

## ORIGINAL ARTICLE

# Taxonomic studies on six species of the genus *Plator* (Araneae: Trochanteriidae) from China

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**Abstract** In present work, we study six species of the genus *Plator* Simon, 1880 of the spider family Trochanteriidae Karsch, 1879, including five new species from China: *Plator cyclicus* **sp. nov.**, *P. dazhonghua* **sp. nov.**, *P. hanyikani* **sp. nov.**, *P. kamurai* **sp. nov.** and *P. qiului* **sp. nov.** *Plator sinicus* Zhu & Wang, 1963 **syn. nov.** is regarded as a junior synonym of *P. nipponicus* (Kishida, 1914).

**Key words** New species, new synonym, taxonomy, Asia.

## 1 Introduction

The spider family Trochanteriidae Karsch, 1879 includes 21 genera and 167 species worldwide, of which two genera are distributed in Asia: *Olin* Deeleman-Reinhold, 2001 and *Plator* Simon, 1880. The genus *Olin* includes a single species from Indonesia and Australia: *O. platnicki* Deeleman-Reinhold, 2001. The genus *Plator* includes 12 species, of which six are endemic to China and four are endemic to India (Wang, 1991; World Spider Catalog, 2019). Additionally, *Plator* species are also known from Korea and Japan (Kim & Lee, 2016; World Spider Catalog, 2019).

In this paper, five new *Plator* species are described: *P. cyclicus* **sp. nov.**, *P. dazhonghua* **sp. nov.**, *P. hanyikani* **sp. nov.**, *P. kamurai* **sp. nov.** and *P. qiului* **sp. nov.** By examining two named specimens of *P. nipponicus* from Japan, we confirm *P. sinicus* Zhu & Wang, 1963 **syn. nov.** should be a junior synonym of *P. nipponicus* (Kishida, 1914).

## 2 Materials and methods

All specimens were preserved in 80% ethanol. Epigynes were cleared in proteinase K at 56°C 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® (Khmelik *et al.*, 2006) or Zerene Stacker 1.04 (<http://zerenesystems.com/cms/stacker>) and processed in Adobe Photoshop CC® 2018.

All measurements are in millimeters (mm) and were obtained with a LEICA M205C stereomicroscope. 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). The terminology used in the text and figures follows Ramírez (2014). The map was generated using ArcMap 10.2 (Esri Inc.). Types from the current study are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

Abbreviations used in the text and figures:

ALE—anterior lateral eyes;

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AME—anterior median eyes;  
 C—conductor;  
 CD—copulatory duct;  
 CO—copulatory opening;  
 E—embolus;  
 FD—fertilization duct;  
 MA—median apophysis;  
 PLE—posterior lateral eyes;  
 PME—posterior median eyes;  
 PS—primary spermatheca;  
 PsH—primary spermathecal head;  
 RTA—retrolateral tibial apophysis;  
 SD—spermathecal duct;  
 SS—secondary spermathecae;  
 SH—spermathecal head;  
 SsH—secondary spermathecal head;  
 ST—sub-tegulum;  
 T—tegulum.

### 3 Taxonomy

#### Family Trochanteriidae Karsch, 1879

#### Genus *Plator* Simon, 1880

Type species. *Plator insolens* Simon, 1880

Diagnosis. *Plator* can be easily distinguished from other Trochanteriidae genera by the carapace which is much wider than long (Platnick, 1976) and semicircular rather than round (Zhu *et al.*, 2006), as well as by having three or more promarginal teeth.

Distribution. China, India, Japan, Korea.

#### *Plator cyclicus* sp. nov. (Figs 1, 8A, 10A–D, 11)

Holotype ♂ (IZCAS-Ar39702), China, Yunnan Province, Pu'er City, Mengpufa, 28.3845°N, 101.2088°E, 29 January 2017, Jin Wang leg. Paratypes. 1♂1♀ (IZCAS-Ar39703–Ar39704), same data as holotype.

Etymology. The species name is derived from the Latin word "*cyclicus*", meaning round, referring to the nearly circular epigyne; adjective, masculine.

Diagnosis. This species resembles *P. pennatus* Platnick, 1976 by having a flat embolus and a well-developed conductor in the males and by the shapes of the primary spermathecae and copulatory ducts in the females. However, the males can be distinguished from *P. pennatus* by the median apophysis which has a hood and is not hooked, and the females can be distinguished by the epigyne which has a well-developed circular rim.

Description. Male (IZCAS-Ar39702). Total length 6.67, carapace 2.45 long, 3.60 wide, opisthosoma 3.80 long, 3.64 wide. Eye sizes and interdistances: AME 0.16, ALE 0.13, PME 0.14, PLE 0.16, AME–AME 0.08, AME–ALE 0.08, PME–PME 0.26, PME–PLE 0.26, AME–PME 0.10, ALE–PLE 0.22. Clypeus height 0.04. Chelicerae with four promarginal and four retromarginal teeth. Leg measurements: leg I: 8.81 (3.19 + 3.13 + 1.58 + 0.91), leg II: 10.78 (3.80 + 3.76 + 2.20 + 1.02), leg III: 12.98 (4.45 + 4.50 + 2.89 + 1.14), leg IV: 13.30 (3.92 + 3.80 + 4.60 + 0.98). Leg formula: 4321.

Male palp. Retrolateral tibial apophysis longer than wide, thin. Cymbium oval, sub-tegulum brown, mostly obscured by tegulum, tegulum nearly oval, median apophysis short, terminus with hood opening retrolaterally. Embolus curved, ribbon-shaped, without obvious apophysis. Conductor membranous, well-developed, originating between embolic base and median apophysis.

Female (IZCAS-Ar39704). Total length 10.00, carapace 2.91 long, 4.52 wide, opisthosoma 6.60 long, 5.15 wide. Eye sizes and interdistances: AME 0.16, ALE 0.14, PME 0.12, PLE 0.16, AME–AME 0.10, AME–ALE 0.15, PME–PME 0.30,

PME–PLE 0.36, AME–PME 0.14, ALE–PLE 0.25. Clypeus height 0.08. Chelicerae with four promarginal and three retromarginal teeth. Leg measurements: Leg I: 10.31 (3.76 + 3.64 + 1.86 + 1.05), leg II: 15.45 (5.32 + 5.77 + 3.13 + 1.23), leg III: 15.47 (5.38 + 5.64 + 3.22 + 1.23), leg IV: 12.37 (4.55 + 3.96 + 2.72 + 1.14). Leg formula: 3241.

Epigyne (Figs 1A–B) copulatory ducts short, thick, U-shaped. Two pairs of spermathecae behind copulatory ducts.

