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Description of one new jumping spider species, with the first description of the female of *Thiania longapophysis* Yu & Zhang, 2022 from Yintiaoling Nature Reserve, China (Araneae: Salticidae)

JIN-ZHEN LU[1,2] & LU-YU WANG[1,*]

[1]*Key Laboratory of Eco-environments in Three Gorges Reservoir Region (Ministry of Education), School of Life Science, Southwest University, Chongqing 400715, China*

[2] *2548851172@qq.com; https://orcid.org/0009-0006-1130-2954*

[*] *wangluyu1989@163.com; https://orcid.org/0000-0002-5250-3473*

Abstract

A new species belonging to the genus *Plexippoides* Prószyński, 1984 is described: *Plexippoides yintiaoling* **sp. nov.** (male, female). The female of *Thiania longapophysis* Yu & Zhang, 2022 is also described for the first time. All specimens were collected from Yintiaoling Nature Reserve. Its morphological description and photographs are provided.

Key words: jumping spiders, description, taxonomy, morphology

Introduction

The jumping spider genus *Plexippoides* Prószyński, 1984 comprises 26 species, in which more than a half of them were found from China (WSC 2025). The presence of the cymbial apophysis, bulb flap, and long copulatory duct forming multiple loops sets this genus apart from all other salticid genera, except *Epeus* Peckham & Peckham, 1886 (Wang, Mi & Peng, 2020). The genus *Thiania* C. L. Koch, 1846 is represented by 28 species worldwide, distributed mainly in China, Vietnam, Indonesia, Philippines and Malaysia (WSC 2025). Characteristics of the genus include carapace sub-rectangular, bulb of male palp usually very large, posterior lateral sperm ducts pyriform, epigyne large, copulatory openings fissured, copulatory ducts often with accessory gland, spermathecae ovoid or pyriform (Yu *et al*., 2021).

In the examination of the salticid specimens collected from Yintiaoling Nature Reserve in Chongqing, we revealed a new species of the genus *Plexippoides*, which is described here as *P. yintiaoling* **sp. nov.** and the unknown female of *Thiania longapophysis* Yu & Zhang, 2022. Detailed morphological description and photographs of *P. yintiaoling* **sp. nov.** and the female supplement of *Thiania longapophysis* are provided.

Material and methods

All specimens were preserved in 75% ethanol. The specimens were examined, measured, and photographed using a Leica M205A stereomicroscope equipped a Leica DFC450 Camera, and LAS software (Ver. 4.6). The left male palp was used for photography. Epigyne was cleared immersing in pancreatin solution before examination and photography (Álvarez-Padilla & Hormiga 2007). Leg measurements are shown as total length (femur, patella and tibia, metatarsus, tarsus). All measurements are in millimeters. All specimens examined here are deposited in the spider collection at the School of Life Sciences, Southwest University, Chongqing, China (SWUC).

Abbreviations used in the text: ALE-anterior lateral eye; AME—anterior median eye; PLE -posterior lateral eye; PME—posterior median eye; AER—anterior eye row; PER—posterior eye row; EFL—length of eye field.

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Taxonomy

Family Salticidae Blackwall, 1841

Genus *Plexippoides* Prószyński, 1984

Plexippoides yintiaoling sp. nov.

Figure 1

Plexippoides potanini: Peng *et al.* 1993: 175, figs 612–617; Song, Zhu & Chen 1999: 540, figs 310K, 311C, 328K; Yin *et al.* 2012: 1436, figs 782a–f; Peng 2020: 328, fig. 235. **Misidentified**.

