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A new species of the spider genus *Phlogiellus* (Araneae, Theraphosidae) from Hainan, China

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The genus *Phlogiellus* Pocock, 1897 of the spider family Theraphosidae Thorell, 1869 includes 25 species from Southeast Asia, of which three have been recorded in China (Li 2020): *P. bogadeki* Nunn, West & von Wirth, 2016 and *P. xinpings* (Zhu & Zhang, 2008) from Hong Kong and *P. watasei* (Kishida, 1920) from Taiwan. Here, we describe a new *Phlogiellus* species from Hainan, China: *P. quanyui* **sp. nov.**

All specimens were preserved in 75% ethanol. Epigynes were cleared in trypsin enzyme solution to dissolve non-chitinous tissues. Specimens were examined under a LEICA M205C stereomicroscope. Photomicroscope images were taken with an Olympus C7070 zoom digital camera (7.1 megapixels). Photos were stacked with Helicon Focus 6.7.1 and processed in Adobe Photoshop CC 2018. The terminology used in the text and figures follows Zhu & Zhang 2008. All measurements are in millimeters. Eye sizes are measured as the maximum diameter from either the dorsal or frontal view. Leg measurements are given as follows: total length (femur, patella+tibia, metatarsus, tarsus). Abbreviations: ALE, anterior lateral eyes; AME, anterior median eyes; MOA, median ocular area; PLE, posterior lateral eyes; PME, posterior median eyes. The type material is deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

Phlogiellus quanyui **sp. nov.**

(Figs 1A–C, 2A–G, 3A–G)

Type material. CHINA: **Holotype:** ♂ (IZCAS-Ar40360), **Hainan:** Qiongzong, Mt. Limu, Xiaosanxia, N19.1812°, E109.7554°, elevation 637 m, 01.XII.2015, Xiaoqing Zhang & Zhigang Chen leg. **Paratypes** 2♂ (IZCAS-Ar40361, Ar40362), same data as holotype; 1♂3♀ (IZCAS-Ar40363–40366), same data as holotype, 06.I.2020, Quanyu Ji leg.

Etymology. The species is named after Mr. Quanyu Ji, who collected some specimens designated as paratypes; noun (name) in genitive case.

Diagnosis. *Phlogiellus quanyui* **sp. nov.** males are similar to those of *P. daweiensis*, *P. pelidnus*, *P. watasei* and *P. xinpings* by having the same angle of the embolus relative to the bulb, and females of the new species are similar to the others by having one pair of spermathecae. *P. quanyui* **sp. nov.** can be separated from *P. xinpings* and *P. pelidnus* by the lack of lyra setae on the maxillae. Males of *P. quanyui* **sp. nov.** can be distinguished from *P. daweiensis*, *P. watasei* and *P. xinpings* by the long white setae absent on tibia and metatarsus in leg I and leg II dorsally (vs. present in *P. daweiensis*), length ratio of the embolus to the bulb, which is almost 1:1 in *P. quanyui* **sp. nov.** (vs. 2:1, 0.8:1 and 1.3:1 in the latter three species, respectively). Females can be differentiated from *P. watasei* by the bulbous, straight spermathecae (vs. curved in *P. watasei*), the middle contraction (vs. contraction unobvious in *P. watasei* and *P. xinpings*; in *P. pelidnus*, the contraction in one third of the spermathecae), the ratio of the length of the spermathecae to the distance between the spermathecae is almost 1:1 (vs. 1:0.5 in *P. pelidnus* and *P. xinpings* and 1:0.25 in *P. watasei*) and the terminal wrinkle absent in *P. quanyui* **sp. nov.** (vs. present in *P. daweiensis*).

Description. Male (holotype, IZCAS-Ar41616) (Figs 1, 2, 3D–E). Total length (without chelicerae) 12.18, carapace 6.35 long, 5.58 wide, dark brown with long setae. Opisthosoma 6.28 long, 4.04 wide, oval, brown, hirsute. Eye group 1.13 long, 0.59 wide (Fig. 2F). MOA 0.54 long, anterior width 0.63, posterior width 0.82. Eye sizes and interdistances:

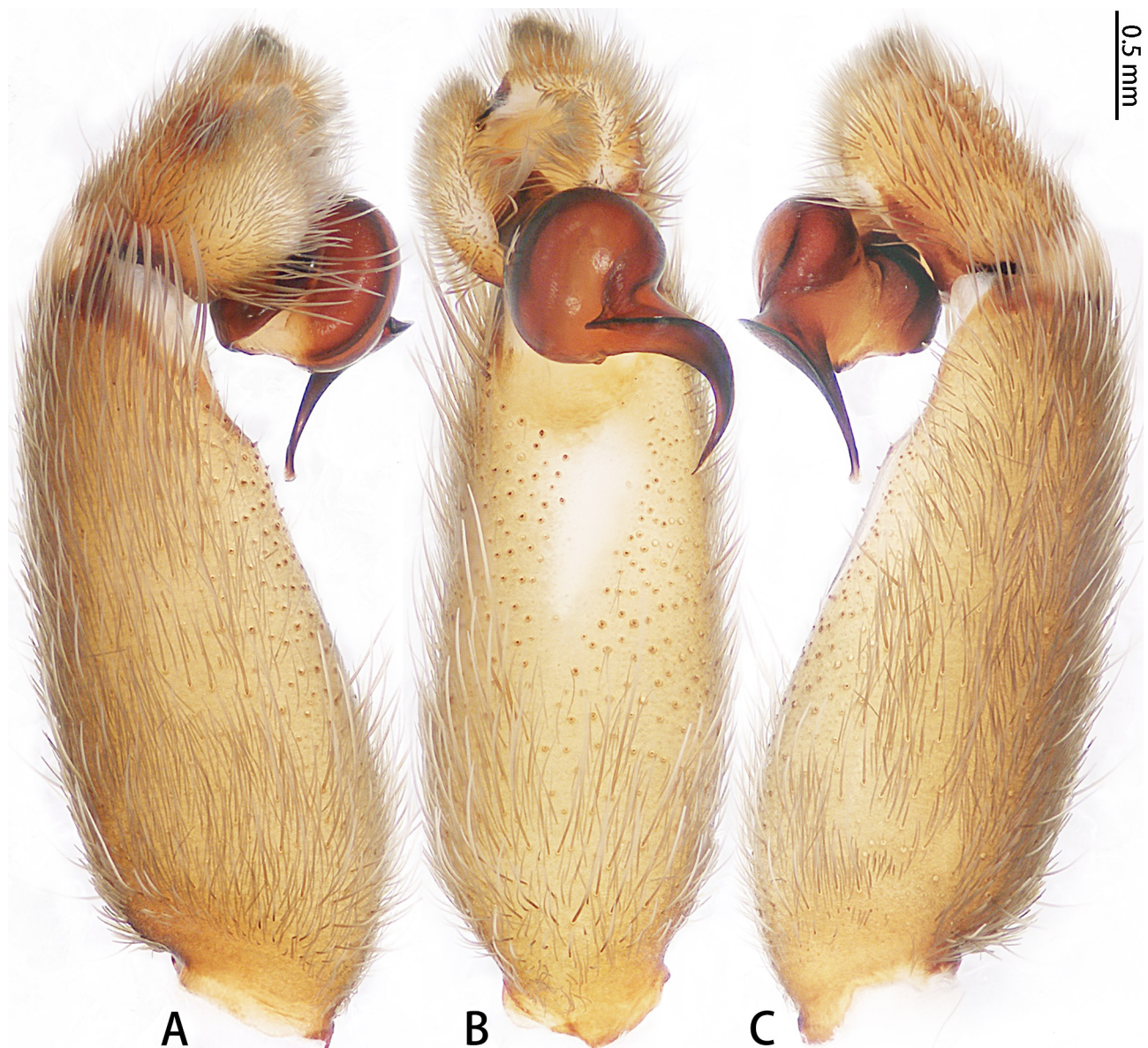
ALE 0.35, AME 0.30, PLE 0.28, PME 0.23; ALE–AME 0.03, AME–AME 0.11, PLE–PME 0.03, PME–PME 0.45. Fovea transverse, recurved. Chelicerae dark brown, with row of 9 promarginal teeth. Labium wider than long, with *ca.* 309 cuspules. Sternum yellow-brown with 3 pairs of sigilla. Legs with long and short setae. Tarsi I–III with 2 claws without denticles, tarsus IV with 3 claws, no denticles on paired claws. Leg measurements: I 19.52 (5.83 + 7.87 + 3.52 + 2.30), II 16.50 (4.80 + 6.54 + 2.96 + 2.20), III 14.08 (3.96 + 4.80 + 3.19 + 2.13), IV 20.36 (5.77 + 6.79 + 5.05 + 2.75). Leg formula: 4123.

Male palp (Figs 1, 2A–B, G). Maxillae without lyra setae, with *ca.* 260 cuspules ventrally. Tibia with many setae laterally swollen at base. Bulb nearly globose, embolus curved, sickle-shaped, with vertical ridge.

