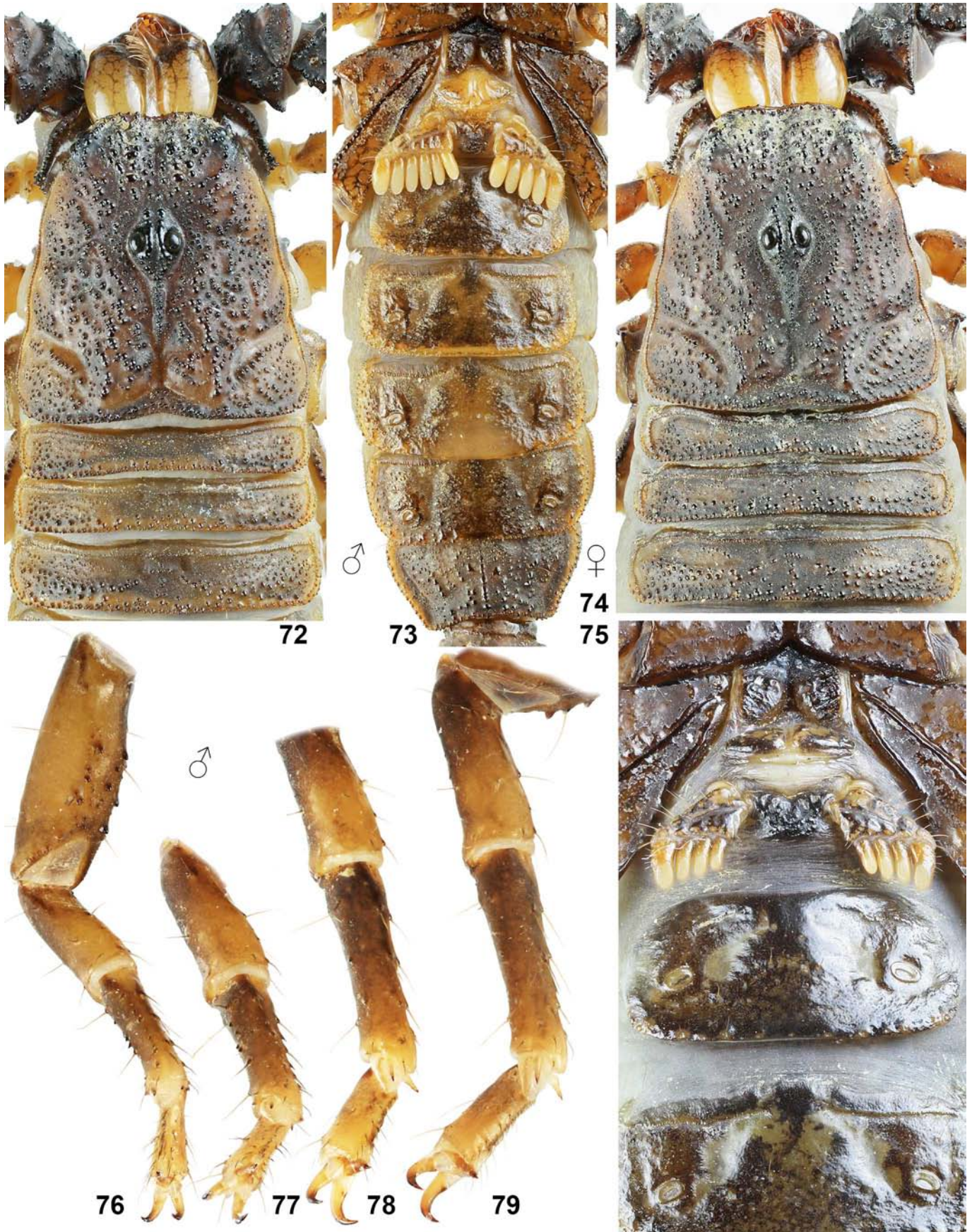




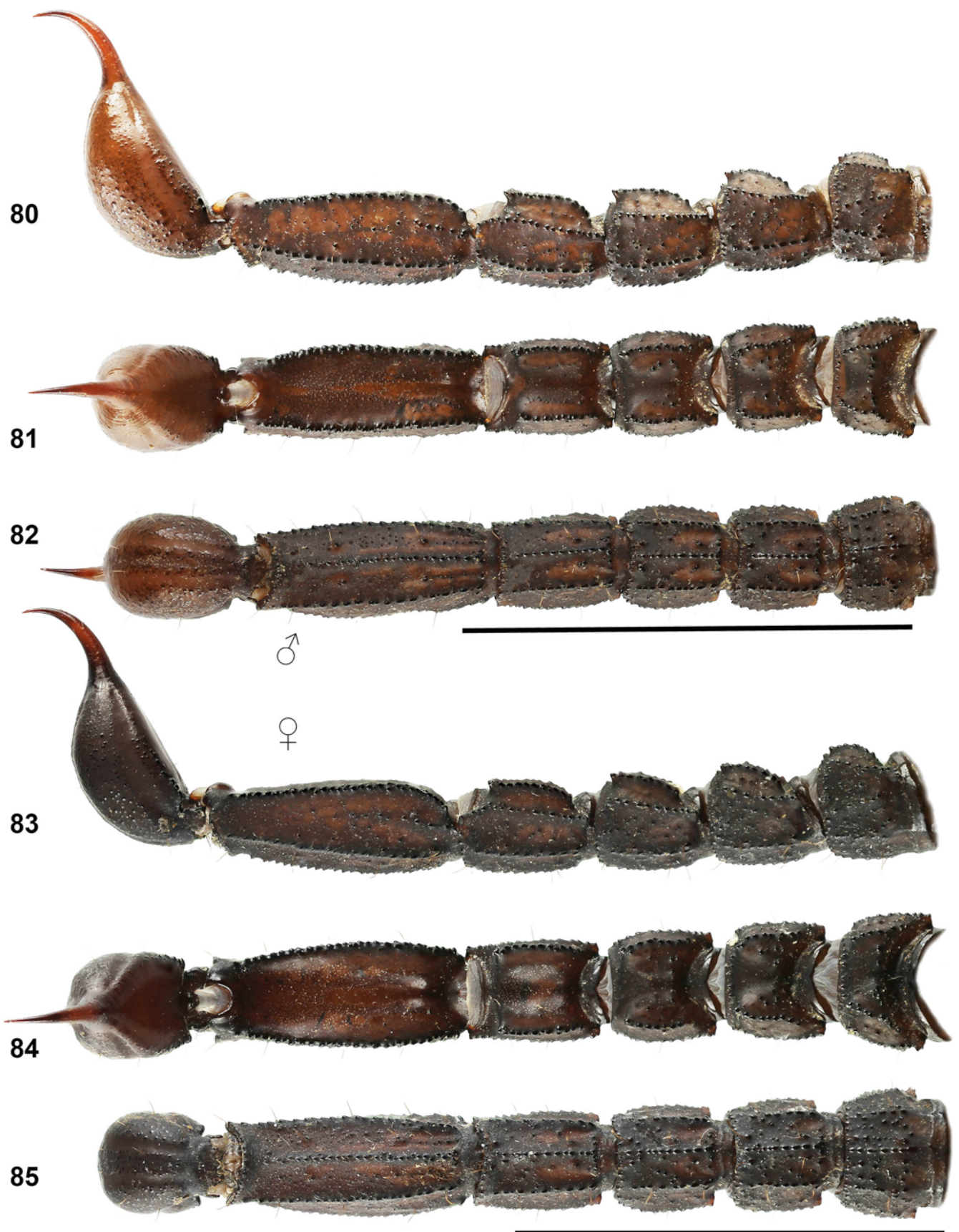
**Figures 59–67:** *Megacormus gertschi*. **Figures 59–66.** Male, pedipalp chela dorsal (59), external (60) and ventral (61) views, patella dorsal (62), external (63) and ventral (64) views, femur and trochanter dorsal (65) and ventral (66) views. **Figure 67.** Female, movable finger dentition.