Type material. Holotype male (SWUC-T-SAL-04-01), **China, Chongqing Municipality, Wuxi County, Yintiaoling Nature Reserve,** Luomadian, 31°33′2″ N, 109°50′37″ E, elev. 1663m, 14 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg. **Paratypes:** 2 females (SWUC-T-SAL-04-02~03), Lanying Grand Canyon, 31°25′55.46″ N, 109°49′16.33″ E, elev. 662m, 16 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1 female (SWUC-T-SAL-04-04), Lanying Grand Canyon, 12 August 2022, B. Tan leg.; 1 male (SWUC-T-SAL-04-05), Lanying Grand Canyon, 21 June 2022, B. Tan leg.; 1 male and 1 female (SWUC-T-SAL-04-06~07), Lanying Grand Canyon, 16 July 2022; 1 female (SWUC-T-SAL-04-08), Lanying, Qingcaoping, 31°24′54″ N, 109°52′57″ E, elev. 2092m, 11 August 2022, B. Tan leg.; 1 male (SWUC-T-SAL-04-09), Lanying, Xi'an Vill, 31°24′42″ N, 109°54′1″ E, elev. 1801m, 21 June 2022, B. Tan leg.;2 males and 1 female (SWUC-T-SAL-04-10~12), Hongqi Administrative Station, 31°30′33″ N, 109°49′10″ E, elev. 1120m, 18 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1 female (SWUC-T-SAL-04-13), Hongqi Administrative Station, 30 June 2022, L.Y. Wang leg.; 1 female (SWUC-T-SAL-04-14), Hongqi, Daqiaowan, 31°29′7″ N, 109°49′4″ E, elev. 912m, 30 June 2022, L.Y. Wang leg.; 1 female (SWUC-T-SAL-04-15), Hongqi, Daqiaowan, 15 August 2022, T.Y. Ren leg.; 1 female (SWUC-T-SAL-04-16), Hongqi, Daqiaowan, 14 August 2022, B. Luo leg.; 1 female (SWUC-T-SAL-04-17), Hongqi, Qinglongtan, 31°30′50″N, 109°49′24″E, elev. 1155m, 2 September 2020, Z.S. Zhang, L.Y. Wang leg.; 1 female (SWUC-T-SAL-04-18), Linkouzi Administrative Station, 31°28′29″ N, 109°52′40″ E, elev. 1224m, 22 June 2022, L.Y. Wang leg.; 1 female (SWUC-T-SAL-04-19), Linkouzi, 2 September 2020, Z.S. Zhang, L.Y. Wang leg.; 1 male (SWUC-T-SAL-04-20), Linkouzi, Guimenguan, 31°28′48″N, 109°53′32″E, elev. 1443m, 21 July 2024, H.Y. Chen leg.; 2 males and 1 female (SWUC-T-SAL-04-21~23), Zhuanping Administrative Station, Sancha River, 31°29′48″ N, 109°55′51″ E, elev. 1731m, 21 June 2022, L.Y. Wang leg.

Etymology. The specific name refers to the type locality, noun in apposition.

Diagnosis. Males of *P. yintiaoling* **sp. nov.** resembles *P. potanini* Prószyński, 1984 (Prószyński, 1984, figs 10–12) in having a similar digitiform retrolateral tibial apophysis and the anteriorly located flap of bulb, but can be differentiated by: embolus originating at the position of 2:30 o'clock in male palp (Fig. 1F) (vs. four o'clock in *P. potanini*); tegular flap shorter, hood-shaped in retrolateral view (Figs 1F–G) (vs. thumb-shaped in *P. potanini*); tibial apophysis distally short and blunt (Fig. 1G) (vs. finger-like, distal end long and thin in *P. potanini*). The female of *P. yintiaoling* **sp. nov.** is similar to *P. regius* Wesołowska, 1981 (Wesołowska, 1981, figs 85–93) in having the similar course of the copulatory ducts, but can be differentiated by copulatory openings opposite, approximately parallel (Fig. 1C) (vs. inverted eight in *P. regius*); spermathecae semilunar (Fig. 1D), (vs. long and saccular in *P. regius*).

