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Monograph

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Notes on twenty-nine species of jumping spiders from South China (Araneae: Salticidae)

Cheng WANG¹, Xiao-Qi MI², Wei-Hang WANG³, Jia-Hui GAN⁴, Muhammad IRFAN⁵,
Yang ZHONG⁶ & Xian-Jin PENG^{7,*}

^{1,2,4} College of Agriculture and Forestry Engineering and Planning, Guizhou Provincial Key Laboratory of Biodiversity Conservation and Utilization in the Fanjing Mountain Region, Tongren University, Tongren 554300, Guizhou, China.

¹ Ministry of Education Key Laboratory for Ecology of Tropical Islands, College of Life Sciences, Hainan Normal University, Haikou 571158, China.

³ Key Laboratory of Zoological Systematics and Application of Hebei Province, Institute of Life Science and Green Development, College of Life Sciences, Hebei University, Baoding, Hebei 071002, P.R. China.

⁵ Key Laboratory of Eco-environments in Three Gorges Reservoir Region (Ministry of Education), School of Life Sciences, Southwest University, Chongqing 400715, China.

⁶ School of Nuclear Technology and Chemistry & Biology, Hubei University of Science and Technology, Xianning 437100, Hubei, P. R. China; Administrative Commission of Jiugongshan National Nature Reserve of Hubei Xianning, Xianning 437100, Hubei, P. R. China.

⁷ College of Life Sciences, Hunan Normal University, Changsha 410081, Hunan, China.

* Corresponding author: xjpeng@126.com

¹ Email: wchengspider@163.com

² Email: mixiaoqi1018@126.com

³ Email: wayhungwang@163.com

⁴ Email: 605750307@qq.com

⁵ Email: irfanuos94@yahoo.com

⁶ Email: hubeispider@aliyun.com

¹ urn:lsid:zoobank.org:author:ED33BB8E-C2F5-4B49-BE91-944D98E231FE

² urn:lsid:zoobank.org:author:71EEF311-23B0-42FE-AF3F-B91AE10D74BA

³ urn:lsid:zoobank.org:author:2E066E78-B6B5-4855-BDD5-78CD93B0A42A

⁴ urn:lsid:zoobank.org:author:FA580EF5-C5FD-4186-BB31-57E408552119

⁵ urn:lsid:zoobank.org:author:FD3CBD64-32E9-472E-9CCA-0A95BB3A87DD

⁶ urn:lsid:zoobank.org:author:0A17570D-346F-42CD-8157-AECEAFE3A73

⁷ urn:lsid:zoobank.org:author:5CF67046-FAB4-43F1-AA72-ED2EB9741CD9

Abstract. A taxonomic study on twenty-nine species of jumping spiders from South China is presented. Twenty new species are diagnosed and described: *Heliophanoides prozysniskii* Wang, Mi & Peng sp. nov. (♂♀), *Myrmage lii* Wang, Mi & Peng sp. nov. (♂♀), *Myrmarachne hamata* Wang, Mi & Peng sp. nov. (♂), *M. xingrenensis* Wang, Mi & Peng sp. nov. (♂♀), *M. yinae* Wang, Mi & Peng sp. nov. (♂♀), *Phintella fodingensis* Wang, Mi & Peng sp. nov. (♂♀), *P. jiugongensis* Wang, Mi & Peng sp. nov. (♂♀), *P. liae*

Wang, Mi & Peng sp. nov. (♂), *P. liui* Wang, Mi & Peng sp. nov. (♂♀), *P. subpanda* Wang, Mi & Peng sp. nov. (♂♀), *P. wandae* Wang, Mi & Peng sp. nov. (♂♀), *Ptocasius dian* Wang, Mi & Peng sp. nov. (♂♀), *P. subhubeiensis* Wang, Mi & Peng sp. nov. (♂♀), *Rhene elongata* Wang, Mi & Peng sp. nov. (♂♀), *Stertinius donglinsiensis* Wang, Mi & Peng sp. nov. (♂♀), *S. logunovi* Wang, Mi & Peng sp. nov. (♂), *Synagelides fanjingensis* Wang, Mi & Peng sp. nov. (♂♀), *Thyene xingrenensis* Wang, Mi & Peng sp. nov. (♂♀), *Toxeus fodingensis* Wang, Mi & Peng sp. nov. (♂♀), and *Yaginumaella zabkai* Wang, Mi & Peng sp. nov. (♂♀). The genus *Heliophanoides* Prószyński, 1992 is redefined and two new combinations, transferred from the genus *Phintella* Strand, 1906, are proposed: *H. tengchongensis* (Lei & Peng 2013) comb. nov., and *H. longlingensis* (Lei & Peng 2013) comb. nov. The unknown sexes of the following six species are described for the first time: *Phintella fanjingshan* Li, Wang, Zhang & Chen, 2019, *P. panda* Huang, Wang & Peng, 2015, *P. pygmaea* (Wesołowska, 1981), *P. sancha* Cao & Li, 2016, *P. wulingensis* Huang, Wang & Peng, 2015, and *Rhene yunnanensis* (Peng & Xie, 1995). *Brettus anchorum* Wanless, 1979 and *Phintella aequipeiformis* Żabka, 1985 are newly recorded from China. *Icius indicus* (Simon, 1901) comb. nov. (transferred from *Phintella*) is re-described. *Phintella levii* Huang, Wang & Peng, 2015 is assigned to be a synonym of *P. arcuata* Huang, Wang & Peng, 2015. *Thyene zhangii* (Peng, Yin, Yan & Kim, 1998) comb. nov. is transferred from *Plexippoides* Prószyński, 1984, and *T. bilaguncula* (Xie & Peng, 1995) comb. nov. is transferred from *Ptocasius* Simon, 1885. Diagnostic illustrations of the twenty-nine species and the distributional maps of the studied specimens are provided.

Keywords. New combination, new taxa, salticids, synonym, taxonomy.

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Introduction

With the exponential development of taxonomic studies, China has presented a very high diversity of spiders (Li 2020; WSC 2023). The taxonomy of Chinese jumping spiders began at the end of the 19th century (Peng 2020) but went into a rapid development stage more than a century later (e.g., Peng 1989; Song & Chai 1992; Peng *et al.* 1993). Studies on hotspots and National Nature Reserves in southern provinces have greatly enriched the familial diversity over the last ten years (e.g., Lei & Peng 2012, 2013; Zhang & Maddison 2012; Zhou & Li 2013; Huang *et al.* 2015; Cao *et al.* 2016; Lin & Li 2020; Wang & Li 2020a, 2020b, 2021, 2022a, 2022b; Wang *et al.* 2020; Yu *et al.* 2022, 2023). A comprehensive taxonomic work on this family was also conducted by Peng (2020). To date, at least 637 species in 134 genera have been recorded from China, which is just only second to Brazil worldwide (Metzner 2023; WSC 2023). However, certainly, the true diversity of Chinese jumping spiders has not yet been discovered completely (Li 2020), and the taxonomic study of this family is still plagued by a high rate of single-sex and poorly known species (Wang & Li 2021; WSC 2023).

The goals of the present work are to describe 20 new species, as well as the unknown sexes of six species, to redefine the genus *Heliophanoides*, to photograph two newly recorded species, to propose a new synonym and five new combinations, and to re-describe the poorly known species, *Icius indicus* (Simon, 1901) comb. nov.

Material and methods

All specimens were collected by beating shrubs or hand collection and preserved in 75% ethanol for morphological studies or in absolute alcohol for molecular studies. All specimens are deposited in the Museum of Tongren University, China (TRU), and the College of Life Science, Hunan Normal

Table 1. Voucher specimens information.

Species	Voucher code	Sex	GenBank accession number	Sequence length
<i>Heliophanoides proszynskii</i> Wang, Mi & Peng sp. nov.	TRU-JS 0059	♀	OP242166.1	619bp
	TRU-JS 0061	♂	OP242167.1	619bp
<i>Myrmarachne yinae</i> Wang, Mi & Peng sp. nov.	TRU JS-0118	♀	OP249483.1	619bp
	TRU JS-0120	♂	OP249485.1	619bp
<i>Phintella fanjingshan</i> Li, Wang, Zhang & Chen, 2019	TRU-JS 0142	♀	OP249484.1	619bp
	TRU-JS 0143	♂	OP249487.1	619bp
<i>P. panda</i> Huang, Wang & Peng, 2015	TRU-JS 0247	♀	OP249486.1	619bp
	TRU-JS 0250	♂	OP249488.1	619bp
<i>P. pygmaea</i> (Wesołowska, 1981)	TRU-JS 0255	♀	OP249490.1	619bp
	TRU-JS 0259	♂	OP249489.1	619bp
<i>P. sancha</i> Cao & Li, 2016	TRU-JS 0416	♀	OP236532.1	619bp
	TRU-JS 0419	♂	OP236535.1	619bp
<i>Ptocasius subhubeiensis</i> Wang, Mi & Peng sp. nov.	TRU-JS 0464	♀	OP249491.1	619bp
	TRU-JS 0466	♂	OP249492.1	619bp
<i>Synagelides fanjingensis</i> Wang, Mi & Peng sp. nov.	TRU-JS 0531	♀	OP249493.1	619bp
	TRU-JS 0533	♂	OP249494.1	619bp

University (HNU). Morphological and molecular methods follow Wang *et al.* (2021). ArcGIS ver. 10.4 software has been used for creating distribution maps.

A partial fragment of the mitochondrial cytochrome oxidase subunit I (COI) gene of eight species was amplified and sequenced using the primers LCOI1490 and HCOI2198 (Folmer *et al.* 1994). The accession numbers are provided in Table 1.

All measurements are given in millimeters. Legs are given as: total length (femur, patella, tibia, metatarsus, tarsus). The abbreviations used in the text and figures as follow:

AERW = anterior eye row width; AG = accessory gland; ALE = anterior lateral eye; AME = anterior median eye; AR = atrial ridge; AS = anterior chamber of spermatheca; At = atrium; BP = basal epigynal plate; CA = cymbial apophysis; CD = copulatory duct; CO = copulatory opening; DCA = dorsal cymbial apophysis; DTA = dorsal tibial apophysis; E = embolus; EFL = eye field length; FD = fertilization duct; JS = junction duct of spermathecae; H = epigynal hood; K = tegular knob; LP = lamellar tegular process; LaP = lateral epigynal plate; MA = median apophysis; MS = median septum; PERW = posterior eye row width; PL = posterior tegular lobe; PLE = posterior lateral eye; PME = posterior median eye; PS = posterior chamber of spermatheca; PTA = prolateral tibial apophysis; RTA = retrolateral tibial apophysis; S = spermatheca; SD = sperm duct; TB = tegular bump; TF tegular flap; TiF = tibial flange; TL = tegular lobe; VTA = ventral tibial apophysis.

Results

Class Arachnida Cuvier, 1812
 Order Araneae Clerck, 1757
 Family Salticidae Blackwall, 1841
 Genus *Brettus* Thorell, 1895

Brettus anchorum Wanless, 1979

Figs 1, 56

Brettus anchorum Wanless, 1979: 188, figs 2f, 3b, 4c–d (D♀, female holotype, not examined).

Brettus anchorum – Wanless 1984: 181, fig. 23a–h (D♂). — Jastrzębski 1997: 702, figs 1–9 (♂♀). For the full reference list see World Spider Catalog (2023).

Diagnosis and description

See Wanless (1979) and Jastrzębski (1997).

Material examined

CHINA • 1 ♀; Yunnan, Nanjian County, Forestry Station of Manhai Mountain; 24°49.38' N, 100°18.54' E; 1604 m a.s.l.; 11 Aug. 2015; X.Q. Mi *et al.* leg.; TRU-JS 0056.

Distribution

China (Yunnan) (Fig. 56), India, and Nepal.

Genus ***Heliophanoides*** Prószyński, 1992

Heliophanoides Prószyński, 1992: 177.

Type species

Heliophanoides epigynalis Prószyński, 1992 from India by original designation.

Diagnosis

Heliophanoides closely resembles *Heliophanus* C.L. Koch, 1833 in habitus, but it can be easily distinguished by the absence of femoral and patellar apophyses of male palp, the unmodified bulb similar to that of many chrysillines, the median located, oval or round atrium, the reduced copulatory ducts, and much larger spermathecae (Figs 2, 3A–B; Prószyński 1992: figs 50–51, 55; Lei & Peng 2013: figs 4a–b, 8a–b, d–g), whereas often the presence of femoral and patellar apophyses of male palp, the protruding bulb, varied atria, much longer copulatory ducts, and much smaller spermathecae in *Heliophanus* (Wesołowska 1986; Metzner 2023). The genus also somewhat resembles *Phintella* Strand, 1906, but it can be easily distinguished by the male palp having two tibial apophyses (Fig. 2; Lei & Peng 2013: figs 4a–b, 8a–b), and by the female having a medially located, oval or round atrium (Fig. 3A; Prószyński 1992: figs 49, 53–54; Lei & Peng 2013: fig. 8d–e), whereas only one tibial apophysis, and without similarity-shaped atrium in *Phintella* (Žabka 1985: figs 403–441; Peng 2020: figs 208, 209b–c, 212 c–e, g–h; Metzner 2023).

Description

HABITUS. Medium-sized spiders. Carapace red-brown to dark, covered with colorful scale-like setae, devoid of pattern or with radial stripes on thorax. Clypeus low. Chelicerae with one retromarginal tooth and two promarginal teeth. Endites broadened at distal half, bearing dense setae on distal end of inner margins. Labium almost linguiform. Sternum sub-oval. Legs I stronger and with slightly enlarged femora in males. Abdomen elongated or sub-oval, dorsum dotted, with faint traces of diagonal lighter bands or arc-shaped dotted lines or irregular arc-shaped stripes.

PALP. Tibia with two apophyses, retrolateral one longer, straight or curved, pointed apically; dorsal one platelike or paliform; cymbium longer than wide; tegular bump medio-retrolaterally located; embolus short, strongly sclerotized, originates from apical edge of bulb, curved retrolaterally.

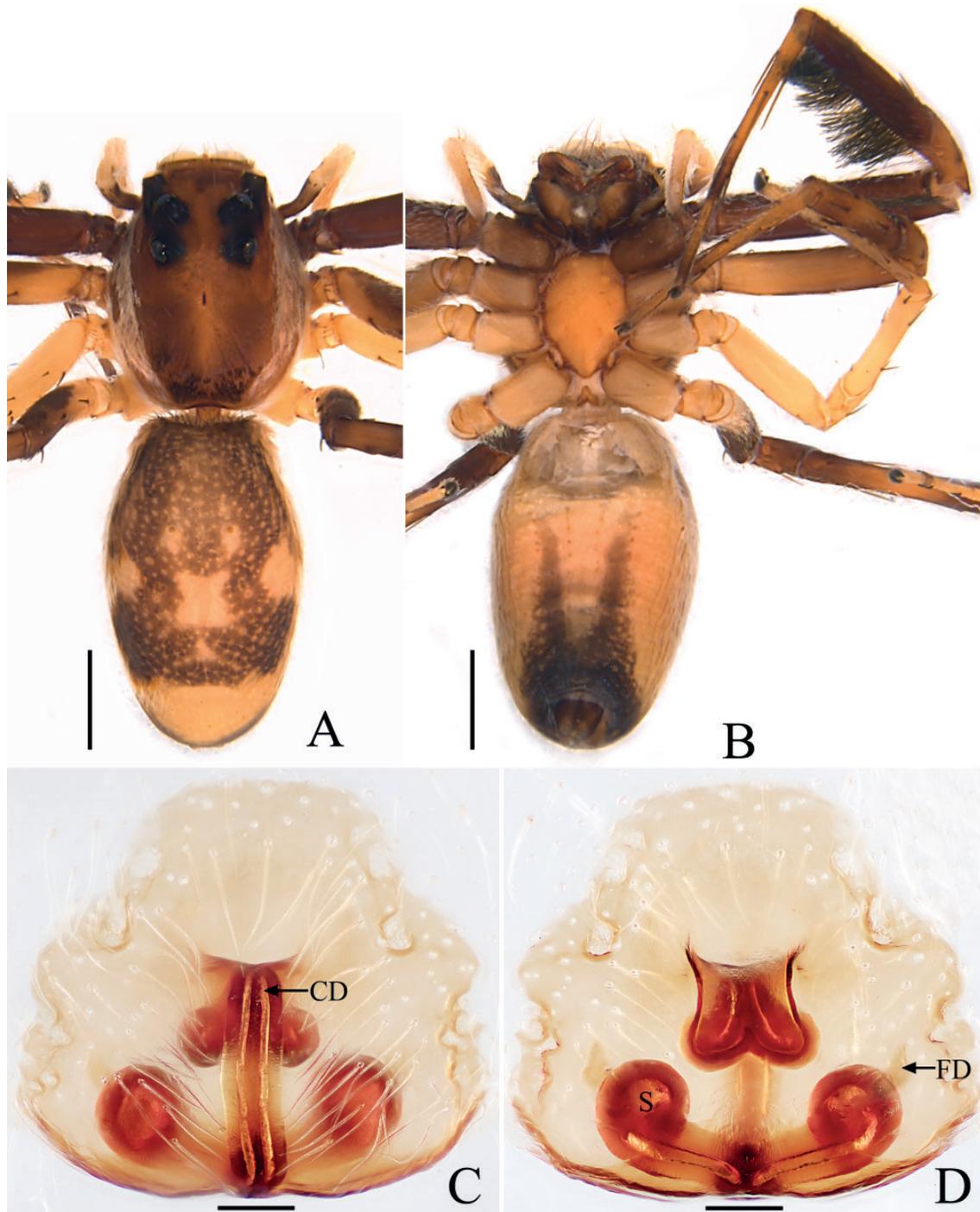


Fig. 1. *Brettus anchorum* Wanless, 1979, ♀ (TRU-JS 0056). **A.** Habitus, dorsal view. **B.** Habitus, ventral view. **C.** Epigyne, ventral view. **D.** Vulva, dorsal view. Abbreviations: see Material and methods. Scale bars: A–B = 1.0 mm; C–D = 0.1 mm.

EPIGYNE. Wider than long, with square or sub-linguiform basal plate, and a pair of lateral concave structures (absent in *H. prozyskii*); atrium oval or round, difference in size among species; copulatory openings beneath lateral sides of atrium; copulatory ducts reduced, broadened at proximal portions mostly; spermathecae spherical or sub-spherical; fertilization ducts originate from anterior edges of inner sides of spermathecae, sheet-shaped.

Composition

The genus currently includes seven species:

Heliophanoides bhutanicus Prószyński, 1992

Heliophanoides epigynalis Prószyński, 1992

Heliophanoides longlingensis (Lei & Peng 2013) comb. nov. from *Phintella*

Heliophanoides moi Wang & Li, 2023

Heliophanoides prozyskii Wang, Mi & Peng sp. nov.

Heliophanoides spermathecalis Prószyński, 1992

Heliophanoides tengchongensis (Lei & Peng 2013) comb. nov. from *Phintella*

Distribution

China (Yunnan, Guizhou, Hainan), Bhutan and India.

Comments

Phintella tengchongensis Lei & Peng 2013 is consistent with the generotype of *Heliophanoides* (*H. epigynalis* Prószyński, 1992) in the habitus and epigynal structure, hence it is transferred to *Heliophanoides*. *Phintella longlingensis* Lei & Peng 2013 (only known from single holotype) is also transferred because it shares a similar habitus and palpal structure with *P. tengchongensis*. Moreover, species of *Heliophanoides* possess a tegular bump, which is characteristic of the tribe Chrysillini (Maddison 2015). And so, the genus could be assigned to the tribe Chrysillini.

Heliophanoides prozyskii Wang, Mi & Peng sp. nov.

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Figs 2–3, 56

Diagnosis

The male of *Heliophanoides prozyskii* sp. nov. resembles that of *H. tengchongensis* (Lei & Peng 2013) comb. nov. in having the slender RTA and platelike DTA, but differs by the RTA, which is curved medially and more than two-thirds the cymbial length in retrolateral view (Fig. 2B), but straight and just one-third the cymbial length in *H. tengchongensis* (Lei & Peng 2013: fig. 8b). The female can be easily distinguished from other congeners by having the sub-linguiform base plate and lacking the concave epigynal structure (Fig. 3A), whereas having a square base plate and a pair of lateral concave epigynal structures in others (Prószyński 1992: figs 49, 53–54; Lei & Peng 2013: fig. 8d–e).

Etymology

The species name is a patronym in honor of Prof. Jerzy Prószyński, who erected the genus *Heliophanoides*, and has made significant contributions to the taxonomy of salticid spiders worldwide; noun (name) in genitive case.

Type material

Holotype

CHINA • ♂; Guizhou, Shiqian County, Ganxi Township, Fuyan Village, Jiuchashu; 27°20.62' N, 108°3.56' E; 1410 m a.s.l.; 7 Apr. 2019; C. Wang *et al.* leg.; TRU-JS 0057.

Paratypes

CHINA • 3 ♀♀, 3 ♂♂; same collection data as for holotype; TRU-JS 0058–0063 • 1 ♀; same locality as for holotype; 29 Apr. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0064 • 2 ♀♀, 3 ♂♂; same locality as for holotype; 27 Jun. 2020; C. Wang *et al.* leg.; TRU-JS 0065–0069.

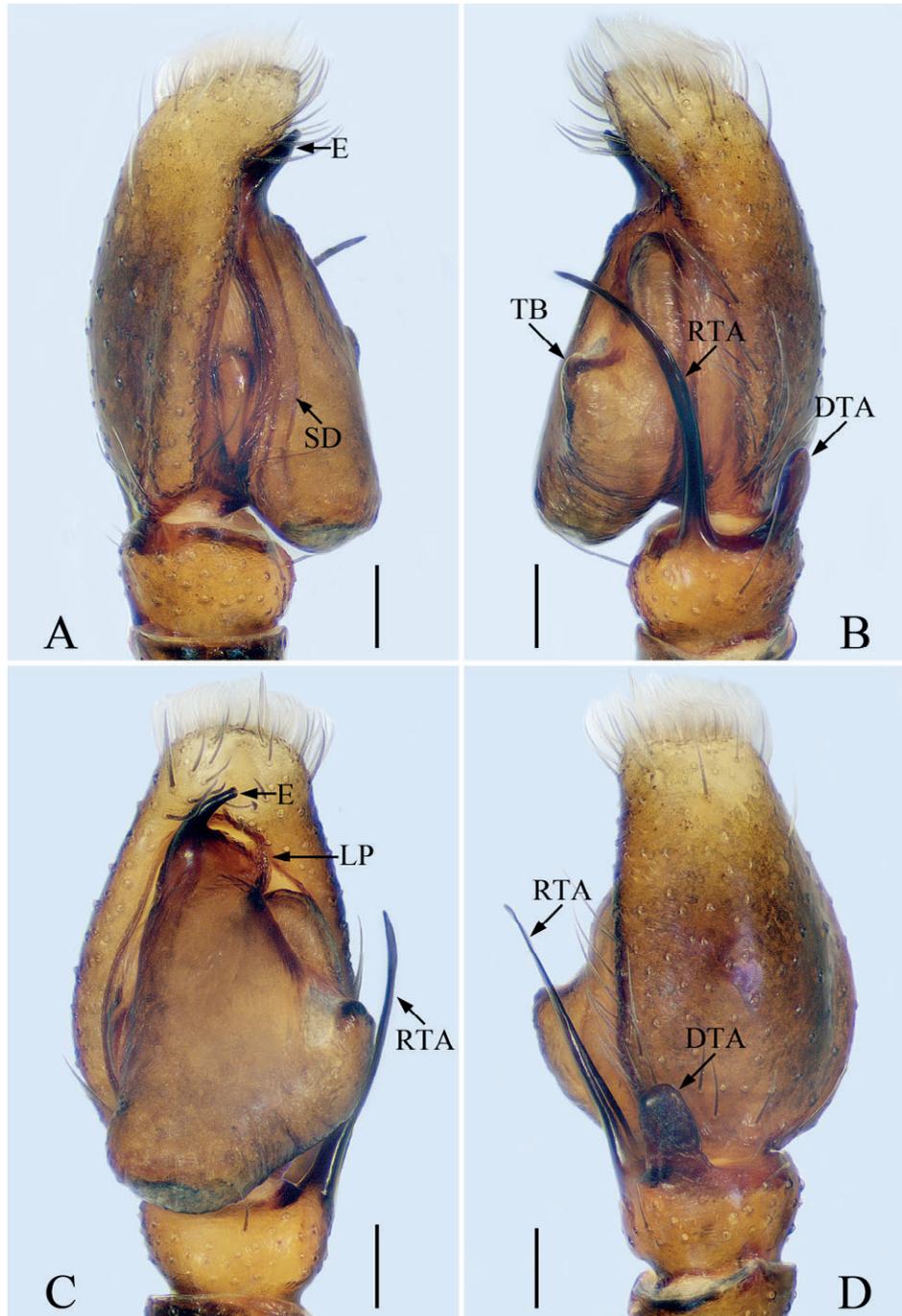


Fig. 2. Male palp of *Heliophanoides prozysniskii* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0057). **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Description

Male (holotype)

MEASUREMENTS. Total length 3.60. Carapace 1.57 long, 1.30 wide. Abdomen 2.01 long, 1.11 wide. Eye sizes and inter-distances: AME 0.36, ALE 0.19, PLE 0.15, AERW 1.06, PERW 1.04, EFL 0.69. Legs:

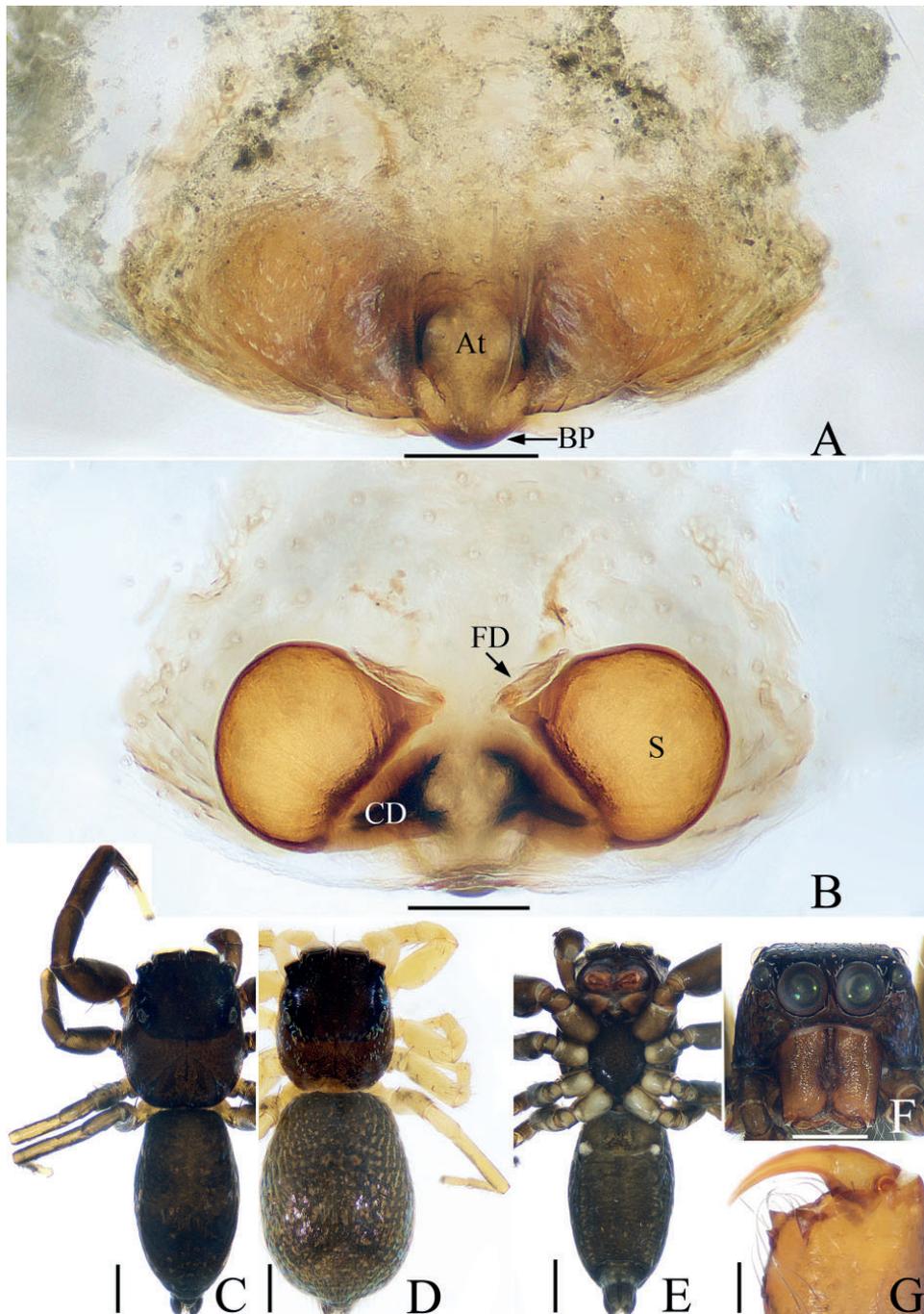


Fig. 3. *Heliophanoides prozysniskii* Wang, Mi & Peng sp. nov. A–B, D. Paratype, ♀ (TRU-JS 0058). C, E–G. Holotype, ♂ (TRU-JS 0057). A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Dorsal view. E. Ventral view. F. Carapace, frontal view. G. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

I 4.44 (1.54, 0.73, 1.10, 0.66, 0.41), II 2.93 (0.95, 0.43, 0.68, 0.51, 0.36), III 3.23 (0.98, 0.50, 0.68, 0.66, 0.41), IV 3.82 (1.12, 0.48, 0.90, 0.88, 0.44).

HABITUS. Carapace brown to dark brown, covered with sparse scale-like and pale setae, with dark radial stripes posteromedially on thorax (Fig. 3C, F). Chelicerae brownish-yellow, with one retromarginal tooth and two promarginal teeth (Fig. 3F–G). Legs I dark brown except tarsi yellow; others yellow-brown to brown, somewhat mingled with green except metatarsi and tarsi yellow (Fig. 3C). Abdomen elongated, dorsum brown to dark brown, dotted, covered with sparse scale-like setae, with several arc-shaped dotted lines posteriorly; venter colored as dorsum, with longitudinal, yellow-brown dotted lines (Fig. 3C, E).

PALP. Tibia wider than long, with tapered RTA more than two-thirds the cymbial length, and slightly curved to pointed tip directed towards about 10 o'clock position in retrolateral view, and with straight, platelike DTA; bulb longer than wide, with medio-retrolaterally located, sub-triangular tegular bump; lamellar process small, with arc-shaped margin; embolus originates from apical edge of bulb, slightly shorter than the DTA, sclerotized, curved retrolaterally and blunt apically (Fig. 2).

Female (paratype, TRU-JS 0058)

MEASUREMENTS. Total length 3.31. Carapace 1.41 long, 1.23 wide. Abdomen 2.19 long, 1.59 wide. Eye sizes and inter-distances: AME 0.34, ALE 0.18, PLE 0.16, AERW 1.06, PERW 1.11, EFL 0.71. Legs: I 2.91 (0.93, 0.53, 0.65, 0.46, 0.34), II 2.55 (0.78, 0.48, 0.58, 0.39, 0.32), III 2.99 (0.88, 0.45, 0.63, 0.66, 0.37), IV 3.70 (1.10, 0.48, 0.88, 0.85, 0.39).

HABITUS. Similar to that of male except paler in color, with yellow legs and plumper abdomen (Fig. 3D).

EPIGYNE. Wider than long, with sub-linguiform base plate; atrium oval, posteromedially located; copulatory openings beneath lateral sides of atrium; copulatory ducts broadened proximally, extended almost transversely, and connected to posterior edges of spermathecae; spermathecae sub-spherical, separated from each other by about half their width; fertilization ducts lamellar, originate from the antero-inner edges of spermathecae (Fig. 3A–B).

Distribution

China (Guizhou) (Fig. 56).

Genus *Icius* Simon, 1876

Icius indicus (Simon, 1901) comb. nov.

Figs 4, 56

Heliophanus indica Simon, 1901: 152 (D♂, male holotype, not examined).

Icius koreanus Xiao, 1993: 123, figs 1–6 (♂, misidentified).

Pseudicius indicus – Wesolowska 1986: 231, figs 876–879 (T♂ from *Heliophanus*).

Phintella indica – Prószyński 1992: 199, figs 190–192 (T♂ from *Pseudicius*).

Pseudicius koreanus – Peng *et al.* 1993: 192, figs 671–679 (♂, misidentified; ♀ uncertain, maybe the unknown female).

Diagnosis

The male of *Icius indicus* (Simon, 1901) comb. nov. resembles that of *I. grassei* (Berland & Millot, 1941) in having a similar palp, but it can be easily distinguished by the digitiform cymbial apophysis

(in retrolateral view) and the two tibial apophyses (Fig. 4A–B), whereas having a lamellar cymbial apophysis and only one tibial apophysis in *I. grassei* (Wesołowska 2017: figs 1b–e, 3e–f).

Material examined

CHINA • 1 ♂; Yunnan, Jingdong County, Huashan Township, Wen'e Village; 24°15.27' N, 101°6.51' E; 1190 m a.s.l.; 14 Aug. 2015; C. Wang *et al.* leg.; TRU-JS 0070.