Figures 68–71. *Megacormus gertschi*, female, pedipalp chela and patella dorsal (68), external (69) and ventral (70) views, and fixed finger dentition (71).



**Figures 72–79:** *Megacormus gertschi*. **Figures 72–73, 76–79.** Male, carapace and tergites I–III (72), coxosternal area and sternites (73), and left legs I–IV, retrolateral aspect (76–79). **Figures 74–75.** Female, carapace and tergites I–III (74) and coxosternal area and sternites III–IV (75).



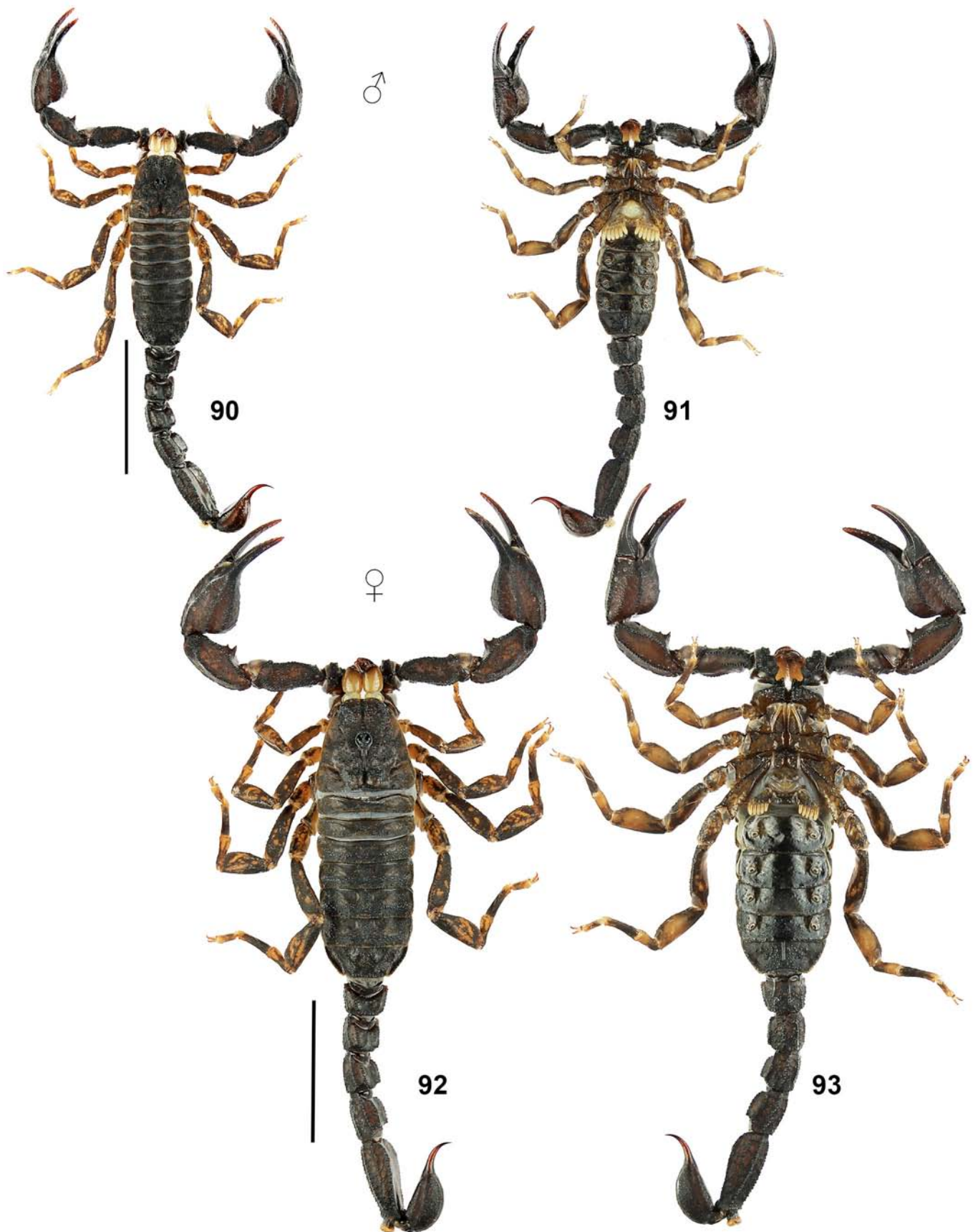
**Figures 80–85.** *Megacormus gertschi*. **Figures 80–82.** Male, metasoma and telson in lateral (80), dorsal (81) and ventral (82) views. **Figures 83–85.** Female, metasoma and telson in lateral (83), dorsal (84) and ventral (85) views. Scale bars: 10 mm.



Figures 86–87. *Megacormus gertschi*, male (86) and female (87) in vivo habitus.



Figures 88–89. *Megacormus gertschi*, locality, Mexico, Hidalgo, Zacualtipan, pine forest, 20°40'407"N 98°40'079"W, 2117 m a. s. l.