Description. Male holotype (Fig. 1A) total length 6.79. Prosoma 3.21 long, 2.26 wide; opisthosoma 3.26 long, 2.16 wide. Carapace pear-shaped, blackish brown, fovea black. Eye sizes and interdistances: AME 0.60, ALE 0.30, PME 0.03, PLE 0.30, AER 2.00, PER 1.93, EFL 1.27. Clypeus height 0.18. Chelicerae short and stout, yellowish brown, two promarginal teeth, one retromarginal. Endites and labium longer than wide, light brown. Sternum nearly shield-shaped, pale yellowish brown, covered with sparse brown hairs. Leg measurements: I 5.56 (1.89, 2.03, 0.98, 0.66); II 4.95 (1.81, 2.00, 0.67, 0.47); III 6.13 (2.10, 2.28, 1.19, 0.56); IV 5.95 (1.76, 1.98, 1.37, 0.84). Leg formula: 3412. Abdomen elongated, dorsum with a broad yellow stripe extending posteriorly from the anterior margin, and several small dark brown spots on both sides. Venter yellowish brown.

Palp (Figs 1E–G). Tibia thick and short, about 1/5 of cymbium length. Cymbium broad and flattened. Retrolateral tibial apophysis sclerotized, digitiform, wider at base, gradually tapering towards blunt tip in retrolateral view. Cymbial apophysis triangular in shape. tegular flap short, triangular-shaped in ventral view, located at position of ca 11:30 o'clock. Embolus slender, appears at ca 2:30 o'clock, circling with distal end reaching to cymbial tip.