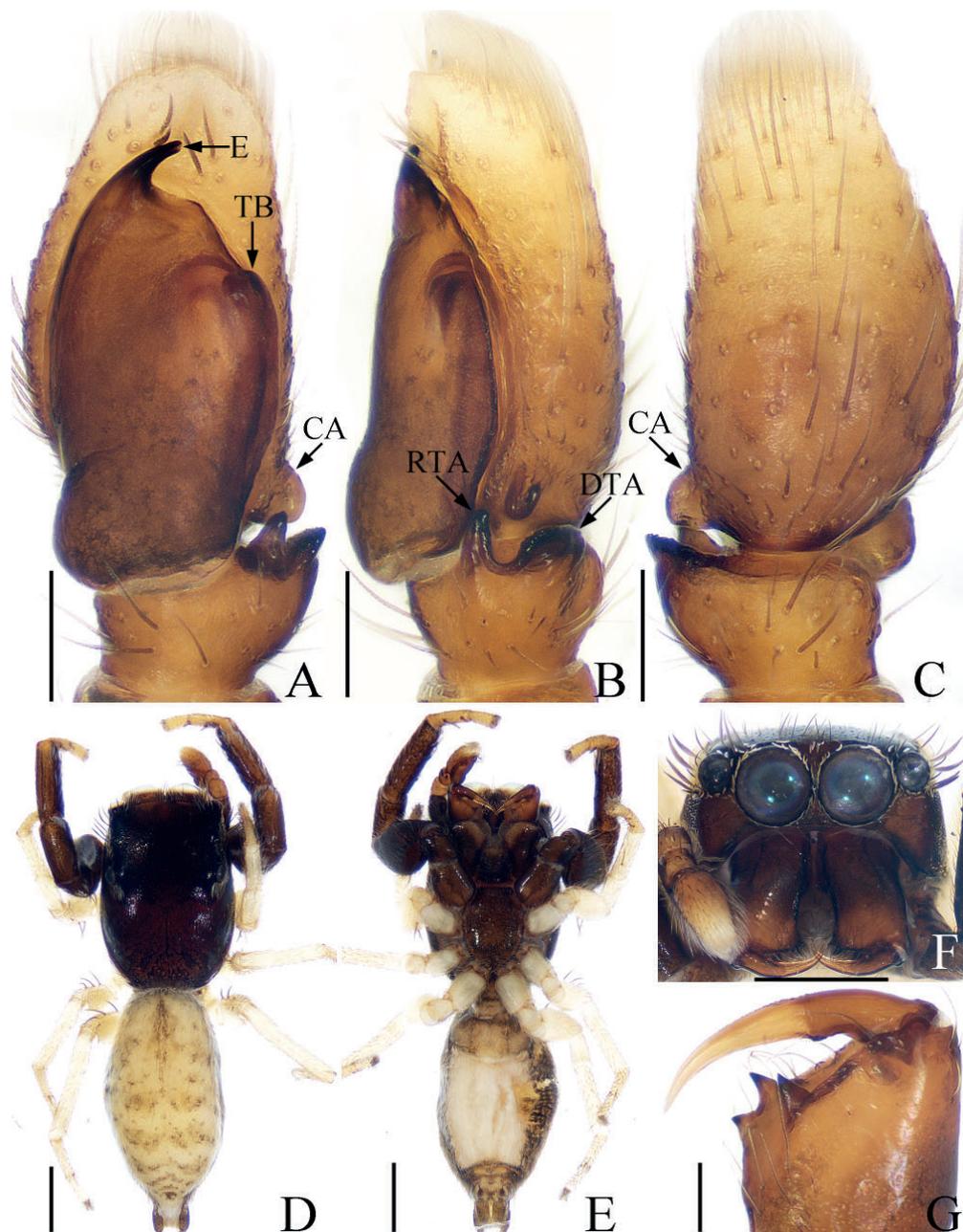


Fig. 4. Male of *Icius indicus* (Simon, 1901) comb. nov. (TRU-JS 0070). **A–C.** Palp. **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. **D–E.** Habitus. **D.** Dorsal view. **E.** Ventral view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–C, G = 0.1 mm; D–F = 0.5 mm.

Redescription

Male (TRU-JS 0070)

MEASUREMENTS. Total length 3.19. Carapace 1.49 long, 1.05 wide. Abdomen 1.68 long, 0.92 wide. Eye sizes and inter-distances: AME 0.30, ALE 0.15, PLE 0.15, AERW 0.88, PERW 0.92, EFL 0.65. Legs: I 2.78 (0.80, 0.50, 0.75, 0.44, 0.29), II 2.05 (0.61, 0.38, 0.45, 0.32, 0.29), III 2.02 (0.63, 0.30, 0.40, 0.37, 0.32), IV 2.56 (0.78, 0.48, 0.50, 0.46, 0.34).

HABITUS. Carapace red-brown to dark brown, covered with white and yellow scale-like setae and brown, long setae anteriorly, bearing four pairs of flat, brown, long scale-like setae on outer sides of eye field, and two clusters of pale scale-like setae behind PLEs (Fig. 4D, F). Chelicerae brown-yellow, with one retromarginal tooth and two promarginal teeth (Fig. 4F–G). Legs I dark to red-brown except metatarsi and tarsi yellow, with slightly inflated femora; other legs pale yellow (Fig. 4D–E). Abdomen elongated, dorsum pale yellow, covered with sparse brown setae, with several indistinct, wave-shaped, transverse, brown bands; venter pale, covered with thin setae (Fig. 4D–E).

PALP. Tibia stubby, with short, digitiform retrolateral apophysis and flat, sclerotized dorsal apophysis in retrolateral view; cymbium longer than wide, with baso-retrolateral apophysis semicircular in ventral view; bulb longer than wide; tegular bump distal-retrolaterally located; embolus short, curved retrolaterally into blunt tip (Fig. 4A–C).

Female

Unknown.

Distribution

China (Yunnan) (Fig. 56) and India.

Comments

Phintella indica (Simon, 1901) is documented as an Indo-Chinese species (Wesołowska 1986). The examined specimen is almost identical to the syntype of *P. indica* in palpal structure. Based on that, it was identified as *P. indica*. Moreover, *P. indica* possesses some unique features of *Icius*, e.g., having a dorsal cheliceral crest (Wesołowska 2017). Meanwhile, the habitus and palpal structures of this species resemble those of *Icius* more than those of species of *Phintella*, so, it is being transferred to *Icius* herein. Moreover, both males of *Icius koreanus* described by Xiao (1993), and *Pseudicius koreanus* described by Peng *et al.* (1993) are consistent with the examined specimen in palpal structure, and so, they are considered to be misidentified. Moreover, the female of *Pseudicius koreanus* described by Peng *et al.* (1993) could also be misidentified, and it may be the true female of *I. indicus*.

Genus *Myrmage* Prószyński, 2016

Myrmage lii Wang, Mi & Peng sp. nov.

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Figs 5–6, 60

Diagnosis

The male of *Myrmage lii* sp. nov. resembles that of *M. imbellis* (Peckham & Peckham, 1892) in having a very similar palp, but it can be easily distinguished by the following: (1) the chelicera is less than half the carapace length (Fig. 6D–E), whereas almost as long as carapace in *M. imbellis* (Benjamin 2015: fig. 8a, c); (2) the RTA has a sub-triangular ventral ramus (Fig. 5B–D), whereas without indistinct ventral ramus in *M. imbellis* (Benjamin 2015: fig. 10a–c). It also resembles that of *M. brevis* Xiao, 2002 in having

short chelicerae and a similar palp, but it can be distinguished by the following: (1) the sternum is about two times as long as wide (Fig. 6E), whereas about three times as long as wide in *M. brevis* (Xiao 2002: fig. 6); (2) the dorsal ramus of RTA is anteriorly directed in retrolateral view (Fig. 5C–D), whereas antero-prolaterally directed in *M. brevis* (Xiao 2002: fig. 3). The female is similar to that of *M. dishani* in having elongated spermathecae, but it can be easily distinguished by the presence of an epigynal hood, the round atria and by the sclerotized portions of copulatory ducts originating from the anterior edges of the atria and separated from the epigastric groove (Fig. 6A–C), whereas lacking a distinct epigynal hood, with oval atria, and the sclerotized portions of copulatory ducts originating from the posterior margins of the epigyne, and close to the epigastric groove in *M. dishani* (Benjamin 2015: fig. 6c–d).

Etymology

The specific name is a patronym in honor of Dr Shuqiang Li, a well-known arachnologist; noun (name) in genitive case.

Type material

Holotype

CHINA • ♂; Yunnan, Nanjian County, Lingbao Mountain National Forest Park; 24°46.02' N, 100°31.19' E; 2285 m a.s.l.; 12 Aug. 2015; C. Wang *et al.* leg.; TRU-JS 0071.

Paratypes

CHINA • 12 ♀♀; same collection data as for holotype; TRU-JS 0072–0083.

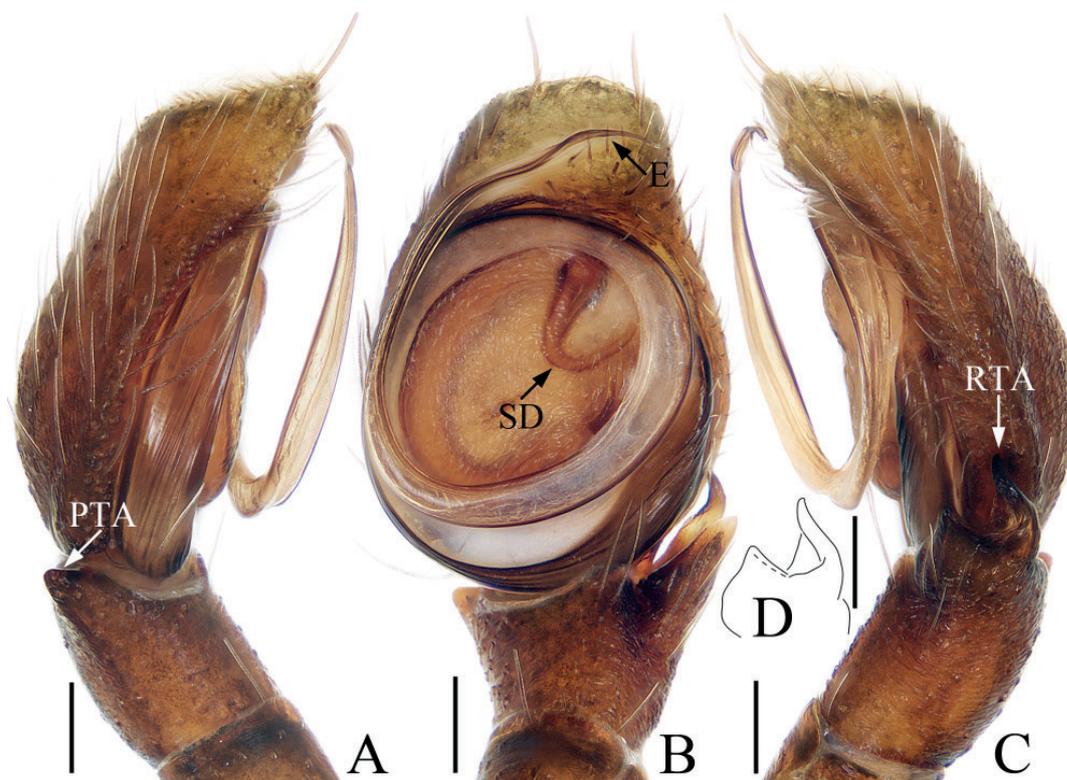


Fig. 5. Male palp of *Myrmage lii* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0071). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. **D.** RTA, retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Description

Male (holotype)

MEASUREMENTS. Total length 3.73. Carapace 1.64 long, 1.03 wide. Abdomen 2.01 long, 0.88 wide. Eye sizes and inter-distances: AME 0.34, ALE 0.18, PLE 0.17, AERW 0.98, PERW 1.05, EFL 0.77. Legs: I 3.66 (1.10, 0.50, 1.10, 0.59, 0.37), II 2.80 (0.80, 0.45, 0.70, 0.51, 0.34), III 3.09 (0.88, 0.43, 0.73, 0.68, 0.37), IV 4.39 (1.32, 0.50, 1.15, 1.01, 0.41).

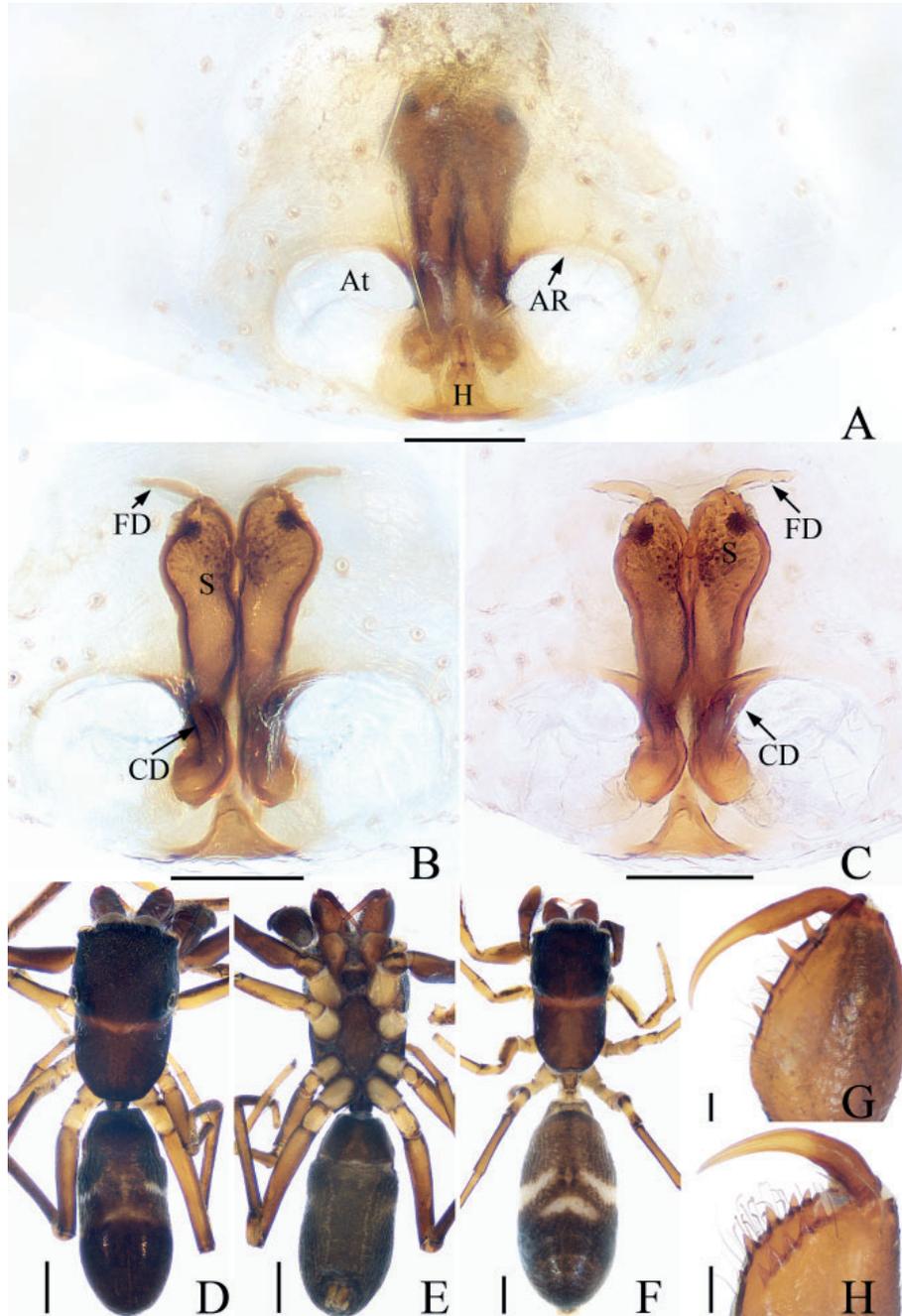


Fig. 6. *Myrmage lii* Wang, Mi & Peng sp. nov. A–C, F, H. Paratype, ♀ (TRU-JS 0072). D–E, G. Holotype, ♂ (TRU-JS 0071). A. Epigyne, ventral view. B–C. Vulva, dorsal view. D–F. Habitus. D. Dorsal view. E. Ventral view. F. Dorsal view. G–H. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–C, G, H = 0.1 mm; D–F = 0.5 mm.

HABITUS. Carapace red-brown to dark brown, covered with sparse white setae, with elevated, sub-square cephalic region (Fig. 6D). Chelicerae stubby, with five teeth on both margins (Fig. 6G). Sternum about two times as long as wide (Fig. 6E). Legs yellow to red-brown, with ventral macroseta on patellae I, and four and two pairs of ventral macrosetae on tibiae and metatarsi I, respectively. Abdomen elongated, dorsum brown to red-brown, covered by big scutum, with a pair of mediolateral white stripes formed by setae and followed by indistinct, transverse, yellow streak; venter dark brown (Fig. 6D–E).

PALP. Tibia longer than wide in retrolateral view, with short, tapered PTA rather pointed apically; RTA broadened anteromedially and bifurcated into sub-triangular ventral ramus and tapered dorsal ramus curved towards bulb distally in ventral view; bulb almost round; embolus broad, flat, coiled about two circles, with pointed distal end (Fig. 5).

Female (paratype, TRU-JS 0072)

MEASUREMENTS. Total length 5.14. Carapace 1.91 long, 1.05 wide. Abdomen 2.68 long, 1.36 wide. Eye sizes and inter-distances: AME 0.34, ALE 0.18, PLE 0.17, AERW 1.04, PERW 1.14, EFL 0.76. Legs: I 3.60 (1.10, 0.55, 0.95, 0.54, 0.46), II 2.81 (0.80, 0.43, 0.75, 0.49, 0.34), III 3.20 (0.90, 0.43, 0.80, 0.73, 0.34), IV 4.65 (1.34, 0.55, 1.25, 1.07, 0.44).

HABITUS. Similar to that of male except paler in color and without dorsal abdominal scutum (Fig. 6F).

EPIGYNE. Slightly longer than wide, with sub-triangular hood located at middle of posterior portion; atria paired, round, posterolaterally located; copulatory openings indistinct; sclerotized portions of copulatory ducts strongly curved; spermathecae elongated, touching, slightly broadened distally; fertilization ducts lamellar, extended transversely (Fig. 6A–C).

Distribution

China (Yunnan) (Fig. 60).

Genus *Myrmarachne* MacLeay, 1839

Myrmarachne hamata Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:4F507416-3043-4021-83D0-C9D379308A4E

Figs 7, 57

Diagnosis

Myrmarachne hamata sp. nov. can be easily distinguished from other congeners by the RTA curved into a reverse C-shape medially and forming a hook at the distal end in retrolateral view (Fig. 7C, G), whereas without similar RTA in others (Metzner 2023).

Etymology

The specific name comes from the Latin ‘*hamatus*’, which means ‘hook-shaped’, and refers to the RTA forming a hook at distal end in retrolateral view; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Xingren County, Luchuying Township, Qingshuihe Nature Reserve, Mabaoshu Grand Canyon; 25°17.79' N, 104°56.13' E; 1270 m a.s.l.; 3 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0084.

Paratypes

CHINA • 2 ♂♂; same collection data as for holotype; TRU-JS 0085–0086.

Description**Male (holotype)**

MEASUREMENTS. Total length 6.04. Carapace 3.09 long, 1.85 wide. Abdomen 3.05 long, 1.64 wide. Eye sizes and interdistances: AME 0.53, ALE 0.34, PLE 0.33, AERW 1.73, PERW 1.85, EFL 1.31. Legs: I 7.99 (2.10, 1.28, 2.63, 1.30, 0.68), II 5.84 (1.73, 0.85, 1.58, 1.13, 0.55), III 6.36 (1.85, 0.88, 1.50, 1.50, 0.63), IV 9.21 (2.80, 1.08, 2.40, 2.20, 0.73).

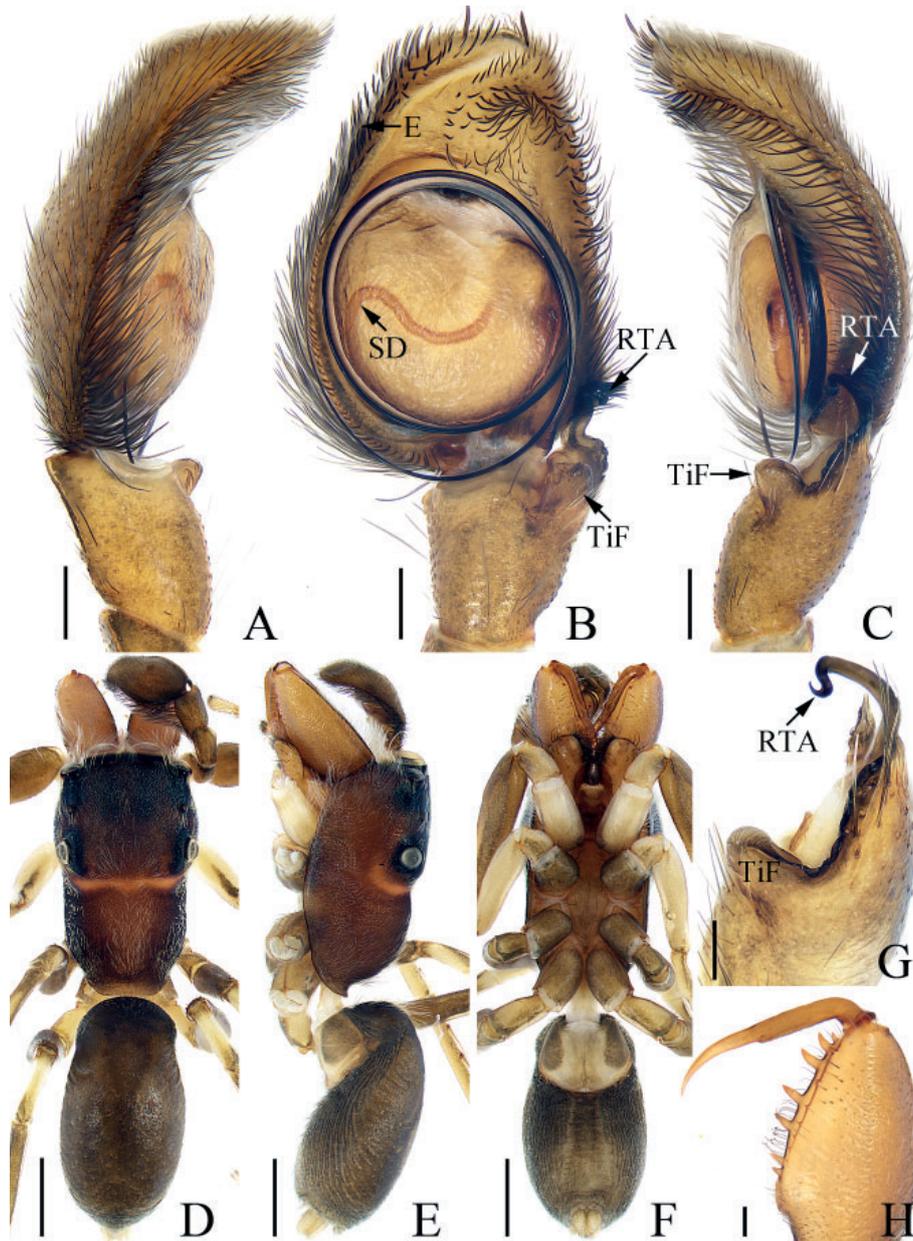


Fig. 7. Male of *Myrmarachne hamata* Wang, Mi & Peng sp. nov. **A–F, H.** Holotype, ♂ (TRU-JS 0084). **G.** Paratype, ♂ (TRU-JS 0085). **A–C.** Palp. **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. **D–F.** Habitus. **D.** Dorsal view. **E.** Lateral view. **F.** Ventral view. **G.** Palpal tibia, retrolateral view. **H.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–C, G–H = 0.2 mm; D–F = 1.0 mm.

HABITUS. Carapace red-brown to dark brown, covered with thin setae, with indistinct dark patch anteromedially on elevated cephalic region (Fig. 7D–E). Chelicerae yellow, with seven teeth on both retromargin and promargin (Fig. 7H). Sternum about 2.6 times as long as wide (Fig. 7F). Legs pale yellow to red-brown, with three, seven, and two pairs of ventral macrosetae on patellae, tibiae, and metatarsi I, respectively. Abdomen elongate-oval, dorsum dark brown, without patterns; venter brown to dark brown, covered with dark setae medially (Fig. 7D–F).

PALP. Tibia longer than wide, with lamellar tibial flange fused with RTA basally; RTA curved into reverse C-shape at middle and forming hook distally in retrolateral view; cymbium setose, with cluster of dark setae near distal portion of RTA; bulb flat, round; embolus slender, coiled with about two spirals (Fig. 7A–C).

Female

Unknown.

Distribution

China (Guizhou) (Fig. 57).

Myrmarachne xingrenensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:63AE31F5-41A6-47A9-B4FB-70CD1B55970A

Figs 8–9, 56

Diagnosis

The male of *Myrmarachne xingrenensis* sp. nov. resembles that of *M. circulus* Xiao & Wang, 2004 in having a broad embolus, but it can be easily distinguished by the following: (1) the chelicera is shorter than the carapace (Fig. 9C–D) whereas longer than carapace in *M. circulus* (Xiao & Wang 2004: fig. 1); (2) the RTA is strongly concave medially (Fig. 8B–D), whereas not concave in *M. circulus* (Xiao & Wang 2004: figs 3–4). The female also resembles that of *M. circulus* in having a posteromedially located epigynal hood, and prominent spermathecae, but it can be distinguished by the following: (1) the epigynal hood is longer than wide (Fig. 9A), whereas wider than long in *M. circulus* (Xiao & Wang 2004: figs 6–7); (2) the epigyne has a pair of hood-shaped structures anterolateral to atria (Fig. 9A), whereas absent in *M. circulus* (Xiao & Wang 2004: figs 6–7).

Etymology

The species name is derived from the name of the type locality, Xingren County; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Xingren County, Luchuying Township, Qingshuihe Nature Reserve, Mabaoshu Grand Canyon; 25°17.79' N, 104°56.13' E; 1270 m a.s.l.; 3 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0087.

Paratypes

CHINA • 13 ♀♀, 13 ♂♂; same collection data as for holotype; TRU-JS 0088–0113.

Description

Male (holotype)

MEASUREMENTS. Total length 4.77. Carapace 2.15 long, 1.19 wide. Abdomen 2.54 long, 1.19 wide. Eye sizes and inter-distances: AME 0.39, ALE 0.22, PLE 0.20, AERW 1.22, PERW 1.26, EFL 1.01. Legs: I

5.50 (1.63, 0.78, 1.75, 0.85, 0.49), II 4.01 (1.15, 0.58, 1.08, 0.76, 0.44), III 4.54 (1.32, 0.55, 1.13, 1.05, 0.49), IV 6.54 (1.93, 0.68, 1.78, 1.59, 0.56).

HABITUS. Carapace yellow-red to dark, covered with thin setae at anterior margin (Fig. 9C). Chelicerae with six teeth on both retromargin and promargin (Fig. 9F). Sternum elongated, almost 2.2 times as long as wide. Legs yellow to red-brown, with one, five, and two pairs of ventral macrosetae on patellae, tibiae, and metatarsi I, respectively (Fig. 9D). Abdomen elongated, dorsum mahogany brown, with a pair of anterolateral white stripes, covered by big scutum; venter gray-brown, with broad, longitudinal, brown band medially (Fig. 9C–D).

PALP. Tibia slightly longer than wide; RTA almost S-shaped in ventral view and strongly concave medially, tapered to pointed tip curved towards cymbium in retrolateral view; bulb almost round, with sperm duct extended along prolateral margin and curved into S-shape terminally; embolus broad and flat, coiled with two spirals, apically reaching to antero-retrolateral margin of cymbium (Fig. 8).

Female (paratype, TRU-JS 0088)

MEASUREMENTS. Total length 5.88. Carapace 2.60 long, 1.30 wide. Abdomen 2.85 long, 1.40 wide. Eye sizes and inter-distances: AME 0.46, ALE 0.24, PLE 0.22, AERW 1.32, PERW 1.34, EFL 1.08. Legs: I 5.47 (1.63, 0.85, 1.65, 0.83, 0.51), II 4.24 (1.24, 0.65, 1.15, 0.76, 0.44), III 4.95 (1.41, 0.63, 1.20, 1.22, 0.49), IV 7.47 (2.20, 0.78, 2.15, 1.83, 0.51).

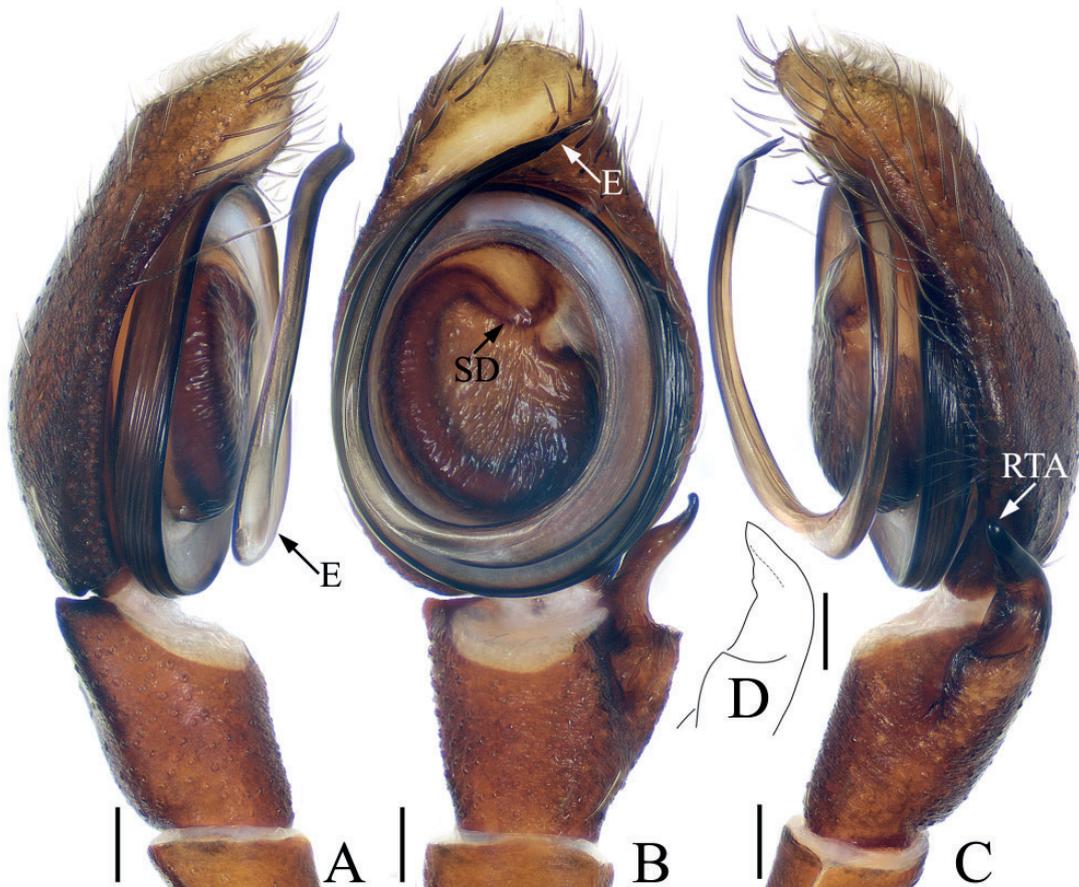


Fig. 8. Male palp of *Myrmarachne xingrenensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0087). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. **D.** RTA, retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

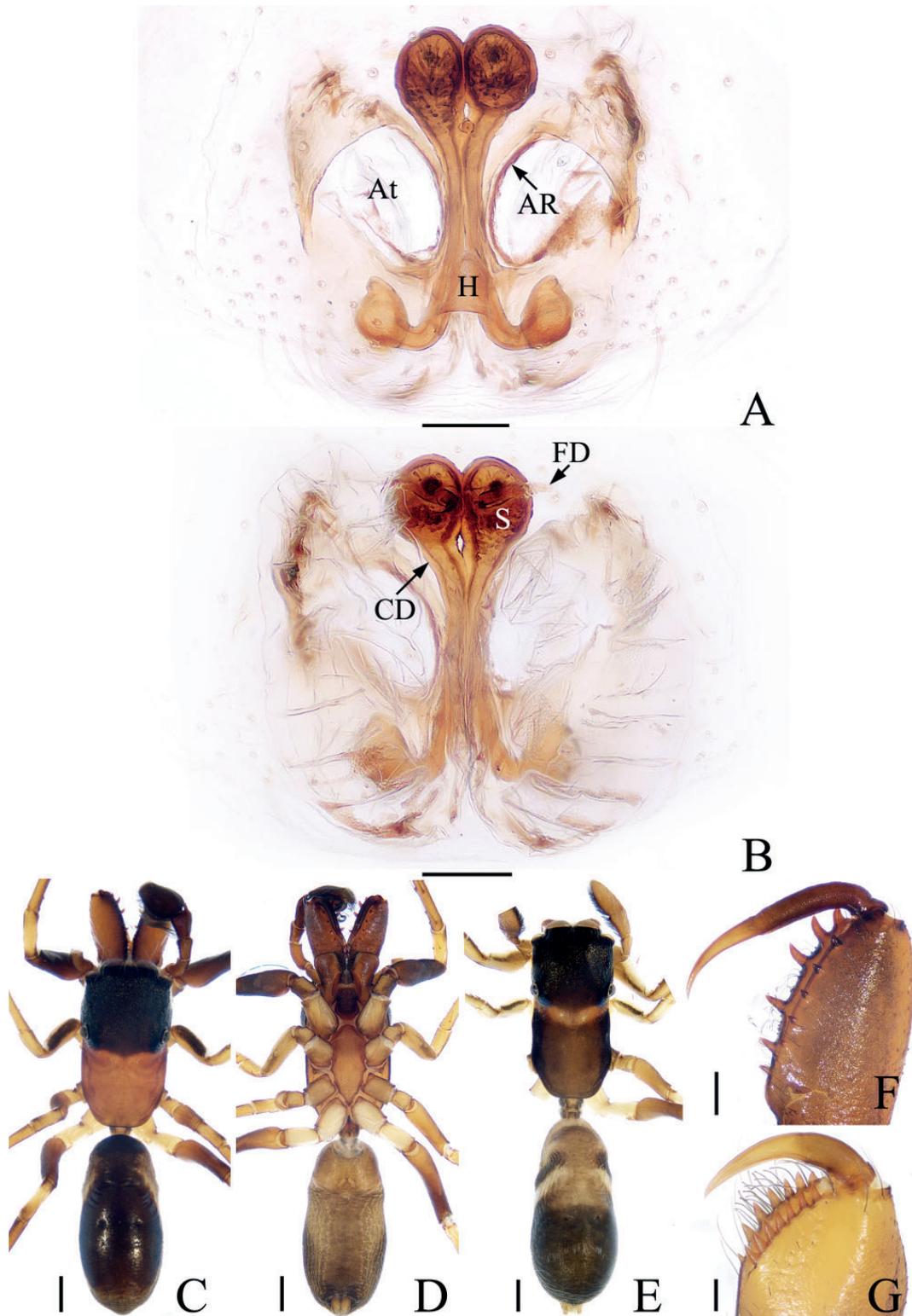


Fig. 9. *Myrmarachne xingrenensis* Wang, Mi & Peng sp. nov. **A–B, E, G.** Paratype, ♀ (TRU-JS 0088). **C–D, F.** Holotype, ♂ (TRU-JS 0087). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F–G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: **A–B, G** = 0.1 mm; **C–E** = 0.5 mm; **F** = 0.2 mm.

HABITUS. Similar to that of male except paler in color, and with seven cheliceral teeth on both retromargin and promargin (Fig. 9E, G).