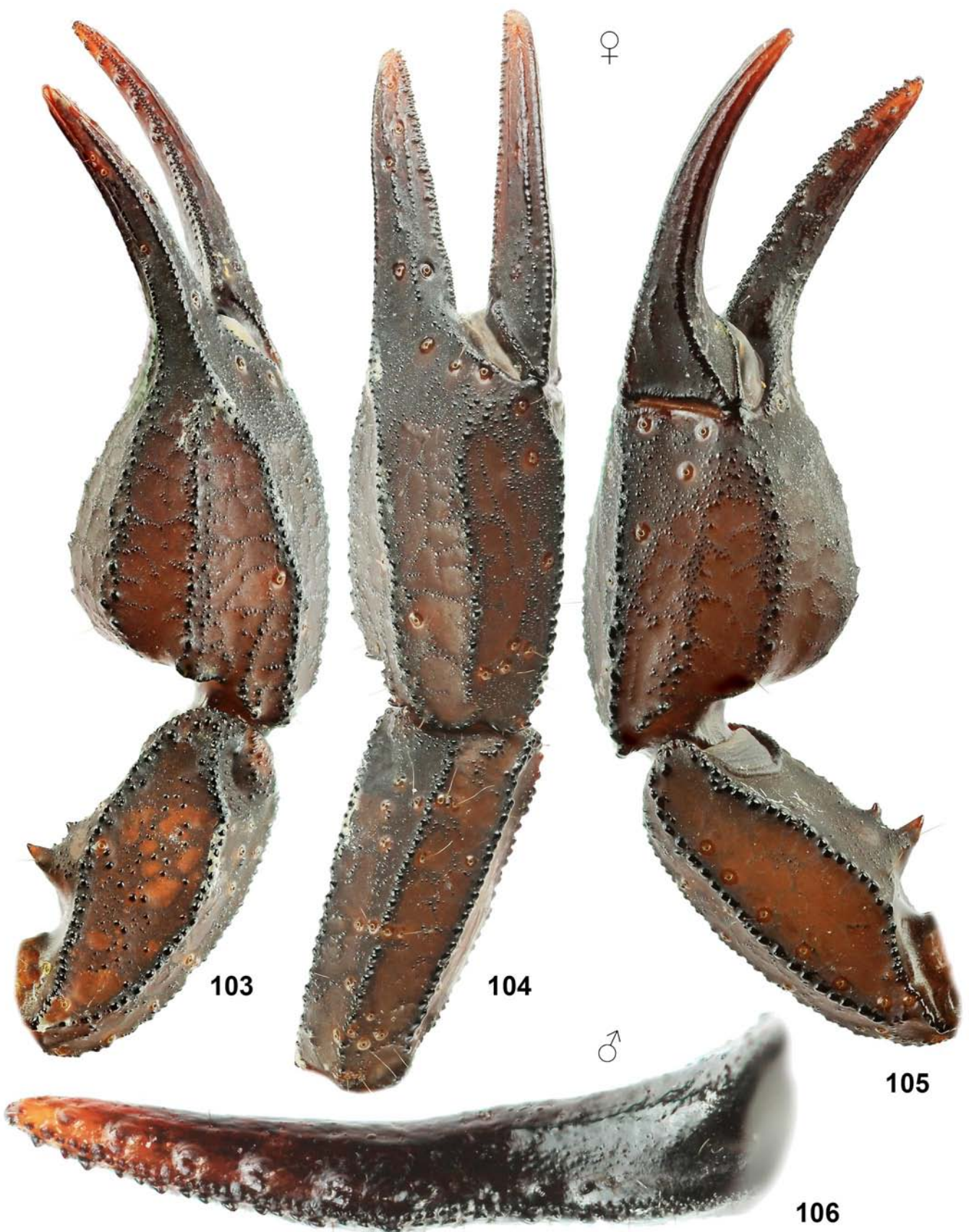


**Figures 90–93:** *Megacormus granosus*. **Figures 90–91.** Male in dorsal (90) and ventral (91) views. **Figures 92–93.** Female in dorsal (92) and ventral (93) views. Scale bars: 10 mm.

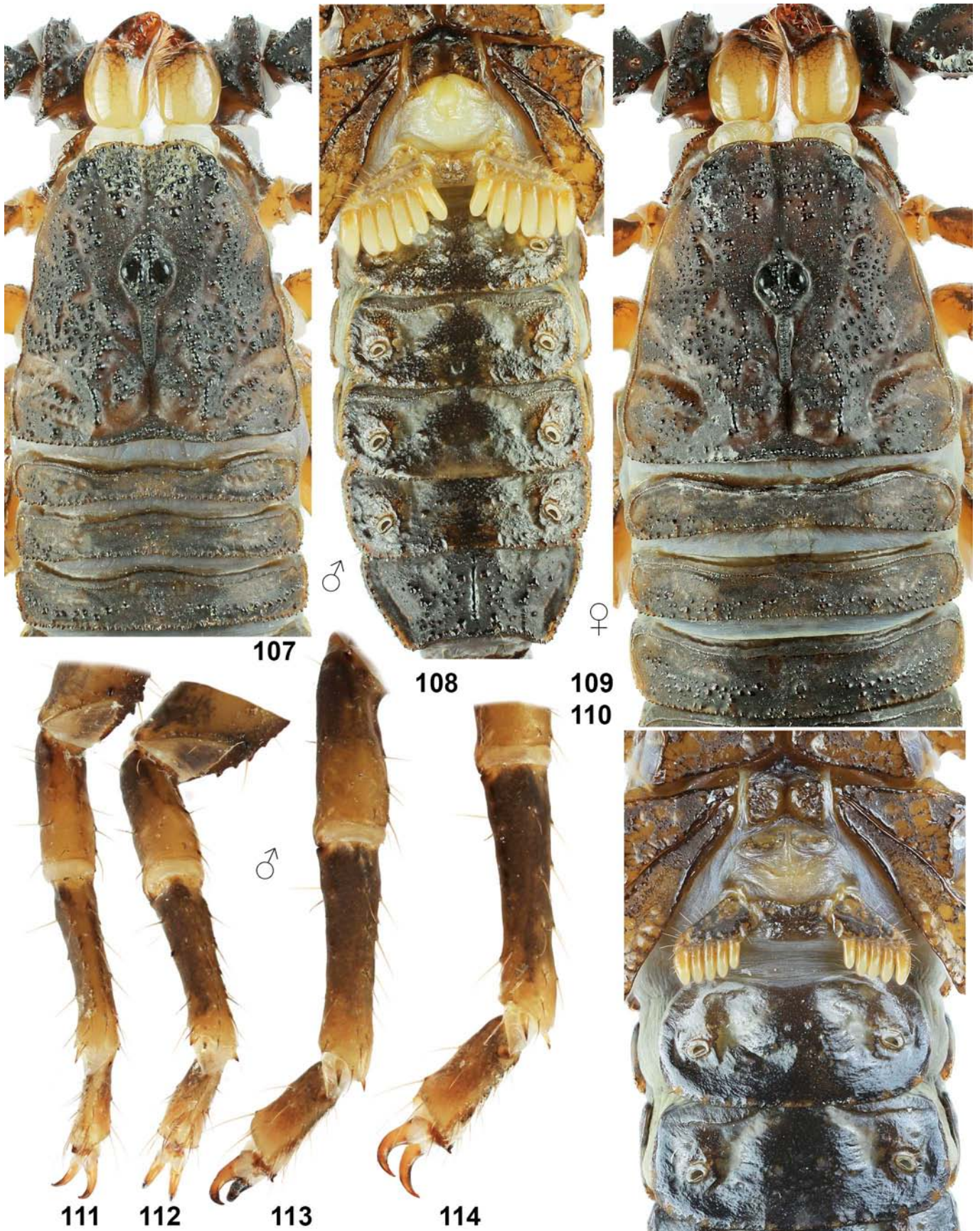


**Figures 94–102.** *Megacormus granosus*, male, pedipalp chela dorsal (94), external (95) and ventral (96) views, patella dorsal (97), external (98) and ventral (99) views, femur dorsal (100) and ventral (101) views, and movable finger dentition (102).





**Figures 103–106:** *Megacormus granosus*. **Figures 103–105.** Female, pedipalp chela and patella dorsal (103), external (104) and ventral (105) views. **Figure 106.** Male, fixed finger dentition.