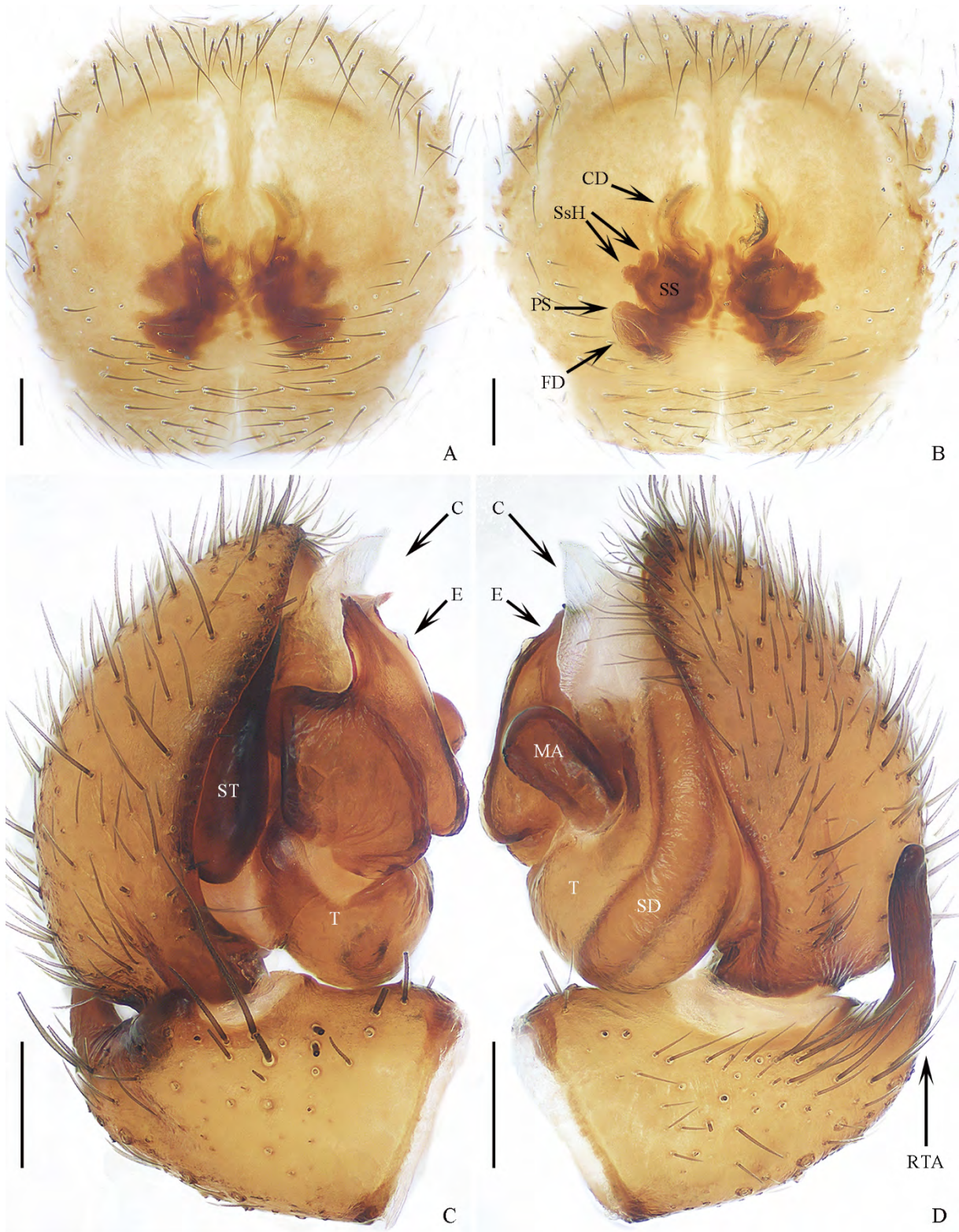


Figure 1. *Plator cyclicus* sp. nov., paratype female and holotype male. A. Epigyne, ventral view. B. Vulva, dorsal view. C. Left palp, prolateral view. D. Same, retrolateral view. Scale bars=0.2mm.



Secondary spermathecae close to copulatory openings, oval, with two secondary spermathecal heads. Primary spermathecae triangular, posterior to secondary spermathecae, connected with fertilization ducts.

Distribution. Known only from the type locality.

***Plator dazhonghua* sp. nov.** (Figs 2, 8B, 10E–H, 11)

Holotype ♂ (IZCAS-Ar39705), China, Sichuan Province, Ganzi Zang Autonomous Region, Zhubalong, Gunre, 29.6703°N, 98.9961°E, elev. 2454m, 18 July 2019, Zhigang Chen & Yan Tong leg. Paratypes. 1 ♂ (IZCAS-Ar39706), same data as holotype; 3 ♀ (IZCAS-Ar39707–Ar39709), same data as holotype, but 06 August 2019, Shuo Qi & Chao Wu leg.

Etymology. The species name is a noun in apposition derived from the Chinese pinyin "dazhonghua" (Greater China) and refers to the species distribution.

Diagnosis. The males of this species can be distinguished from others by having a short, strong embolus, a sheet-shaped

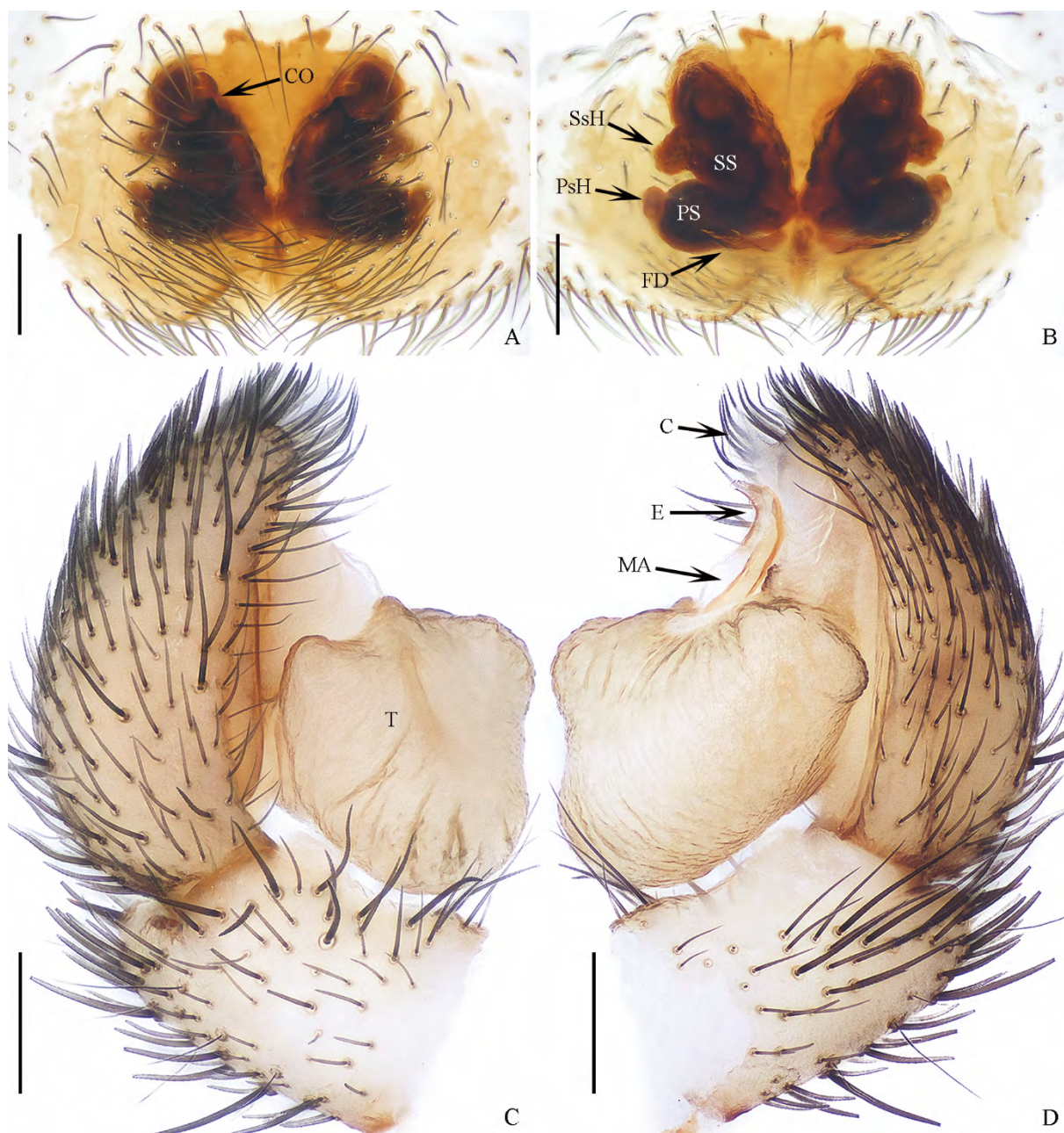


Figure 2. *Plator dazhonghua* sp. nov., paratype female and holotype male. A. Epigyne, ventral view. B. Vulva, dorsal view. C. Left palp, prolateral view. D. Same, retrolateral view. Scale bars = 0.2 mm.

median apophysis, terminus with hook, while the females can be distinguished by the epigyne with the width being greater than the length, two hoods anteriorly, copulatory ducts indistinct, secondary spermathecae folded with copulatory ducts.