EPIGYNE. With a pair of hood-shaped structures anterolateral to oval atria, and bell-shaped posterior hood far away from epigastric furrow about 1.6 times its length; sclerotized portions of copulatory ducts swollen at beginning and curved about 100° proximally, and then ascending to connect to posterior edges of spermathecae; spermathecae sub-spherical, touched; fertilization ducts originate from middle of inner edges of spermathecae, transversely extended (Fig. 9A–B).

Distribution

China (Guizhou) (Fig. 56).

Myrmarachne yinae Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:A7D47CA2-0093-4219-802A-6D98FF0496A9

Figs 10–11, 56

Diagnosis

The female of *Myrmarachne yinae* sp. nov. can be easily distinguished from other congeners by the epigyne having a pair of wing-shaped dorsolateral plates and an upwards opened hood (Fig. 11A–C), whereas similar plates being absent and with downwards or laterally opened hood in others (Metzner 2023). The male closely resembles that of *M. concava* Zhu, Zhang, Zhang & Chen, 2005 in palpal structure, but it can be distinguished by the RTA, which is curved into a pointed tip directed towards the dorsal side in retrolateral view (Fig. 10C), whereas straight and acutely narrowed to a pointed tip directed upward in *M. concava* (Zhu *et al.* 2005: fig. 10f).

Etymology

The specific name is a patronym in honor of the late Prof. Changmin Yin, one of the pioneers of spider taxonomy of China; noun (name) in genitive case.

Type material

Holotype

CHINA • ♀; Guizhou, Suiyang County, Kuankuoshui National Nature Reserve, Zhubaotai; 28°12.71' N, 107°10.01' E; 1513 m a.s.l.; 26 Jul. 2015; C. Wang *et al.* leg.; TRU-JS 0114.

Paratypes

CHINA • 2 ♀♀, 1 ♂; same collection data as for holotype; TRU-JS 0115–0117 • 2 ♀♀; Yinjiang County, Ziwei Township, Fanjing Mountain National Nature Reserve, Huguosi; 27°54.54' N, 108°46.57' E; 1655 m a.s.l.; 9 May 2020; X.Q. Mi *et al.* leg.; TRU-JS 0118–0119 • 2 ♂♂; same collection data as for preceding; 21 Jul. 2021; TRU-JS 0120–0121.

Description

Female (holotype)

MEASUREMENTS. Total length 6.18. Carapace 2.64 long, 1.37 wide. Abdomen 3.42 long, 1.53 wide. Eye sizes and interdistances: AME 0.47, ALE 0.24, PLE 0.24, AERW 1.36, PERW 1.42, EFL 1.03. Legs: I 4.83 (1.45, 0.78, 1.45, 0.75, 0.40), II 3.82 (1.13, 0.63, 1.01, 0.65, 0.40), III 4.41 (1.25, 0.58, 1.05, 1.08, 0.45), IV 6.46 (1.88, 0.75, 1.75, 1.58, 0.50).

HABITUS. Carapace dark brown except yellow-brown on cervical groove area, cephalic region elevated, square, covered with gray-white, thin setae (Fig. 11D–E). Chelicerae with six teeth on both retromargin

and promargin (Fig. 11H). Sternum narrow, about 2.5 times as long as wide (Fig. 11F). Legs yellow to red-brown, with two, six, and two pairs of macrosetae on venter of patellae, tibiae, and metatarsi I, respectively (Fig. 11D). Abdomen elongated, constricted anteromedially, dorsum with alternate transverse dark brown and yellow bands; venter pale yellow (Fig. 11D–F).

EPIGYNE. With small, upward opened, cup-shaped posterior hood, and a pair of wing-shaped, sclerotized dorsolateral plates; atrium broad, sub-trapezoidal, with a pair of lateral ridges and two pairs of wrinkles; copulatory openings posterolaterally located, slit-shaped; sclerotized portions of copulatory ducts broadened, curved and with a pair of accessory glands at proximal portions, and then extended anteriorly, and coiled with five spirals at terminus; spermathecae tube-shaped; fertilization ducts slender, extended anterolaterally (Fig. 11A–C).

Male (paratype, TRU-JS 0117)

MEASUREMENTS. Total length 4.89. Carapace 2.16 long, 1.33 wide. Abdomen 2.51 long, 1.05 wide. Eye sizes and interdistances: AME 0.42, ALE 0.22, PLE 0.22, AERW 1.27, PERW 1.31, EFL 1.02. Legs: I 4.94 (1.48, 0.75, 1.45, 0.78, 0.48), II 3.91 (1.13, 0.60, 1.10, 0.68, 0.40), III 4.35 (1.25, 0.55, 1.05, 1.00, 0.50), IV 5.96 (1.70, 0.70, 1.63, 1.43, 0.50).

HABITUS. Similar to that of female except paler in color, and with more well-developed chelicerae (Fig. 11G).

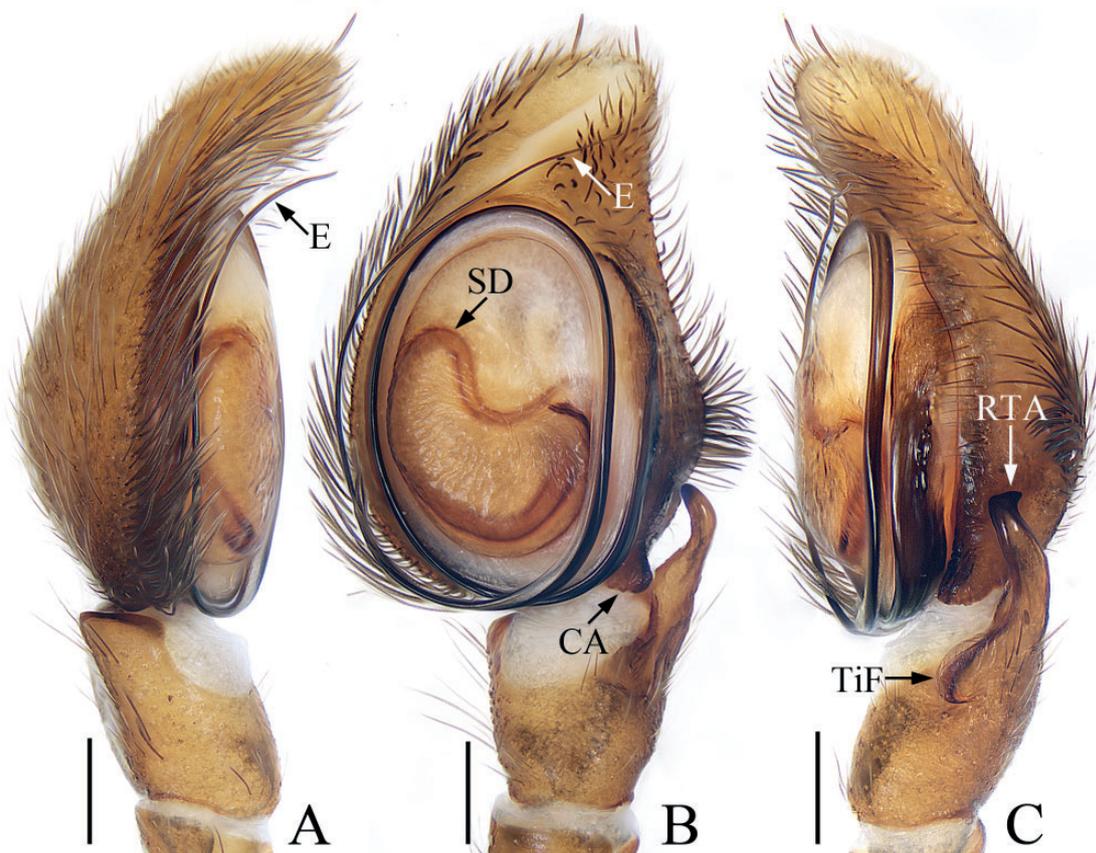


Fig. 10. Male palp of *Myrmarachne yinae* Wang, Mi & Peng sp. nov., paratype (TRU-JS 0117). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.2 mm.

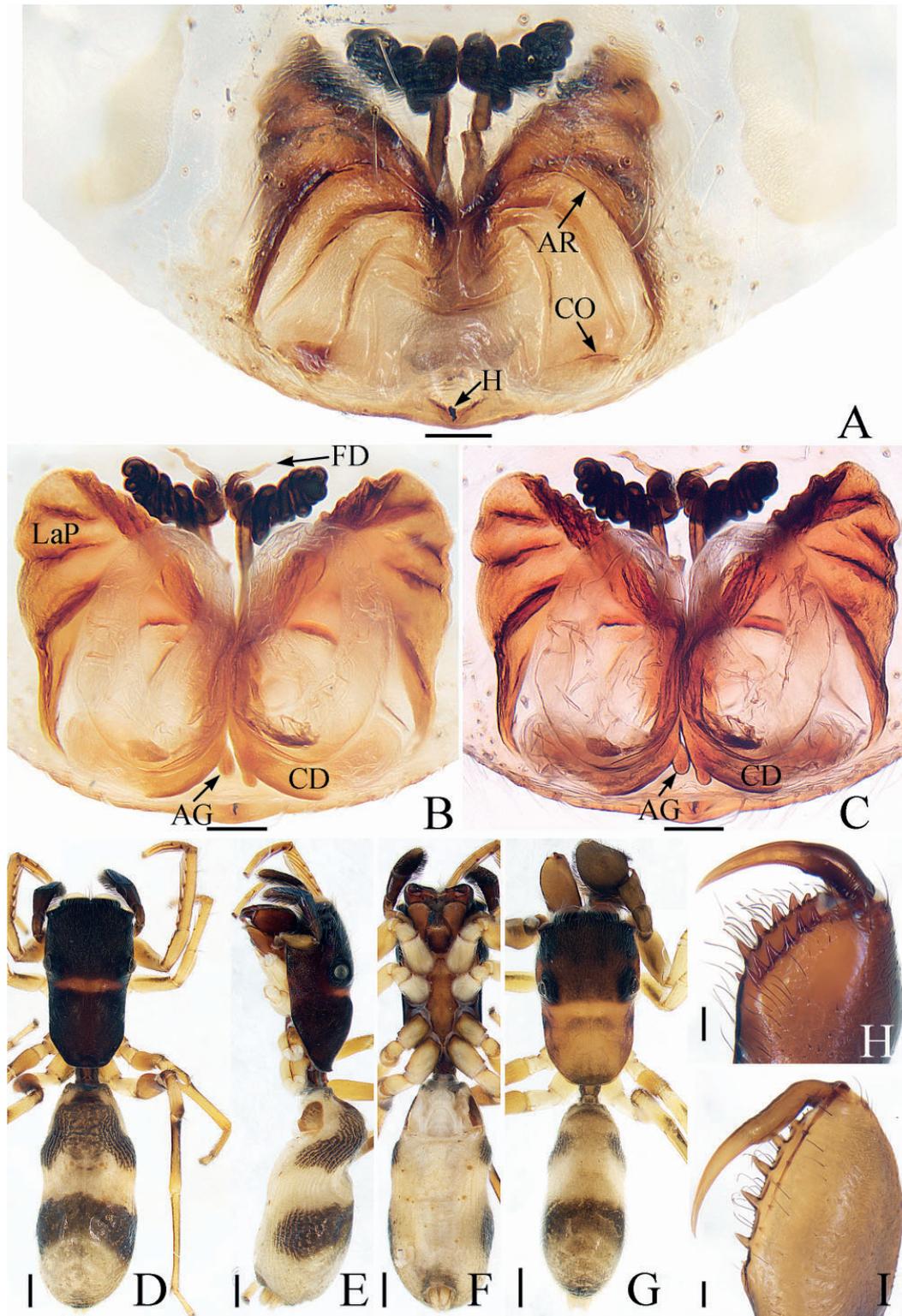


Fig. 11. *Myrmarachne yinae* Wang, Mi & Peng sp. nov. A–F, H. Holotype, ♀ (TRU-JS 0114). G, I. Paratype, ♂ (TRU-JS 0117). A. Epigyne, ventral view. B–C. Vulva, dorsal view. D–G. Habitus. D. Dorsal view. E. Lateral view. F. Ventral view. G. Dorsal view. H–I. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–C, H, I = 0.1 mm; D–G = 0.5 mm.

PALP. Tibia longer than wide, with lamellar flange fused with RTA basally; RTA twisted, curved, and extended towards dorsal side distally in retrolateral view; cymbium setose, with cluster of dense, dark setae dorsomedially, and sub-triangular, baso-retrolateral apophysis in ventral view; bulb oval; embolus long, coiled with about two spirals, distal portion flagelliform (Fig. 10).

Distribution

China (Guizhou) (Fig. 56).

Genus *Phintella* Strand, 1906

Phintella aequipeiformis Żabka, 1985

Figs 12, 58

Phintella aequipeiformis Żabka, 1985: 427, figs 422–425, 450 (D♂, male holotype, not examined).

Phintella lucai Żabka, 1985: 430, figs 444–446 (D♀).

Phintella aequipeiformes – Luong *et al.* 2016: 286, figs 3a–i, 4a–i (♂♀; S of *P. lucai*). For full reference list see World Spider Catalog (2023).

Diagnosis and description

See Żabka (1985) and Luong *et al.* (2016).

Material examined

CHINA • 2 ♀♀, 1 ♂; Guangxi Zhuang Autonomous Region, Longzhou County, Zhubu Township, Nonggang Village; 22°27.91' N, 106°57.33' E; 250 m a.s.l.; 7 Jul. 2019; C. Wang *et al.* leg.; TRU-JS 0122–0124.

Distribution

China (Guangxi) (Fig. 58), Vietnam.

Comments

Xie (1993) described two specimens of *Phintella* collected from Hunan, China as *P. aequipeiformis*. After re-examining, however, the specimens were considered to be misidentified and are described as *P. wandae* sp. nov. in the present work. The true *P. aequipeiformis* was found in Guangxi, China, and is photographed in the present work.

Phintella arcuata Huang, Wang & Peng, 2015

Phintella arcuata Huang *et al.*, 2015: 26, figs 1a–d, 2a–c, 3a–e (D♂, male holotype, examined; ♀, mismatched).

Phintella levii Huang *et al.*, 2015: 31, figs 4a–c, 5a–b (D♀, female holotype, examined). **syn. nov.**

Comments

The female of *Phintella arcuata* is considered to be mismatched and identified as *P. subpanda* sp. nov. below. Both the male of *P. arcuata* and the female of *P. levii* were collected from Huping Mountain National Nature Reserve and their collection localities are close to each other. Moreover, they share a similar habitus, and are consistent with *P. pygmaea* in palpal and epigynal structures, respectively (e.g., the male has a sub-oval carapace, three transverse white bands medially on the dorsum of the abdomen,

a medially located retromarginal cheliceral tooth, and similarly shaped copulatory ducts). Based on that, it is safe to consider *P. arcuata* and *P. levii* as the same species. According to the rules, *P. levii* is assigned as a synonym of *P. arcuata*.

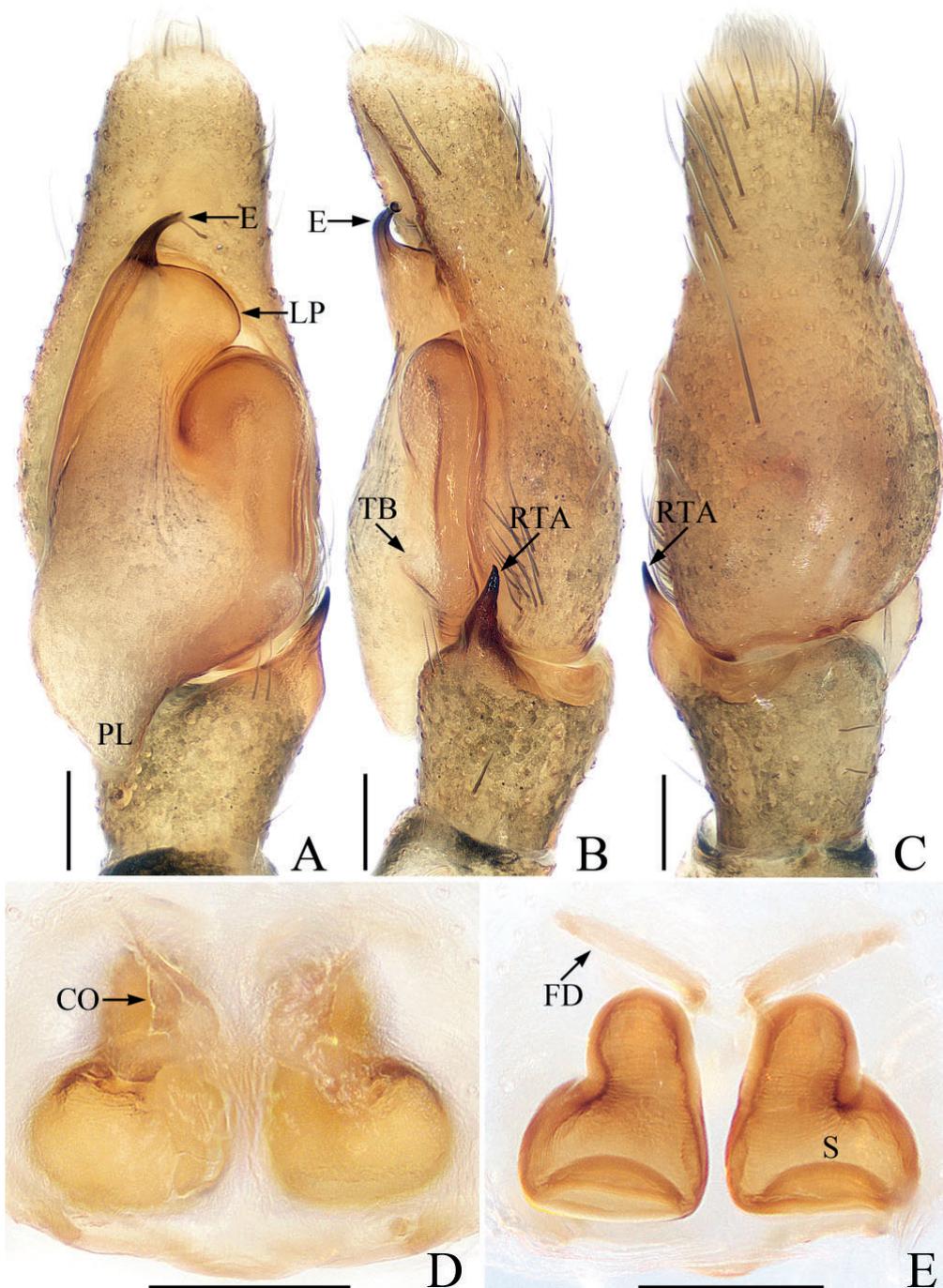


Fig. 12. Copulatory organs of *Phintella aequipeiformis* Žabka, 1985. **A–C.** ♂ (TRU-JS 0124). **D–E.** ♀ (TRU-JS 0122). **A.** Palp, ventral view. **B.** Palp, retrolateral view. **C.** Palp, dorsal view. **D.** Epigyne, ventral view. **E.** Vulva, dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Phintella fanjingshan Li, Wang, Zhang & Chen, 2019
Figs 13–14, 58

Phintella fanjingshan Li *et al.*, 2019: 120, figs 1a, 2a–b, 3a–c (D♂, male holotype, not examined).

Diagnosis

The male of *Phintella fanjingshan* Li, Wang, Zhang & Chen, 2019 resembles that of *P. pulcherrima* Huang, Wang & Peng, 2015 in having a similar habitus and a small lamellar process, but differs in: (1) the RTA is acutely narrowed distally in retrolateral view (Fig. 13B), whereas tapered in *P. pulcherrima* (Huang *et al.* 2015: figs 8b, 10b); (2) the embolus is almost as long as the lamellar process (Fig. 13A), whereas about 1.5 times as short as the lamellar process in *P. pulcherrima* (Huang *et al.* 2015: figs 8a, 10a). The female is similar to that of *P. jiugongensis* sp. nov., but can be distinguished by the following: (1) the copulatory ducts are about one-third the spermathecal width and slightly curved medially (Fig. 14B), whereas about one-fourth the spermathecal width, and strongly curved more than 90° in *P. jiugongensis* (Fig. 18B); (2) the epigyne has a pair of eyebrow-shaped atrial ridges anterior to the copulatory openings (Fig. 14A), whereas arc-shaped and anteriorly between the copulatory openings in *P. jiugongensis* (Fig. 18A).

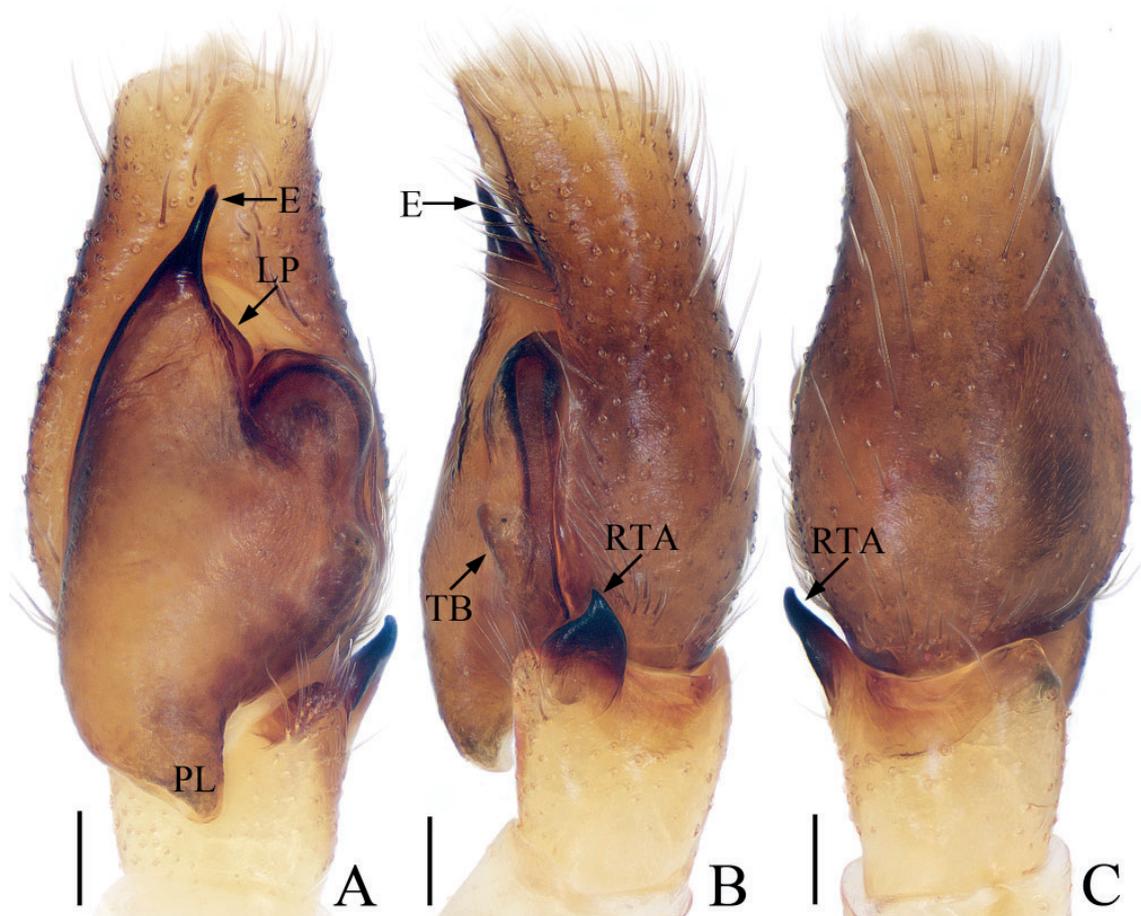


Fig. 13. Male palp of *Phintella fanjingshan* Li, Wang, Zhang & Chen, 2019 (TRU-JS 0127). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Material examined

CHINA • 2 ♀♀, 8 ♂♂; Guizhou, Yinjiang County, Fanjing Mountain National Nature Reserve, Mianxuling; 27°54.83' N, 108°40.03' E; 2000 m a.s.l.; 17 Jul. 2015; C. Wang *et al.* leg.; TRU-JS 0125–0134 • 3 ♀♀, 1 ♂; same locality as for preceding; 9 May 2020; X.Q. Mi *et al.* leg.; TRU-JS 0135–0138 • 1 ♀; same locality as for preceding; 4 Jul. 2020; X.Q. Mi and C. Wang leg.; TRU-JS 0139 • 2 ♂♂;

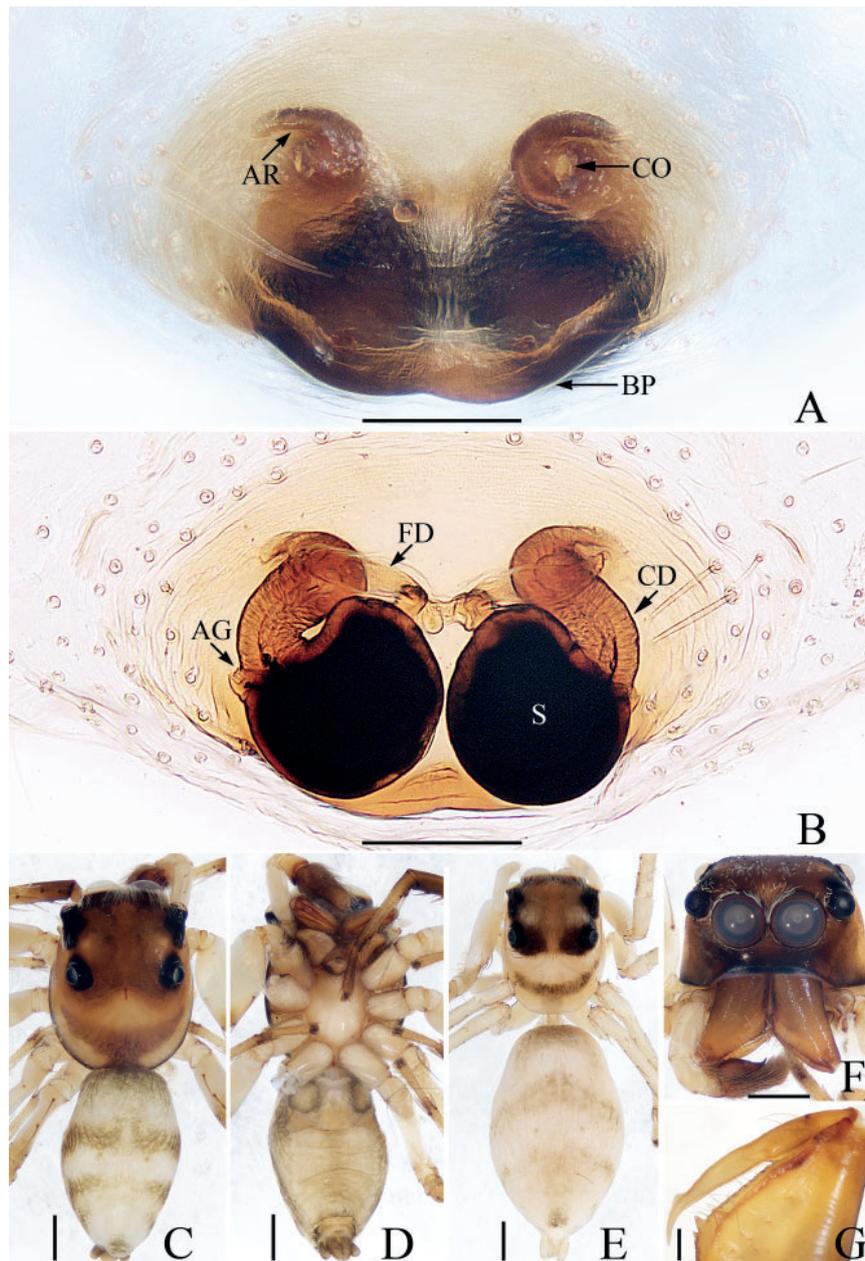


Fig. 14. *Phintella fanjingshan* Li, Wang, Zhang & Chen, 2019. **A–B, E.** ♀ (TRU-JS 0125). **C–D, F–G.** ♂ (TRU-JS 0127). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

same locality as for preceding; 9 May 2021; X.Q. Mi and C. Wang leg.; TRU-JS 0140–0141 • 1 ♀, 1 ♂; Yinjiang County, Muhuang Township, Jinchang Village, Maxi'ao; 28°1.37' N, 108°45.00' E; 1300 m a.s.l.; 10 May 2020; X.Q. Mi *et al.* leg.; TRU-JS 0142–0143 • 2 ♂♂; same locality as for preceding; 21 Jul. 2021; X.Q. Mi *et al.* leg.; TRU-JS 0144–0145.

Description

Male (TRU-JS 0127)

MEASUREMENTS. Total length 4.82. Carapace 2.36 long, 1.82 wide. Abdomen 2.51 long, 1.63 wide. Eye sizes and interdistances: AME 0.54, ALE 0.30, PLE 0.31, AERW 1.55, PERW 1.50, EFL 1.07. Legs: I 5.62 (1.53, 0.85, 1.63, 1.13, 0.48), II 4.40 (1.28, 0.63, 1.13, 0.93, 0.43), III 4.83 (1.45, 0.60, 1.18, 1.15, 0.45), IV 5.06 (1.50, 0.58, 1.25, 1.28, 0.45).

HABITUS. Carapace yellow to brown, covered with pale scale-like setae and pale setae anteriorly, with fan-shaped area medially on thorax and a pair of marginal yellow bands laterally (Fig. 14C, F). Chelicerae with one retromarginal tooth and two promarginal teeth, and distal flange of fang (Fig. 14G). Legs pale to red-brown. Abdomen elongated, dorsum pale to green-brown, with alternate pale and green-brown transverse bands and brown terminal spot; venter yellow to pale brown (Fig. 14C–D).

PALP. Tibia slightly wider than long in ventral view; RTA tapered in ventral view, broadened basomedially, and acutely narrowed to pointed tip distally in retrolateral view; bulb elongated, with well-developed posterior lobe curved towards postero-retrolaterally in ventral view; tegular bump almost triangular in retrolateral view; lamellar process small, longer than wide; embolus strongly sclerotized, straight, almost as long as lamellar process, blunt apically (Fig. 13).

Female (TRU-JS 0125)

MEASUREMENTS. Total length 4.86. Carapace 1.82 long, 1.32 wide. Abdomen 2.82 long, 1.98 wide. Eye sizes and interdistances: AME 0.45, ALE 0.25, PLE 0.23, AERW 1.25, PERW 1.14, EFL 0.93. Legs: I 3.40 (1.01, 0.58, 0.80, 0.63, 0.38), II 3.16 (1.00, 0.50, 0.75, 0.58, 0.33), III 3.79 (1.15, 0.53, 0.85, 0.88, 0.38), IV 4.18 (1.23, 0.55, 1.01, 1.01, 0.38).

HABITUS. Similar to that of male except paler in color (Fig. 14E).

EPIGYNE. With broad, bow-shaped basal plate; copulatory openings almost round, below eyebrow-shaped atrial ridges; copulatory ducts slightly curved medially, with very short accessory glands at terminus; spermathecae pear-shaped, very close to each other medially; fertilization ducts lamellar, originate from anterior edges of spermathecae (Fig. 14A–B).

Distribution

China (Guizhou) (Fig. 58).

Phintella fodingensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:0B41F867-A389-4B0A-94CD-07D12049F770

Figs 15–16, 59

Diagnosis

The male of *Phintella fodingensis* sp. nov. resembles that of *P. popovi* (Prószyński, 1979), but differs in: (1) the RTA being extended upward in ventral view (Fig. 15A), whereas extended diagonally towards bulb in *P. popovi* (Peng 2020: fig. 218b); (2) the embolus being straight (Fig. 15A), whereas curved medially (Peng 2020: fig. 218b). The female also resembles that of *P. popovi*, but differs in

the copulatory openings, which are separated from each other by about 1.8 times spermathecal width (Fig. 16A), whereas almost touching in *P. popovi* (Peng 2020: fig. 218g).

Etymology

The species name is derived from the name of the type locality, Foding Mountain National Nature Reserve; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Shiqian County, Ganxi Township, Fuyan Village, Jiuchashu; 27°20.62' N, 108°3.56' E; 1410 m a.s.l.; 29 Apr. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0146.

Paratypes

CHINA • 3 ♀♀, 2 ♂♂; same collection data as for holotype; TRU-JS 0147–0151.