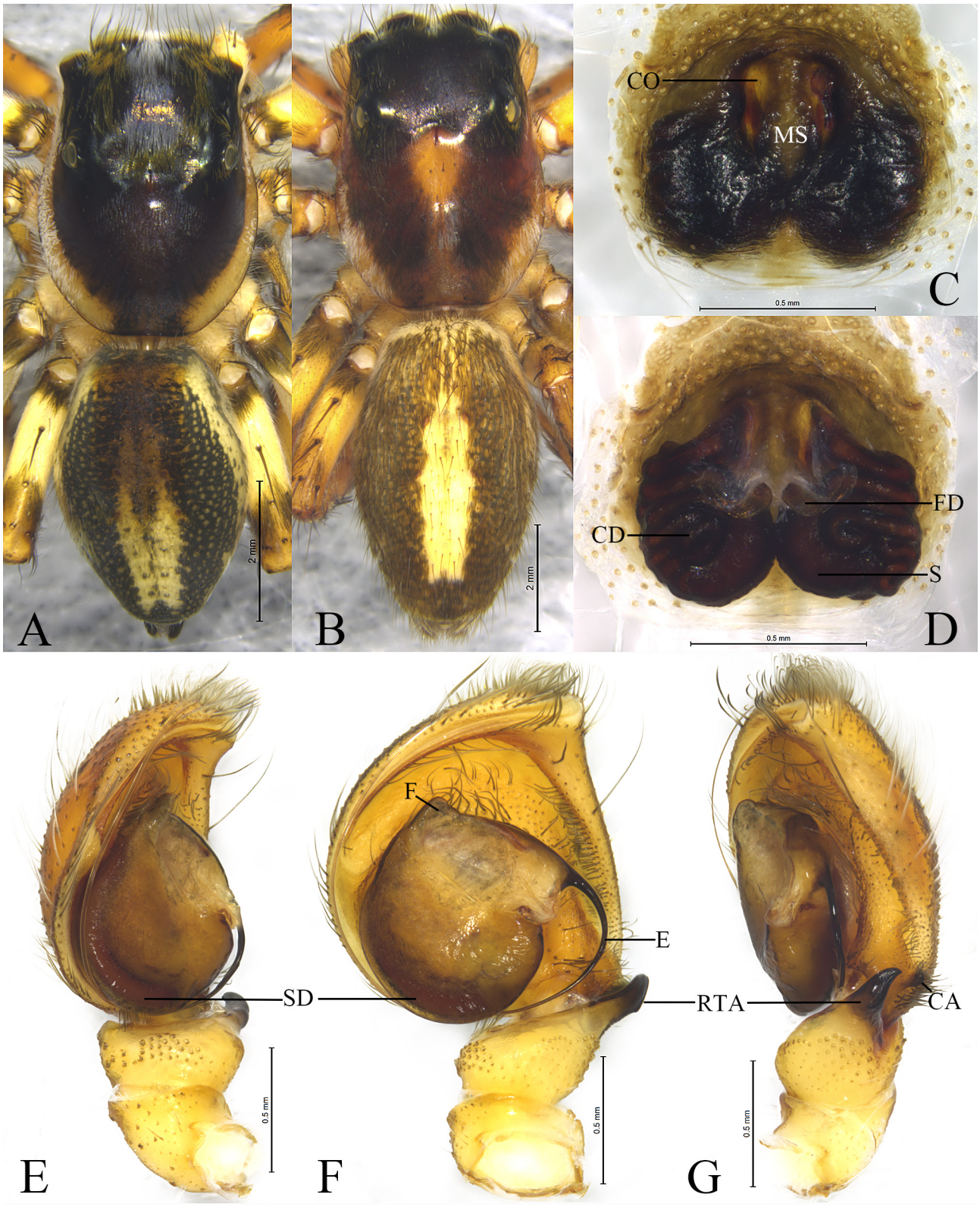

FIGURE 1. *Plexippoides yintiaoling* **sp. nov.** holotype male (A, E–G) and paratype female (B–D). A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Epigyne, ventral view; D. Vulva, dorsal view; E. Left male palp, prolateral view; F. Same, ventral view; G. Same, retrolateral view. Abbreviations: CA—cymbium apophysis, CO—copulatory opening, E—embolus, F—flap, FD—fertilization duct, MS—median septum, RTA—retrolateral tibial apophysis, S—spermatheca, SD—sperm duct.

Female (SWUC-T-SAL-04-03) (Figs 1B–D) total length 9.29. Prosoma 4.20 long, 3.10 wide; opisthosoma 4.45 long, 2.73 wide. Carapace pear-shaped, brown, fovea yellowish brown. Eye sizes and interdistances: AME 0.81, ALE 0.46, PME 0.03, PLE 0.27, AER2.52, PER 2.62, EFL 1.61, Clypeus height 0.17. Chelicerae short and stout, yellowish brown, two promarginal teeth, one retromarginal. Endites and labium have similar length and width, light brown. Sternum nearly shield-shaped, pale yellowish brown, covered with sparse brown hairs. Leg measurements: I 5.81 (2.21, 2.14, 0.91, 0.55); II 6.03 (2.08, 2.29, 0.97, 0.69); III 8.15 (2.52, 2.65, 2.31, 0.67); IV 7.81 (2.66, 2.97, 1.44, 0.74). Leg formula: 3421. Abdomen oval, ventral surface yellow-brown, covered with sparse black-brown hairs.

Epigyne (Figs 1C–D). Epigynum strongly sclerotized, median septum inverted funnel-shaped. Vulva with half-moon shaped spermathecae, copulatory ducts circled and twisted.

Distribution. China (Chongqing, Gansu, Hubei, Hunan, Sichuan).

Genus *Thiania* C. L. Koch, 1846

Thiania longapophysis Yu & Zhang, 2022

Figure 2

Thiania longapophysis Yu & Zhang, 2022: 7, figs 7A–D, 8A–B (♂).