Description. Male (IZCAS-Ar39705). Total length 6.34, carapace 3.84 long, 2.59 wide, opisthosoma 3.80 long, 3.68 wide. Eye sizes and interdistances: AME 0.14, ALE 0.16, PME 0.22, PLE 0.25, AME–AME 0.09, AME–ALE 0.06, PME–PME 0.21, PME–PLE 0.26, AME–PME 0.08, ALE–PLE 0.23. Clypeus height 0.09. Chelicerae with three promarginal and one or two retromarginal teeth. Leg measurements: leg I: 9.49 (3.32 + 3.24 + 2.02 + 0.91), leg II: 14.26 (4.60 + 5.19 + 3.32 + 1.15), leg III: 13.60 (4.40 + 4.90 + 3.22 + 1.08), leg IV: 10.89 (3.76 + 3.56 + 2.62 + 0.95). Leg formula: 2341.

Male palp (Figs 2C–D, 8B). Retrolateral tibial apophysis absent. Cymbium oval, sub-tegulum brown, hidden under tegulum and embolus. Tegulum irregularly shaped, with prolateral angular protrusion, median apophysis sheet-shaped, terminus with hook. embolus short, robust, conical, without obvious apophysis. Conductor membranous, triangular, originating between median apophysis and embolic base.

Female (IZCAS-Ar39709). Total length 10.38, carapace 3.68 long, 5.58 wide, opisthosoma 6.54 long, 6.41 wide. Eye sizes and interdistances: AME 0.14, ALE 0.18, PME 0.14, PLE 0.28, AME–AME 0.15, AME–ALE 0.19, PME–PME 0.33, PME–PLE 0.46, AME–PME 0.18, ALE–PLE 0.36. Clypeus height 0.11. Chelicerae with five promarginal and two retromarginal teeth. Leg measurements: Leg I: 13.01 (4.90 + 4.70 + 2.25 + 1.16), leg II: 19.61 (6.86 + 7.18 + 4.12 + 1.45), leg III: 19.03 (6.54 + 6.86 + 4.30 + 1.33), leg IV: 15.55 (5.64 + 5.05 + 3.72 + 1.14). Leg formula: 2341.

Epigyne (Figs 2A–B) width greater than length, two hoods anteriorly. Copulatory ducts indistinct. Secondary spermathecae close to copulatory openings, spermathecal head obvious. Primary spermathecae posterior, oval, posterior to secondary spermathecae, primary spermathecal head obvious.

Distribution. Known only from the type locality.

***Plator hanyikani* sp. nov.** (Figs 3, 8C, 10I–L, 11)

Holotype ♂ (IZCAS-Ar397010), China, Yunnan Province, Chuxiong Yi Autonomous Region, Shuangbai County, Gelajie, 24.6787°N, 101.7450°E, 09 February 2019, Zheng Zhou leg. Paratype. 1 ♀ (IZCAS-Ar39711), same data as holotype.

Etymology. The species is named in honour of Mr. Yikan Han who has helped us greatly with this research; noun (name) in genitive case.

Diagnosis. This new species resembles *P. qiului* sp. nov. by the males having a slender embolus and median apophysis, and the females having similar copulatory openings, copulatory ducts and spermathecae. However, the male of *P. hanyikani* sp. nov. can be distinguished by the shape of the embolus (the middle of the embolus is more expanded in *P. qiului* sp. nov.), the presence of a stout and protruding apophysis at the embolic base, and the embolus and median apophysis terminating at the same level, near the apex of the palp. In the female, the positions of the copulatory openings and secondary spermathecae are at the same level, primary spermathecae oval, copulatory ducts well-developed, width of copulatory ducts is double the width of the primary spermathecae.

Description. Male (IZCAS-Ar397010). Total length 6.09, carapace 2.33 long, 3.70 wide, opisthosoma 3.68 long, 3.92 wide. Eye sizes and interdistances: AME 0.15, ALE 0.15, PME 0.11, PLE 0.15, AME–AME 0.11, AME–ALE 0.15, PME–PME 0.23, PME–PLE 0.27, AME–PME 0.10, ALE–PLE 0.19. Clypeus height 0.06. Chelicerae with four promarginal and three retromarginal teeth. Leg measurements: leg I: 8.75 (3.16 + 3.03 + 1.58 + 0.98), leg II: 12.88 (4.45 + 4.45 + 2.75 + 1.24), leg III: 11.84 (4.08 + 4.08 + 2.55 + 1.13), leg IV: 9.76 (3.36 + 3.16 + 2.23 + 1.01). Leg formula: 2341.

Male palp (Figs 3C–D, 8C). Retrolateral tibial apophysis absent. Cymbium oval, sub-tegulum red-brown, mostly hidden under tegulum, tegulum nearly oval, median apophysis thin, worm-shaped. embolus slightly curved, slender, embolic base with apophysis. Conductor membranous and surrounds half of the embolus, originating between median apophysis and embolic base.

Female (IZCAS-Ar39711). Total length 9.17, carapace 2.84 long, 4.50 wide, opisthosoma 6.15 long, 5.64 wide. Eye sizes and interdistances: AME 0.16, ALE 0.16, PME 0.14, PLE 0.20, AME–AME 0.30, AME–ALE 0.15, PME–PME 0.30, PME–PLE 0.39, AME–PME 0.13, ALE–PLE 0.28. Clypeus height 0.08. Chelicerae with four promarginal and two retromarginal teeth. Leg measurements: Leg I: 9.20 (3.32 + 3.32 + 1.11 + 1.45), leg II: 14.17 (4.90 + 5.15 + 2.78 + 1.34), leg III: 13.30 (4.70 + 4.60 + 2.80 + 1.20), leg IV: 12.24 (4.04 + 3.52 + 2.45 + 2.23). Leg formula: 2341.

Epigyne (Figs 3A–B) copulatory ducts curved, semicircular, well-developed. Secondary spermathecae and copulatory openings at the same level; secondary spermathecae small, size equal to secondary spermathecal head. Primary spermathecae oval, posterior to secondary spermathecae.

Distribution. Known only from the type locality.





Figure 3. *Plator hanyikani* sp. nov., paratype female and holotype male. A. Epigyne, ventral view. B. Vulva, dorsal view. C. Left palp, prolateral view. D. Same, retrolateral view. Scale bars=0.2mm.

***Plator kamurai* sp. nov.** (Figs 4, 9C, 11)

Holotype ♂ (IZCAS-Ar397012), China, Tibet, Zayu County, Zhougoin Township, Zhala, Zhubagen, 28.6035°N, 97.2603°E, elev. 1903m, 28 August 2014, Jincheng Liu leg.