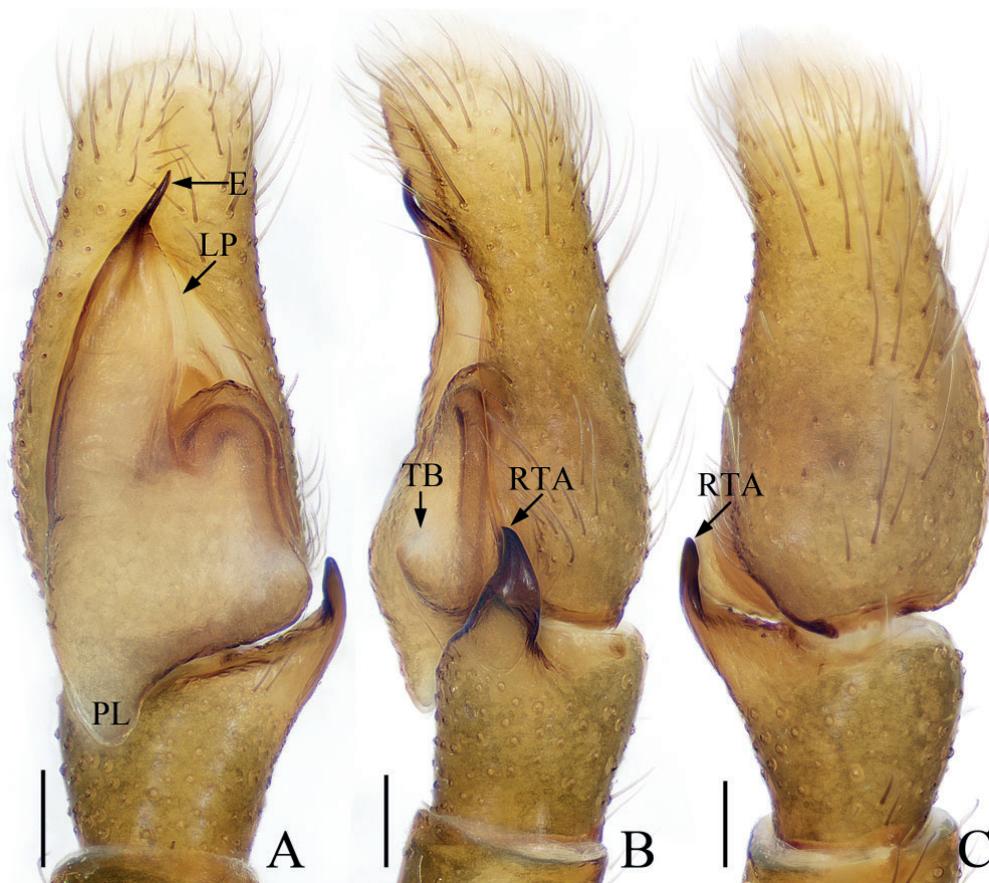


Fig. 15. Male palp of *Phintella fodingensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0146). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Description

Male (holotype)

MEASUREMENTS. Total length 3.88. Carapace 1.69 long, 1.38 wide. Abdomen 2.06 long, 1.22 wide. Eye sizes and interdistances: AME 0.43, ALE 0.23, PLE 0.21, AERW 1.28, PERW 1.22, EFL 0.88. Legs:

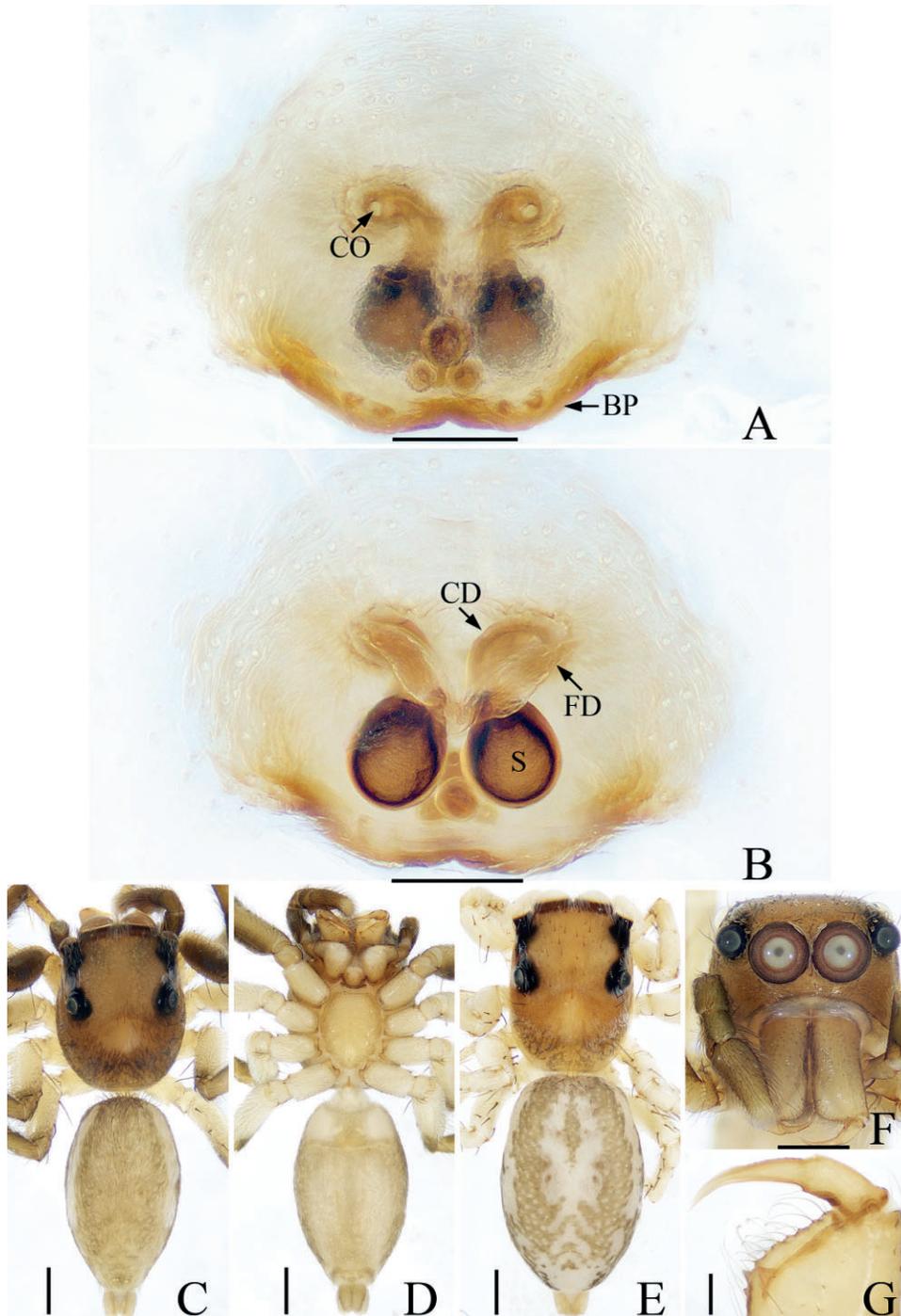


Fig. 16. *Phintella fodingensis* Wang, Mi & Peng sp. nov. **A–B, E.** Paratype, ♀ (TRU-JS 0147). **C–D, F–G.** Holotype, ♂ (TRU-JS 0146). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

I 5.10 (1.41, 0.75, 1.38, 1.05, 0.51), II 4.47 (1.24, 0.68, 1.13, 0.93, 0.49), III 4.83 (1.34, 0.63, 1.15, 1.22, 0.49), IV 4.99 (1.41, 0.53, 1.25, 1.29, 0.51).

HABITUS. Carapace yellow, covered with white and brown scale-like setae and brown setae, with pale area anteromedially on thorax (Fig. 16C, F). Chelicerae with one retromarginal tooth and two promarginal teeth, without distal flange of fang (Fig. 16G). Legs pale yellow to yellow except femora and tibiae I brown to dark brown. Abdomen elongate-oval, dorsum pale brown, with a pair of longitudinal, white stripes formed by setae laterally; venter pale gray to pale brown (Fig. 16C–D).

PALP. Tibia almost as long as wide in ventral view; RTA strongly curved medially in ventral view, and tapered to pointed tip curved diagonally towards bulb in retrolateral view; bulb slightly broadened posteriorly, with posterior lobe extended downward; tegular bump lamellar; lamellar process about nine times as long as wide; embolus thin and straight, with rather pointed tip almost directed towards 1 o'clock position in ventral view (Fig. 15).

Female (paratype, TRU-JS 0147)

MEASUREMENTS. Total length 4.40. Carapace 1.84 long, 1.41 wide. Abdomen 2.50 long, 1.63 wide. Eye sizes and interdistances: AME 0.45, ALE 0.23, PLE 0.21, AERW 1.37, PERW 1.34, EFL 0.94. Legs: I 3.53 (1.10, 0.68, 0.75, 0.66, 0.34), II 3.30 (1.05, 0.55, 0.75, 0.61, 0.34), III 3.82 (1.22, 0.55, 0.78, 0.90, 0.37), IV 4.34 (1.32, 0.58, 1.00, 1.07, 0.37).

HABITUS. Similar to that of male except paler in color and with irregular longitudinal stripe on dorsum of abdomen (Fig. 16E).

EPIGYNE. With bow-shaped basal plate; copulatory openings oval, anteriorly located, separated from each other by 1.8 times spermathecal width; copulatory ducts short, curved as arc-shape and connected to anterior edges of oval spermathecae; fertilization ducts lamellar, extended anterolaterally (Fig. 16A–B).

Distribution

China (Guizhou) (Fig. 59).

Phintella jiugongensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:E359636E-471E-4D33-A275-310E41F458F8

Figs 17–18, 61

Diagnosis

The male of *Phintella jiugongensis* sp. nov. closely resembles that of *P. panda* Huang, Wang & Peng, 2015, but differs in: (1) the lamellar process being about two times as long as wide (Fig. 17A), whereas about four times as long as wide in *P. panda* (Fig. 22A); (2) the tegulum having a knob below the embolic base (Fig. 17A–B), whereas absent in *P. panda* (Fig. 22A–B). The female also resembles that of *P. panda* in having a similar epigyne, but it can be distinguished by the following: (1) the copulatory openings being below the anterior-most spermathecal margins (Fig. 18A–B), whereas anterior to spermathecae in *P. panda* (Fig. 23A–B); (2) the distance between two protrusions of the basal epigynal plate being almost equal to spermathecal width (Fig. 18A–B), whereas about half the spermathecal width in *P. panda* (Fig. 23A–B). The female also resembles *P. linea* (Karsch, 1879) in the general shape of the epigyne, but it can be easily distinguished by the copulatory openings, which are below the anterior-most spermathecal margins and separated from each other about half the spermathecal width (Fig. 18A–B), whereas anterior to spermathecae and separated from each other by more than the spermathecal width in *P. linea* (Prószyński 1973: figs 42–43).

Etymology

The species name is derived from the name of the type locality, Jiugong Mountain National Nature Reserve; adjective.

Type material

Holotype

CHINA • ♂; Hubei, Tongshan County, Jiugong Mountain, Shilongxia Scenic Zone; 29°24.75' N, 114°39.05' E; elevation unspecified; 12 Jul. 2020; Y. Zhong *et al.* leg.; TRU-JS 0152.

Paratypes

CHINA • 2 ♀♀, 1 ♂; same collection data as for holotype.; TRU-JS 0153–0155.

Description

Male (holotype)

MEASUREMENTS. Total length 3.65. Carapace 1.86 long, 1.43 wide. Abdomen 1.71 long, 1.14 wide. Eye sizes and interdistances: AME 0.45, ALE 0.26, PLE 0.24, AERW 1.37, PERW 1.24, EFL 0.90. Legs: I 4.88 (1.38, 0.75, 1.25, 1.00, 0.50), II 3.98 (1.20, 0.58, 0.95, 0.75, 0.50), III 4.64 (1.40, 0.58, 1.03, 1.13, 0.50), IV 5.01 (1.50, 0.53, 1.25, 1.23, 0.50).

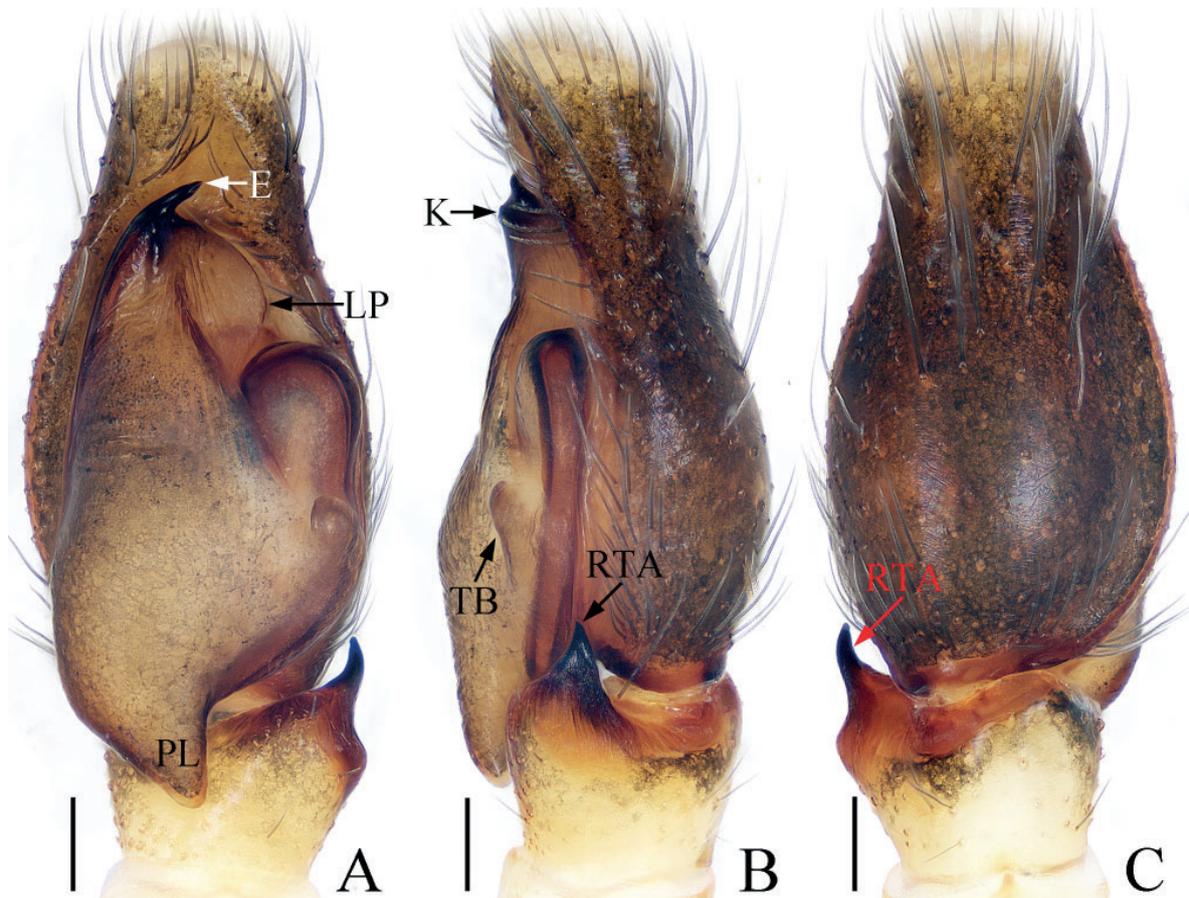


Fig. 17. Male palp of *Phintella jiugongensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0152). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

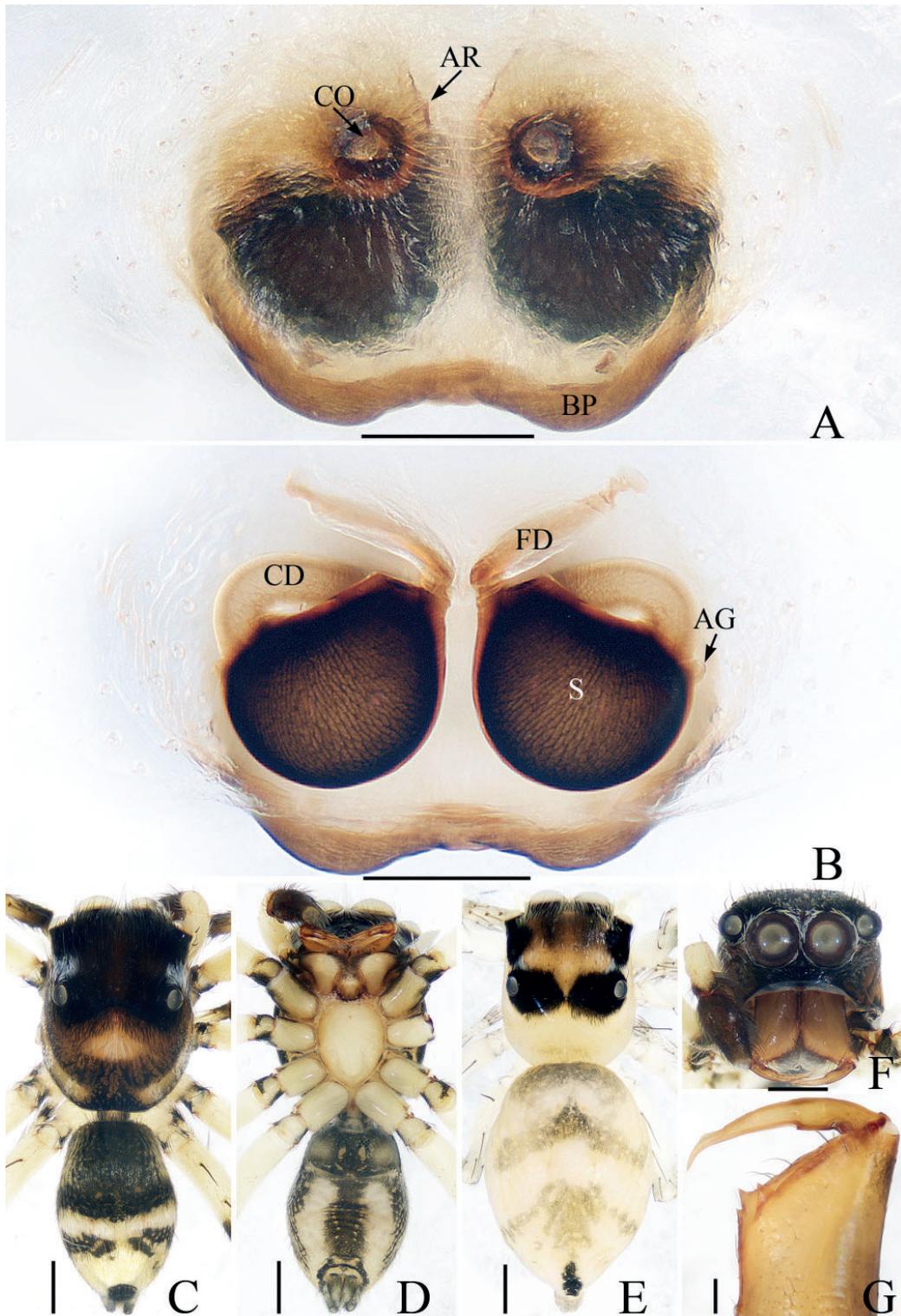


Fig. 18. *Phintella jiugongensis* Wang, Mi & Peng sp. nov. **A–B, E.** Paratype, ♀ (TRU-JS 0153). **C–D, F–G.** Holotype, ♂ (TRU-JS 0152). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

HABITUS. Carapace brown to dark brown, covered with white and dark scale-like setae and brown setae, with yellow area bearing white scale-like setae medially on thorax, a pair of later-marginal yellow bands, and two clusters of white scale-like setae between ALEs and PLEs (Fig. 18C, F). Chelicerae with one retromarginal tooth and two promarginal teeth, and distal flange of fang (Fig. 18G). Legs pale to dark brown somewhat mingled with green. Abdomen sub-oval, dorsum green-brown anteromedially, with alternate dark brown and pale yellow stripes posteromedially; venter with green-brown, central, longitudinal band extended from epigastric furrow to terminus (Fig. 18C–D).

PALP. Tibia wider than long; RTA strongly sclerotized, tapered, broadened at base, slightly curved medially in ventral view and almost triangular at distal half in retrolateral view; bulb elongated, with sub-triangular posterior lobe and small knob below embolic base; tegular bump lamellar, medio-retrolaterally located; lamellar process about two times as long as wide; embolus short, strongly sclerotized, directed towards about 2 o'clock position apically in ventral view (Fig. 17).

Female (paratype, TRU-JS 0153)

MEASUREMENTS. Total length 3.96. Carapace 1.64 long, 1.38 wide. Abdomen 2.38 long, 1.72 wide. Eye sizes and interdistances: AME 0.45, ALE 0.25, PLE 0.23, AERW 1.32, PERW 1.24, EFL 0.89. Legs: I 3.54 (1.08, 0.60, 0.80, 0.68, 0.38), II 3.39 (1.05, 0.53, 0.78, 0.65, 0.38), III 3.74 (1.13, 0.53, 0.78, 0.90, 0.40), IV 4.34 (1.28, 0.53, 1.05, 1.05, 0.43).

HABITUS. Similar to that of male except paler in color (Fig. 18E).

EPIGYNE. With broad, bow-shaped basal plate and a pair of anterior atrial ridges inner to copulatory openings; copulatory openings almost round, located anteriorly; copulatory ducts strongly curved more than 90° posteromedially, with short accessory glands at terminus; spermathecae pear-shaped, separated from each other by one-seventh the spermathecal width; fertilization ducts lamellar, anterior-laterally extended (Fig. 18A–B).

Distribution

China (Hubei) (Fig. 61).

Phintella liae Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:596F557B-64FB-4EEC-92C1-43D003D7F75A

Figs 19, 57

Diagnosis

Phintella liae sp. nov. resembles *P. arenicolor* (Grube, 1861) and *P. castriesiana* (Grube, 1861) in having an elongated bulb, but it can be easily distinguished by the long embolus, and the well-developed RTA which is longer than the tibia (Fig. 19A–C), whereas a much shorter embolus, and less-developed RTA shorter than tibia in *P. arenicolor* and *P. castriesiana* (Logunov & Wesołowska 1992: fig. 28a–b; Peng 2020: fig. 211c–d).

Etymology

The species is named after Mrs Feng'e Li, one of the collectors of this new species; noun (name) in genitive case.

Type material

Holotype

CHINA • ♂; Guangxi Zhuang Autonomous Region, Longzhou County, Zhubu Township, Nonggang Village; 22°27.91' N, 106°57.33' E; 250 m a.s.l.; 7 Jul. 2019; C. Wang *et al.* leg.; TRU-JS 0156.

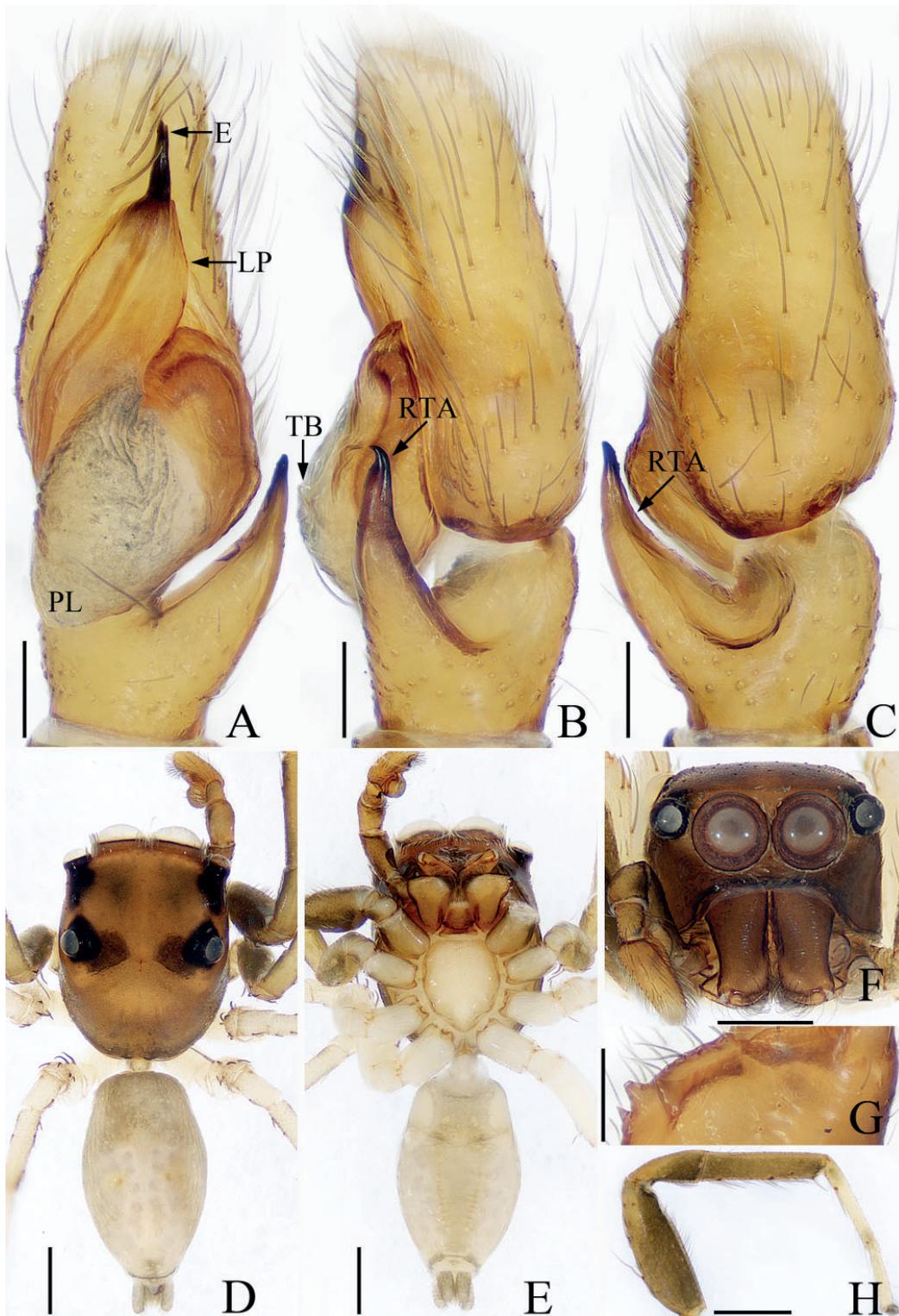


Fig. 19. *Phintella liae* Wang, Mi & Peng sp. nov., holotype, ♂ (TRU-JS 0156). **A–C.** Palp. **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Habitus, dorsal view. **E.** Habitus, ventral view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. **H.** Leg I, prolateral view. Abbreviations: see Material and methods. Scale bars: A–C, G = 0.1 mm; D–F, H = 0.5 mm.

Paratypes

CHINA • 1 ♂; Hainan, Ledong County, Jianfeng Township, Chenlonggou Nature Reserve; 18°42.53' N, 108°47.21' E; 188 m a.s.l.; 17 Jun. 2019; C. Wang and Y.F. Yang leg.; TRU-JS 0157 • 1 ♂; same collection data as for preceding; 18 Jun. 2019; TRU-JS 0158 • 3 ♂♂; Ledong County, Jianfeng Township, Jianfengling National Nature Reserve, Yulingu; 18°44.79' N, 108°55.76' E; 630 m a.s.l.; 9 May 2021; F.E. Li leg.; TRU-JS 0159–0161.

Description

Male (holotype)

MEASUREMENTS. Total length 3.21. Carapace 1.56 long, 1.28 wide. Abdomen 1.55 long, 0.95 wide. Eye sizes and interdistances: AME 0.40, ALE 0.23, PLE 0.22, AERW 1.26, PERW 1.24, EFL 0.83. Legs: I 3.70 (1.10, 0.55, 0.90, 0.75, 0.40), II 3.35 (1.00, 0.50, 0.75, 0.70, 0.40), III 3.84 (1.18, 0.48, 0.78, 1.00, 0.40), IV 4.32 (1.28, 0.53, 1.00, 1.08, 0.43).

HABITUS. Carapace yellow to brown, with a pair of square dark patches between to PLEs (Fig. 19D, F). Chelicerae with two promarginal teeth and one retromarginal tooth (Fig. 19G). Legs off-white except femora, patellae, and tibiae I, II green-brown. Abdomen elongated, dorsum off-white to pale brown, with indistinct broad pale patch posteromedially; venter pale, with a pair of longitudinal, dotted lines medially (Fig. 19D–E).

PALP. Tibia wider than long; RTA tapered, longer than tibia, distally sclerotized, curved into pointed tip directed towards ventral side in retrolateral view; bulb elongated; tegular bump small, blunt apically; lamellar process elongated, more than five times as long as wide; embolus sclerotized, long and straight, blunt apically (Fig. 19A–C).

Female

Unknown.

Distribution

China (Hainan, Guangxi) (Fig. 57).

Comments

The species is placed into *Phintella* due to the similarity in habitus and palpal structure, but also differs from other congeners by the long, thick embolus, and the long RTA, and so, its generic position may need confirmation.

Phintella liui Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:7B37625B-84AF-452B-A4B0-FF40622C1B57

Figs 20–21, 58

Diagnosis

The male of *Phintella liui* sp. nov. closely resembles that of *P. castrisiana* (Grube, 1861) in having a similar palp, but differs in: (1) the RTA being slightly curved towards the bulb in ventral view (Fig. 20A), whereas curved towards the dorsal side in *P. castrisiana* (Logunov & Wesołowska 1992: fig. 28a); (2) the retrolateral margin of the lamellar process being separated from the sperm duct (Fig. 20A), whereas partly covers the sperm duct in *P. castrisiana* (Logunov & Wesołowska 1992: fig. 28a). The female also resembles that of *P. castrisiana* in the epigynal structure, but differs in: (1) the epigynal basal plate having two well-developed protrusions (Fig. 21A–B), whereas indistinct in *P. castrisiana* (Logunov & Wesołowska 1992: fig. 29a); (2) the copulatory ducts being connected to the dorsum of postero-inner

edges of spermathecae (Fig. 21B), whereas connected to the antero-prolateral edges of spermathecae in *P. castrisiana* (Logunov & Wesolowska 1992: fig. 29b–c).

Etymology

The species is named after Mr Tianjun Liu, who helped us a lot to conduct this research; noun (name) in genitive case.

Type material

Holotype

CHINA • ♂; Hainan, Ledong County, Jianfeng Township, Jianfengling National Nature Reserve, Tianchi; 18°44.45' N, 108°57.49' E; 856 m a.s.l.; 11 Jun. 2019; C. Wang and Y.F. Yang leg.; TRU-JS 0162.

Paratypes

CHINA • 1 ♀; same collection data as for holotype; TRU-JS 0163 • 1 ♀, 3 ♂♂; Main Peak; 18°43.11' N, 108°52.32' E; 1399 m a.s.l.; 16 Jun. 2019; C. Wang and Y.F. Yang leg.; TRU-JS 0164–0167.

Description

Male (holotype)

MEASUREMENTS. Total length 4.66. Carapace 2.10 long, 1.75 wide. Abdomen 2.63 long, 1.34 wide. Eye sizes and interdistances: AME 0.50, ALE 0.23, PLE 0.23, AERW 1.50, PERW 1.39, EFL 1.05. Legs: I

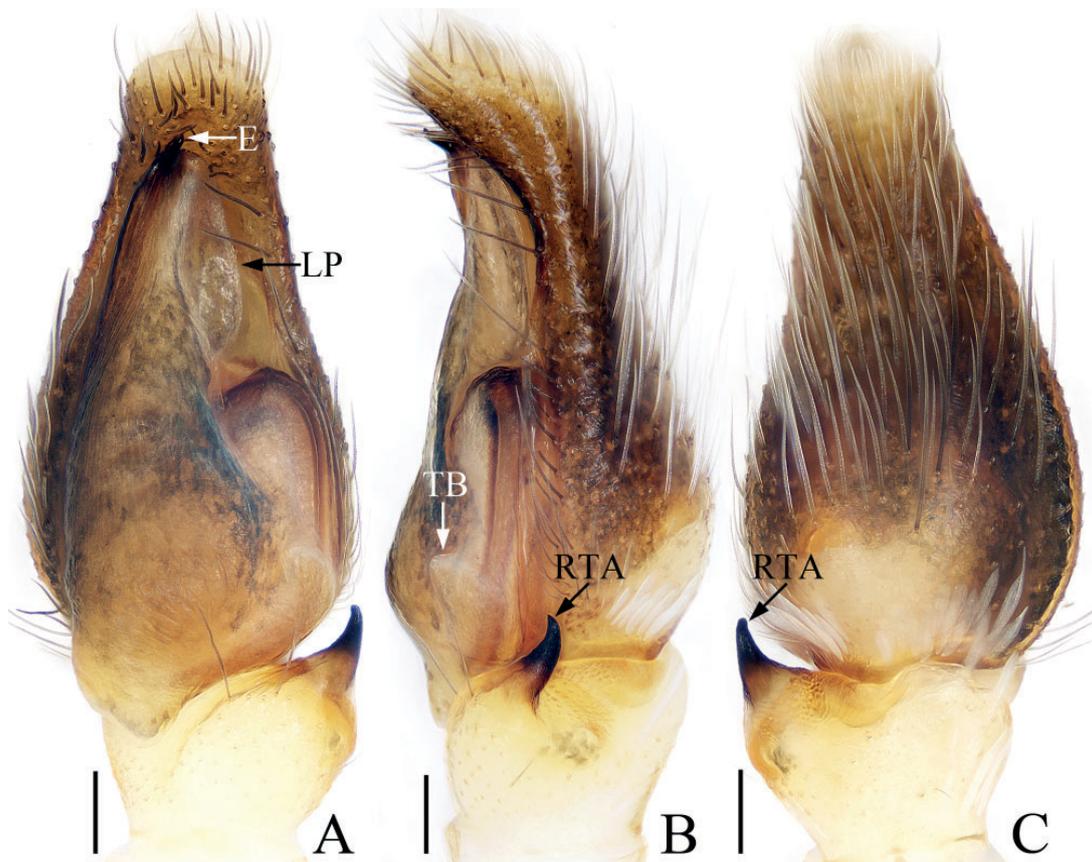


Fig. 20. Male palp of *Phintella liui* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0162). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

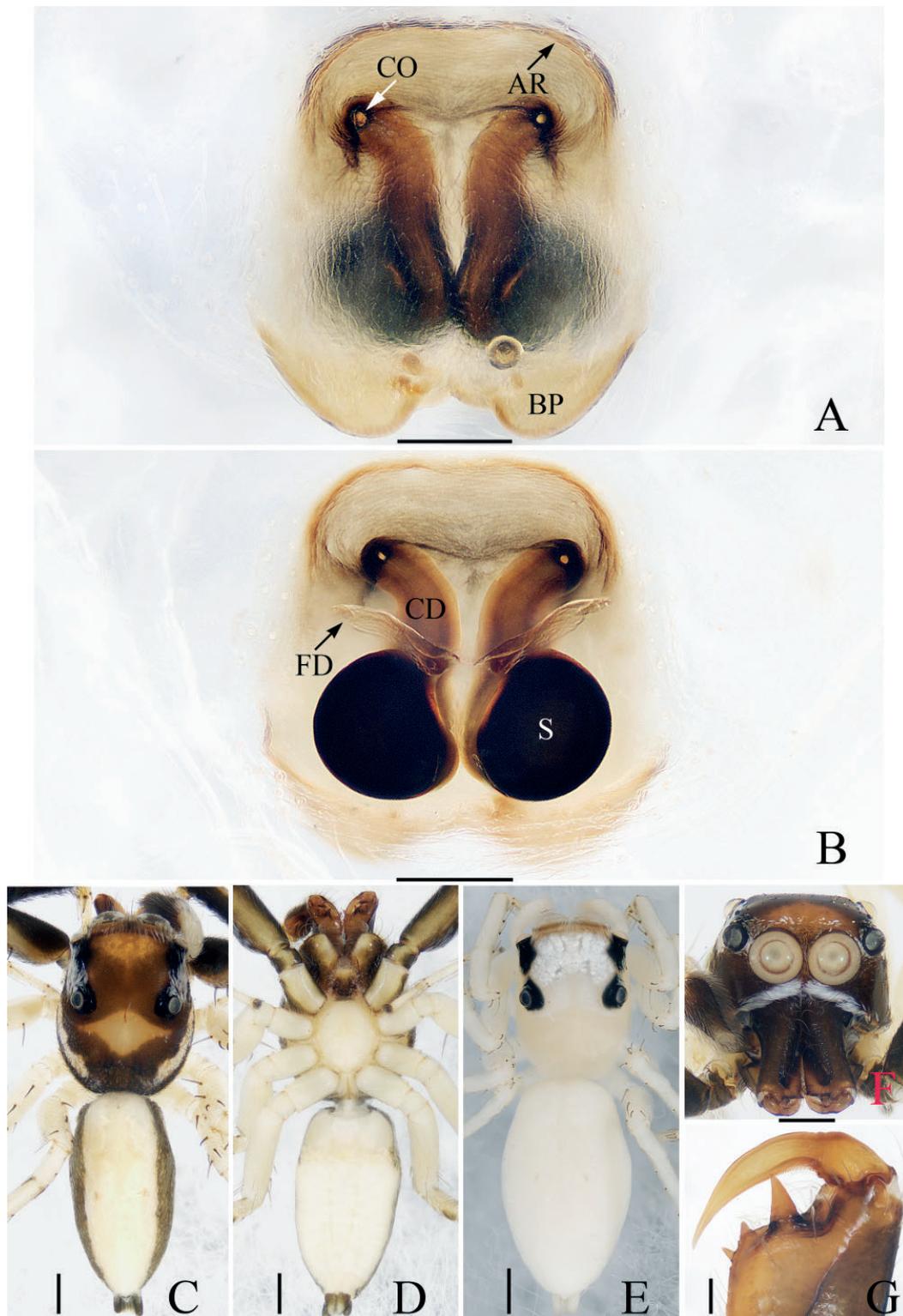


Fig. 21. *Phintella liui* Wang, Mi & Peng sp. nov. A–B, E. Paratype, ♀ (TRU-JS 0163). C–D, F–G. Holotype, ♂ (TRU-JS 0162). A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Ventral view. E. Dorsal view. F. Carapace, frontal view. G. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

5.63 (1.70, 0.95, 1.40, 1.13, 0.45), II 4.73 (1.45, 0.70, 1.13, 1.00, 0.45), III 5.31 (1.58, 0.70, 1.25, 1.33, 0.45), IV 5.80 (1.75, 0.70, 1.45, 1.45, 0.45).