Materials examined. China, Chongqing Municipality, Wuxi County, Yintiaoling Nature Reserve: 2 males and 1 female, Hongqi Administrative Station, Daqiaowan, 31°29′36″ N, 109°49′0″ E, elev. 1079m, 17 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1 female, Daqiaowan, 31°29′6.98″ N, 109°49′4.45″ E, elev. 912m, 30 June 2022, Z.S. Zhang, L.Y. Wang, X.L. Chen, B. Tan, B. Luo and T.Y. Ren leg.; 1 female, Linkouzi Administrative Station, 31°28′27.28″ N, 109°52′52.38″ E, elev. 1281m, 16 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1female, Lanying Grand Canyon, 31°26′22″ N, 109°50′52″ E, elev. 900m, 12 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1 male, Daqiaowan, 31°29′11.75″ N, 109°49′14.47″ E, elev. 1022m, 15 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1 male, Daqiaowan, 31°29′50.49″ N, 109°48′52.90″ E, elev. 1138m, 14 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 2 males, Linkouzi Administrative Station, 31°28′33.87″ N, 109°53′16.69″ E, elev. 1373m, 20 August 2022, Z.S. Zhang, L.Y. Wang, Q.L. Lu, B. Tan, B. Luo and T.Y. Ren leg.; 1 male, Hongqi Administrative Station, 31°30′32.29″ N, 109°49′10.65″ E, elev. 1117m, 22 September 2022, L.Y. Wang, Q.L. Lu, X.L. Chen, H.Y. Chen and B.J. Wang leg.

Diagnosis. The male of *T. longapophysis* resembles *T. bamian* Li, Liu & Peng, 2024 in having the similar shape of palpal bulb, sperm duct and embolus (Li, Liu & Peng, 2024: 302, figs 1A–B, 2A–B), but can be distinguished from the latter by: retrolateral tibial apophysis slightly thick, the distal end of RTA barb-shaped (Figs 2F–G), vs thin, bar-shaped in *T. bamian*. The female of *T. longapophysis* resembles *T. bamian* Li, Liu & Peng, 2024 in having the epigynal window and similar shape of copulatory ducts (Li, Liu & Peng, 2024: 302, figs 1C–D, 2C–D), but can be differentiated by the epigynal window large and distinct (Fig. 2D), vs small and inconspicuous in *T. bamian*; copulatory openings commissure-shaped (Fig. 2C), vs circular in *T. bamian*.

Description. Female (Fig. 2B) total length 7.27. Prosoma 2.94 long, 2.56 wide; opisthosoma 4.18 long, 2.05 wide. Carapace yellowish brown, eye field dark brown; Carapace and eye field covered with white setae. Fovea longitudinal. Eye sizes and interdistances: AME 0.53, ALE 0.29, PME 0.02, PLE 0.22, AER 1.67, PER 1.70, EFL0.88. Clypeus height 0.12. Chelicerae stout and short, promargin and retromargin with one fissident tooth with two cusps. Endites and labium brown. Sternum nearly shield-shaped, longer than wide, pale yellow. Leg measurements: I 5.90 (1.76, 2.37, 1.09, 0.68); II 4.26 (1.48, 1.64, 0.66, 0.48); III 4.02 (1.24, 1.62, 0.77, 0.39); IV 4.85 (1.43, 1.75, 1.16, 0.51). Leg formula: 1423. Abdomen cylindrical, slightly broader anteriorly, light yellow dorsally and ventrally.

Epigyne (Figs 2C–D). Median septum obvious, wider apically, fan-shaped. Copulatory openings fissured, situated on bottom of epigynal window. Copulatory ducts almost L-shaped, slightly broadened at proximal, running from top to bottom and then connecting with spermathecae. Spermathecae mainly spherical, with anterior extensions to connected to fertilization ducts.