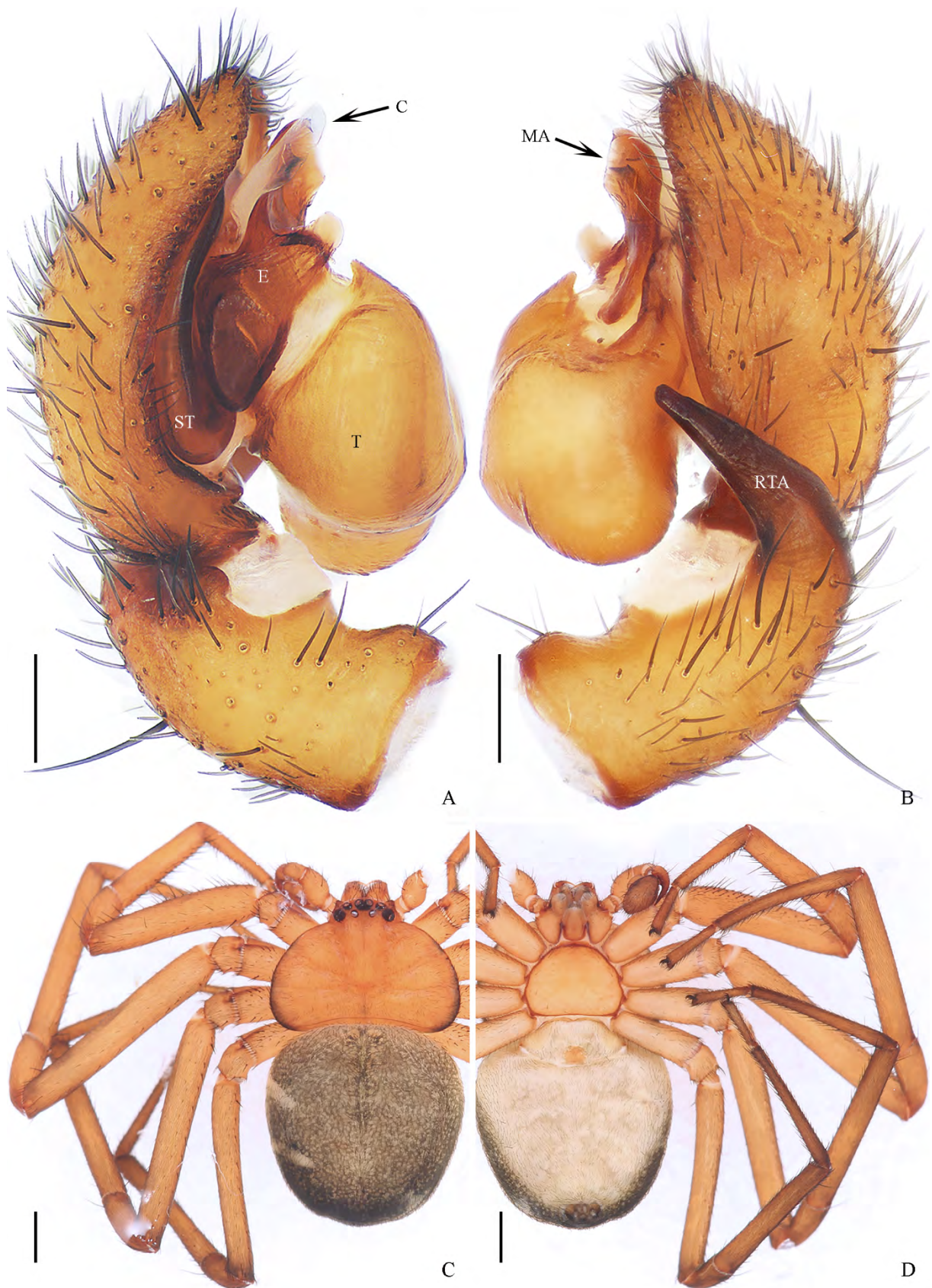


Figure 4. *Plator kamurai* sp. nov., holotype male. A. Left palp, prolateral view. B. Same, retrolateral view. C. Habitus, dorsal view. D. Habitus, ventral view. Scale bars: A–B=0.2 mm; C–D=1.0 mm.

**Etymology.** The species is named in honour of Dr. Takahide Kamura, a well-known arachnologist from Japan, for his contribution to the current study; noun (name) in genitive case.

**Diagnosis.** This species can be distinguished from other congeners by the rectangular embolus, large median apophysis (in ventral view) and the black margin of the carapace.

**Description.** Male (IZCAS-Ar397012). Total length 6.54, carapace 2.50 long, 3.80 wide, opisthosoma 4.00 long, 3.80 wide. Eye sizes and interdistances: AME 0.15, ALE 0.14, PME 0.08, PLE 0.20, AME–AME 0.08, AME–ALE 0.10, PME–PME 0.23, PME–PLE 0.24, AME–PME 0.11, ALE–PLE 0.21. Clypeus height 0.04. Chelicerae with four promarginal and two retromarginal teeth. Leg measurements: leg I: 9.25 (3.36 + 3.19 + 1.68 + 1.02), leg II: 13.52 (4.45 + 5.00 + 2.84 + 1.23), leg III: 14.12 (4.38 + 4.60 + 2.89 + 2.25), leg IV: 11.11 (3.84 + 3.56 + 2.63 + 1.08). Leg formula: 3241.

Male palp (Figs 4A–B, 9C). Retrolateral tibial apophysis extended ventrally. Cymbium oval, sub-tegulum red-brown, mostly hidden under tegulum. Tegulum nearly oval, median apophysis well-developed, terminus higher than embolus. Embolus short, rectangular, terminus flat with a small apophysis next to embolic opening, embolic base with a stout conical apophysis. Conductor membranous, surrounding half of the embolus, originating between the median apophysis and embolic base.

**Distribution.** Known only from the type locality.

***Plator qiului* sp. nov.** (Figs 5, 8D, 10M–P, 11)

**Holotype** ♂ (IZCAS-Ar397013), China, Yunnan Province, Yuxi City, Xinping Yi and Dai Autonomous County, Mt. Ailaoshan, Laoniuchang Pine tree forest, 23.9742°N, 101.5550°E, elev. 1987 m, 24 May 2018, Lu Qiu and Zhiwei Dong leg. **Paratypes.** 1 ♂ (IZCAS-Ar39714), same data as holotype; 1 ♀ (IZCAS-Ar39715), China, Yunnan Province, Yuxi City, Xinping Yi and Dai Autonomous County, Mt. Ailaoshan, Yingpan to Guanjiashai, 23.9977°N, 101.5497°E, elev. 1988 m, 24 May 2018, Lu Qiu and Zhiwei Dong leg.; 1 ♀ (IZCAS-Ar39716), China, Yunnan Province, Honghe Hani & Yi Autonomous Region, Jianshun County, Huanglong Temple, 24 February 2019, 23.6518°N, 102.7628°E, elev. 1429 m, Xuanzhao Li and Jingxian Zheng leg.

**Etymology.** This species is named after Mr. Lu Qiu, the collector of the specimen; noun (name) in genitive case.

**Diagnosis.** This new species resembles *P. hanyikan* sp. nov. by the males having a slender embolus and median apophysis, and the females having similar copulatory openings, copulatory ducts and spermathecae. However, the male of *P. qiulu* sp. nov. can be distinguished by the middle of the embolus which is consistently wide, the absence of an apophysis at the embolic base, and the tip of the embolus is anterior to the median apophysis, near the apex of the palp. In the female, the positions of the copulatory openings are posterior to the secondary spermathecae, primary spermathecae oval, width of copulatory ducts equal to that of primary spermathecae.

**Description.** Male (IZCAS-Ar397013). Total length 5.64, carapace 2.40 long, 3.56 wide, opisthosoma 3.56 long, 3.64 wide. Eye sizes and interdistances: AME 0.17, ALE 0.17, PME 0.15, PLE 0.18, AME–AME 0.08, AME–ALE 0.07, PME–PME 0.19, PME–PLE 0.24, AME–PME 0.07, ALE–PLE 0.18. Clypeus height 0.03. Chelicerae with four promarginal and three retromarginal teeth. Leg measurements: leg I: 8.10 (2.94 + 2.75 + 1.47 + 0.94), leg II: 12.39 (4.08 + 4.55 + 2.53 + 1.23), leg III: 11.77 (3.96 + 4.20 + 2.43 + 1.18), leg IV: 9.74 (3.52 + 3.16 + 2.05 + 1.01). Leg formula: 2341.