Female (paratype, IZCAS-Ar41619) (Fig. 3A–C, F–G). Total length (without chelicerae) 14.90, carapace 5.38 long, 4.50 wide, similar to male. Opisthosoma 8.30 long, 5.00 wide, oval, gray, hirsute. Eye group 1.05 long, 0.52 wide. MOA 0.41 long, anterior width 0.56, posterior width 0.72. Eye sizes and interdistances: ALE 0.25, AME 0.19, PLE 0.26, PME 0.12; ALE–AME 0.07, AME–AME 0.16, PLE–PME 0.05, PME–PME 0.50. Chelicerae with row of 9 promarginal teeth. Labium with *ca.* 239 cuspules. Leg measurements: I 12.27 (3.80 + 5.00 + 1.83 + 1.64), II 10.66 (1.66 + 1.72 + 3.88 + 3.40), III 8.75 (1.74 + 1.82 + 2.81 + 2.38), IV 12.27 (1.80 + 2.69 + 4.50 + 3.28). Leg formula: 4123.

Female genitalia (Fig. 3A–C) simple. Two separate spermathecae, swollen distally, without wrinkles.

Distribution. Known only from the type locality.



FIGURES 1A–C. *Phlogiellus quanyui* sp. nov. holotype, male, right palp, rotated horizontally. A Prolateral view; B Ventral view; C Retrolateral view.

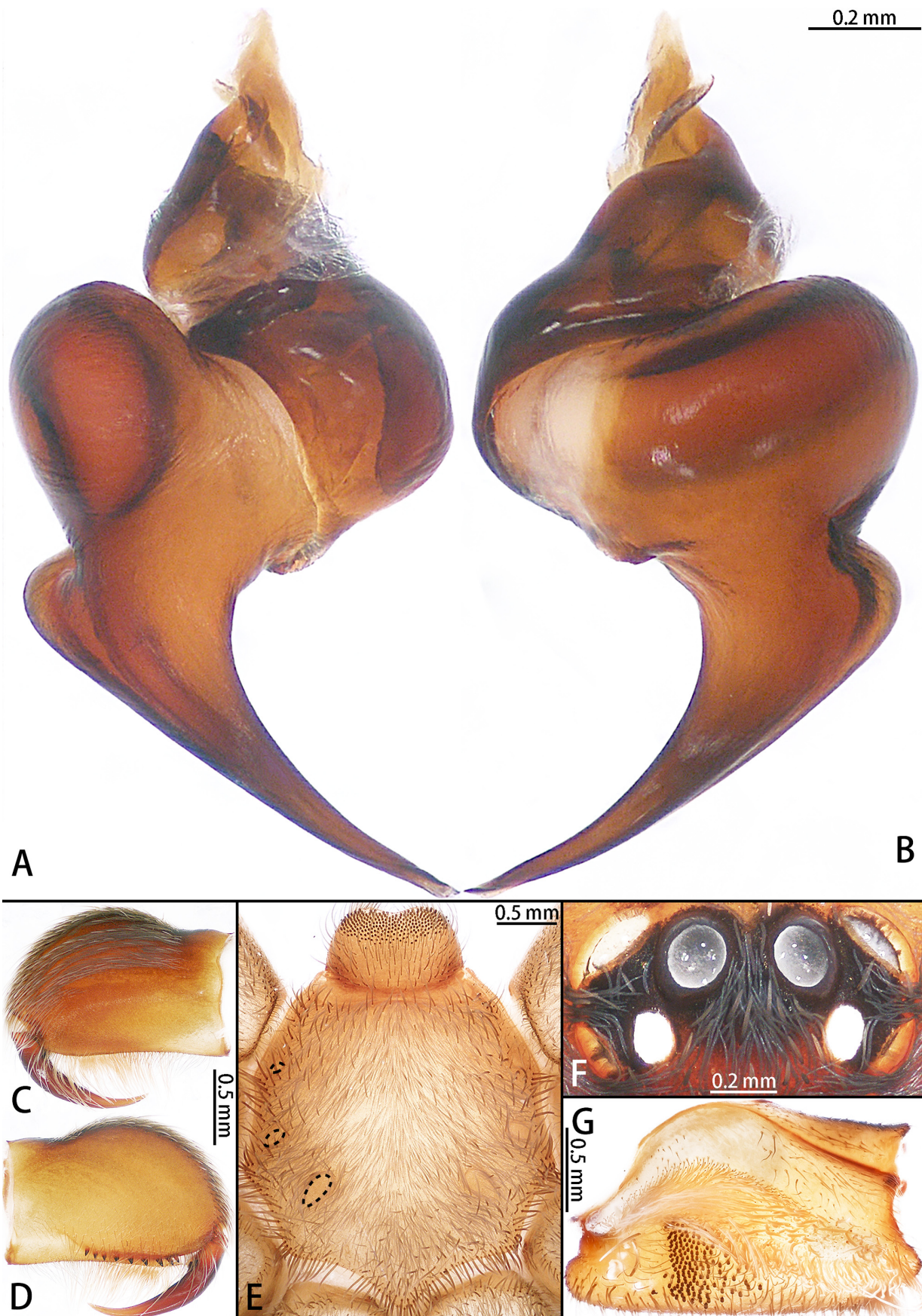


FIGURE 2A–G. *Phlogiellus quanyui* sp. nov., paratype male. A Left palp bulb, retrolateral view; B Same, prolateral view; C Chelicerae, retrolateral view; D Chelicerae, prolateral view; E Sternum; F Eye group; G Left palp maxillae, prolateral view.