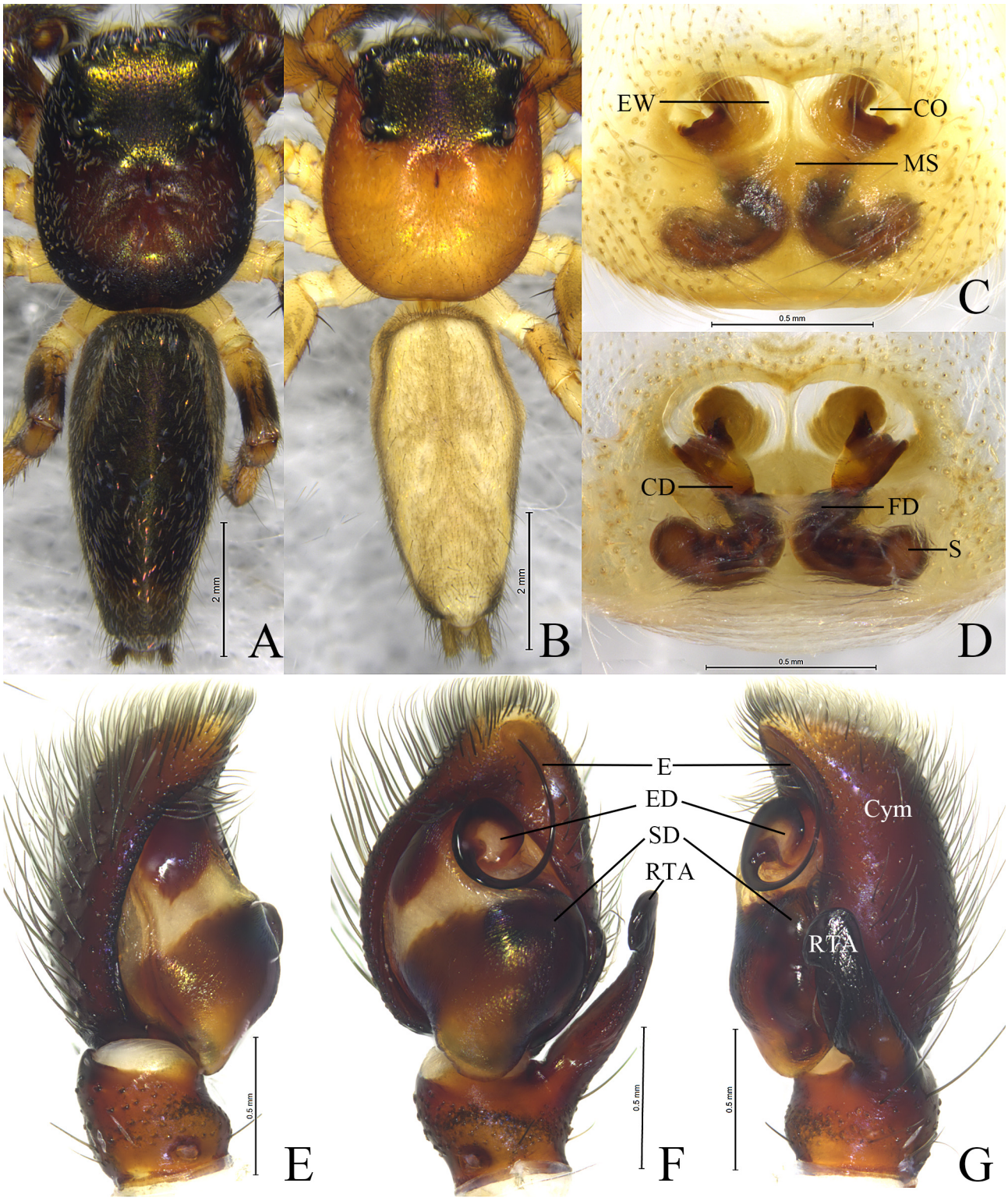

FIGURE 2. *Thiania longapophysis* male (A, E–G) and female (B–D). A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Epigyne, ventral view; D. Vulva, dorsal view; E. Left male palp, prolateral view; F. Same, ventral view; G. Same, retrolateral view. Abbreviations: C—conductor, CO—copulatory opening, Cym—cymbium, E—embolus, ED—embolic disc, EW—epigynal window, FD—fertilization duct, MS—median septum, RTA—retrolateral tibial apophysis, S—spermathecae, SD—sperm duct.

Male description refers to Yu & Zhang (2022).

Distribution. China (Sichuan, Chongqing).

Remark. Male of the species was described by Yu & Zhang (2022), based on male holotype from Ya'an of Sichuan, about 680 km away from Yintiaoling Nature Reserve, but the shape of RTA and the silk-like, anti-clockwise embolus (Yu & Zhang 2022: figs 7, 8) easily made us convinced that we found it from Yintiaoling and its female was firstly discovered.

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