HABITUS. Carapace red-brown, covered with dense white scale-like setae on clypeus and lateral sides of eye field, with anterior and median yellow areas and a pair of later marginal white bands formed by scale-like setae (Fig. 21C, F). Chelicerae with elongated paturon, two promarginal teeth, and one big retromarginal tooth (Fig. 21F–G). Legs I brown to dark brown, remaining legs pale yellow. Abdomen elongated, dorsum green latero-marginally, with pale yellow longitudinal band medially; venter pale yellow, with a pair of dotted lines (Fig. 21C–D).

PALP. Tibia wider than long, dorsally bearing white scale-like setae; RTA tapered, slightly curved to pointed tip; cymbium setose, bearing white scale-like setae at base; bulb elongated; tegular bump lamellar, located retrolatero-basally; lamellar process about four times as long as wide; embolus short, sclerotized, apically directed retrolaterally (Fig. 20).

Female (paratype, TRU-JS 0163)

MEASUREMENTS. Total length 4.12. Carapace 1.67 long, 1.30 wide. Abdomen 2.42 long, 1.47 wide. Eye sizes and interdistances: AME 0.47, ALE 0.22, PLE 0.23, AERW 1.26, PERW 1.21, EFL 0.84. Legs: I 3.49 (1.13, 0.55, 0.83, 0.60, 0.38), II 3.24 (1.08, 0.53, 0.65, 0.60, 0.38), III 3.71 (1.20, 0.50, 0.78, 0.85, 0.38), IV 4.32 (1.33, 0.50, 1.00, 1.01, 0.38).

HABITUS. Carapace pale, covered with white scale-like setae anteriorly and between ALEs and PLEs (Fig. 21E). Abdomen pale yellow, without patterns (Fig. 21E).

EPIGYNE. Basal plate with two protrusions; atrial ridge antero-marginally located, bow-shaped; copulatory openings almost round; copulatory ducts thick, slightly curved, and connected to dorsum of posterior inner edges of sub-spherical spermathecae; fertilization ducts originate from anterior edges of inner sides of spermathecae, extended anterolaterally (Fig. 21A–B).

Distribution

China (Hainan) (Fig. 58).

***Phintella panda* Huang, Wang & Peng, 2015**

Figs 22–23, 57

Phintella panda Huang *et al.*, 2015: 33, figs 6a–c, 7a–b (D♀, female holotype, examined).

Diagnosis

The male of *Phintella panda* Huang, Wang & Peng, 2015 resembles that of *P. subpanda* sp. nov. in having a very similar palp, but it can be easily distinguished by the following: (1) the lamellar process is about four times as long as wide (Fig. 22A), whereas less than three times as long as wide in *P. subpanda* (Fig. 28A); (2) the cheliceral fang has a distal flange (Fig. 23G), whereas being absent in *P. subpanda* (Fig. 29G). The female was thoroughly diagnosed by Huang *et al.* (2015).

Type material

Holotype

CHINA • ♀; Hunan, Shimen County, Hupingshan Township, Daling Village; 30°02.36' N, 110°37.30' E; 892 m a.s.l.; 19 Apr. 2014; C. Wang *et al.* leg.

Other material examined

CHINA • 1 ♂; Guizhou, Jiangkou County, Fanjing Mountain National Nature Reserve, Taohuayuan; 27°57.77' N, 108°47.30' E; 757 m a.s.l.; 9–10 Jul. 2012; X.Q. Mi *et al.* leg.; TRU-JS 0168 • 1 ♀, 1 ♂; Dewang Township, Jinghe Village; 27°47.18' N, 108°35.40' E; 615 m a.s.l.; 3–5 Oct. 2012; X.Q. Mi *et al.* leg.; TRU-JS 0169–0170 • 1 ♂; Shiqian County, Ganxi Township, Fuyan Village, Jiuchashu; 27°20.62' N, 108°3.56' E; 1405 m a.s.l.; 29 Apr. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0171 • 5 ♀♀, 6 ♂♂; same locality as for preceding; 15 Jul. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0172–0182 • 2 ♀♀, 5 ♂♂; Shiqian County, Pingshan Village, Yaoshang; 27°20.54' N, 108°9.50' E; 638 m a.s.l.; 11 Jul. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0183–0189 • 3 ♂♂; Leishan County, Leigong Mountain National Nature Reserve, Xiangshuiyan; 26°22.99' N, 108°12.08' E; 1994 m a.s.l.; 20 Jul. 2017; C. Wang *et al.* leg.; TRU-JS 0190–0192 • 3 ♀♀; Guiyang City, Donglinsi Park; 26°39.60' N, 106°38.00' E; 1297 m a.s.l.; 3 May 2018; C. Wang leg.; TRU-JS 0193–0195 • 5 ♀♀, 9 ♂♂; same locality and collector as for preceding; 10 May 2018; TRU-JS 0196–0209 • 4 ♀♀, 6 ♂♂; same locality and collector as for preceding; 18 May 2018; TRU-JS 0210–0219 • 8 ♀♀, 9 ♂♂; same locality and collector as for preceding; 23 May 2018; TRU-JS 0220–0236 • 3 ♀♀, 7 ♂♂; same locality and collector as for preceding; 21 Jun. 2018; TRU-JS 0237–0246 • 3 ♀♀, 3 ♂♂; Yinjiang County, Ziwei Township, Dayuanzhi Village, Fanjing Mountain National Nature Reserve, Huguosi; 27°54.72' N, 108°28.62' E; 1500 m a.s.l.; 24 Apr. 2020; X.Q. Mi and C. Wang leg.; TRU-JS 0247–0252 • 1 ♂; same locality as for preceding; 9 May 2020; X.Q. Mi *et al.* leg.; TRU-JS 0253.

Description

Female

See Huang *et al.* (2015).

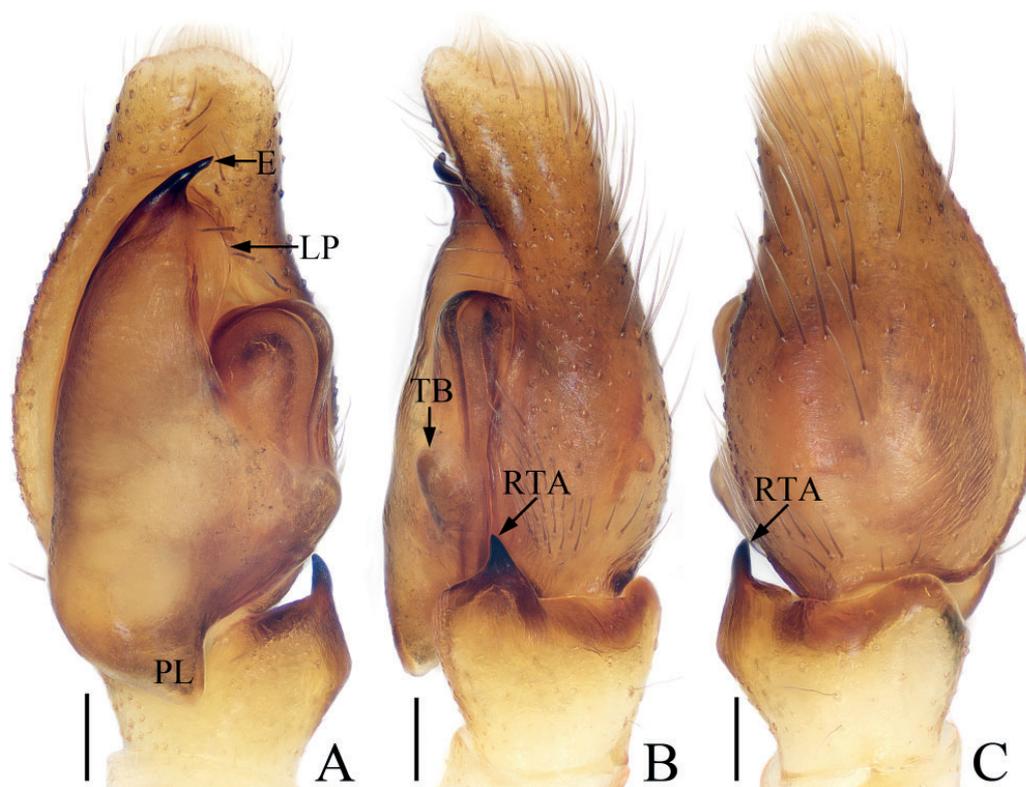


Fig. 22. Male palp of *Phintella panda* Huang, Wang & Peng, 2015 (TRU-JS 0201). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

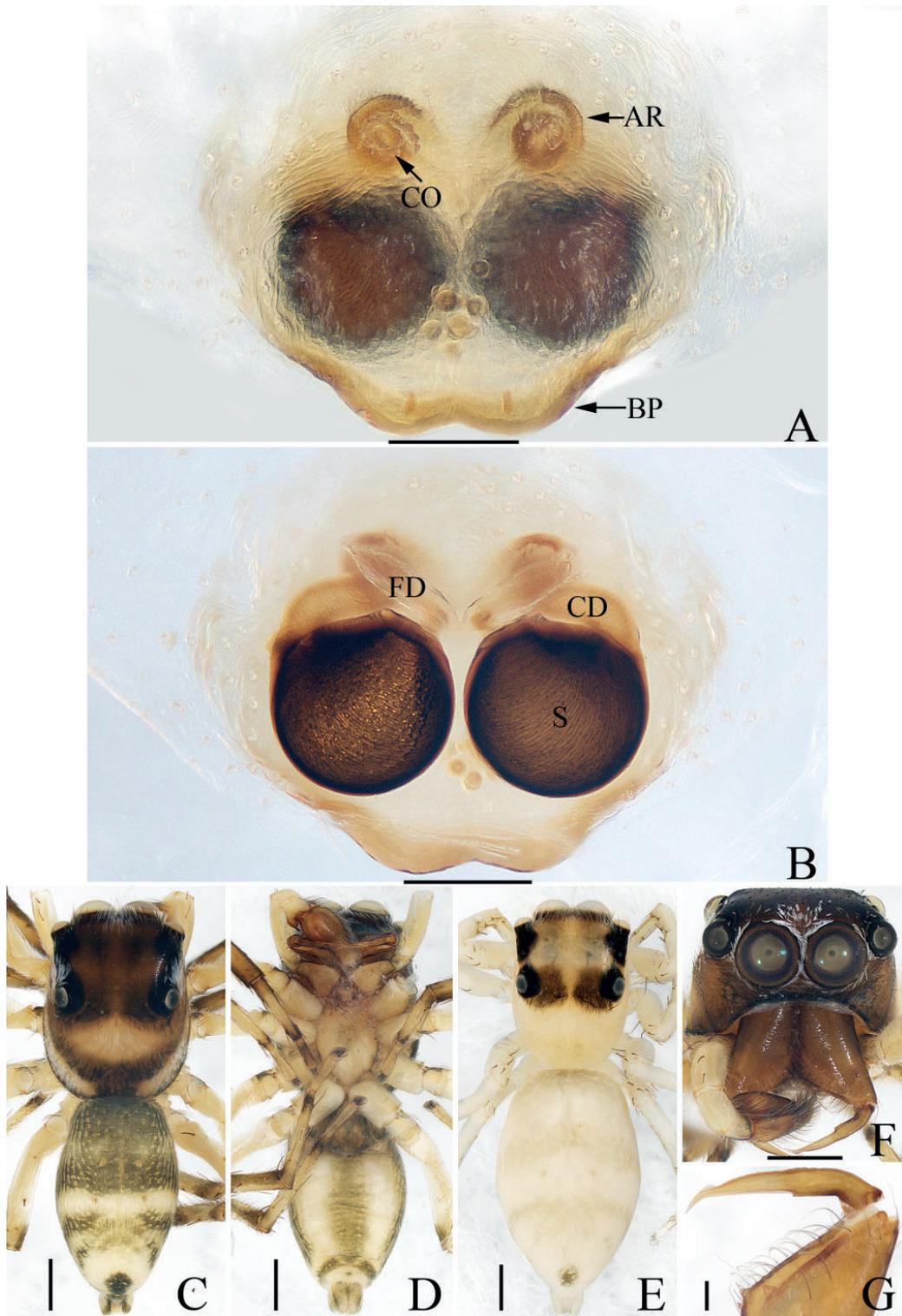


Fig. 23. *Phintella panda* Huang, Wang & Peng, 2015. **A–B, E.** ♀ (TRU-JS 0196). **C–D, F–G.** ♂ (TRU-JS 0201). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

Male (TRU-JS 0201)

MEASUREMENTS. Total length 3.71. Carapace 1.80 long, 1.45 wide. Abdomen 1.98 long, 1.22 wide. Eye sizes and interdistances: AME 0.44, ALE 0.24, PLE 0.24, AERW 1.31, PERW 1.24, EFL 0.90. Legs: I 4.71 (1.30, 0.73, 1.25, 0.98, 0.45), II 3.93 (1.15, 0.60, 0.93, 0.80, 0.45), III 4.31 (1.30, 0.58, 0.90, 1.08, 0.45), IV 4.72 (1.38, 0.58, 1.18, 1.13, 0.45).

HABITUS. Carapace yellow to dark brown, with fan-shaped yellow area on thorax medially, a pair of latero-marginal yellow bands bearing white scale-like setae, and two clusters of white scale-like setae between PLEs and PMEAs, covered with white and dark scale-like setae (Fig. 23C, F). Chelicerae with one retromarginal tooth and two promarginal teeth and small distal flange of fang (Fig. 23G). Legs pale yellow to red-brown. Abdomen elongated, dorsum green-brown, with alternate green-brown and pale yellow transverse bands posteromedially; venter pale yellow laterally, with green-brown longitudinal band medially (Fig. 23C–D).

PALP. Tibia wider than long; RTA acutely narrowed medially to pointed tip; bulb elongated, with posterior lobe extended postero-retrolaterally; tegular bump lamellar, almost triangular; lamellar process about four times as long as wide; embolus sclerotized, short, slightly curved (Fig. 22).

Distribution

China (Hunan, Guizhou) (Fig. 57).

Phintella pygmaea (Wesołowska, 1981)

Figs 24–25, 59

Euophrys pygmaea Wesołowska, 1981: 49, figs 11–14 (D♀, female holotype, not examined).

Phintella pygmaea – Peng 2020: 306, fig. 219a–b (D♀). For full reference list see World Spider Catalog (2023).

Diagnosis

The male of *Phintella pygmaea* (Wesołowska, 1981) resembles that of *P. arcuata* Huang, Wang & Peng, 2015 in having a similar habitus and palp, but it can be distinguished by: (1) the lamellar process being longer than wide (Fig. 24A), whereas wider than long in *P. arcuata* (Huang *et al.* 2015: figs 1c, 3a); (2) the embolus being straight in ventral view (Fig. 24A), whereas slightly curved medially in *P. arcuata* (Huang *et al.* 2015: figs 1c, 3a). The female also resembles that of *P. arcuata*, but it can be easily distinguished by the proximal half of the copulatory ducts being horizontally extended (Fig. 25A–B), whereas diagonally extended in *P. arcuata* (Huang *et al.* 2015: figs 4b, 5a).

Material examined

CHINA • 4 ♀♀, 5 ♂♂; Guangdong, Guangzhou City, Baiyun District, Baiyun Mountain; 23°11.95' N, 113°17.58' E; 29 m a.s.l.; 3 Jul. 2019; W.H. Wang leg.; TRU-JS 0254–0262 • 1 ♀; Guizhou, Yanhe County, Ketian Township, Hongxi Village; 28°50.64' N, 108°11.20' E; 538 m a.s.l.; 23 Jun. 2013; X.Q. Mi *et al.* leg.; TRU-JS 0263 • 1 ♀; Libo County, Dongtang Township, Yaosuo Village, Maolan National Nature Reserve; 25°16.37' N, 108°02.97' E; 550 m a.s.l.; 7–8 Aug. 2013; X.Q. Mi *et al.* leg.; TRU-JS 0264 • 1 ♂; Hainan, Ledong County, Jianfeng Township, Jianfengling National Nature Reserve, Yulingu; 18°44.79' N, 108°55.76' E; 634 m a.s.l.; 15 Apr. 2019; C. Wang and Y.F. Yang leg.; TRU-JS 0265.

Description

Male (TRU-JS 0258)

MEASUREMENTS. Total length 4.01. Carapace 2.03 long, 1.67 wide. Abdomen 1.97 long, 1.33 wide. Eye sizes and interdistances: AME 0.45, ALE 0.24, PLE 0.22, AERW 1.33, PERW 1.29, EFL 0.89. Legs: I 5.94 (1.66, 0.93, 1.55, 1.24, 0.56), II 4.92 (1.46, 0.70, 1.25, 1.05, 0.46), III 5.21 (1.59, 0.63, 1.23, 1.27, 0.49), IV 5.47 (1.66, 0.65, 1.33, 1.34, 0.49).

HABITUS. Carapace dark brown, sub-oval, covered with white and dark scale-like setae on anterior margin, lateral sides, and area between ALEs and PLEs, with yellow area medially on thorax, and bearing white scale-like setae (Fig. 25C, F). Chelicerae with two promarginal teeth and one retromarginal tooth, and distal flange of fang (Fig. 25G). Legs pale to dark brown. Abdomen elongate-oval, dorsum dark brown, with three transverse bands formed by setae medially and arc-shaped yellow band posteriorly; venter slightly paler than dorsum (Fig. 25C–D).

PALP. Tibia longer than wide; RTA tapered, curved towards bulb distally and pointed apically in ventral view; bulb elongated; posterior lobe beak-shaped, with blunt terminus; tegular bump lamellar, medio-retrolaterally located; lamellar process almost semicircular; embolus straight, short (Fig. 24).

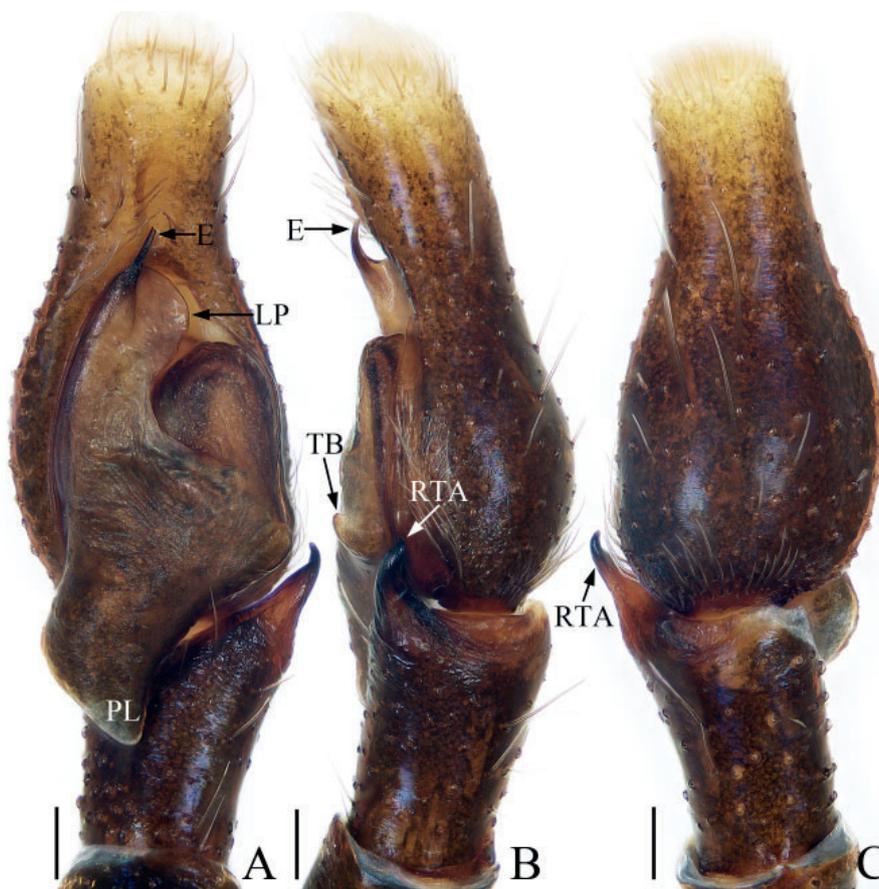


Fig. 24. Male palp of *Phintella pygmaea* (Wesołowska, 1981) (TRU-JS 0258). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Female (TRU-JS 0254)

MEASUREMENTS. Total length 4.23. Carapace 1.65 long, 1.25 wide. Abdomen 2.27 long, 1.56 wide. Eye sizes and interdistances: AME 0.38, ALE 0.22, PLE 0.21, AERW 1.21, PERW 1.19, EFL 0.83. Legs:

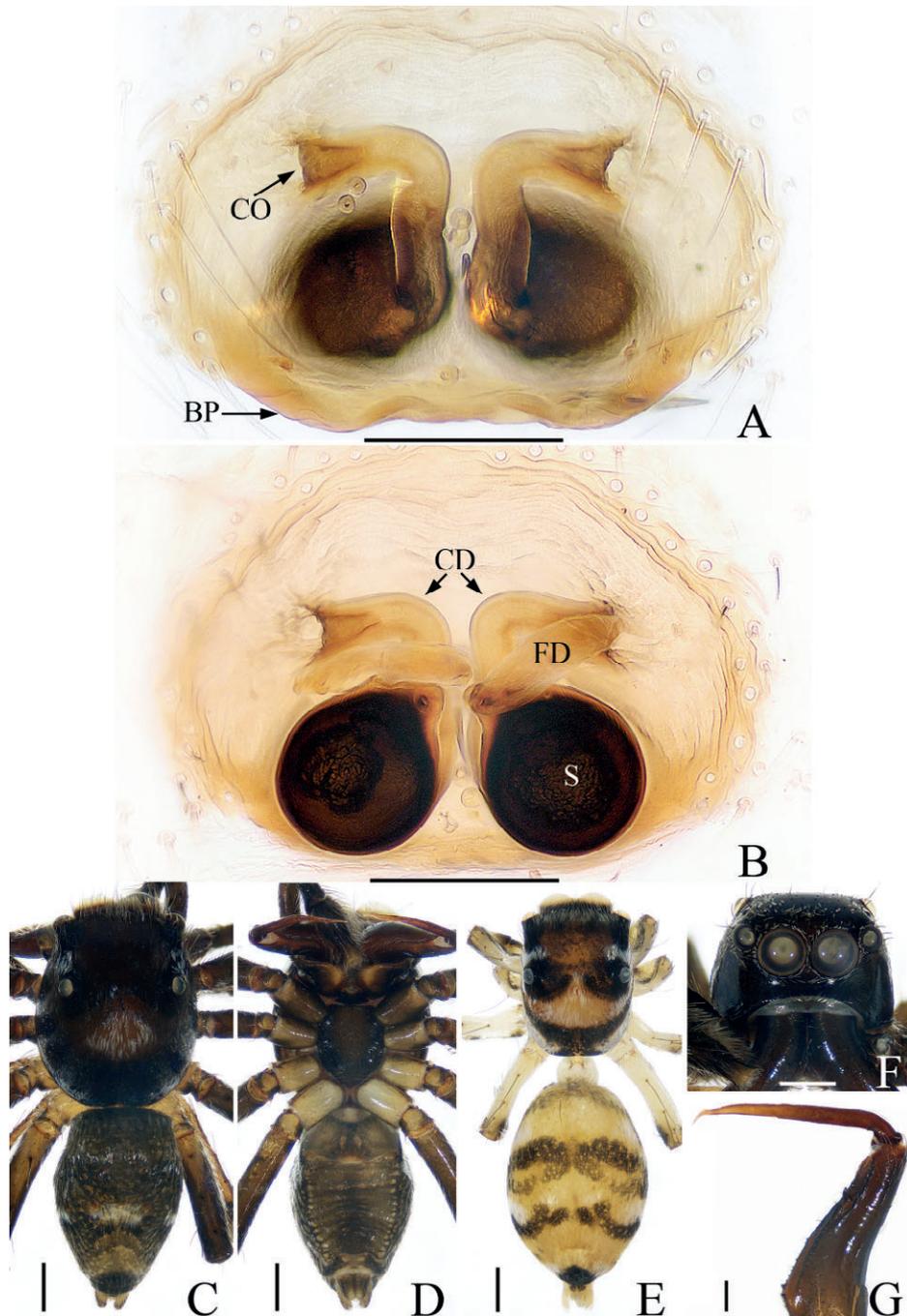


Fig. 25. *Phintella pygmaea* (Wesołowska, 1981). A–B, E. ♀ (TRU-JS 0254). C–D, F–G. ♂ (TRU-JS 0258). A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Ventral view. E. Dorsal view. F. Carapace, frontal view. G. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

I 3.14 (0.95, 0.53, 0.68, 0.60, 0.38), II 2.96 (0.93, 0.50, 0.60, 0.58, 0.35), III 3.59 (1.13, 0.50, 0.75, 0.83, 0.38), IV 3.92 (1.23, 0.53, 0.83, 0.93, 0.40).

HABITUS. Similar to that of male except paler in color and having square carapace (Fig. 25E).

EPIGYNE. Almost oval, with bow-shaped basal plate; copulatory openings anterolaterally located; copulatory ducts horizontally extended at proximal half and then descending posteriorly to connect to dorsum of posterior edges of spherical spermathecae; fertilization ducts lamellar (Fig. 25A–B).

Distribution

China (Guangdong, Guizhou, Hainan) (Fig. 59).

Phintella sancha Cao & Li, 2016

Figs 26–27, 58

Phintella sancha Cao & Li in Cao *et al.*, 2016: 91, figs 34a–d, 35a–b (♂, male holotype, not examined).
For full reference list see World Spider Catalog (2023).

Diagnosis

The male was thoroughly diagnosed by Cao & Li (2016). The female of *Phintella sancha* Cao & Li, 2016 resembles that of *P. suavivoides* Lei & Peng, 2013, but differs in: (1) the copulatory ducts touching each other medially (Fig. 27A–D), whereas being separated in *P. suavivoides* (Cao & Li 2016: fig. 37a–b); (2) the inter-distance between epigynal hoods being less than the spermathecal diameter (Fig. 27A–D), whereas about two times the spermathecal diameter in *P. suavivoides* (Cao & Li 2016: fig. 32a–b).

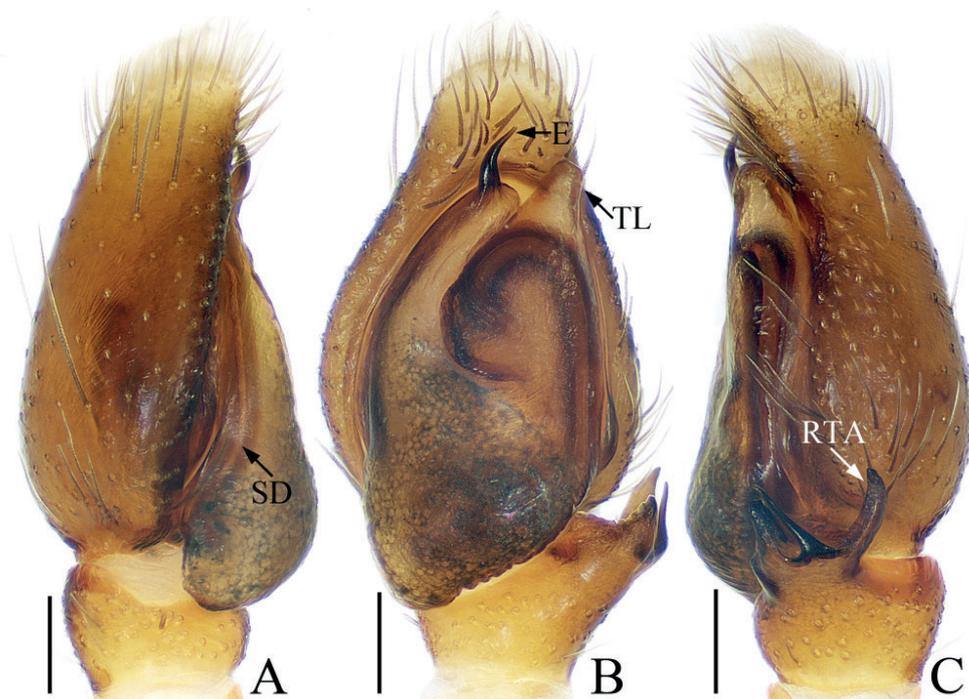


Fig. 26. Male palp of *Phintella sancha* Cao & Li, 2016 (TRU-JS 0418). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Material examined

CHINA • 3 ♀♀, 3 ♂♂; Yunnan, Yingjiang County, Yingjiang National Wetland Park; 24°41.40' N, 97°56.20' E; 810 m a.s.l.; 16 Feb. 2019; W.H. Wang leg.; TRU-JS 0415–0420.

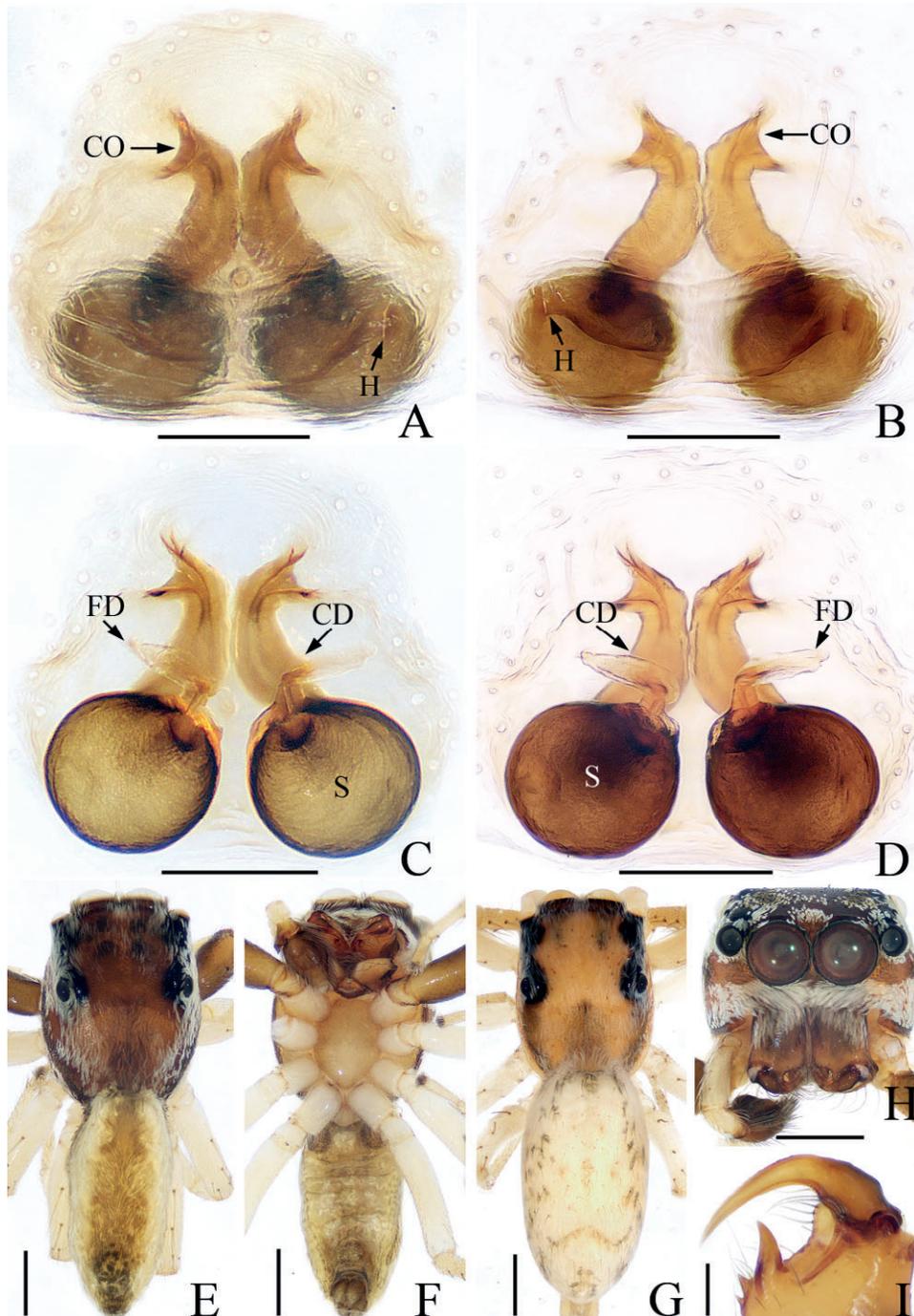


Fig. 27. *Phintella sancha* Cao & Li, 2016. A–D, G. ♀ (TRU-JS 0415). E–F, H–I. ♂ (TRU-JS 0418). A–B. Epigyne, ventral view. C–D. Vulva, dorsal view. E–G. Habitus. E. Dorsal view. F. Ventral view. G. Dorsal view. H. Carapace, frontal view. I. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–D, I = 0.1 mm; E–H = 0.5 mm.

Description**Male**

See Cao & Li (2016).

Female (TRU-JS 0415)

MEASUREMENTS. Total length 3.28. Carapace 1.48 long, 1.14 wide. Abdomen 1.93 long, 1.05 wide. Eye sizes and inter-distances: AME 0.37, ALE 0.17, PLE 0.16, AERW 1.03, PERW 1.03, EFL 0.73. Legs: I 2.57 (0.78, 0.45, 0.58, 0.43, 0.33), II 2.18 (0.70, 0.38, 0.50, 0.30, 0.30), III 2.71 (0.85, 0.35, 0.58, 0.63, 0.30), IV 3.24 (1.01, 0.43, 0.75, 0.75, 0.30).