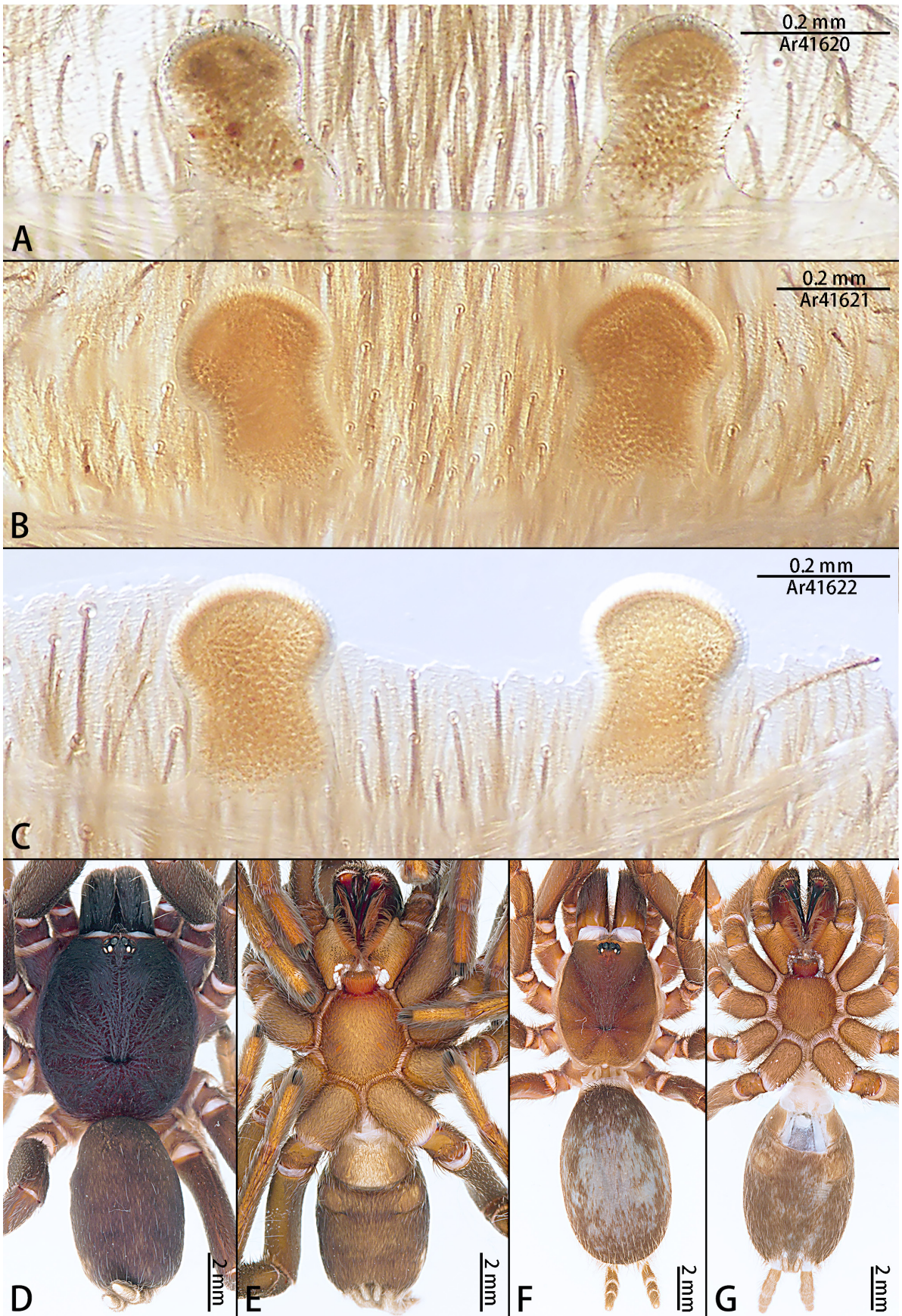


FIGURE 3A–G. *Phlogiellus quanyui* sp. nov., holotype male and paratype females, vulva (A–C) and habitus (D–G). A–C Vulva, dorsal view; D Male, dorsal view; E Same, ventral view; F Female, dorsal view; G Same, ventral view.

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