Male palp (Figs 5C–D, 8D). Retrolateral tibial apophysis absent. Cymbium oval, sub-tegulum red-brown, mostly hidden under tegulum. Tegulum nearly oval, median apophysis thin, worm-shaped. Embolus slightly curved, worm-shaped, the middle of embolus is expanded, embolic base apophysis absent. Conductor membranous and surrounds half of the embolus, originating between median apophysis and embolic base.

**Female** (IZCAS-Ar39715). Total length 9.36, carapace 2.84 long, 4.55 wide, opisthosoma 6.47 long, 6.09 wide. Eye sizes and interdistances: AME 0.17, ALE 0.13, PME 0.14, PLE 0.23, AME–AME 0.13, AME–ALE 0.16, PME–PME 0.31, PME–PLE 0.31, AME–PME 0.12, ALE–PLE 0.23. Clypeus height 0.05. Chelicerae with five or six promarginal and three retromarginal teeth. Leg measurements: Leg I: 9.94 (3.56 + 3.32 + 1.92 + 1.14), leg II: 12.45 (4.95 + 4.97 + 1.29 + 1.24), leg III: 14.12 (4.90 + 5.05 + 2.91 + 1.26), leg IV: 11.64 (4.30 + 3.68 + 2.53 + 1.13). Leg formula: 3241.

**Epigyne** (Figs 5A–B) copulatory ducts curved, semicircular. Secondary spermathecae anterior to copulatory openings, small, size equal to secondary spermathecal head. Primary spermathecae oval, posterior to secondary spermathecae, connected with fertilization ducts.

**Distribution.** Known only from the type localities.

***Plator nipponicus* (Kishida, 1914)** (Figs 6–7, 9A–B)

*Hitoegumoa nipponica* Kishida, 1914: 44, fig. 1.

*Plator sinicus* Zhu & Wang, 1963: 469, pl. 3, figs 20, 22; Zhu *et al.*, 2006: 37, figs 8–13, 40–42. **syn. nov.**



Material examined. 2♀, China, Liaoning Province, Dalian City, Pulandian District, Gaowafang Village, 07 October 2016, Yejie Lin leg.; 1♂17♀, China, Shaanxi Province, Shangluo City, Shangzhou, 30 March 2015, Keyuan Ma leg.; 1♀, Japan, Osaka Pref., Osaka-shi, Minami-ku, Tanimachi, 9 March 1958, H. Takashima & J. Yoshida leg.; 1♂, Japan, Osaka

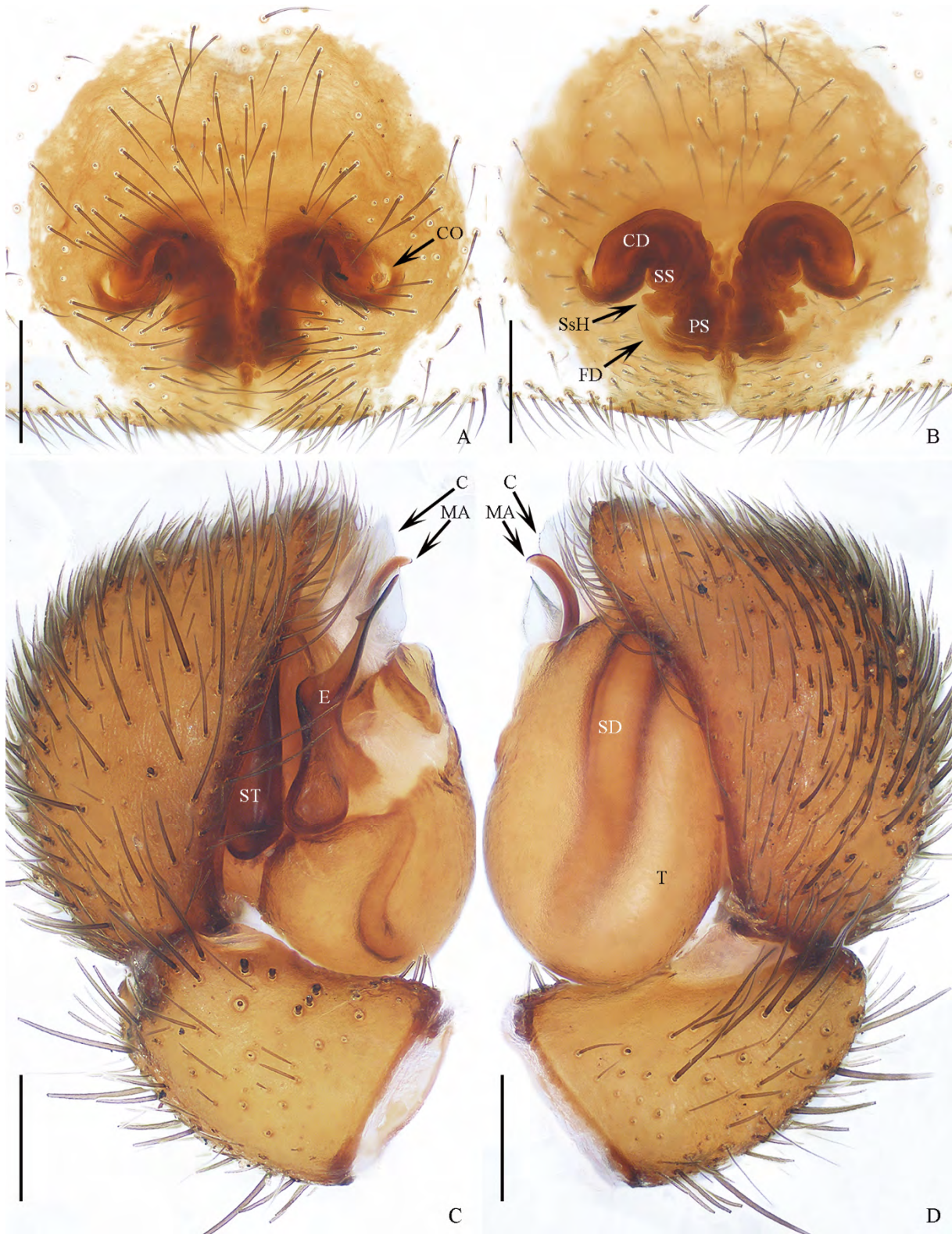


Figure 5. *Plator qiului* sp. nov., paratype female and holotype male. A. Epigyne, ventral view. B. Vulva, dorsal view. C. Left palp, prolateral view. D. Same, retrolateral view. Scale bars=0.2mm.