HABITUS. Carapace yellow, covered with pale scale-like setae, with a pair of indistinct dark patches behind AMEs (Fig. 27G). Chelicerae with two promarginal teeth and one retromarginal tooth less developed than that in males. Endites lack distal apophysis. Legs pale to yellow. Abdomen elongated, dorsum pale yellow, with dark brown spots laterally, covered with sparse dark brown setae; venter pale (Fig. 27G).

EPIGYNE. With a pair of posterolateral hoods; copulatory openings located anteriorly, with C-shaped margins; copulatory ducts thick, curved proximally, and touching medially, connected to the anterior portion of spherical spermathecae separated from each other by less than one-sixth their diameter; fertilization ducts lamellar, strongly curved at proximal portions, and then extended almost transversely (Fig. 27A–D).

Distribution

China (Yunnan) (Fig. 58).

***Phintella subpanda* Wang, Mi & Peng sp. nov.**

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Figs 28–29, 59

Phintella arcuata Huang *et al.*, 2015: 26, figs 1a–d, 2a–c, 3a–e (♀, paratypes of *P. arcuata*, mismatched, examined).

Diagnosis

The male of *Phintella subpanda* sp. nov. resembles that of *P. panda* Huang, Wang & Peng, 2015 in habitus and palpal structure, but differs in: (1) the lamellar process being less than three times as long as wide (Fig. 28A), whereas about four times as long as wide in *P. panda* (Fig. 22A); (2) the cheliceral fang lacking the distal flange (Fig. 29G), whereas present in *P. panda* (Fig. 23G). The female also resembles that of *P. panda* in the epigynal structures, but it can be easily distinguished by the following: (1) the atrial ridges being far away from the copulatory openings about one-third the spermathecal length (Fig. 29A), whereas almost touching the copulatory openings in *P. panda* (Fig. 23A); (2) the spermathecae being pear-shaped (Fig. 29B), whereas almost spherical in *P. panda* (Fig. 23B).

Etymology

The specific epithet refers to the similarity with *Phintella panda* Huang, Wang & Peng, 2015; substantive.

Type material**Holotype**

CHINA • ♂; Guizhou, Xingren County, Luchuying Township, Qingshuihe Nature Reserve, Mabaoshu Grand Canyon; 25°17.79' N, 104°56.13' E; 1270 m a.s.l.; 3 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0266.

Paratypes

CHINA • 25 ♀♀, 19 ♂♂; same collection data as for holotype; TRU-JS 0267–0310.

Other material examined

CHINA • 1 ♀; Hunan, Shimen County, Hupingshan Township, Daling Village; 30°02.34' N, 110°37.50' E; 436 m a.s.l.; 18 Oct. 2014; C. Wang *et al.* leg. • 1 ♀; Daling Village; 30°01.63' N, 110°37.54' E; 341 m a.s.l.; 19 Sep. 2014; C. Wang *et al.* leg. • 1 ♀; Daling Village; 30°01.68' N, 110°37.68' E; 677 m a.s.l.; 18 Jun. 2014; C. Wang *et al.* leg.

Description

Male (holotype)

MEASUREMENTS. Total length 3.92. Carapace 2.04 long, 1.62 wide. Abdomen 1.85 long, 1.27 wide. Eye sizes and interdistances: AME 0.46, ALE 0.27, PLE 0.25, AERW 1.40, PERW 1.34, EFL 0.96. Legs: I 4.93 (1.25, 0.78, 1.40, 1.05, 0.45), II 4.29 (1.38, 0.68, 1.10, 0.73, 0.40), III 4.80 (1.38, 0.58, 1.18, 1.23, 0.43), IV 5.34 (1.63, 0.58, 1.30, 1.35, 0.48).

HABITUS. Carapace brown, covered with white scale-like setae on anterior and lateral margins, and area between ALEs and PLEs, and dark scale-like setae on thorax, with big fan-shaped area medially on thorax (Fig. 29C, F). Chelicerae with one retromarginal tooth and two promarginal teeth, without distal flange of fang (Fig. 29G). Legs pale to brown. Abdomen elongate-oval, dorsum with pair of anterolateral

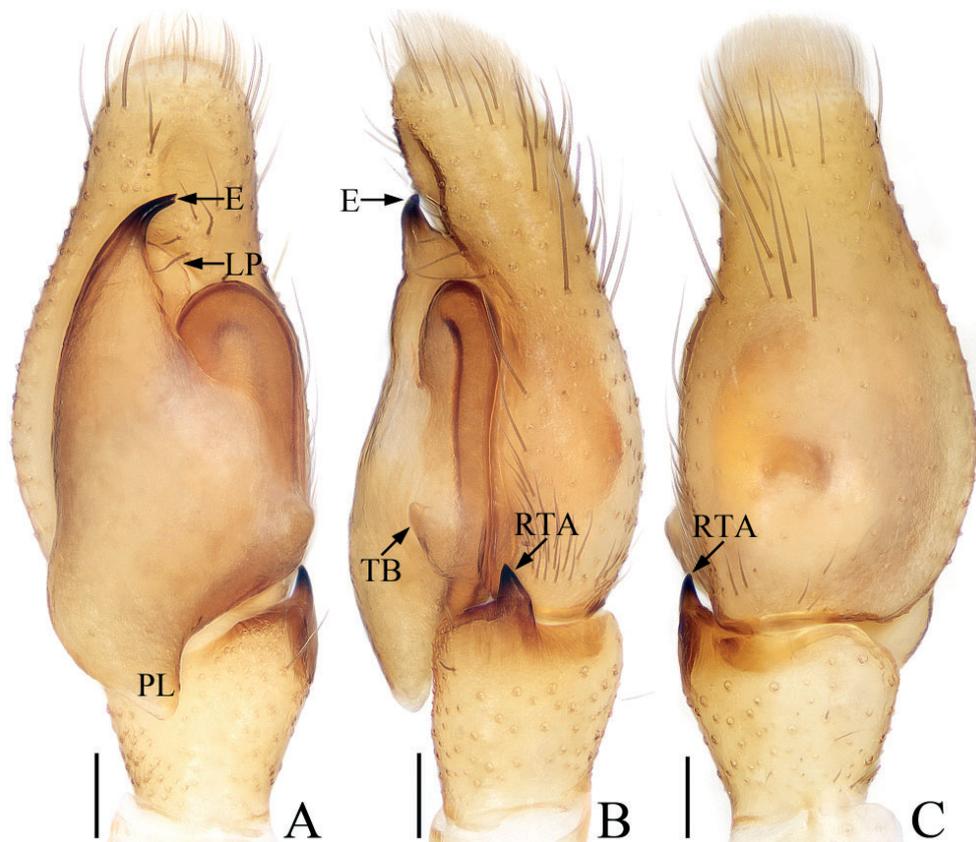


Fig. 28. Male palp of *Phintella subpanda* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0266). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

white stripes formed by setae, irregular yellow patch, alternate transverse dark and white bands formed by setae medially, and big arc-shaped yellow transverse band posteriorly; venter pale yellow, with pale broad longitudinal band medially (Fig. 29C–D).

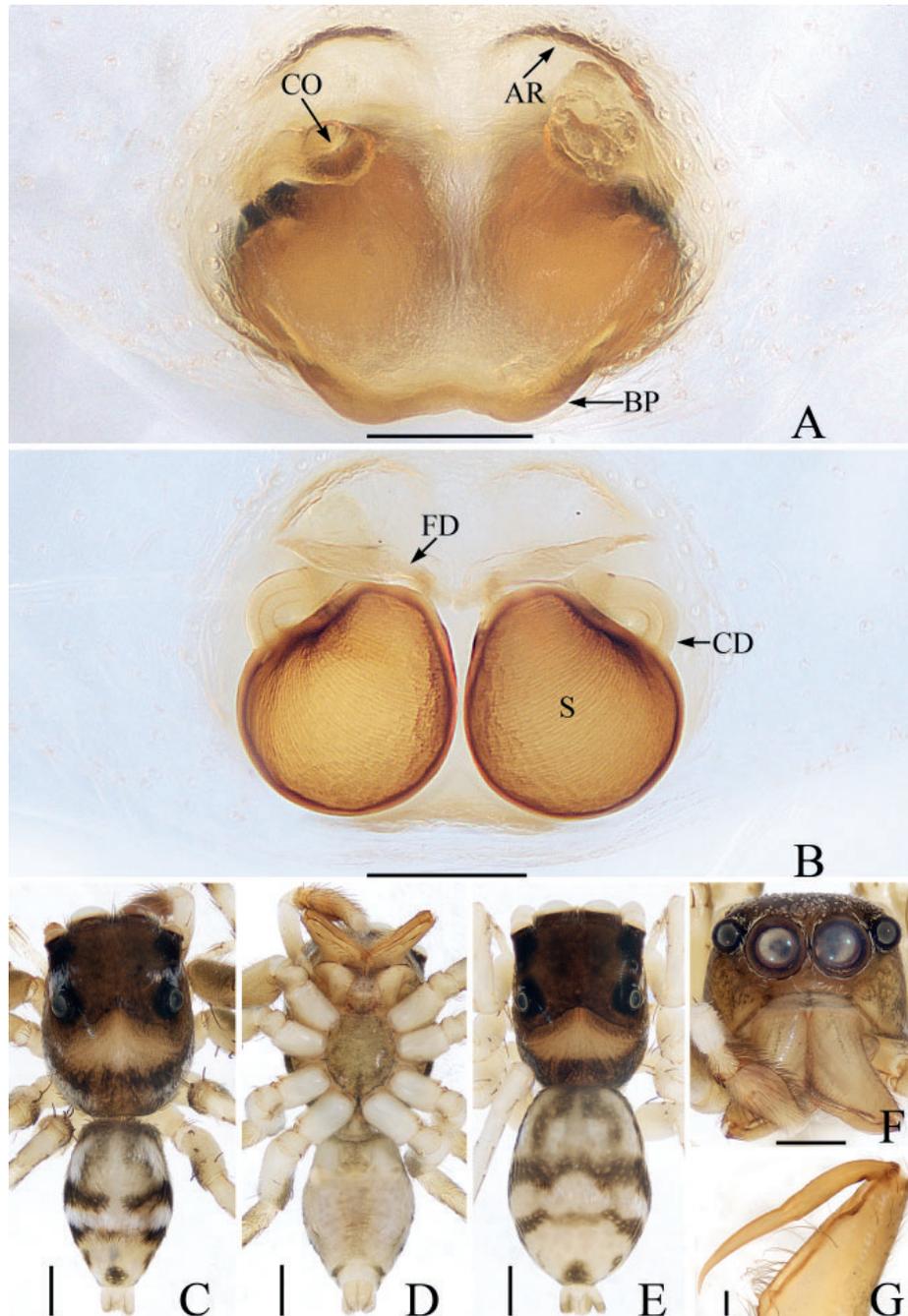


Fig. 29. *Phintella subpanda* Wang, Mi & Peng sp. nov. **A–B, E.** Paratype, ♀ (TRU-JS 0267). **C–D, F–G.** Holotype, ♂ (TRU-JS 0266). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

PALP. Tibia almost as long as wide; RTA broadened at base and acutely narrowed to triangular distal half in retrolateral view; posterior lobe of bulb beak-shaped; tegular bump sub-triangular; lamellar process about 2.8 times as long as wide; embolus sclerotized, slightly curved, with blunt tip (Fig. 28).

Female

See Huang *et al.* (2015).

Distribution

China (Guizhou, Hunan) (Fig. 59).

Phintella wulingensis Huang, Wang & Peng, 2015

Figs 30–31, 58

Phintella wulingensis Huang *et al.*, 2015: 38, figs 11a–c, 12a–b (♀, female holotype, examined).

Diagnosis

The female was thoroughly diagnosed by Huang *et al.* (2015). The male of *Phintella wulingensis* Huang, Wang & Peng, 2015 is similar to that of *P. popovi* (Prószyński, 1979), but it can be distinguished by the following: (1) the palpal tibia being obviously longer than wide (Fig. 30A–C), whereas about as long as wide in *P. popovi* (Peng 2020: figs 556–558); (2) the RTA being distinctly wider than long in retrolateral view (Fig. 30B), whereas about longer than wide in *P. popovi* (Peng 2020: fig. 556).

Type material

Holotype

CHINA • ♀; Guizhou, Songtao County, Fanjing Mountain National Nature Reserve, Wuluo Township, Taoyuan Village; 28°00.03' N, 108°46.80' E; 880 m a.s.l.; 31 Jul. 2014; X.J. Peng *et al.* leg.

Paratypes

CHINA • 1 ♀; Hunan, Shimen County, Hupingshan Township, Daling Village; 30°01.68' N, 110°37.68' E; 677 m a.s.l.; 18 Jun. 2014; C. Wang *et al.* leg. • 1 ♀; Daling Village; 30°02.18' N, 110°37.46' E; 710 m a.s.l.; 19 Jun. 2014; C. Wang *et al.* leg.

Other material examined

CHINA • 1 ♀, 1 ♂; Guizhou, Songtao County, Wuluo Township, Fanjing Mountain National Nature Reserve, Taohuayuan; 27°57.77' N, 108°47.30' E; 757 m a.s.l.; 9–10 Jul. 2012; X.Q. Mi *et al.* leg.; TRU-JS 0311–0312 • 1 ♀; Yinjiang County, Ziwei Township, Dayuanzhi Village, Fanjing Mountain National Nature Reserve, Huguosi; 27°54.72' N, 108°28.62' E, 1500 m a.s.l.; 12 Jun. 2013; X.Q. Mi *et al.* leg.; TRU-JS 0313 • 4 ♀♀, 5 ♂♂; Jiangkou County, Taiping Township, Kuaichang Village, Macaohe; 27°49.08' N, 108°51.52' E; 680 m a.s.l.; 8 Jul. 2015; C. Wang and M.Y. Liao leg.; TRU-JS 0314–0322 • 1 ♀, 1 ♂; Songtao County, Wuluo Township, Lengjiaba Village; 27°54.93' N, 108°36.70' E; 1150 m a.s.l.; 10 Jul. 2015; C. Wang and M.Y. Liao leg.; TRU-JS 0323–0324 • 3 ♀♀, 3 ♂♂; Wuluo Township, Yuanyangzui; 28°6.85' N, 108°46.74' E; 935 m a.s.l.; 11 Jul. 2015; C. Wang and M.Y. Liao leg.; TRU-JS 0325–0330 • 1 ♀; Xingren County, Luchuying Township, Qingshuihe Nature Reserve, Mabaoshu Grand Canyon; 25°17.79' N, 104°56.13' E; 1270 m a.s.l.; 3 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0331 • 1 ♀; Shiqian County, Pingshan Township, Foding Mountain National Nature Reserve, Tuanshan; 27°21.59' N, 108°9.37' E; 890 m a.s.l.; 12 Jul. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0332 • 2 ♀♀, 1 ♂; Jiangkou County, Dewang Township, Nangan Nature Reserve; 28°16.84' N, 107°52.86' E; 748 m a.s.l.; 4 Aug. 2017; C. Wang *et al.* leg.; TRU-JS 0343–0345 • 8 ♀♀, 4 ♂♂; Guangxi Zhuang Autonomous Region, Shangsi County, Shiwandashan

National Forest Park; 21°53.87' N, 107°54.26' E; 370 m a.s.l.; 14 Aug. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0346–0357.

Description

Female

See Huang *et al.* (2015).

Male (TRU-JS 0354)

MEASUREMENTS. Total length 3.72. Carapace 1.77 long, 1.27 wide. Abdomen 1.67 long, 1.23 wide. Eye sizes and interdistances: AME 0.40, ALE 0.20, PLE 0.21, AERW 1.19, PERW 1.11, EFL 0.84. Clypeus 0.15. Legs: I 4.42 (1.18, 0.63, 1.15, 0.98, 0.48), II 3.84 (1.13, 0.53, 0.93, 0.85, 0.40), III 4.41 (1.30, 0.55, 1.03, 1.13, 0.40), IV 4.72 (1.38, 0.55, 1.13, 1.18, 0.48).

HABITUS. Carapace yellow, eye field pale, covered with white scale-like setae at anterior margin (Fig. 31C, F). Chelicerae with one retromarginal tooth and two promarginal teeth and distal flange of fang (Fig. 31G). Legs yellow. Abdomen elongate-oval, dorsum pale yellow, with pairs of irregular dark patches posteromedially; venter colored as dorsum, with irregular longitudinal green-brown stripe medially (Fig. 31C–D).

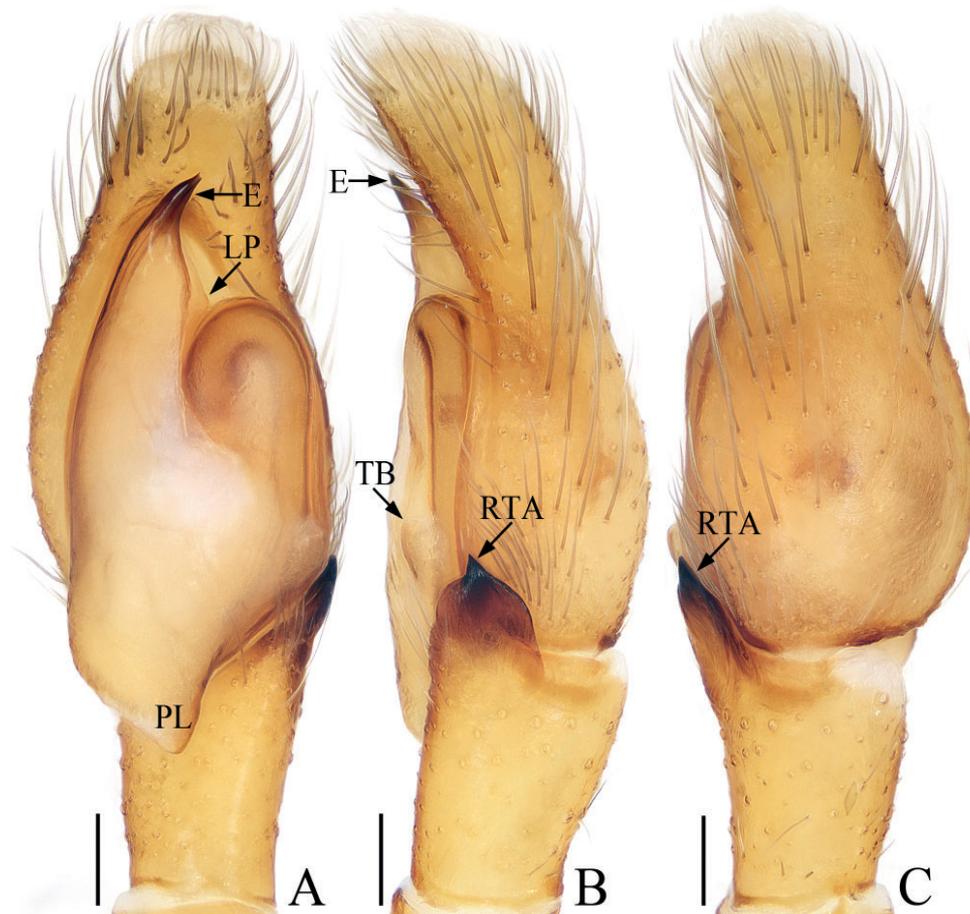


Fig. 30. Male palp of *Phintella wulingensis* Huang, Wang & Peng, 2015 (TRU-JS 0354). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

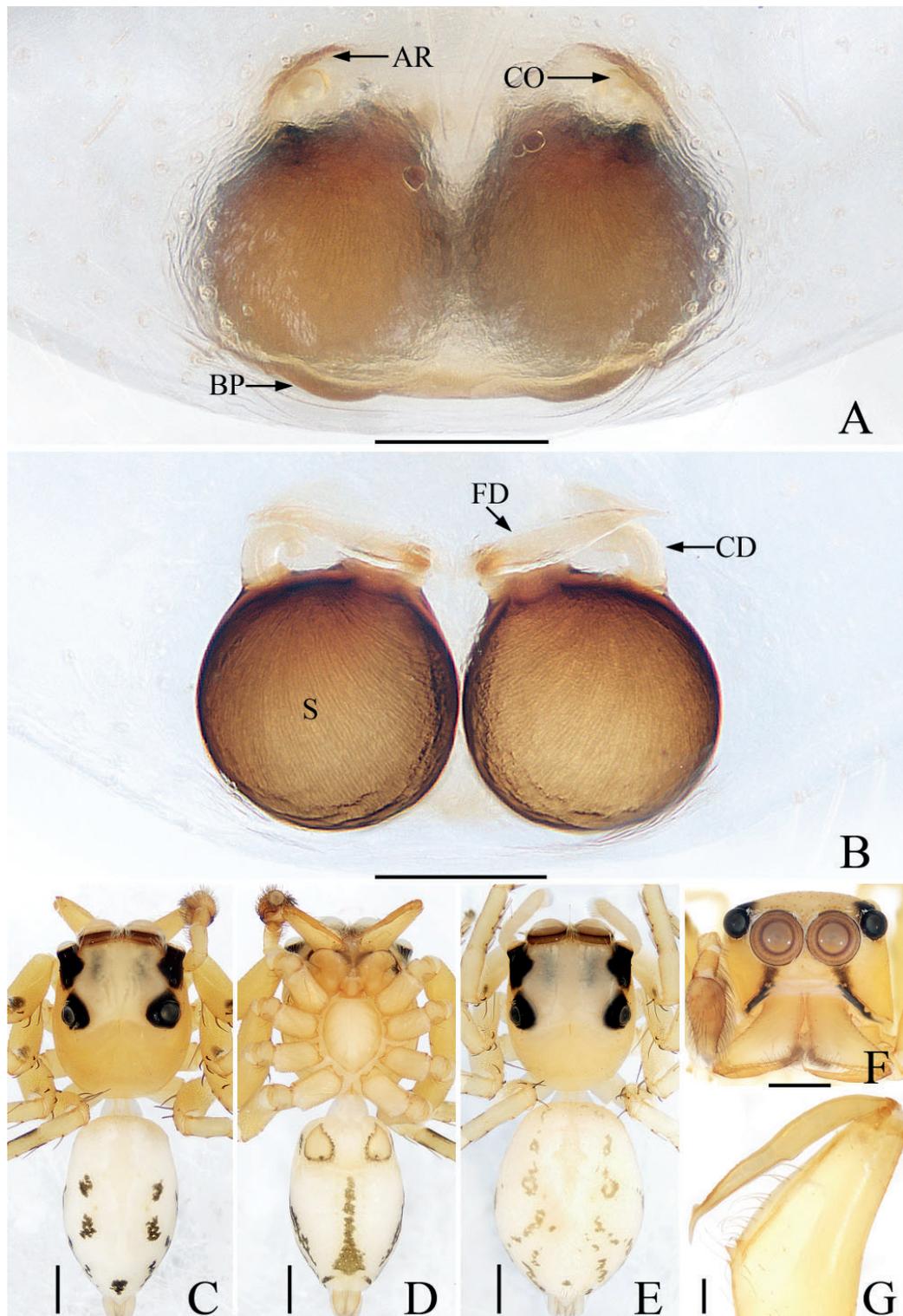


Fig. 31. *Phintella wulingensis* Huang, Wang & Peng, 2015. **A–B, E.** ♀ (TRU-JS 0346). **C–D, F–G.** ♂ (TRU-JS 0354). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

PALP. Tibia longer than wide; RTA tapered in ventral view and acutely narrowed to pointed tip distally in retrolateral view; bulb elongated, with posterior lobe extended downward in ventral view; tegular bump sub-triangular; lamellar process small, sub-triangular; embolus short, slightly curved retrolaterally to blunt tip (Fig. 30).

Distribution

China (Hunan, Guizhou, Guangxi) (Fig. 58).

Phintella wandae Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:8ADA7A52-4274-4D7E-A2BE-263D617C8DC3

Figs 32–33, 59

Phintella aequipeiformis Xie, 1993: 358, figs 8–10 (♂, misidentified).

Diagnosis

The male of *Phintella wandae* sp. nov. resembles that of *P. aequipeiformis* Żabka, 1985 in the general shape of the palp, but differs in: (1) the cymbium being about 1.8 times as long as wide in ventral view (Fig. 32A), whereas more than two times as long as wide in *P. aequipeiformis* (Fig. 12A); (2) the distance between the cymbial and embolic tip being less than the lamellar process length (Fig. 32A), whereas about 1.3 times the lamellar process length in *P. aequipeiformis* (Fig. 12A); (3) there is a distinct boundary line between the lamellar process and tegulum (Fig. 32A), whereas absent in *P. aequipeiformis* (Fig. 12A). The female resembles that of *P. jiugongensis* sp. nov. in having similar habitus and epigyne, but it can be easily distinguished by the slit-shaped copulatory openings and the round spermathecae (Fig. 33A–D), whereas round copulatory openings and pear-shaped spermathecae in *P. jiugongensis* (Fig. 18A–B).

Etymology

The specific name is a patronym in honor of Prof. Wanda Wesolowska, who has contributed significantly to the taxonomy of the genus *Phintella*; noun (name) in genitive case.

Type material

Holotype

CHINA • ♂; Hunan, Guidong County, Bamian Mountain National Nature Reserve; 26°00.12' N, 113°42.10' E; 1678 m a.s.l.; 16 Sep. 2019, C. Wang *et al.* leg.; TRU-JS 0358.

Paratypes

CHINA • 7 ♀♀, 5 ♂♂; same collection data as for holotype; TRU-JS 0359–0370 • 7 ♀♀, 1 ♂; Guizhou, Suiyang County, Kuankuoshui National Nature Reserve, Yixiantian; 28°12.79' N, 107°10.07' E; 1466 m a.s.l.; 24 Jul. 2015; C. Wang *et al.* leg.; TRU-JS 0371–0378 • 12 ♀♀, 8 ♂♂; Wangjiashuiku; 28°12.49' N, 107°10.41' E; 1458 m a.s.l.; 25 Jul. 2015; same collectors as for preceding; TRU-JS 0379–0398 • 3 ♀♀, 7 ♂♂; Zhubaotai; 28°12.71' N, 107°10.01' E; 1513 m a.s.l.; 26 Jul. 2015; same collectors as for preceding; TRU-JS 0399–0408 • 2 ♀♀; Leishan County, Leigong Mountain National Nature Reserve; 26°22.99' N, 108°12.08' E; 1994 m a.s.l.; 20 Jul. 2017; C. Wang *et al.* leg.; TRU-JS 0409–0410 • 1 ♀, 3 ♂♂; Guangxi Zhuang Autonomous Region, Shangxi County, Shiwandashan National Forest Park; 21°52.97' N, 107°54.88' E; 722 m a.s.l.; 6 Oct. 2018; X.Q. Mi *et al.* leg.; TRU-JS 0411–0414.

Description

Male (holotype)

MEASUREMENTS. Total length 3.87. Carapace 1.87 long, 1.58 wide, abdomen 2.05 long, 1.18 wide. Eye sizes and interdistances: AME 0.46, ALE 0.26, PLE 0.25, AERW 1.37, PERW 1.31, EFL 0.95. Legs:

I 5.54 (1.55, 0.83, 1.58, 1.08, 0.50), II 4.35 (1.30, 0.65, 1.00, 0.90, 0.50), III 4.86 (1.45, 0.63, 1.08, 1.20, 0.50), IV 5.08 (1.50, 0.63, 1.20, 1.25, 0.50).

HABITUS. Carapace red-brown to dark brown, covered with short dark and white scale-like setae, with cluster of white scale-like setae on lateral sides of eye field, yellow fan-shaped area medially on thorax, and yellow lateral marginal bands bearing white scale-like setae (Fig. 33E, H). Chelicerae with one retromarginal tooth and two promarginal teeth, as well as distal flange of fang (Fig. 33I). Legs pale to brown, mingled with green. Abdomen elongate-oval, dorsum green, with pair of lateral pale bands, alternate transverse dark brown and white bands formed by setae posteromedially, and dark brown spots at terminus; venter pale yellow laterally, with green-brown longitudinal band medially (Fig. 33E–F).

PALP. Tibia wider than long; RTA short, broadened at base, and tapered to pointed tip posteromedially; bulb longer than wide, with posterior lobe tapered to blunt terminus; tegular bump medio-retrolaterally located, almost triangular in retrolateral view; lamellar process almost semicircular; embolus short, tapered, curved medially and blunt apically in ventral view (Fig. 32).

Female (paratype, TRU-JS 0359)

MEASUREMENTS. Total length 4.04. carapace 1.69 long, 1.37 wide. Abdomen 2.21 long, 1.58 wide. Eye sizes and interdistances: AME 0.46, ALE 0.26, PLE 0.25, AERW 1.31, PERW 1.27, EFL 0.91. Legs: I 3.47 (1.01, 0.60, 0.88, 0.60, 0.38), II 3.06 (0.95, 0.53, 0.65, 0.58, 0.35), III 3.66 (1.10, 0.53, 0.80, 0.85, 0.38), IV 4.14 (1.25, 0.50, 1.00, 1.01, 0.38).

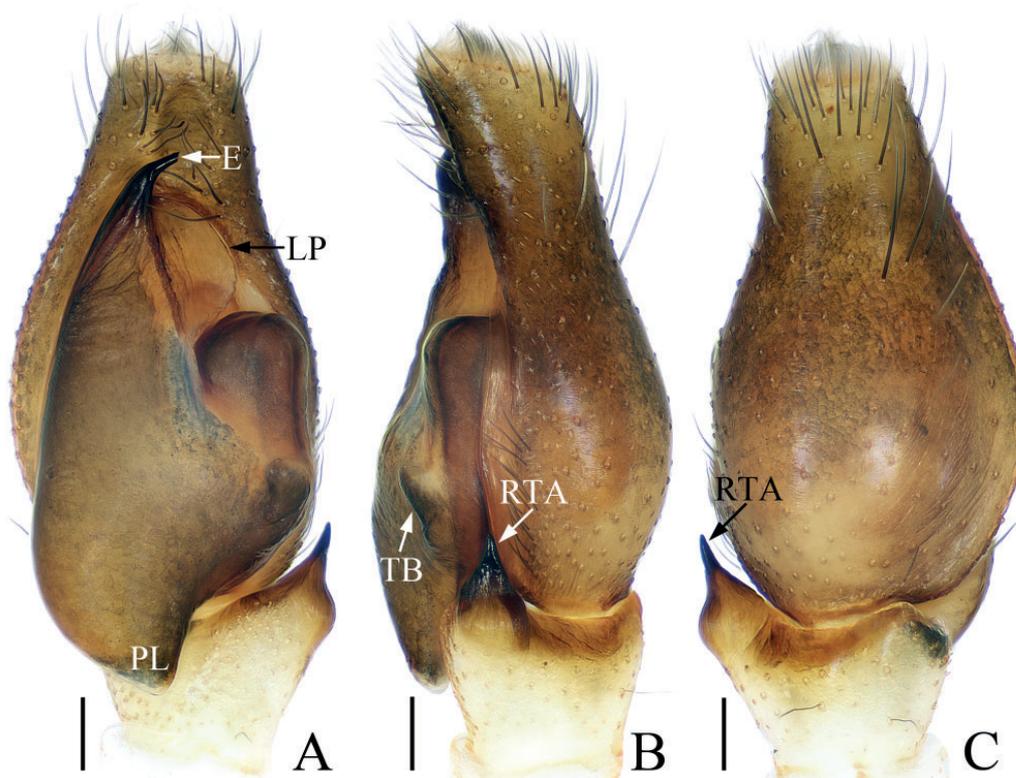


Fig. 32. Male palp of *Phintella wandae* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0358). **A.** Ventral view. **B.** Retrolateral view. **C.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

HABITUS. Similar to that of male except with distinct irregular pale yellow pattern on anterior-dorsum of abdomen (Fig. 33G).

EPIGYNE. Slightly wider than long, with bow-shaped basal plate; copulatory openings anteriorly located, slit-shaped, close to each other; copulatory ducts extended as transverse S-shape to connect to prolateral

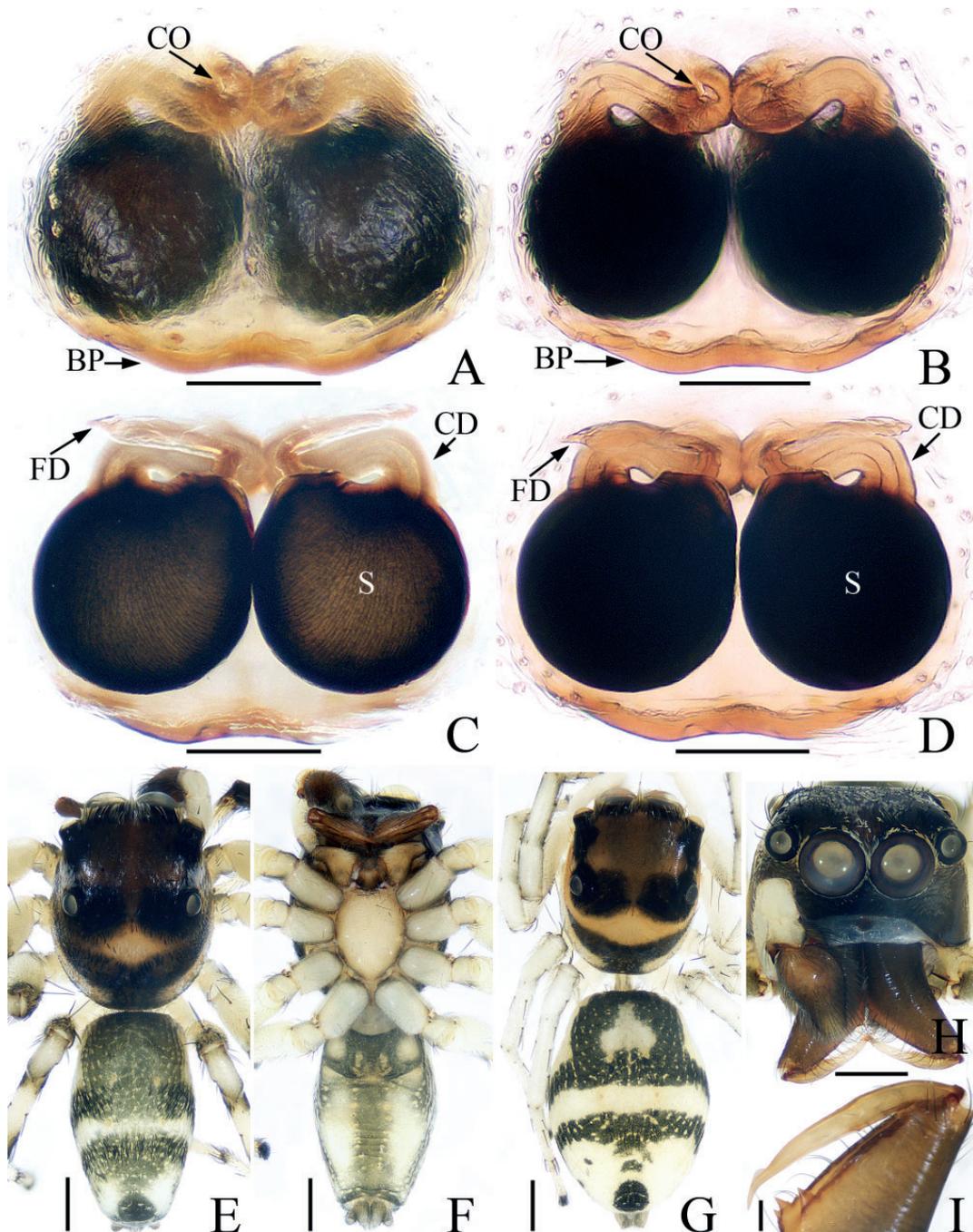


Fig. 33. *Phintella wandae* Wang, Mi & Peng sp. nov. A–D, G. Paratype, ♀ (TRU-JS 0359). E–F, H–I. Holotype, ♂ (TRU-JS 0358). A–B. Epigyne, ventral view. C–D. Vulva, dorsal view. E–G. Habitus. E. Dorsal view. F. Ventral view. G. Dorsal view. H. Carapace, frontal view. I. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–D, I = 0.1 mm; E–H = 0.5 mm.

edges of spermathecae; spermathecae almost spherical, touched; fertilization ducts lamellar, extended transversely (Fig. 33A–D).