**Figures 107–114:** *Megacormus granosus*. **Figures 107–108, 111–114.** Male, carapace and tergites I–III (107), coxosternal area and sternites (108), and left legs I–IV, retrolateral aspect (111–114). **Figures 109–110.** Female, carapace and tergites I–III (109) and coxosternal area and sternites III–IV (110).



Figures 115–120. *Megacormus granosus*. Figures 115–117. Male, metasoma and telson in lateral (115), dorsal (116) and ventral (117) views. Figures 118–120. Female, metasoma and telson in lateral (118), dorsal (119) and ventral (120) views. Scale bars: 10 mm.



Figures 121–122. *Megacormus granosus*, male (121) and female (122) in vivo habitus.

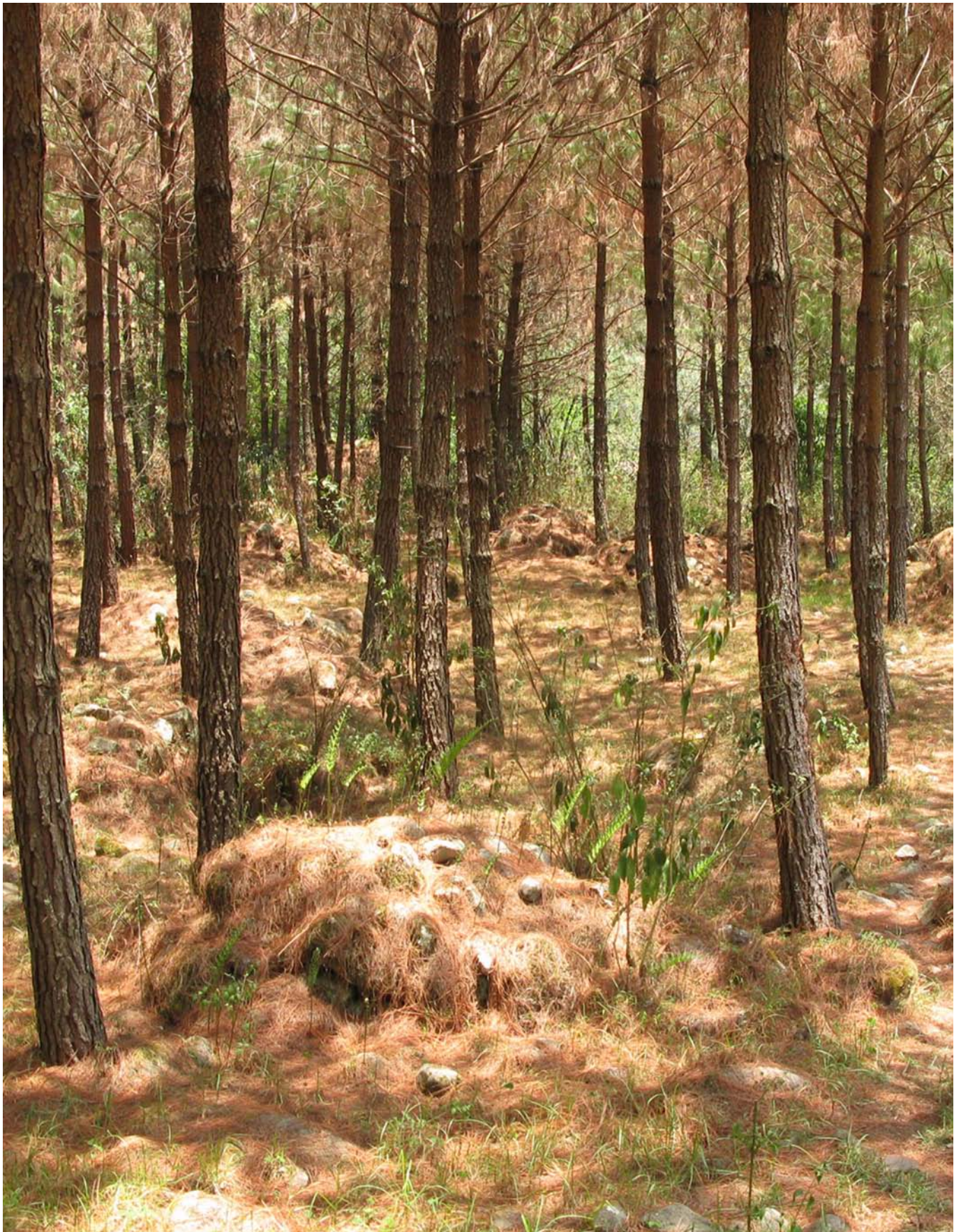
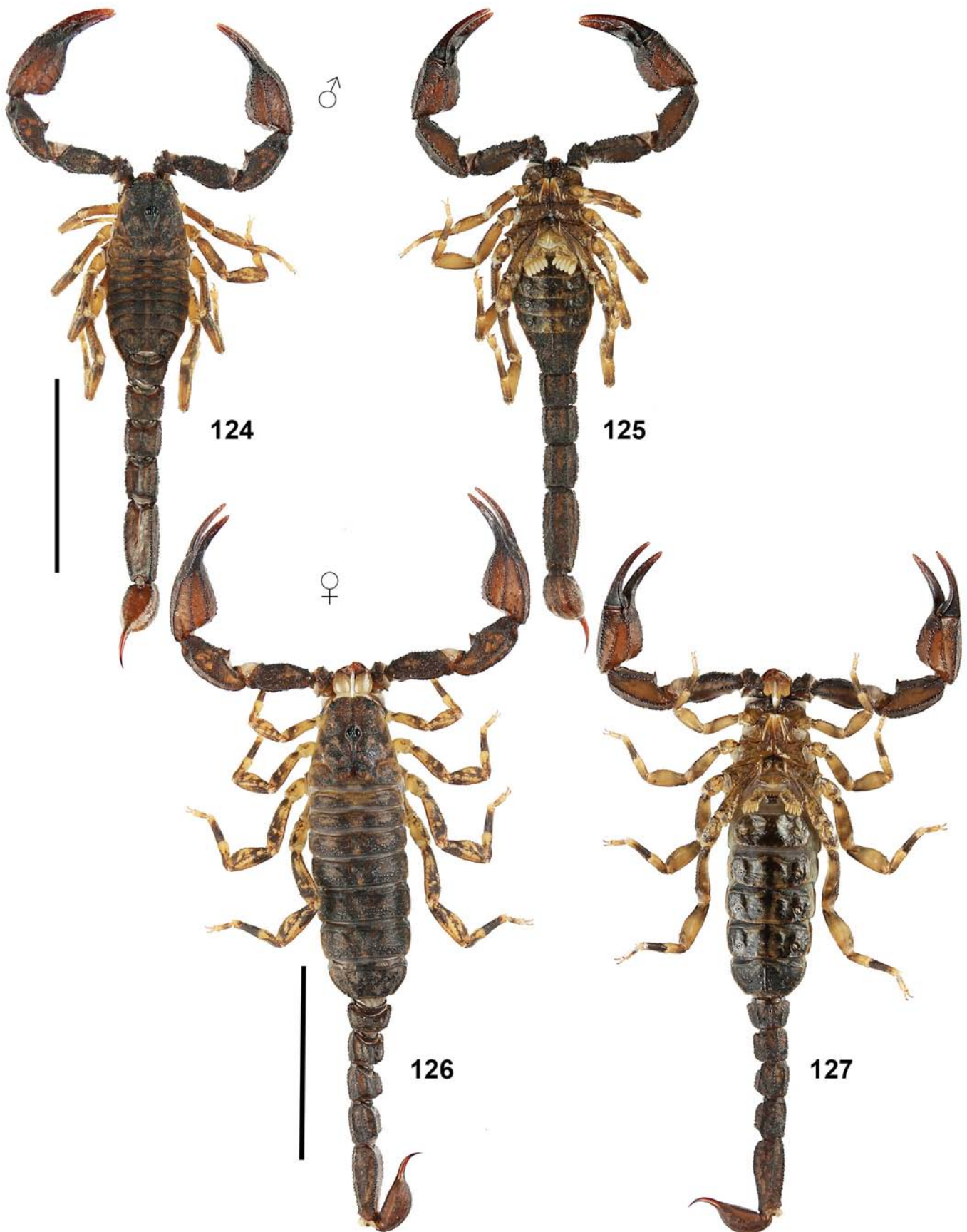