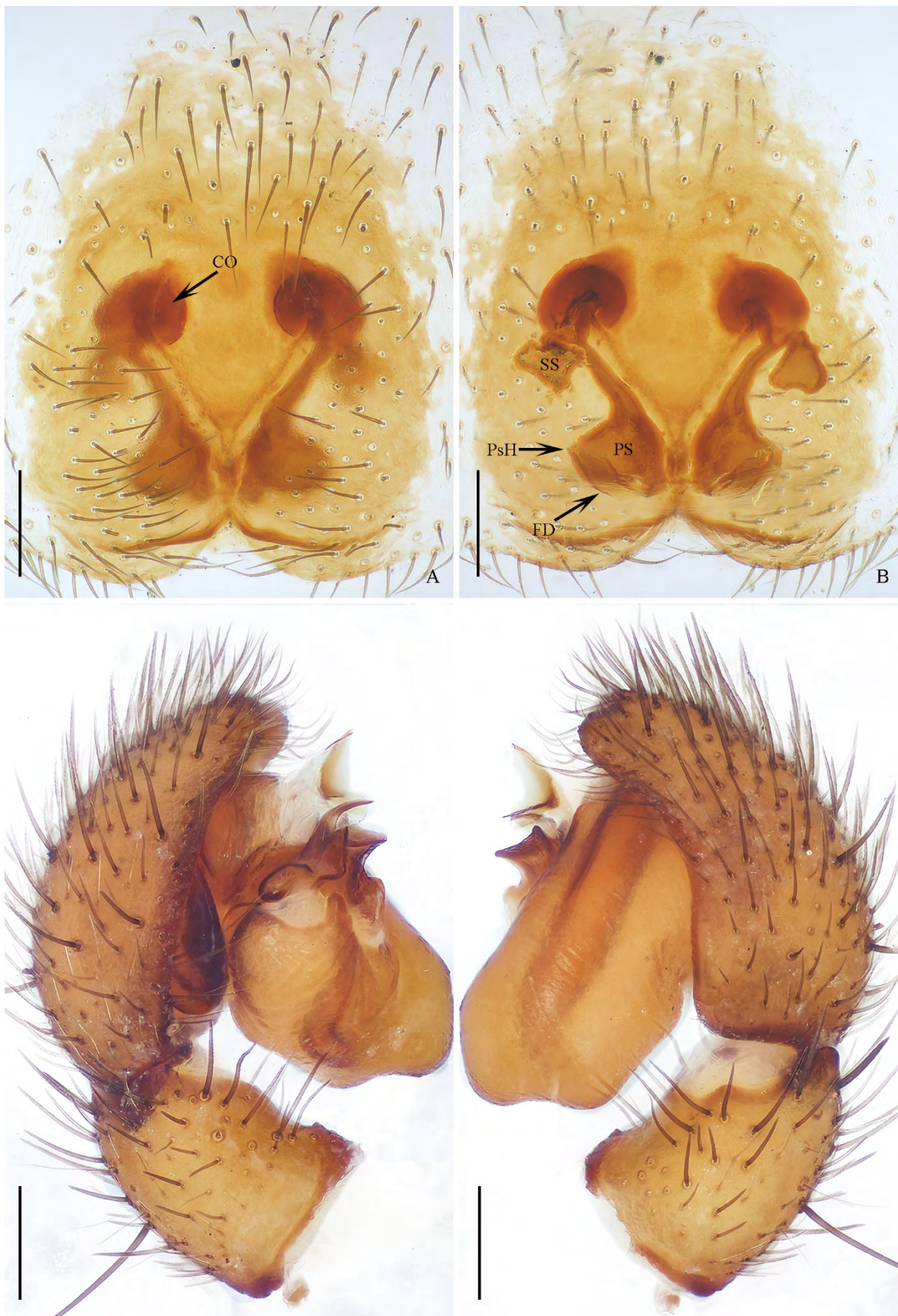


Figure 6. *Plator nipponicus*, female and male from Shannxi, China. A. Epigyne, ventral view. B. Vulva, dorsal view. C. Left palp, prolateral view. D. Same, retrolateral view. Scale bars=0.2mm.



Pref., Osaka-shi, Higashiyodogawa-ku, Nishinakajima-cho, 11 February 1960, I. Sawatani leg.

Diagnosis. See Zhu *et al.* (2006).

Description. See Kishida (1914).

Distribution. China, Korea, Japan.

Comments. *Plator sinicus* Zhu & Wang, 1963 was based on a holotype female from Liaoning, China. The type,

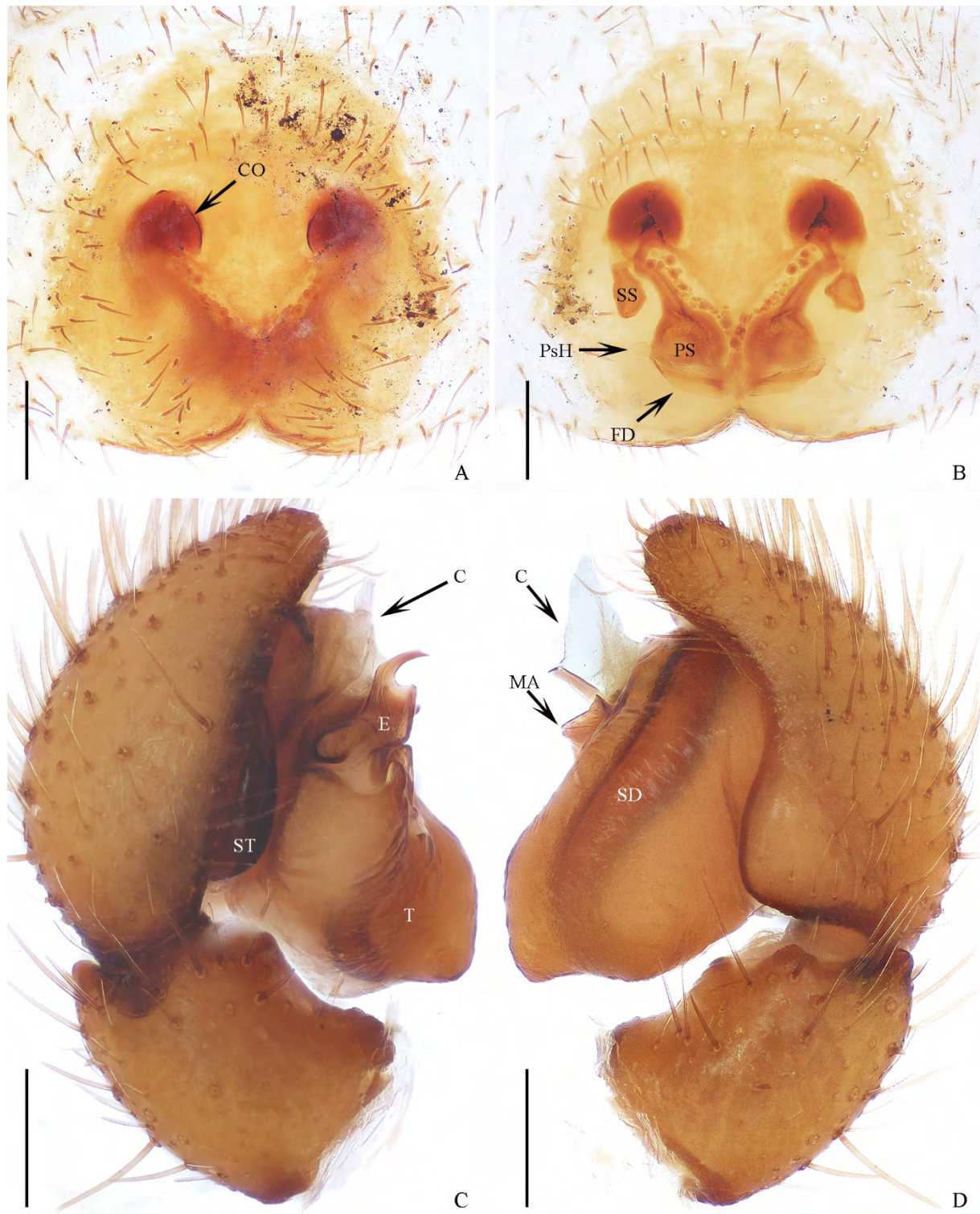


Figure 7. *Plator nipponicus*, female and male from Osaka, Japan. A. Epigyne, ventral view. B. Vulva, dorsal view. C. Left palp, prolateral view. D. Same, retrolateral view. Scale bars=0.2mm.