Distribution

China (Hunan, Guizhou, Guangxi) (Fig. 59).

Genus *Ptocasius* Simon, 1885

Ptocasius dian Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:435CA5FE-865E-43A7-9D6A-3562EBBD2DE9

Figs 34–35, 59

Diagnosis

The male of *Ptocasius dian* sp. nov. resembles that of *P. strupifer* Simon, 1901 in having a similar habitus and palp, but differs in: (1) the tegular bump being absent (Fig. 34B), whereas present in *P. strupifer* (Žabka 1985: figs 517, 521); (2) the RTA being almost triangular in retrolateral view (Fig. 34C), whereas spiny in *P. strupifer* (Žabka 1985: fig. 518). The female can be easily distinguished from the congeners by the absence of an epigynal hood, and by having a lamellar median septum, and prominent, spherical spermathecae (Fig. 35A–C), whereas having an epigynal hood, without median septum and indistinct spermathecae in congeners (Metzner 2023).

Etymology

The specific name is derived from the short name of the type locality, Yunnan Province, China; noun in apposition.

Type material

Holotype

CHINA • ♂; Yunnan, Jingdong County, Huashan Township, Yingpan Village; 24°16.75' N, 101°6.07' E; 1270 m a.s.l.; 15 Aug. 2015; C. Wang *et al.* leg.; TRU-JS 0421.

Paratypes

CHINA • 14 ♀♀, 7 ♂♂; same collection data as for holotype; TRU-JS 0422–0442 • 2 ♀♀; Wen'e Village; 24°15.27' N, 101°6.51' E; 1190 m a.s.l.; 14 Aug. 2015; C. Wang *et al.* leg.; TRU-JS 0443–0444 • 6 ♀♀, 3 ♂♂; Wengang Village; 24°18.98' N, 101°7.60' E; 1730 m a.s.l.; 16 Aug. 2015; C. Wang *et al.* leg.; TRU-JS 0445–0453 • 1 ♀; Jingdong County, Taizhong Township; 24°30.01' N, 100°56.31' E; 1423 m a.s.l.; 16 Aug. 2015; X.Q. Mi *et al.* leg.; TRU-JS 0454 • 3 ♀♀, 4 ♂♂; Ruili City, Ruili Botanical Garden, Moli scenic zone; 24°6.69' N, 97°59.16' E; 880 m a.s.l.; 22–25 Aug. 2018; F.E. Li leg.; TRU-JS 0455–0461.

Description

Male (holotype)

MEASUREMENTS. Total length 4.15. Carapace 2.01 long, 1.56 wide. Abdomen 1.97 long, 1.33 wide. Eye sizes and inter-distances: AME 0.51, ALE 0.24, PLE 0.23, AERW 1.40, PERW 1.42, EFL 0.88. Legs: I 4.15 (1.20, 0.68, 1.00, 0.73, 0.54), II 3.50 (1.07, 0.60, 0.78, 0.61, 0.44), III 3.97 (1.29, 0.60, 0.81, 0.78, 0.49), IV 4.17 (1.29, 0.63, 0.88, 0.88, 0.49).

HABITUS. Carapace red-brown to dark brown, covered with brown and golden yellow setae, with fan-shaped dark yellow area medially on thorax, followed by several dark brown radial stripes (Fig. 35D, G). Chelicerae with one retromarginal tooth and two promarginal teeth (Fig. 35H). Legs pale yellow to

red yellow, tibiae I bearing dense ventral setae. Abdomen elongate-oval, dorsum with two gray-white transverse bands anteriorly and posteriorly, and indistinct transverse gray band medially; venter gray to brown (Fig. 35D–E).

PALP. Tibia slightly wider than long; RTA tapered, almost triangular, and about half the tibial length in retrolateral view; bulb flat, with sperm duct extended along the margin and strongly curved at terminus; embolus sclerotized, tapered, originates at about 6 o'clock position of bulb, extended almost half circle along the prolateral margin of bulb (Fig. 34).

Female (paratype, TRU-JS 0422)

MEASUREMENTS. Total length 4.02. Carapace 1.87 long, 1.45 wide. Abdomen 1.89 long, 1.47 wide. Eye sizes and inter-distances: AME 0.49, ALE 0.22, PLE 0.21, AERW 1.33, PERW 1.33, EFL 0.85. Legs: I 3.31 (0.98, 0.63, 0.75, 0.54, 0.41), II 3.08 (0.98, 0.55, 0.65, 0.49, 0.41), III 3.58 (1.15, 0.58, 0.75, 0.66, 0.44), IV 3.85 (1.12, 0.63, 0.88, 0.78, 0.44).

HABITUS. Similar to that of male except darker in color (Fig. 35F).

EPIGYNE. Wider than long, with lamellar median septum; copulatory openings oval, lateral to base of median septum; copulatory ducts about invert U-shaped, broadened medially; spermathecae spherical, separated from each other by 1.5 times their diameter; fertilization ducts originate from middle of inner edges of spermathecae, extended anterolaterally (Fig. 35A–C).

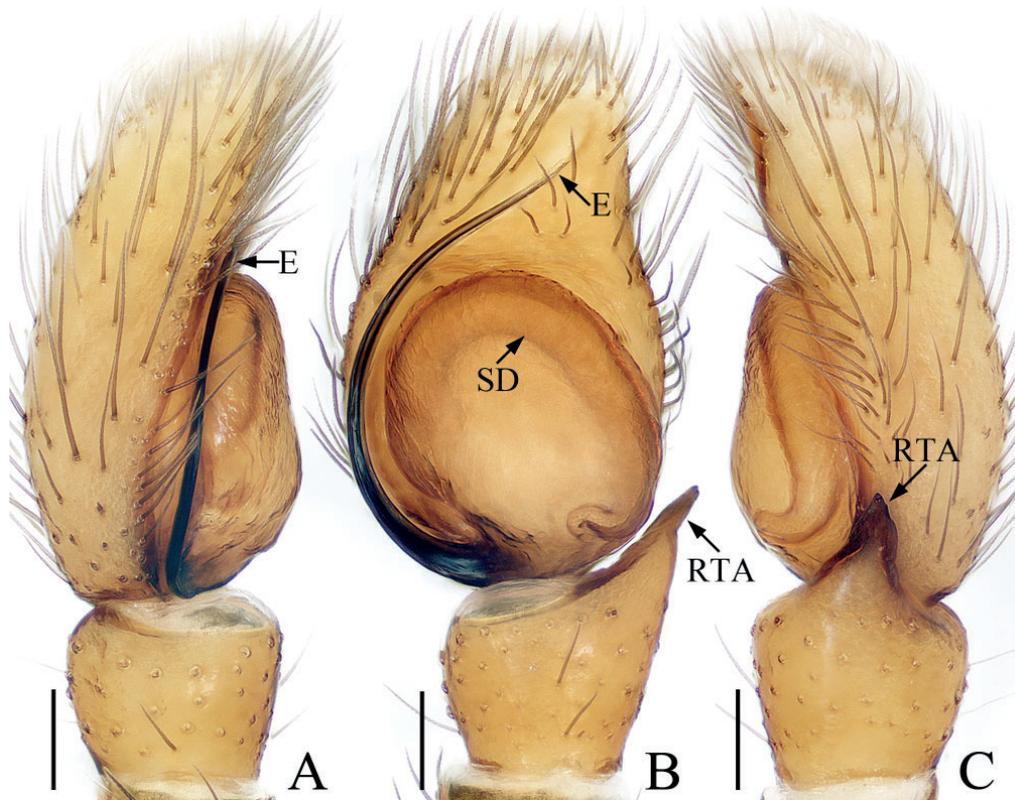


Fig. 34. Male palp of *Ptocasius dian* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0421). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Distribution

China (Yunnan) (Fig. 59).

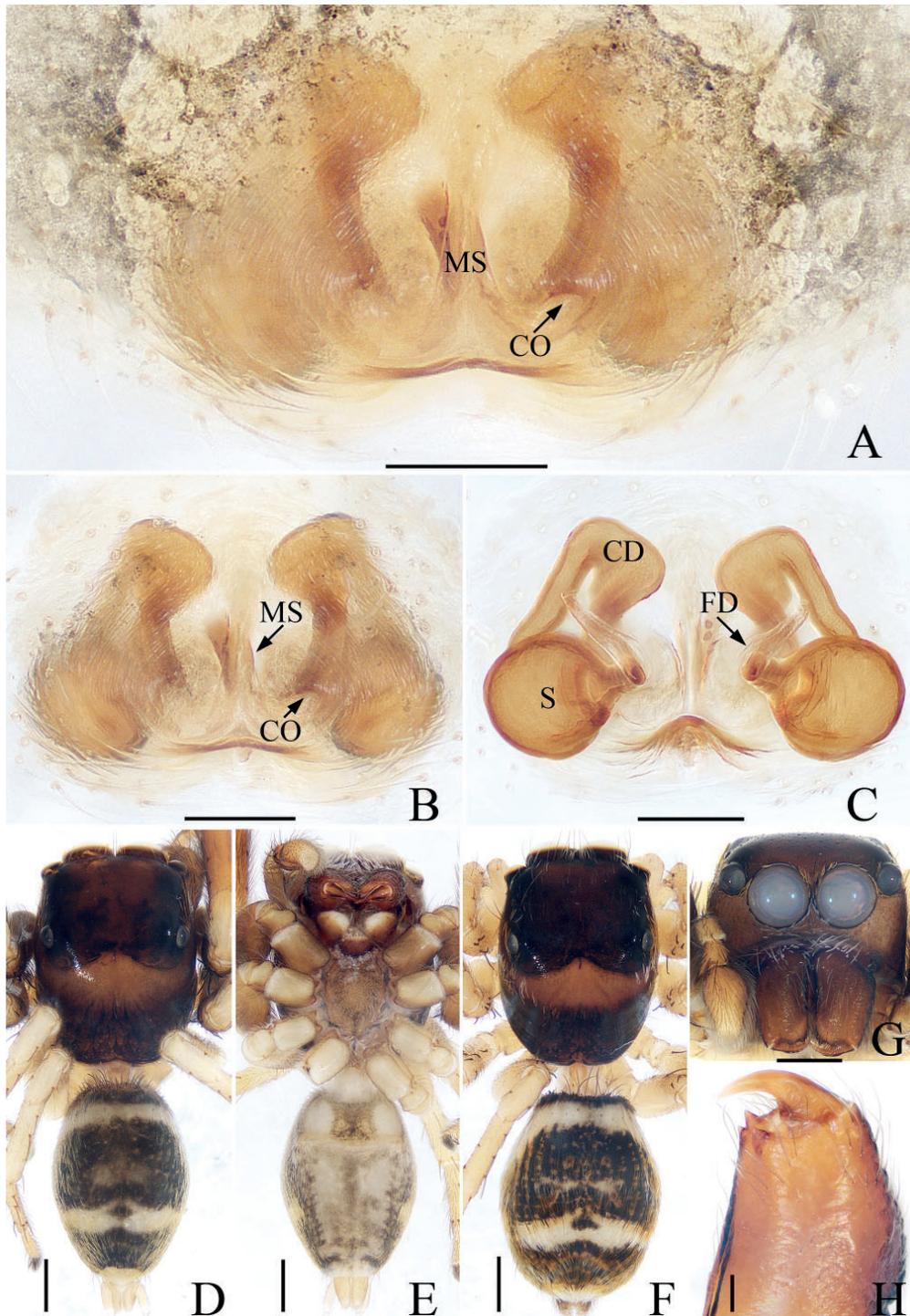


Fig. 35. *Ptocasius dian* Wang, Mi & Peng sp. nov. A–C, F. Paratype, ♀ (TRU-JS 0422). D–E, G–H. Holotype, ♂ (TRU-JS 0421). A–B. Epigyne, ventral view. C. Vulva, dorsal view. D–F. Habitus. D. Dorsal view. E. Ventral view. F. Dorsal view. G. Carapace, frontal view. H. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–C, H = 0.1 mm; D–G = 0.5 mm.

Comments

The species is provisionally placed in *Ptocasius* because it shares a similar habitus and male palpal structure with the generotype and its congeners. However, it possesses the median septum, prominent, spherical spermathecae, and lacks epigynal hoods that are different from the female of those species. And so, the generic position of the species needs further confirmation.

Ptocasius subhubeiensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:2613C417-C79C-42E4-ADC9-F51A91DE6462

Figs 36–37, 60

Diagnosis

The male of *Ptocasius subhubeiensis* sp. nov. closely resembles that of *P. Hubeiensis* (Li, Wang, Irfan & Peng, 2018) in having a similar palp, but it can be distinguished by the following: (1) the embolus being shorter than the cymbial length, and originating at the 8:30 o'clock position of the bulb (Fig. 36A–B), whereas longer than cymbial length, originating at the 6:30 o'clock position of the bulb in *P. hubeiensis* (Li *et al.* 2018: figs 4b, 5a); (2) the bulb having a distinct posterior lobe (Fig. 36B), whereas indistinct in *P. hubeiensis* (Li *et al.* 2018: figs 4b, 5a). The female also resembles *P. hubeiensis* in having small, mediolaterally located epigynal hoods, but differs in the epigynal hood, which is about three times as long as wide (Fig. 37A), whereas as long as wide in *hubeiensis* (Li *et al.* 2018: figs 4e, 5c).

Etymology

The specific epithet refers to the similarity with *Ptocasius hubeiensis* (Li, Wang, Irfan & Peng, 2018); substantive.

Type material

Holotype

CHINA • ♂; Guizhou, Yinjiang County, Ziwei Township, Dayuanzhi Village, Fanjing Mountain National Nature Reserve, Huguosi; 27°54.72' N, 108°28.62' E; 1500 m a.s.l.; 12 Apr. 2020; X.Q. Mi *et al.* leg.; TRU-JS 0462.

Paratypes

CHINA • 3 ♀♀, 6 ♂♂; same collection data as for holotype; TRU-JS 0463–0471 • 3 ♀♀, 1 ♂; Fanjing Mountain National Nature Reserve, Yuanyangzui; 28°1.02' N, 108°46.49' E; 937 m a.s.l.; 11 Jul. 2015; C. Wang and M.Y. Liao leg.; TRU-JS 0472–0475 • 3 ♀♀, 6 ♂♂; Suiyang County, Kuankuoshui National Nature Reserve, Wangjiashuiku; 28°12.49' N, 107°10.41' E; 1458 m a.s.l.; 25 Jul. 2015; C. Wang *et al.* leg.; TRU-JS 0476–0484 • 7 ♀♀, 11 ♂♂; Kuankuoshui National Nature Reserve, Zhubaotai; 28°12.71' N, 107°10.01' E; 1513 m a.s.l.; 26 Jul. 2015; C. Wang *et al.* leg.; TRU-JS 0485–0502.

Description

Male (holotype)

MEASUREMENTS. Total length 4.90. Carapace 2.36 long, 1.95 wide. Abdomen 2.67 long, 1.59 wide. Eye sizes and interdistances: AME 0.58, ALE 0.31, PLE 0.30, AERW 1.81, PERW 1.67, EFL 1.54. Legs: I 6.25 (1.78, 1.03, 1.58, 1.20, 0.66), II 4.94 (1.54, 0.88, 1.05, 0.88, 0.59), III 5.54 (1.71, 0.85, 1.13, 1.24, 0.61), IV 5.74 (1.66, 0.85, 1.23, 1.34, 0.66).

HABITUS. Carapace red-brown, covered with yellow-brown and dark thin setae, with cluster of white setae behind PMEs base, and pair of white bands formed by setae laterally (Fig. 37C, F). Chelicerae red-brown, with one retromarginal tooth and two promarginal teeth (Fig. 37G). Legs yellow except

femora, patellae, and tibiae I red-brown. Abdomen elongated, dorsum brown laterally, with two pairs of depressions, and longitudinal yellow band bifurcated at terminus; venter brown, with two dotted lines medially (Fig. 37C–D).

PALP. Tibia longer than wide; RTA strongly sclerotized, tapered, slightly curved medially and pointed apically; bulb flat, with blunt posterior lobe curved towards postero-prolaterally in ventral view; embolus originates at 8:30 o'clock position of bulb, extended about quarter of circle, with blunt tip (Fig. 36).

Female (paratype, TRU-JS 0463)

MEASUREMENTS. Total length 6.14. Carapace 2.27 long, 1.76 wide. Abdomen 3.43 long, 2.35 wide. Eye sizes and interdistances: AME 0.57, ALE 0.30, PLE 0.28, AERW 1.65, PERW 1.55, EFL 1.01. Legs: I 4.42 (1.37, 0.75, 1.03, 0.78, 0.49), II 4.09 (1.29, 0.75, 0.90, 0.66, 0.49), III 4.89 (1.59, 0.75, 1.00, 1.01, 0.54), IV 5.15 (1.56, 0.75, 1.13, 1.17, 0.54).

HABITUS. Similar to that of male except paler in color and with longitudinal, yellow band medially on thorax (Fig. 37E).

EPIGYNE. Wider than long, epigynal hoods small, below copulatory openings, about three times as long as wide; copulatory openings anteriorly located, with C-shaped margins; copulatory ducts long, forming complicated paths; spermathecae sub-oval, close to each other; fertilization ducts originate from anterior edges of spermathecae, extended almost transversely (Fig. 37A–B).

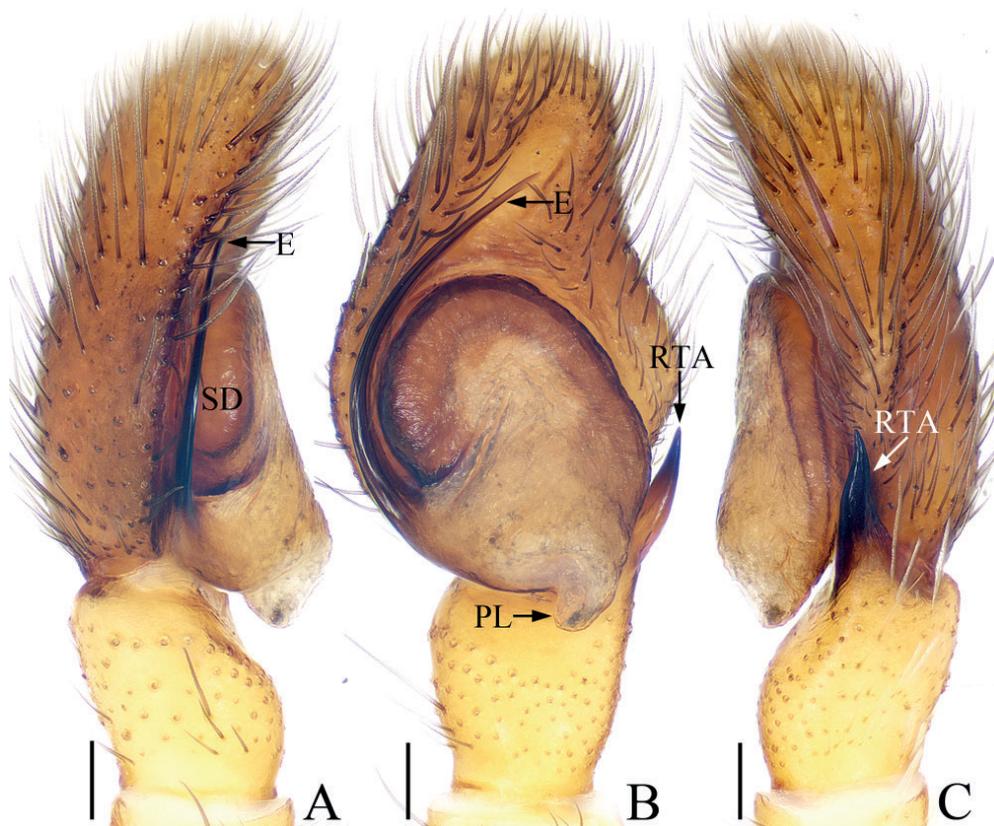


Fig. 36. Male palp of *Ptocasius subhubeiensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0462). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

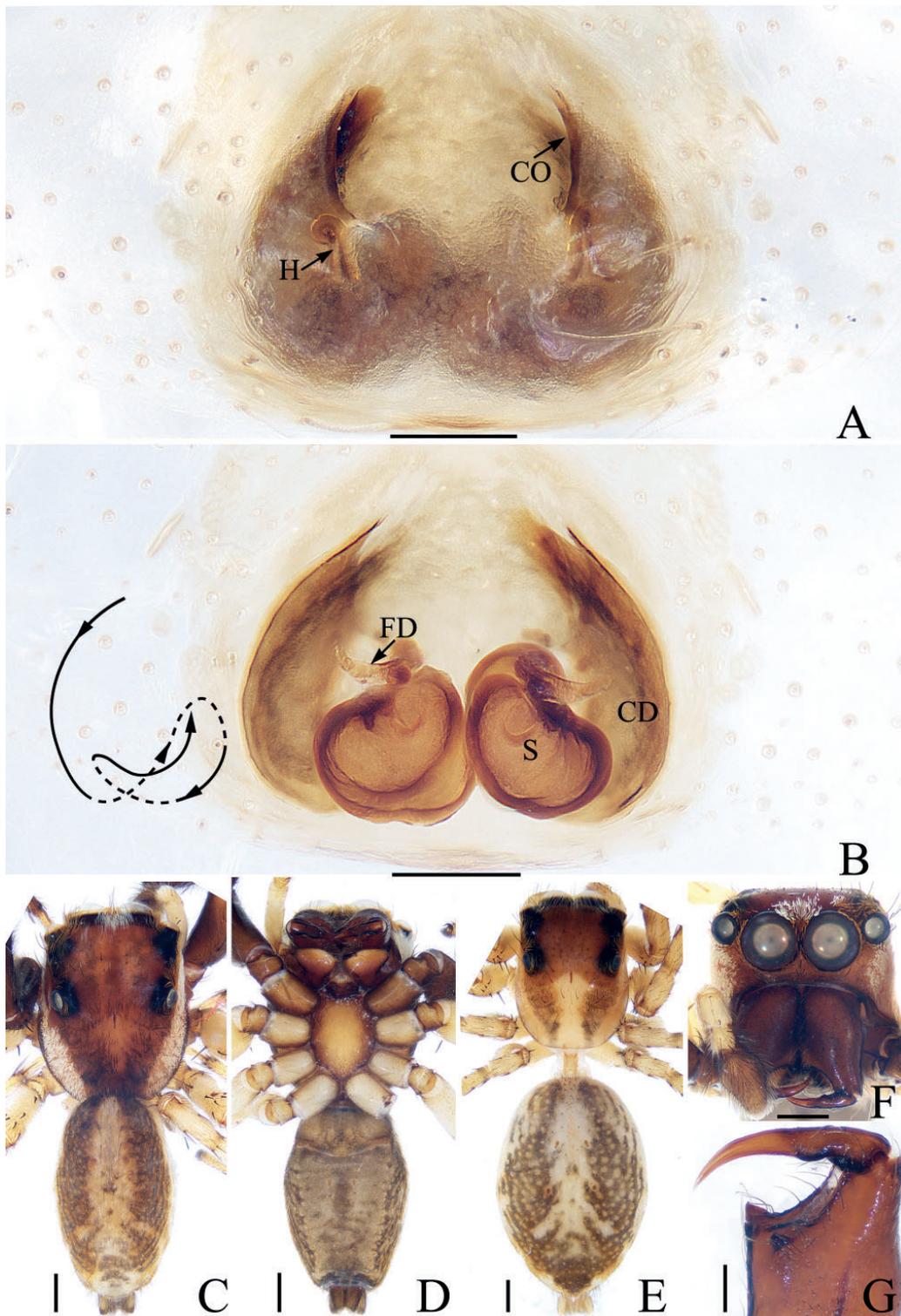


Fig. 37. *Ptocasius subhubeiensis* Wang, Mi & Peng sp. nov. A–B, E. Paratype, ♀ (TRU-JS 0463). C–D, F–G. Holotype, ♂ (TRU-JS 0462). A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Ventral view. E. Dorsal view. F. Carapace, frontal view. G. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B = 0.1 mm; C–F = 0.5 mm; G = 0.2 mm.

Distribution

China (Guizhou) (Fig. 60).

Comments

Yaginumaella and *Ptocasius* are currently placed into the subtribe Plexippina (Maddison 2015; Metzner 2023), and their relationship has always been controversial (Li *et al.* 2018). In the present work, we provisionally place *Ptocasius subhubeiensis* sp. nov. into the genus because it closely resembles *P. hubeiensis* (Li, Wang, Irfan & Peng, 2018). However, the latter was originally placed in *Yaginumaella*, and it was transferred together with 36 congeners by Patoleta *et al.* (2020) only based on the similarity of the copulatory organs. Moreover, it shares a consistent habitus with species of *Yaginumaella* rather than the *Ptocasius* genotype and its congeners. And so, the generic position of those 37 species and *P. subhubeiensis* may need further confirmation.

Genus *Rhene* Thorell, 1869

Rhene elongata Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:37D372A1-1284-4A3A-AD69-F3A4FA84CB93

Figs 38–39, 60

Diagnosis

The male of *Rhene elongata* sp. nov. resembles that of *R. habahumpa* Barrion & Litsinger, 1995 by lacking the terminal apophysis of the embolic division and having a hook-shaped RTA, but differs in: (1) the embolic base being slightly lower than the anterior-most edge of bulb in ventral view (Fig. 38B), whereas distinctly higher than the anterior-most edge of bulb in *R. habahumpa* (Prószyński 2009: fig. 41); (2) the RTA being acutely narrowed posteromedially in retrolateral view (Fig. 38C), whereas tapered in *R. habahumpa* (Prószyński 2009: fig. 46). The female resembles that of *R. setipes* Żabka, 1985 in the epigynal structure, but it can be easily distinguished by the abdomen, which is more than two times as long as wide (Fig. 39C), whereas slightly longer than wide in *R. setipes* (Tanikawa 1993: fig. 8).

Etymology

The specific name comes from the Latin word ‘*elongata*’, which means ‘elongated’ and refers to the species having an elongated abdomen; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Xingren County, Luchuying Township, Qingshuihe Nature Reserve, Mabaoshu Grand Canyon; 25°17.79' N, 104°56.13' E; 1270 m a.s.l.; 5 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0503.

Paratypes

CHINA • 3 ♀♀, 1 ♂; same collection data as for holotype.; TRU-JS 0504–0507.

Description

Male (holotype)

MEASUREMENTS. Total length 4.78. Carapace 1.85 long, 1.63 wide. Abdomen 3.02 long, 1.29 wide. Eye sizes and inter-distances: AME 0.33, ALE 0.16, PLE 0.15; AERW 1.05, PERW 1.55, EFL 1.04. Legs: I 4.19 (1.31, 0.80, 1.08, 0.60, 0.40), II 2.74 (0.91, 0.50, 0.63, 0.35, 0.35), III 2.35 (0.82, 0.40, 0.43, 0.35, 0.35), IV 3.35 (1.01, 0.53, 0.80, 0.61, 0.40).

HABITUS. Carapace red-brown, covered with white and brown setae, with darker irregular longitudinal patch centrally; fovea and radial groove indistinct (Fig. 39D, F). Chelicerae red-brown, with one retromarginal tooth and two promarginal teeth, covered by sparse white scale-like setae on anterior surfaces (Fig. 39F–G). Leg I strongest, red-brown to dark brown except tarsi yellow, with inflated femora, and bearing dense brown setae on venter of patellae and tibiae (Fig. 39H); other legs pale yellow. Abdomen elongated, dorsum yellow to yellow-brown, with several irregular transverse red-brown bands separated by yellow stripes; venter yellow, somewhat mingled with green, with small brown dots (Fig. 39D–E).

PALP. Tibia wider than long, with hook-shaped retrolateral apophysis, acutely narrowed medially and pointed apically in retrolateral view; bulb inflated, with sperm duct curved into S-shape retrolaterally; embolus originating from median of anterior edge of bulb, slightly curved medially and blunt apically (Fig. 38A–C).

Female (paratype, TRU-JS 0504)

MEASUREMENTS. Total length 4.89. Carapace 1.77 long, 1.54 wide. Abdomen 3.19 long, 1.47 wide. Eye sizes and inter-distances: AME 0.32, ALE 0.15, PLE 0.15, AERW 0.94, PERW 1.47, EFL 1.02. Legs: I 3.28 (1.12, 0.63, 0.68, 0.45, 0.40), II 2.35 (0.80, 0.40, 0.45, 0.35, 0.35), II 2.26 (0.75, 0.38, 0.43, 0.35, 0.35), III 3.19 (1.01, 0.50, 0.68, 0.60, 0.40).

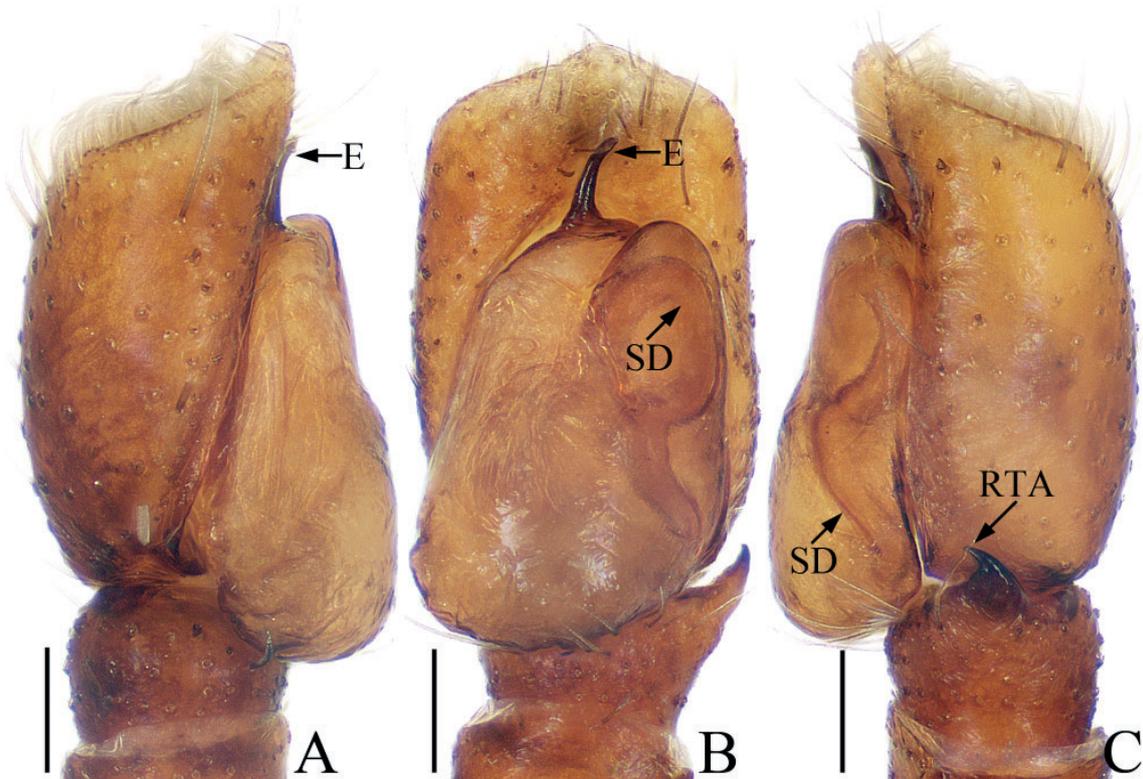


Fig. 38. Male palp of *Rhene elongata* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0503). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

HABITUS. Similar to that of male except paler in color and with pair of distinct dark dots on anterior surface of carapace (Fig. 39C).