Figure 123. *Megacormus granosus*, locality, Mexico, Veracruz, Atotonilco, pine forest, 19°08'860"N 97°11'830"W, 2180 m a. s. l.



**Figures 124–127:** *Megacormus grubbsi*. **Figures 124–125.** Male in dorsal (124) and ventral (125) views. **Figures 126–127.** Female in dorsal (126) and ventral (127) views. Scale bars: 10 mm.

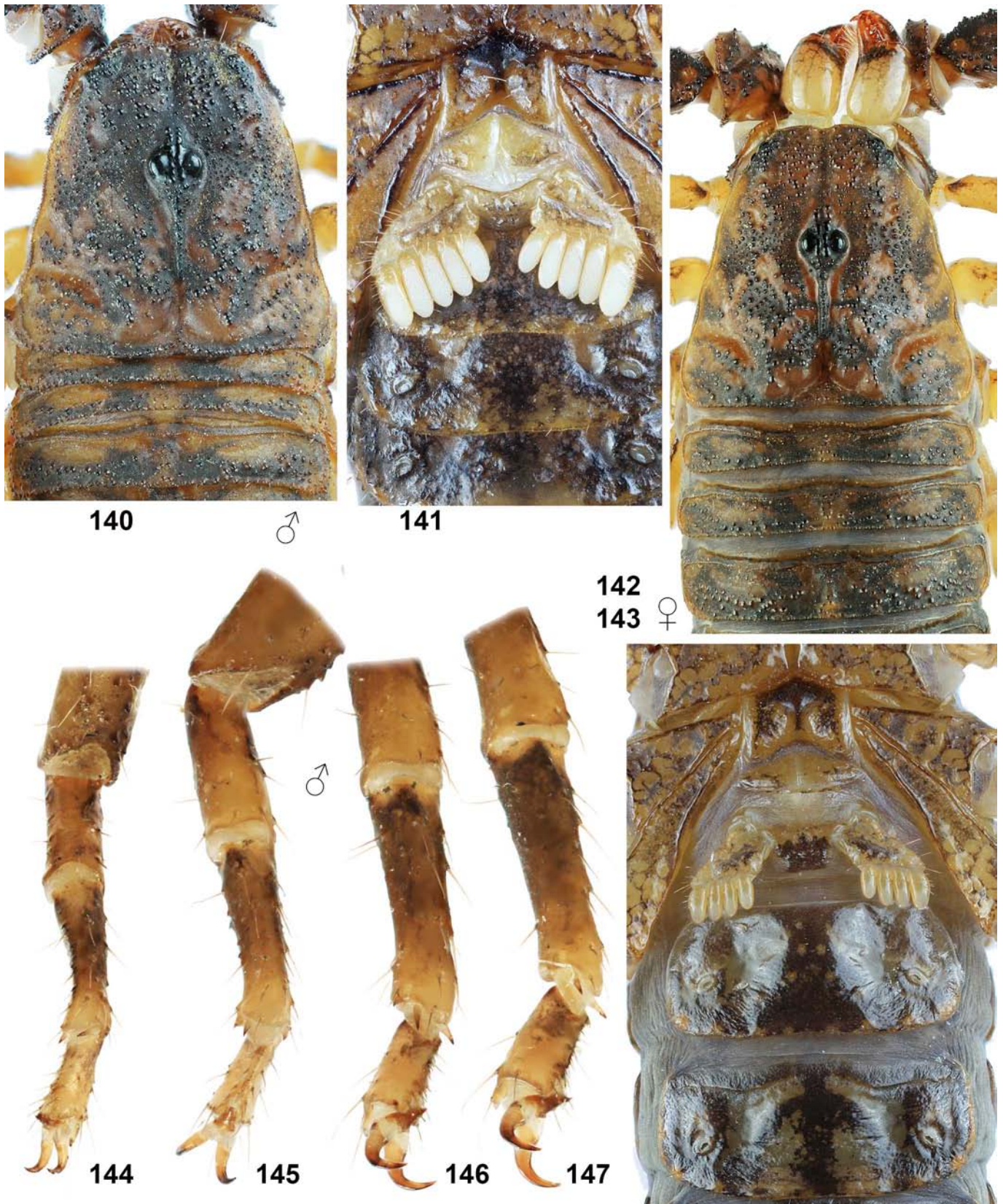


**Figures 128–136.** *Megacormus grubbsi*, male, pedipalp chela dorsal (128), external (129) and ventral (130) views, patella dorsal (131), external (132) and ventral (133) views, femur and trochanter dorsal (134) and ventral (135) views, and movable finger dentition (136).