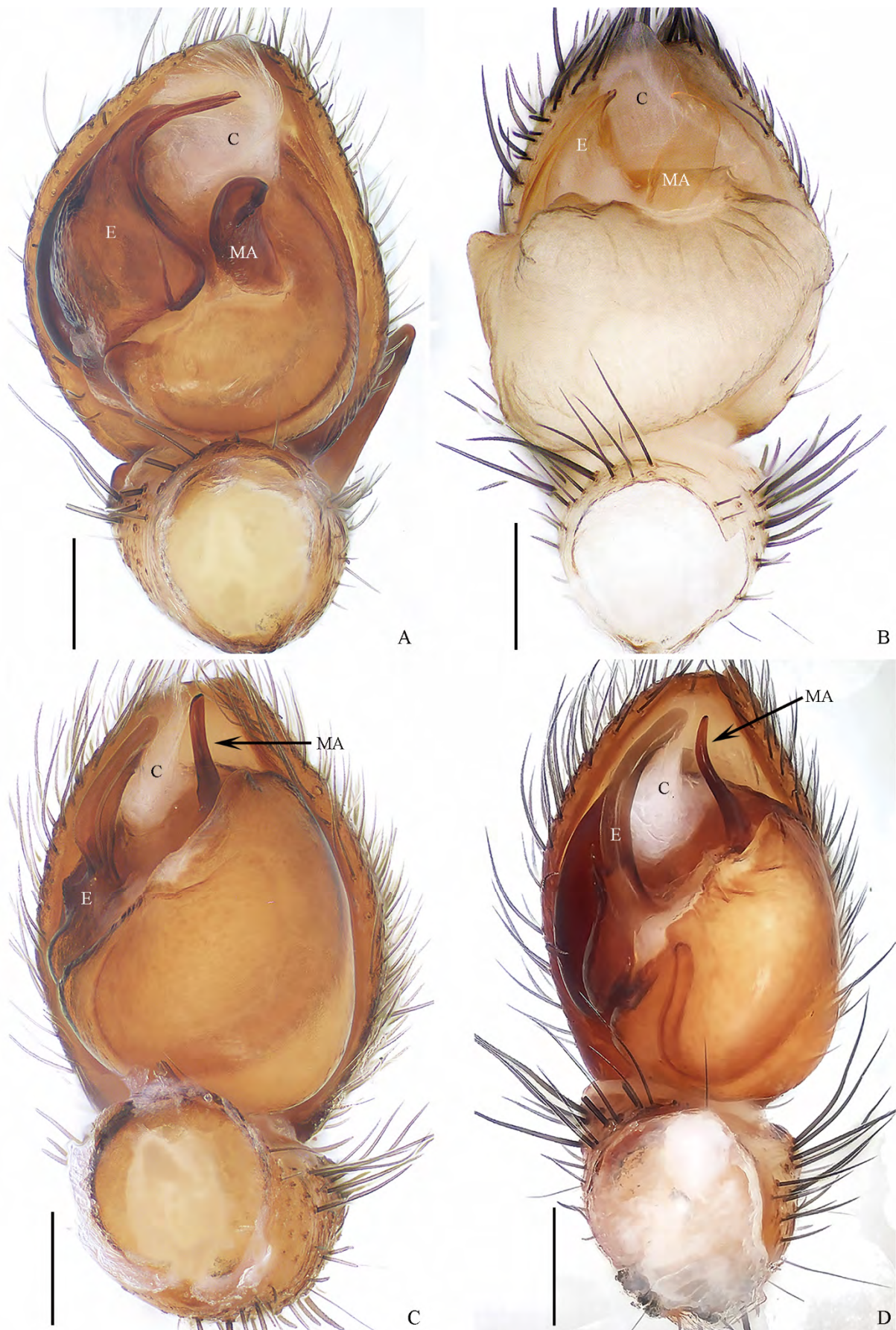


Figure 8. *Plator* spp., male holotypes, left palp, ventral view. A. *P. cyclicus* **sp. nov.** B. *P. dazhonghua* **sp. nov.** C. *P. hanyikani* **sp. nov.** D. *P. qiului* **sp. nov.** Scale bars = 0.2 mm.



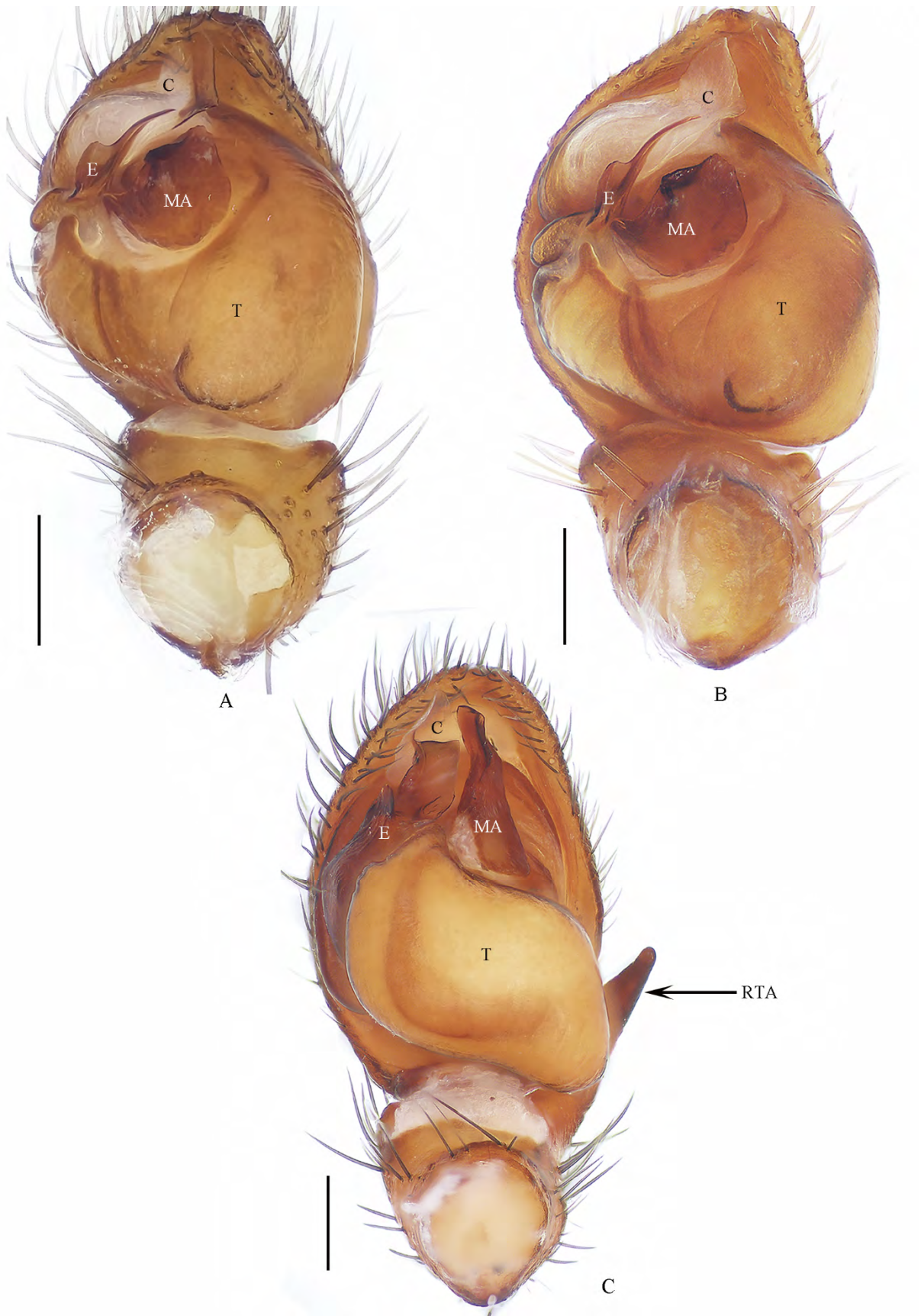


Figure 9. *Plator* spp., left palp, ventral view. A. *P. nipponicus*, male from Shannxi, China. B. *P. nipponicus*, male from Osaka, Japan. C. *P. kamurai* sp. nov., holotype. Scale bars=0.2 mm.