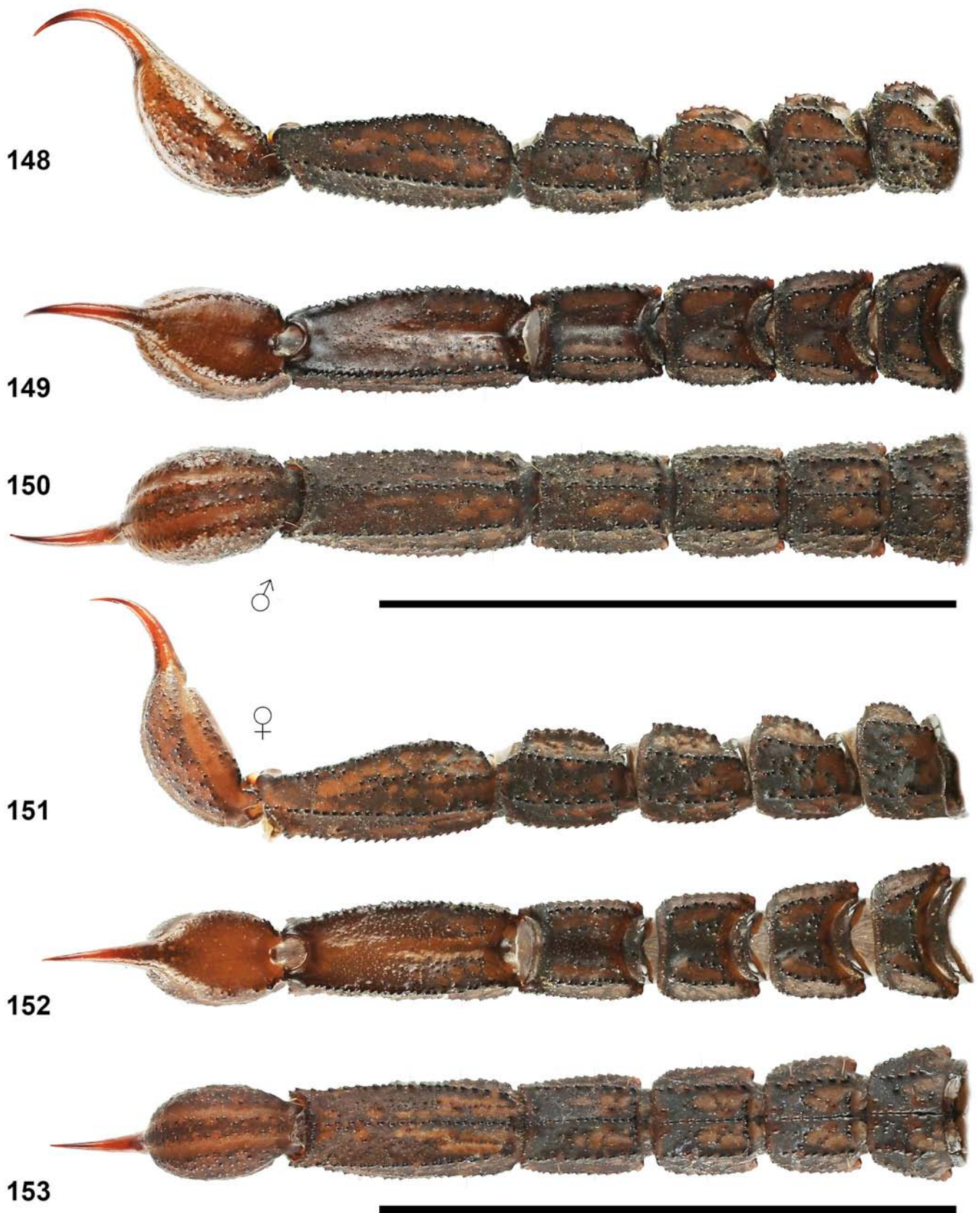


Figures 137–139. *Megacormus grubbsi*, female, pedipalp chela and patella dorsal (137), external (138) and ventral (139) views.





**Figures 140–147:** *Megacormus grubbsi*. **Figures 140–141, 144–147.** Male, carapace and tergites I–III (140), coxosternal area and sternites III–V (141), and left legs I–IV, retrolateral aspect (144–147). **Figures 142–143.** Female, carapace and tergites I–III (142) and coxosternal area and sternites III–IV (143).



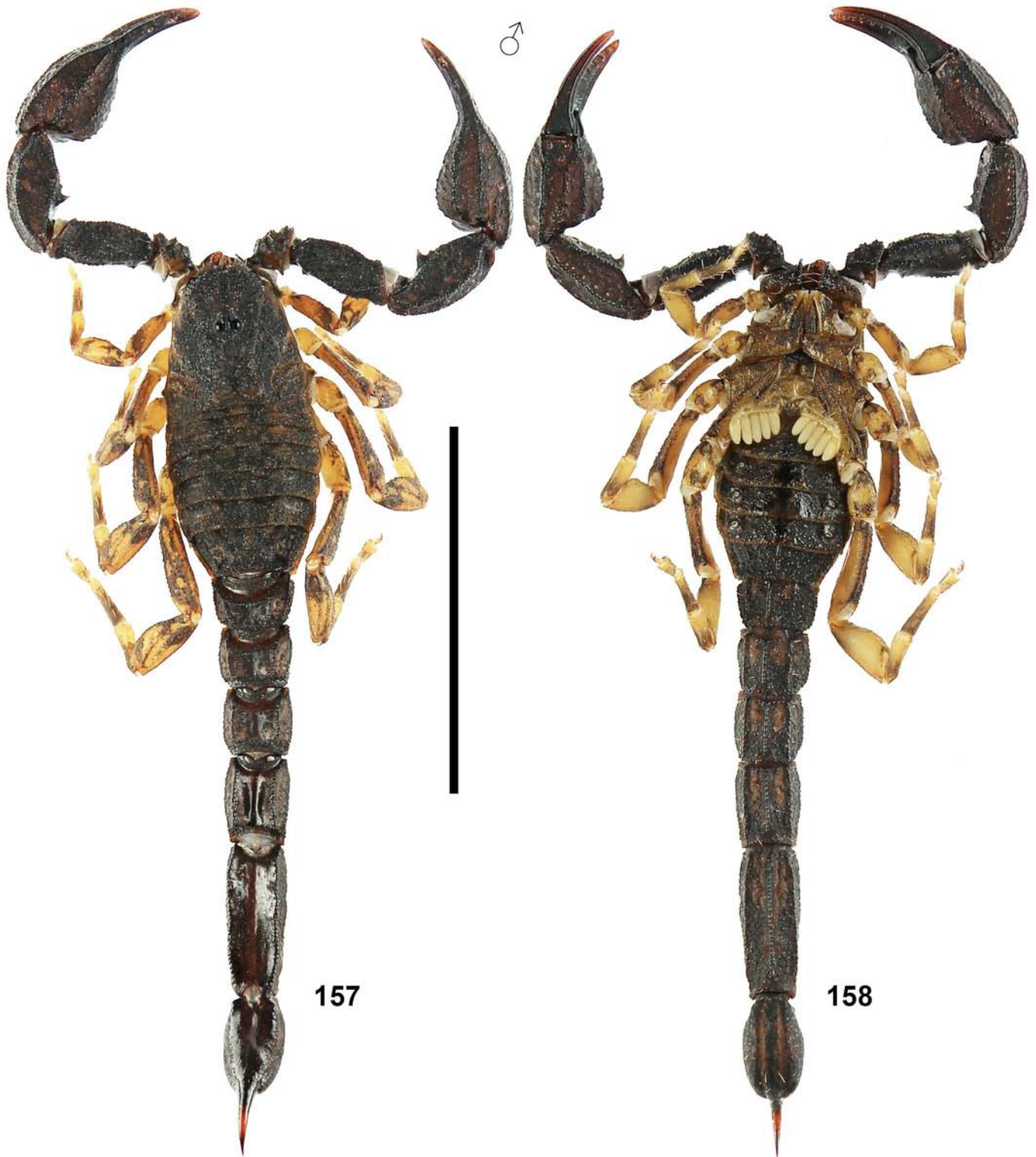
Figures 148–153. *Megacormus grubbsi*. Figures 148–150. Male, metasoma and telson in lateral (148), dorsal (149) and ventral (150) views. Figures 151–153. Female, metasoma and telson in lateral (151), dorsal (152) and ventral (153) views. Scale bars: 10 mm.



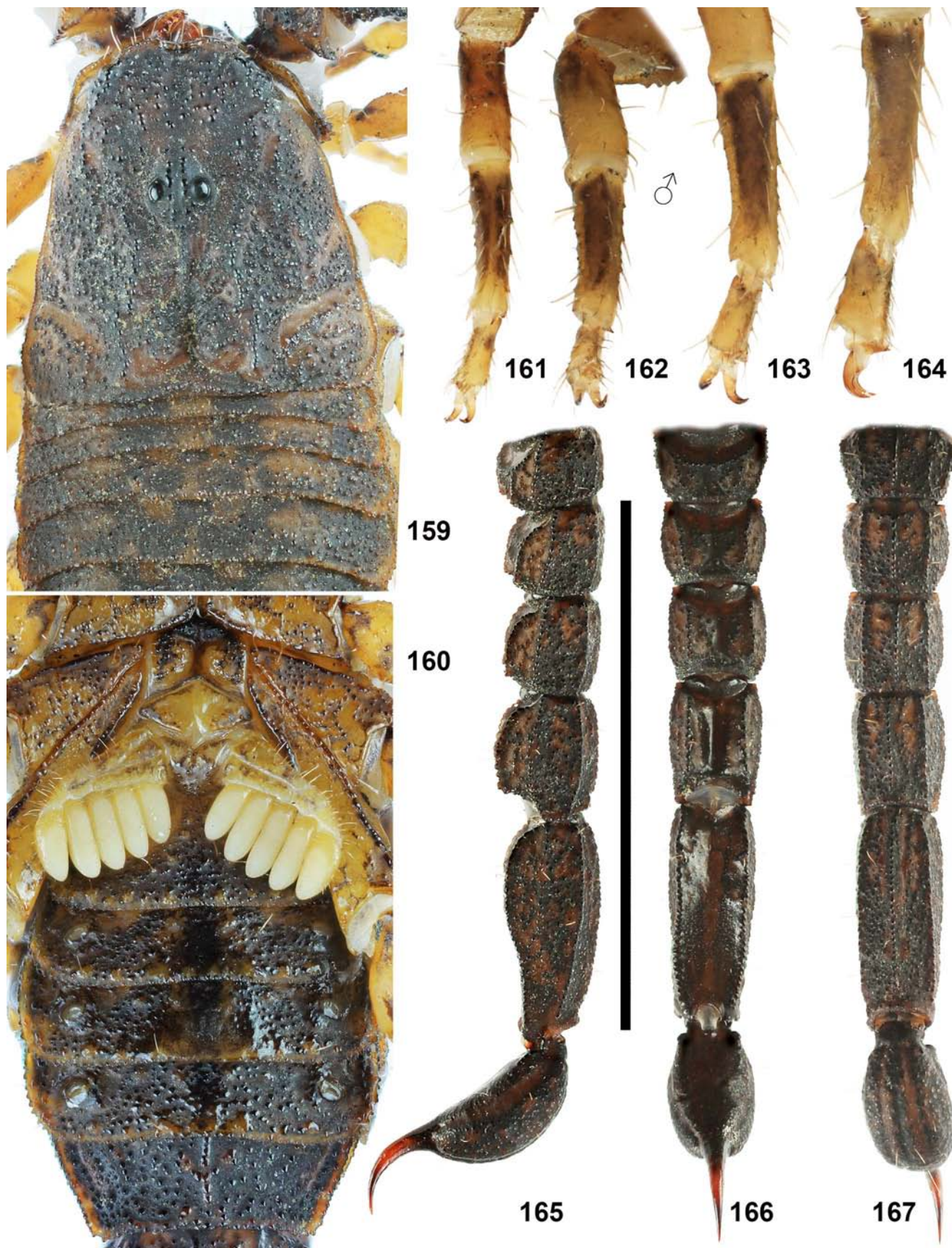
Figures 154–155. *Megacormus grubbsi*, male (154) and female (155) in vivo habitus.



**Figure 156.** *Megacormus grubbsi*, locality, Mexico, Oaxaca, Huautla de Jiménez, green mountain tropical forest, 18°09'248"N 96°59'290"W, 2400 m a. s. l.



Figures 157–158. *Megacormus segmentatus*. male in dorsal (157) and ventral (158) views. Scale bar: 10 mm.



**Figures 159–167.** *Megacormus segmentatus*, male, carapace and tergites I–III (159), coxosternal area and sternites (160), left legs I–IV, retrolateral aspect (161–164), metasoma and telson in lateral (165), dorsal (166) and ventral (167) views. Scale bar: 10 mm (165–167).



**Figures 168–177.** *Megacormus segmentatus*, male, pedipalp chela dorsal (168), external (169) and ventral (170) views, patella dorsal (171), external (172) and ventral (173) views, femur and trochanter dorsal (174) and ventral (175) views, and movable (176) and fixed (177) finger dentition.