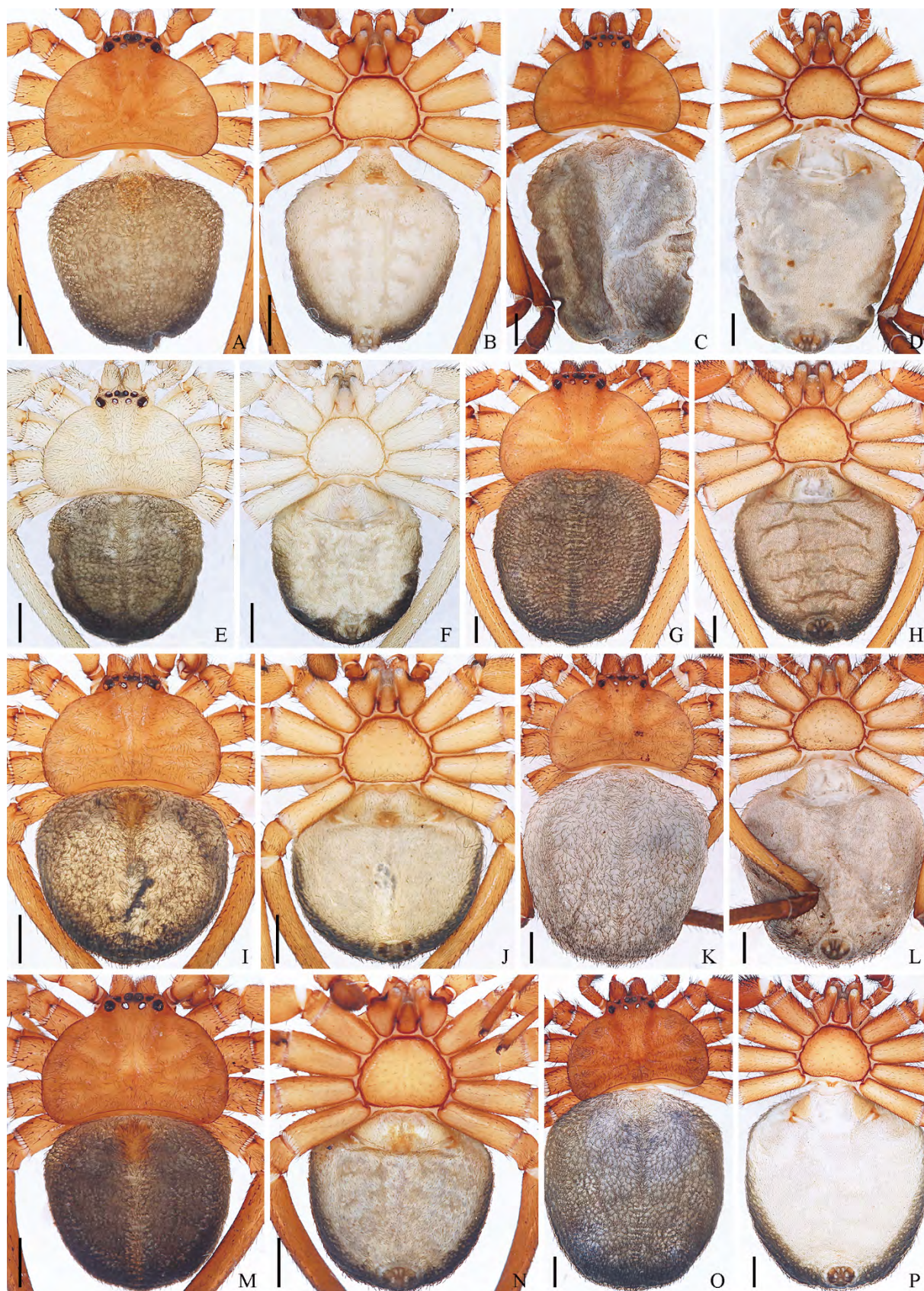


Figure 10. Habitus of four new *Plator* species, male dorsal view (A, E, I, M), ventral view (B, F, J, N) and female dorsal view (C, G, K, O), ventral view (D, H, L, P). A–D. *P. cyclicus* sp. nov. E–H. *P. dazhonghua* sp. nov. I–L. *P. hanyikani* sp. nov. M–P. *P. qiului* sp. nov. Scale bars = 1.0 mm.



deposited in the Norman Bethune University of Medical Science at Changchun, China, is now lost. Two females from Liaoning, China were studied in the current work and were found to match the original description. Zhu *et al.* (2006) indicated that *P. sinicus* can be distinguished from *P. nipponicus* by having a hump near the middle of the sub-tegulum, a beak-shaped embolus, and the absence of a median fork in the male palp, and the female having spermathecae with spermathecal heads. When we examined the named specimens of *P. nipponicus* from Japan, their characters were the same as those of *P. sinicus* from China. Thus, *P. sinicus* Zhu, 1963 is recognized as a junior synonym of *P. nipponicus*.

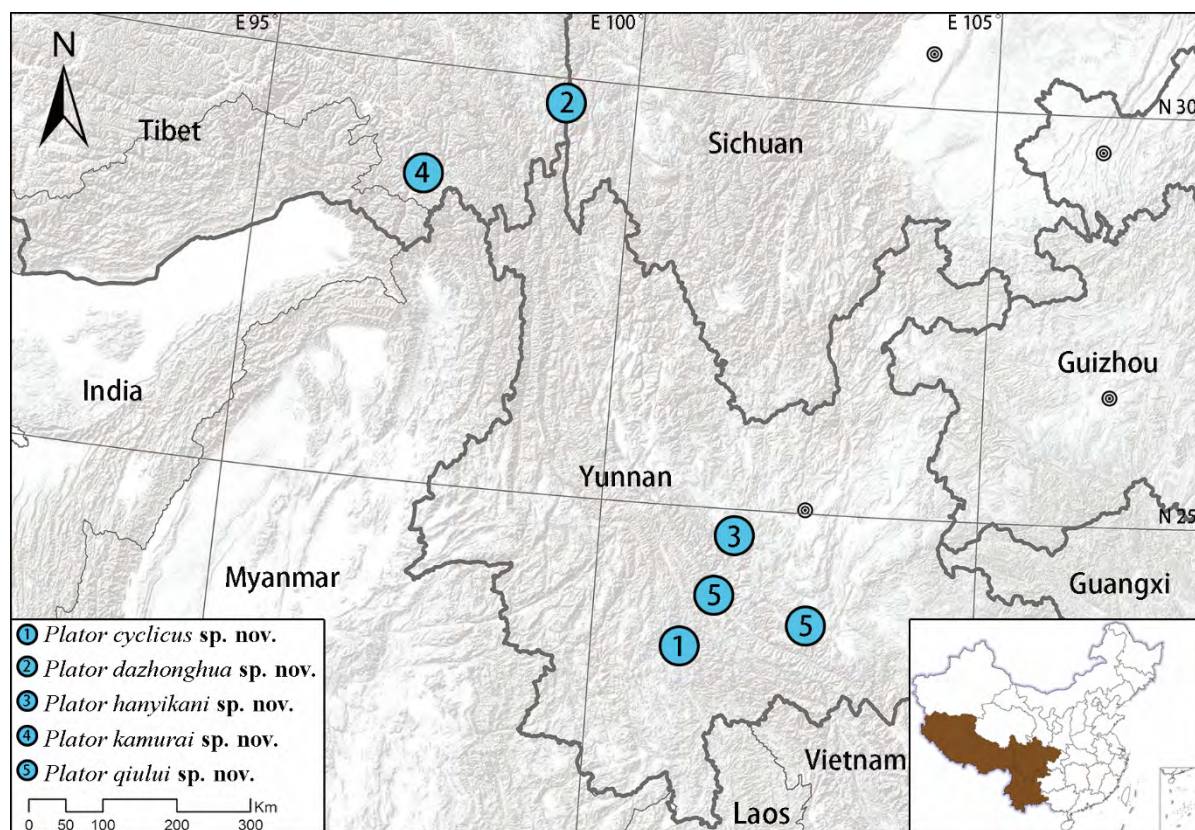


Figure 11. Locality records of five new *Plator* species from China.

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