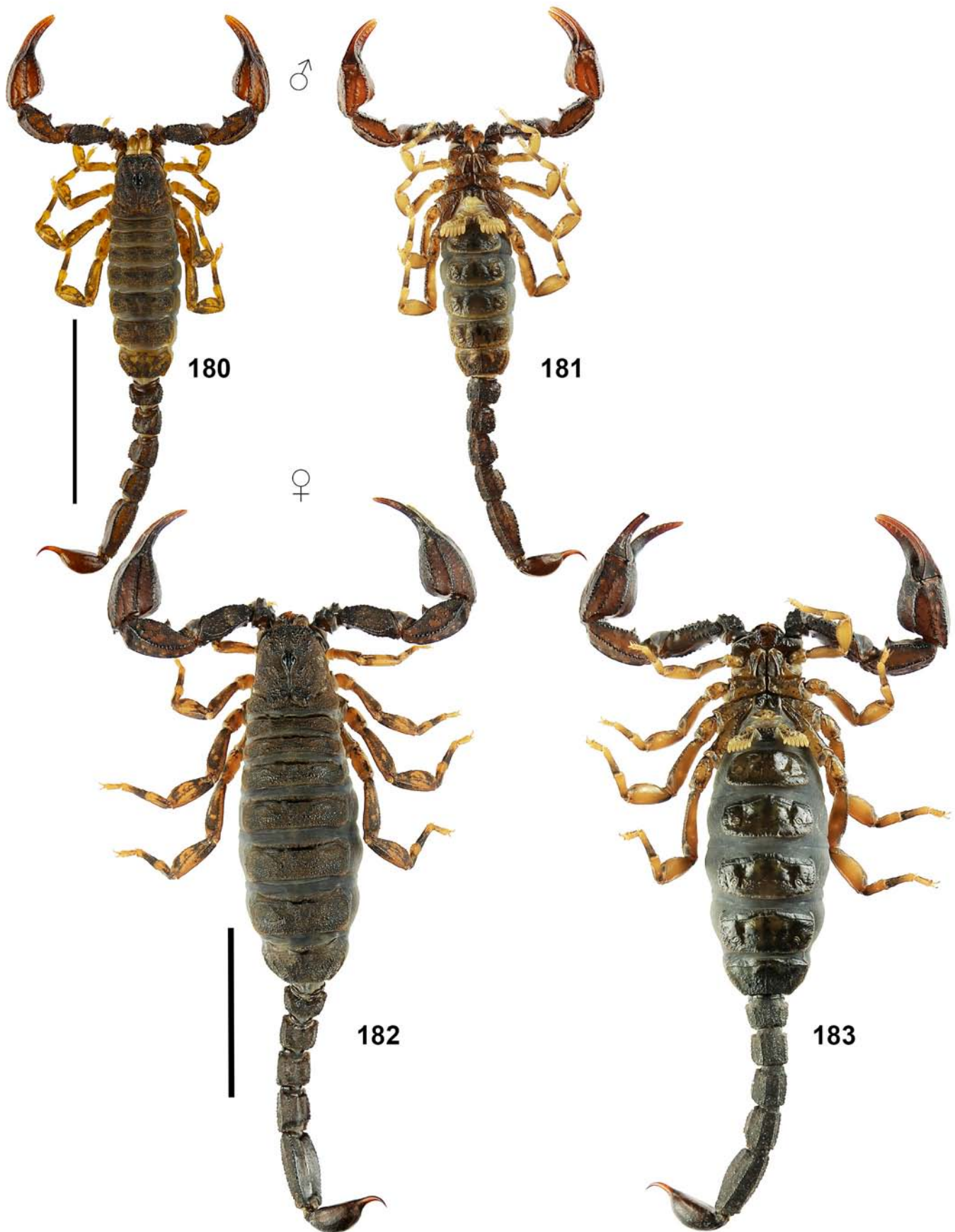
178



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Figures 178–179. *Megacormus segmentatus*, male in vivo habitus (178) and locality, Mexico, Veracruz, Atoyac, green tropical forest, 18°55'205"N 96°46'100"W, 466 m a. s. l., (179).





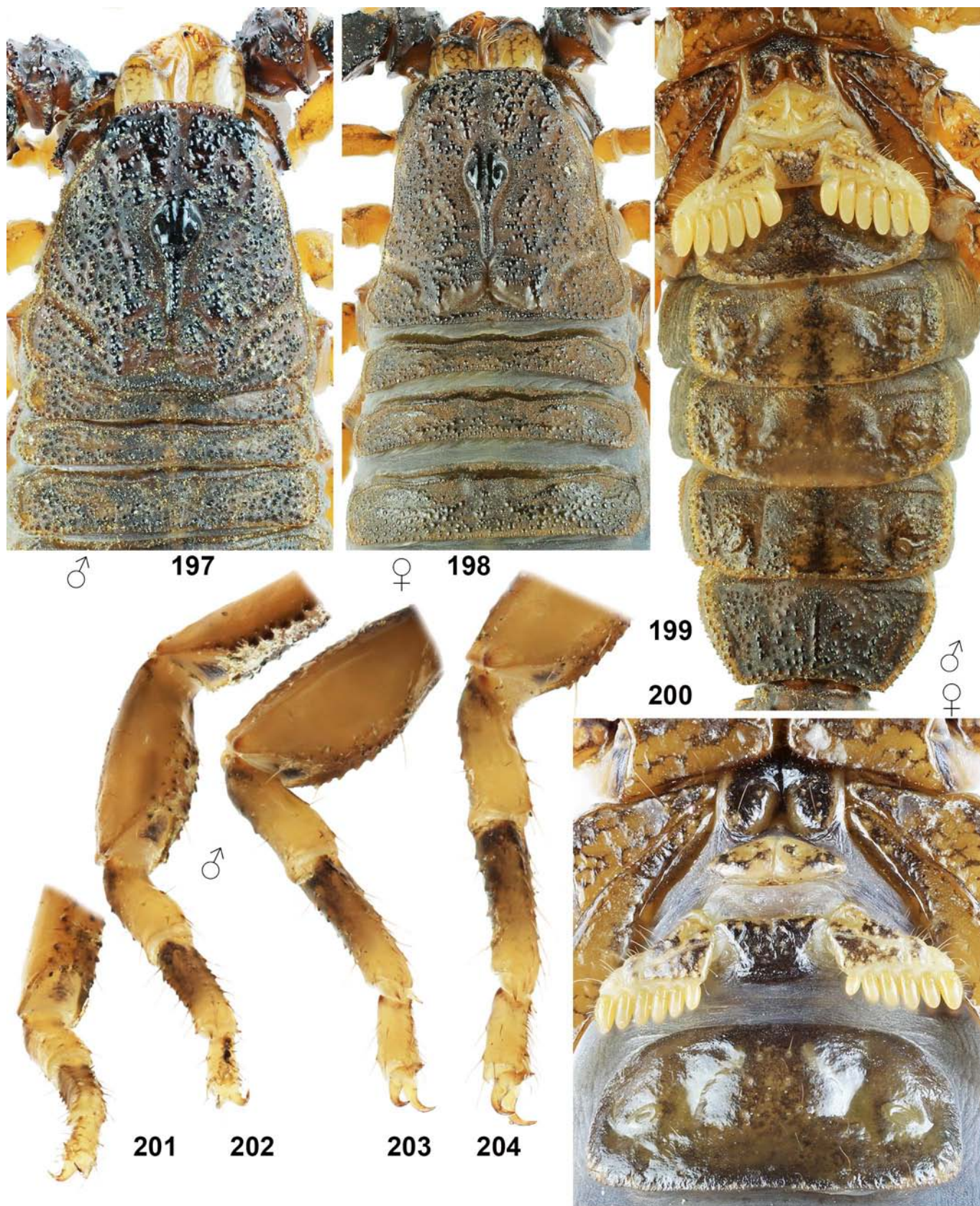
**Figures 180–183:** *Megacormus xichu*. **Figures 180–181.** Male in dorsal (180) and ventral (181) views. **Figures 182–183.** Female in dorsal (182) and ventral (183) views. Scale bars: 10 mm.



**Figures 184–192:** *Megacormus xichu*. **Figures 184–191.** Male, pedipalp chela dorsal (184), external (185) and ventral (186) views, patella dorsal (187), external (188) and ventral (189) views, femur and trochanter dorsal (190) and ventral (191) views. **Figure 192.** Female, movable finger dentition.



**Figures 193–196.** *Megacormus xichu*, female, pedipalp chela and patella dorsal (193), external (194) and ventral (195) views, and fixed finger dentition (196).



**Figures 197–204:** *Megacormus xichu*. **Figures 197, 199, 201–204.** Male, carapace and tergites I–III (197), coxosternal area and sternites (199), and left legs I–IV, retrolateral aspect (201–204). **Figures 198, 200.** Female, carapace and tergites I–III (198) and coxosternal area and sternite III (200).



Figures 205–210. *Megacormus xichu*. Figures 205–207. Male, metasoma and telson in lateral (205), dorsal (206) and ventral (207) views. Figures 208–210. Female, metasoma and telson in lateral (208), dorsal (209) and ventral (210) views. Scale bars: 10 mm.



Figures 211–212. *Megacormus xichu*, male (211) and female (212) in vivo habitus.



Figures 213–214. *Megacormus xichu*, locality, Mexico, Guanajuato, Xichú, Charco Azul, El Ocotero, ca 4 km NE of Xichú, oak forest, 21°18'54"N 100°06'38"W, 2283 m a. s. l.



Figure 215. *Megacormus franckei* sp. n, female paratype with newborn.