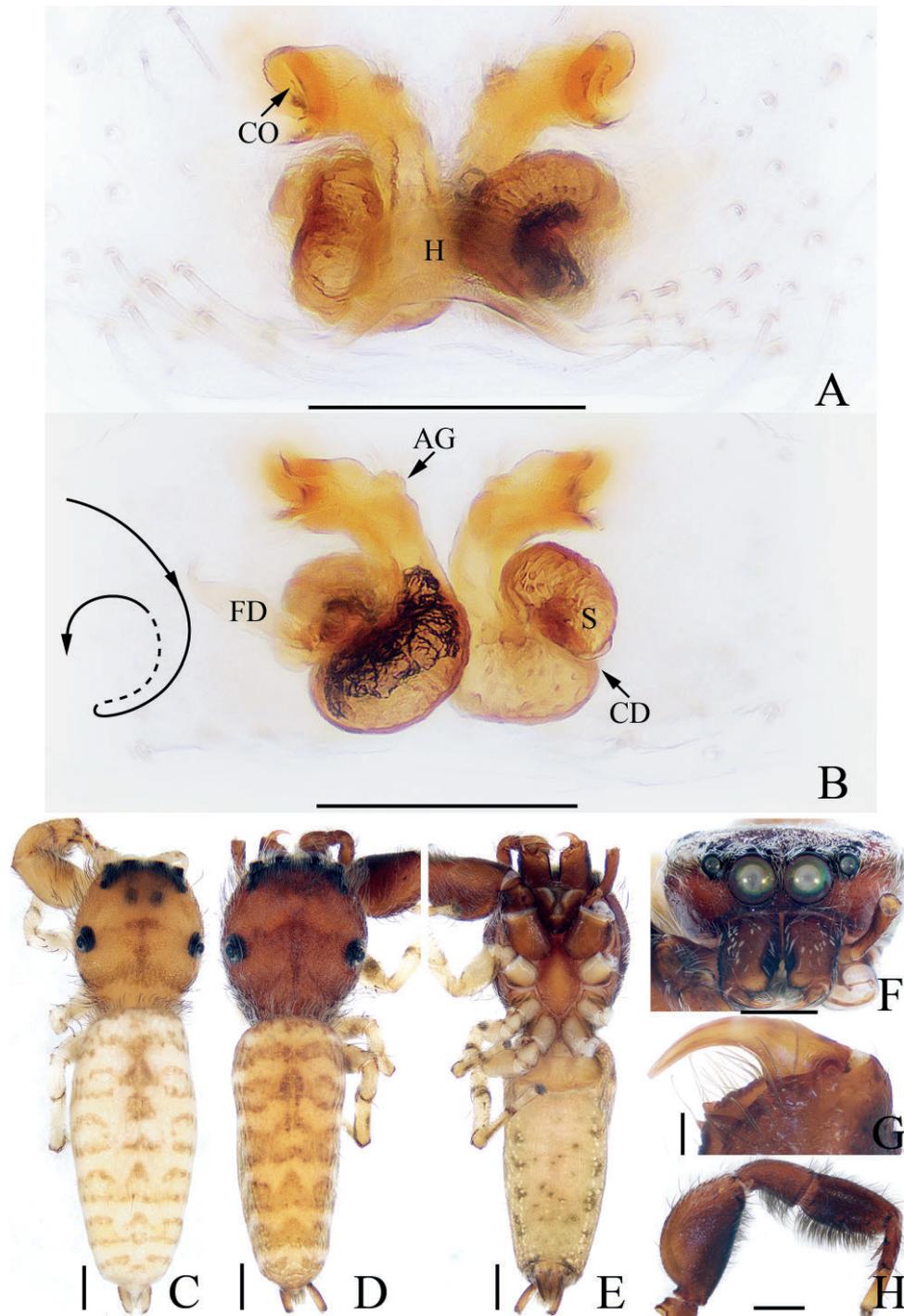


Fig. 39. *Rhene elongata* Wang, Mi & Peng sp. nov. **A–C.** Paratype, ♀ (TRU-JS 0504). **D–H.** Holotype, ♂ (TRU-JS 0503). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C–D.** Dorsal view. **E.** Ventral view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. **H.** Leg I, prolateral view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F, H = 0.5 mm.

EPIGYNE. Slightly wider than long, with broad, transparent hood situated at middle of posterior area; copulatory openings oval, situated anterolaterally, inter-distance slightly more than hood width; copulatory ducts thick and long, forming complicated paths, with proximal accessory glands; spermathecae indistinct; fertilization ducts lamellar, extended anterolaterally (Fig. 39A–B).

Distribution

China (Guizhou) (Fig. 60).

Rhene yunnanensis (Peng & Xie, 1995)

Figs 40–41, 60

Zeuxippus yunnanensis Peng & Xie, 1995: 134, fig. 1–5 (D♀, female holotype, not examined).

Rhene yunnanensis – Caleb *et al.* 2022: 390 (T from *Zeuxippus*). For full reference list see World Spider Catalog (2023).

Diagnosis

This male of *Rhene yunnanensis* (Peng & Xie, 1995) closely resembles *R. rubrigera* (Thorell, 1887) in having a similar habitus and palp, but differs in: (1) the RTA being horizontally extended towards the ventral side at the distal half in retrolateral view (Fig. 40C), whereas extended diagonally upward in *R. rubrigera* (Žabka 1985: figs 546, 550, 553); (2) the embolus being longer than RTA in ventral view (Fig. 40B), whereas shorter than RTA in *R. rubrigera* (Žabka 1985: figs 544, 549, 552). The female also resembles that of *R. rubrigera* but differs in: (1) the epigynal hood being wider than long (Fig. 41A), whereas longer than wide in *R. rubrigera* (Žabka 1985: figs 554, 558); (2) the copulatory ducts twisted into L-shape (Fig. 41B), whereas coiled into U-shape in *R. rubrigera* (Žabka 1985: figs 555, 559, 562).

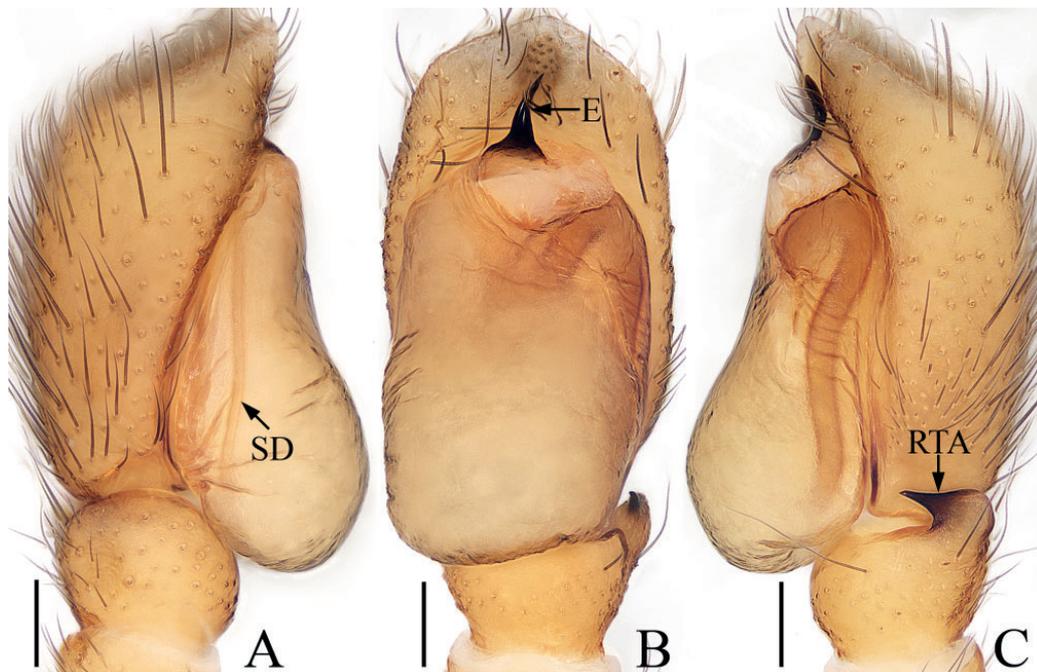


Fig. 40. Male palp of *Rhene yunnanensis* (Peng & Xie, 1995) (TRU-JS 0509). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Material examined

CHINA • 1 ♀, 2 ♂♂; Hainan, Ledong County, Jianfeng Township, Jianfengling National Nature Reserve, Yulingu; 18°44.96' N, 108°55.32' E; 650 m a.s.l.; 13 Apr. 2019; C. Wang and Y.F. Yang leg.; TRU-JS 0508–0510.

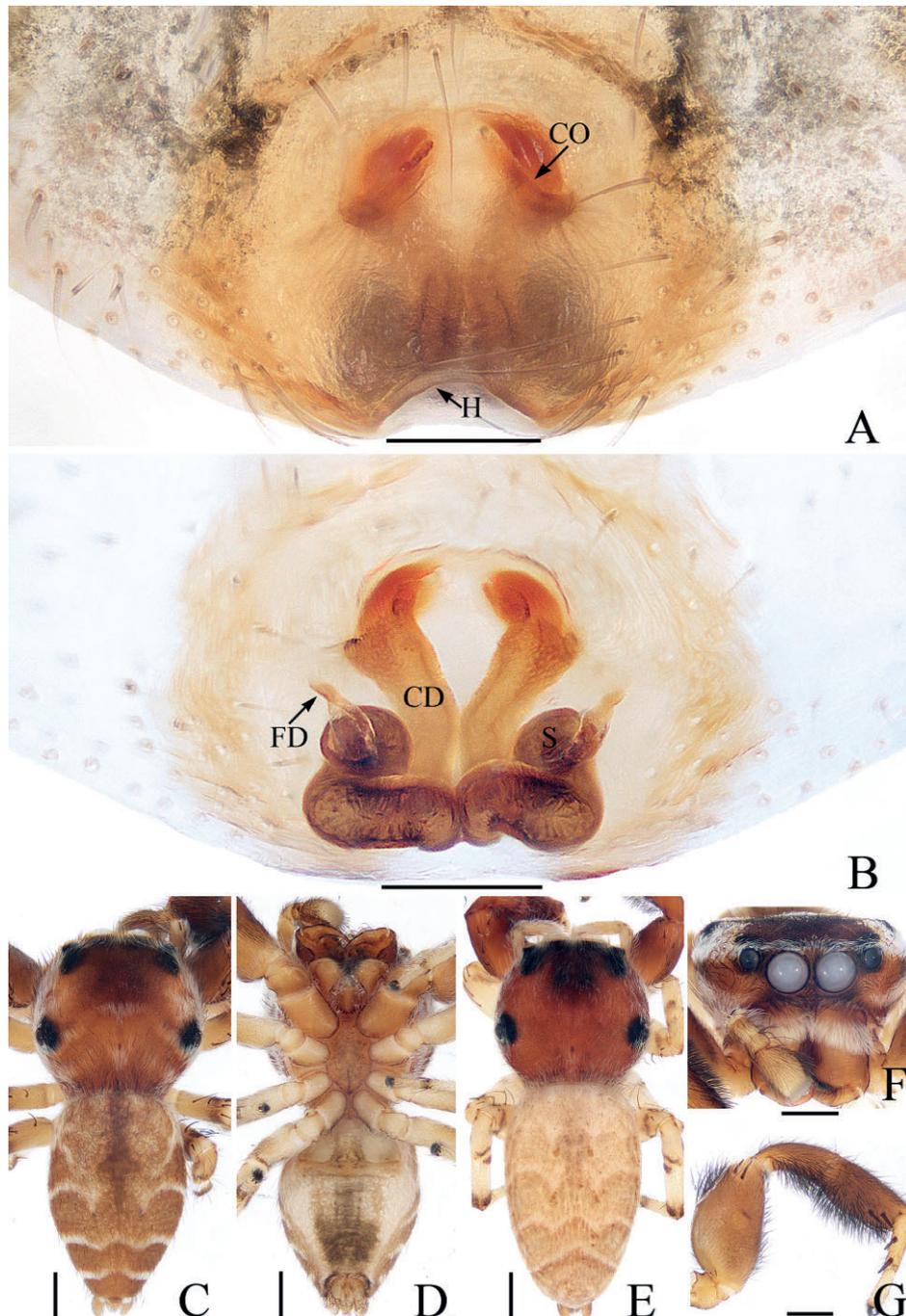


Fig. 41. *Rhene yunnanensis* (Peng & Xie, 1995). A–B, E. ♀ (TRU-JS 0508). C–D, F–G. ♂ (TRU-JS 0509). A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Ventral view. E. Dorsal view. F. Carapace, frontal view. G. Leg I, prolateral view. Abbreviations: see Material and methods. Scale bars: A–B = 0.1 mm; C–G = 0.5 mm.

Description**Male** (TRU-JS 0509)

MEASUREMENTS. Total length 4.03. Carapace 1.88 long, 1.91 wide. Abdomen 2.38 long, 1.56 wide. Eye sizes and inter-distances: AME 0.41, ALE 0.20, PLE 0.20, AERW 1.30, PERW 1.94, EFL 1.18. Legs: I 4.58 (1.55, 0.78, 1.00, 0.75, 0.50), II 3.36 (1.02, 0.63, 0.75, 0.58, 0.38), III 3.14 (0.95, 0.55, 0.63, 0.63, 0.38), IV 3.62 (1.13, 0.60, 0.78, 0.73, 0.38).

HABITUS. Carapace flat, red-brown, covered with dense brown and white thin setae, with irregular dark patch on center of eye field (Fig. 41C, F). Chelicerae red-brown, with one retromarginal tooth and two promarginal teeth, bearing dense white setae on base of anterior surface (Fig. 41F). Legs I well-developed, yellow to yellow-brown, with dense dark brown setae on ventral sides of patellae and tibiae (Fig. 41G); other legs yellow. Abdomen elongate-oval, dorsum with irregular dark brown patch antero-medially, and narrow, wave-shaped stripes formed by white setae laterally and posteriorly, covered by white and dark brown thin setae; venter pale to brown, with broad, brown patch medially (Fig. 41C–D).

PALP. Tibia wider than long; RTA stout, with pointed tip transversely directed towards ventral side in retrolateral view; bulb longer than wide, with semicircular membranous extension adjacent to embolic base; sperm duct tapered and extended along bulb margin; embolus tapered and pointed apically (Fig. 40A–C).

Female (TRU-JS 0508)

MEASUREMENTS. Total length 4.36. Carapace 1.76 long, 1.87 wide. Abdomen 2.67 long, 1.63 wide. Eye sizes and inter-distances: AME 0.38, ALE 0.20, PLE 0.18, AERW 1.22, PERW 1.82, EFL 1.10. Legs: I 3.39 (1.13, 0.68, 0.75, 0.45, 0.38), II 2.80 (0.88, 0.53, 0.63, 0.43, 0.33), III 2.71 (0.88, 0.50, 0.50, 0.50, 0.33), IV 3.54 (1.13, 0.60, 0.75, 0.73, 0.33).

HABITUS. Similar to that of male except with darker carapace and paler abdomen (Fig. 41E).

EPIGYNE. Slightly longer than wide, with broad posterior hood; copulatory openings slit-shaped, located anteriorly; copulatory ducts relatively long and stout, descending in anterior half, and then horizontally extended before ascending upward; fertilization ducts lamellar (Fig. 41A–B).

Distribution

China (Hainan (Fig. 60), Yunnan).

Genus *Stertinus* Simon, 1890

Stertinus donglinsiensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:F014DFFD-44F1-4354-B68F-C8BDAE7E225E

Figs 42–43, 61

Diagnosis

Stertinus donglinsiensis sp. nov. can be distinguished from any congeners by having a swollen bulb, dorsally incrassated male palpal tibia, and a longitudinally extended anterior chamber of spermatheca, which is more than two times as long as the posterior chamber (Figs 42, 43A–B), whereas flat bulb, not incrassated male palpal tibia, and a smaller anterior chamber of spermatheca less than two times as long as the posterior chamber in other congeners (Metzner 2023).

Etymology

The species name is derived from the name of the type locality, Donglinsi Park; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Guiyang City, Guanshanhu District, Donglinsi Park; 26°39.60' N, 106°38.00' E; 1297 m a.s.l.; 10 May 2018; C. Wang leg.; TRU-JS 0511.

Paratypes

CHINA • 1 ♀; same collection data as for holotype; TRU-JS 0512 • 5 ♀♀, 1 ♂; same collection data as for preceding; 3 May 2018; TRU-JS 0513–0518 • 4 ♀♀, 4 ♂♂; same collection data as for preceding; 18 May 2018; TRU-JS 0519–0526.

Description

Male (holotype)

MEASUREMENTS. Total length 2.24. Carapace 1.06 long, 1.02 wide. Abdomen 1.31 long, 1.01 wide. Eye sizes and inter-distances: AME 0.27, ALE 0.14, PLE 0.12, AERW 0.80, PERW 0.93, EFL 0.60. Legs: I 2.47 (0.73, 0.50, 0.58, 0.37, 0.29), II 1.86 (0.59, 0.33, 0.40, 0.27, 0.27), III 1.72 (0.51, 0.28, 0.35, 0.29, 0.29), IV 2.08 (0.71, 0.33, 0.43, 0.34, 0.27).

HABITUS. Carapace red-brown, almost square, covered with dense yellow and white thin setae, with pair of indistinct dark patches medially on eye field (Fig. 43C, F). Chelicerae yellow-red, with two retromarginal teeth and one pillar-shaped, bifurcated retromarginal tooth (Fig. 43G). Legs I with slightly inflated femora and tibiae, covered with brown long setae ventrally on tibiae (Fig. 43H). Abdomen oval, dorsum lustrous, with irregular median dark patch and lateral yellow stripes, covered entirely by big scutum and sparse white scale-like setae; venter dark brown (Fig. 43C–D).

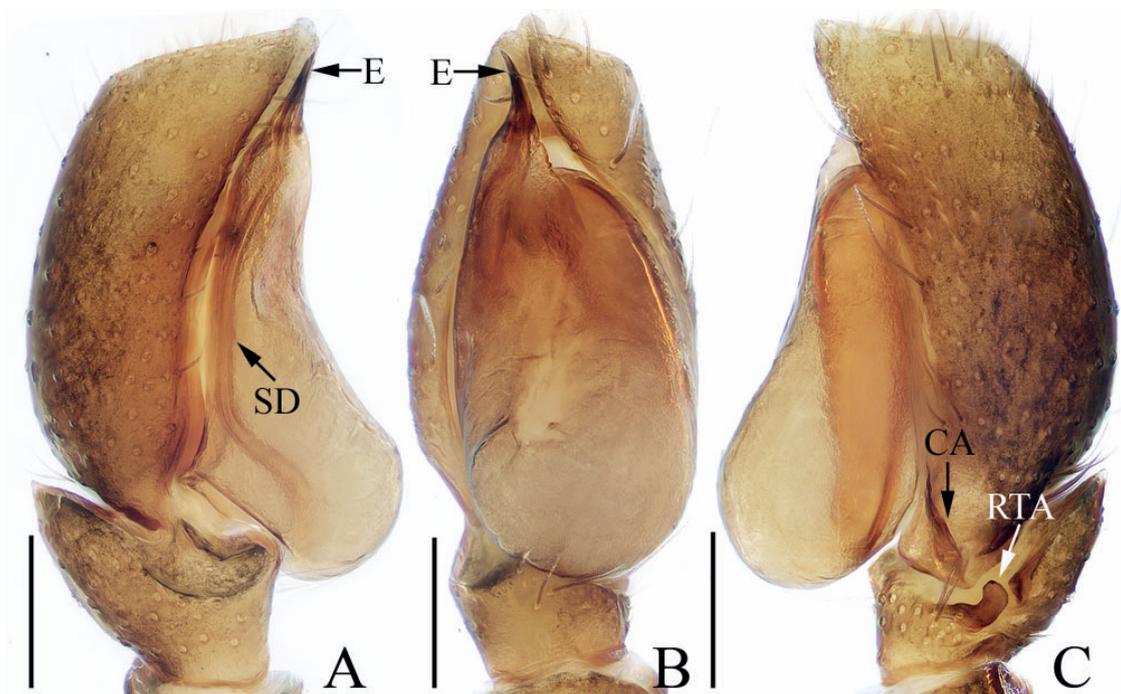


Fig. 42. Male palp of *Stertinius donglinsiensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0511). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

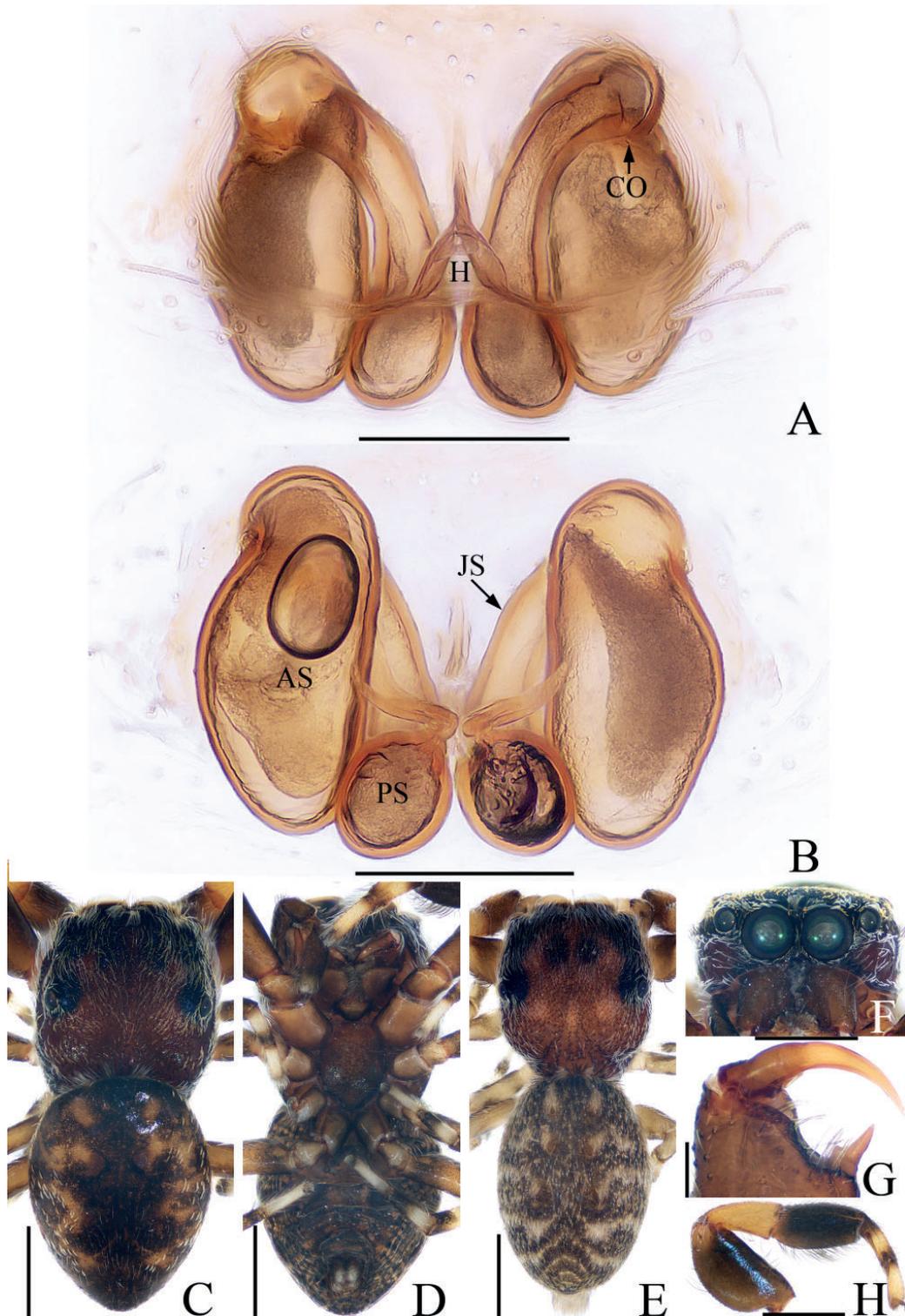


Fig. 43. *Stertinius donglinsiensis* Wang, Mi & Peng sp. nov. A–B, E. Paratype, ♀ (TRU-JS 0512). C–D, F–H. Holotype, ♂ (TRU-JS 0511). A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Ventral view. E. Dorsal view. F. Carapace, frontal view. G. Chelicera, anterior view. H. Leg I, prolateral view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F, H = 0.5 mm.

PALP. Tibia incrassated dorsally, with short, curved retrolateral apophysis blunt apically; cymbium longer than wide, with lamellar, sub-triangular baso-retrolateral apophysis; bulb swollen, with sperm duct extended along margin; embolus short, slightly curved, originates from apical edge of bulb and tapered to pointed tip (Fig. 42).

Female (paratype, TRU-JS 0512)

MEASUREMENTS. Total length 2.30. Carapace 0.96 long, 0.92 wide. Abdomen 1.36 long, 0.94 wide. Eye sizes and inter-distances: AME 0.26, ALE 0.13, PLE 0.11, AERW 0.82, PERW 0.98, EFL 0.57. Legs: I 1.75 (0.51, 0.33, 0.43, 0.24, 0.24), II 1.43 (0.44, 0.25, 0.30, 0.20, 0.24), III 1.38 (0.41, 0.23, 0.28, 0.22, 0.24), IV 1.86 (0.56, 0.30, 0.40, 0.33, 0.27).

HABITUS. Similar to that of male except paler in color and without dorsal abdominal scutum (Fig. 43E).

EPIGYNE. With central triangular hood; copulatory openings small, anterolaterally located, opened downward; copulatory ducts reduced; spermathecae divided into two chambers, anterior chamber elongated, longitudinally extended, posterior chamber sub-spherical; fertilization ducts originate from inner sides of anterior edges of posterior chamber of spermathecae (Fig. 43A–B).

Distribution

China (Guizhou) (Fig. 61).

Stertinus logunovi Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:2C61A8D3-69D7-47E0-AFD8-320FCFF973E4

Figs 44–45, 61

Diagnosis

The species can be easily distinguished from any congeners by having the elongated, straight tibial apophysis of male palp, which is longer than the tibia (Fig. 44B), whereas shorter than tibia or curved in congeners (Metzner 2023).

Etymology

The specific name is the patronym in honor of Dr Dmitri V. Logunov, who contributed significantly to the taxonomy of the genus *Stertinus*; noun (name) in genitive case.

Type material

Holotype

CHINA • ♂; Guizhou, Bijie City, Qixingguan District, Shamaoshan Park; 27°16.77' N, 105°17.33' E; 1544 m a.s.l.; 1 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0527.

Paratype

CHINA • 1 ♂; same collection data as for holotype; TRU-JS 0528.

Description

Male (holotype)

MEASUREMENTS. Total length 2.24. Carapace 1.07 long, 0.99 wide. Abdomen 1.25 long, 1.02 wide. Eye sizes and inter-distances: AME 0.26, ALE 0.13, PLE 0.12, AERW 0.81, PERW 0.94, EFL 0.53. Legs: I 2.33 (0.76, 0.48, 0.50, 0.32, 0.27), II 1.76 (0.54, 0.33, 0.35, 0.27, 0.27), III 1.52 (0.49, 0.25, 0.30, 0.24, 0.24), IV 1.93 (0.66, 0.30, 0.43, 0.27, 0.27).

HABITUS. Carapace red-brown, covered with sparse golden setae and scale-like setae, with irregular dark patch medially on eye field, and pair of oblique dark lines posteriorly on thorax (Fig. 45A, C). Chelicerae dark yellow, with two promarginal teeth and one pillar-shaped, bifurcated retromarginal tooth (Fig. 45D–E). Legs I with inflated femora and tibiae, and bearing long setae

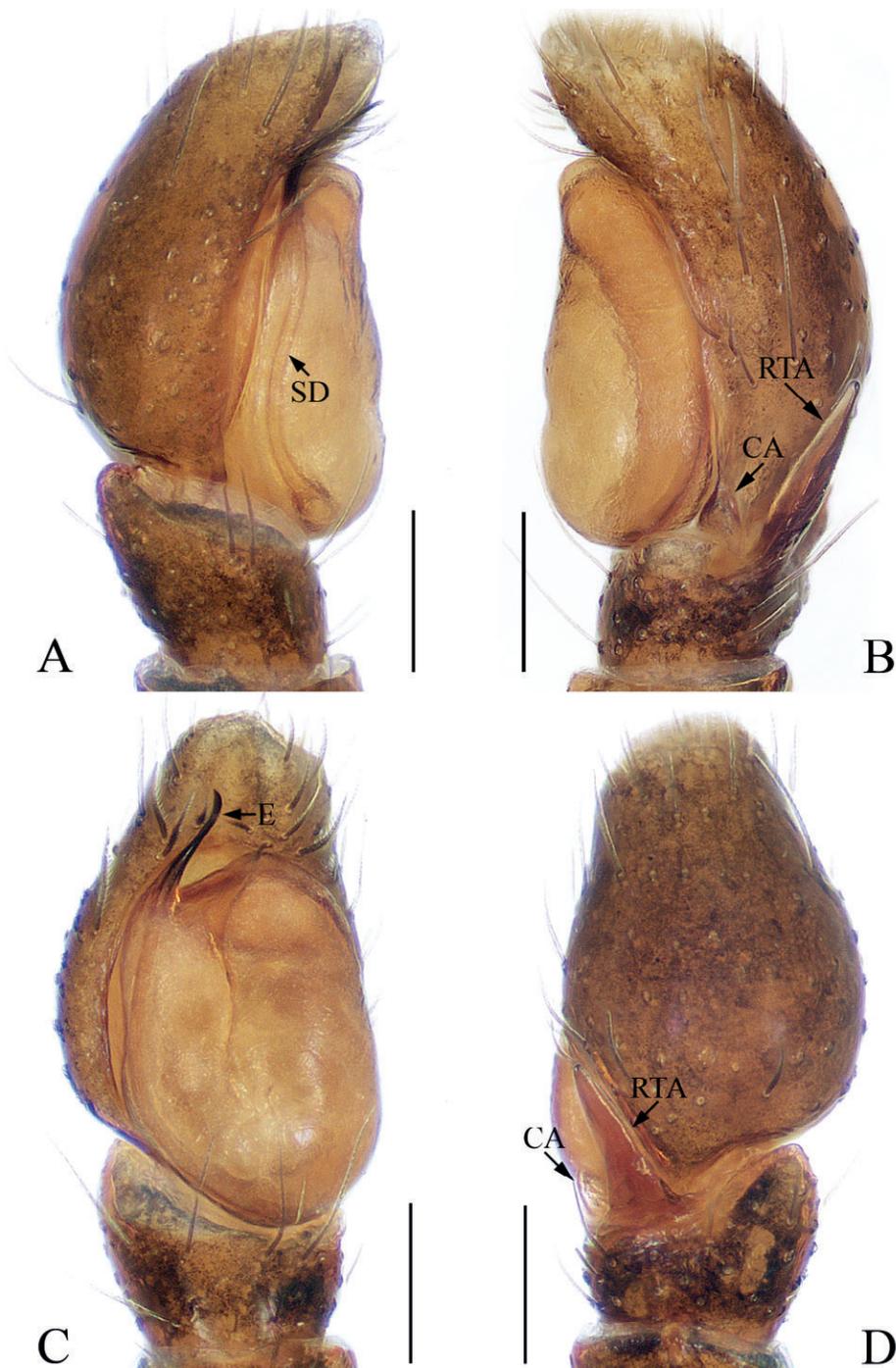


Fig. 44. Male palp of *Stertinius logunovi* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0527). **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

ventrally on tibiae. Abdomen oval, dorsum dark yellow to red-brown, with irregular dark patch medially, covered with sub-marginal golden setae and big scutum; venter brown to dark brown (Fig. 45A–B).

PALP. Tibia wider than long; RTA long, straight, almost 1.5 times as long as tibia, blunt apically; cymbium with small, lamellar baso-retrolateral apophysis; bulb flat, with tapered sperm duct extended along margin; embolus sclerotized, originates from antero-prolateral edge of bulb, slightly curved distally and pointed apically (Fig. 44).

Female

Unknown.

Distribution

China (Guizhou) (Fig. 61).

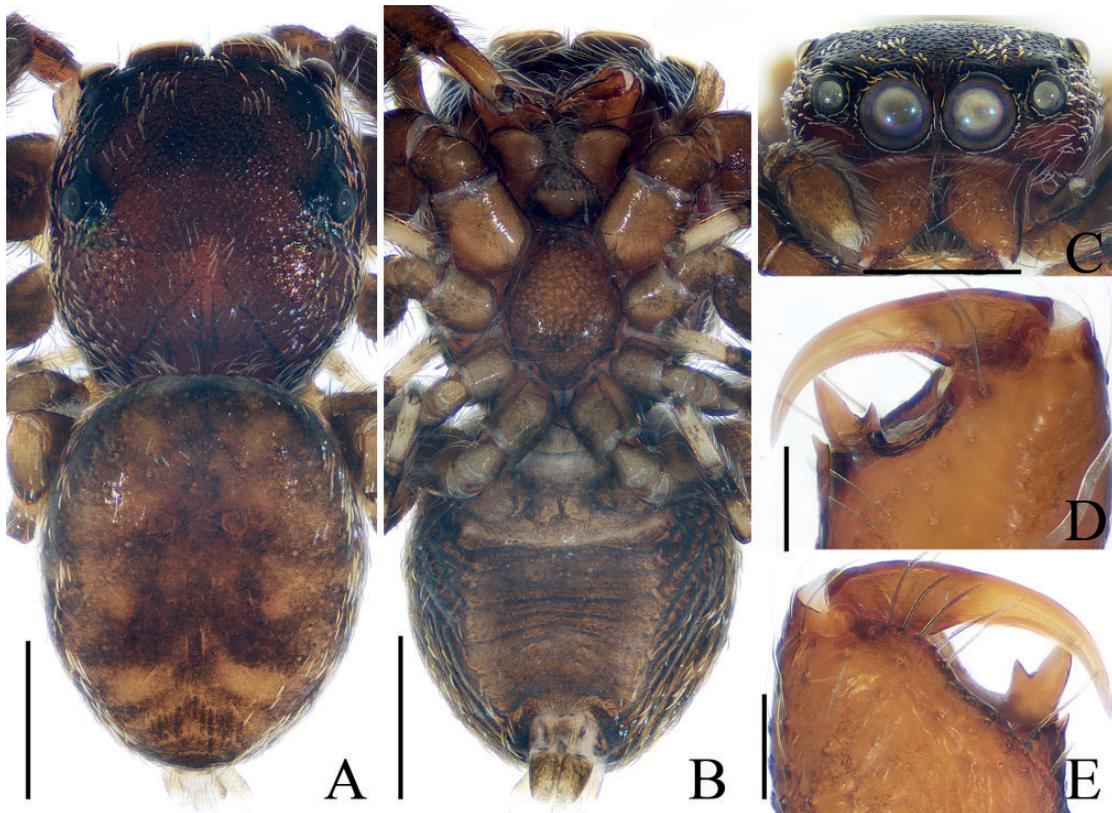


Fig. 45. *Stertinius logunovi* Wang, Mi & Peng sp. nov., holotype, ♂ (TRU-JS 0527). **A–B.** Habitus **A.** Dorsal view. **B.** Ventral view. **C.** Carapace, frontal view. **D.** Chelicera, posterior view. **E.** Chelicera, anterior view. Scale bars: A–C = 0.5 mm; D–E = 0.1 mm.

Genus *Synagelides* Strand, 1906

Synagelides fanjingensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:C531985D-37E1-4D6D-ABFF-A7C5C6021FDB

Figs 46–47, 61

Diagnosis

The male of *Synagelides fanjingensis* sp. nov. resembles that of *S. hamatus* Zhu, Zhang, Zhang & Chen, 2005 in having two tibial apophyses, but it can be easily distinguished by the RTA, which is about one-third the cymbial length in retrolateral view (Fig. 46B), whereas more than two-third the cymbial length in *S. hamatus* (Zhu *et al.* 2005: fig. 12e). The female also resembles that of *S. hamatus* in the general shape of the epigyne, but differs in: (1) the epigynal hood being about three times as long as wide (Fig. 47A–C), whereas about as long as wide in *S. hamatus* (Zhu *et al.* 2005: fig. 12b); (2) the copulatory openings being anteriorly located (Fig. 47A–C), whereas posteriorly located in *S. hamatus* (Zhu *et al.* 2005: fig. 12b).

Etymology

The species name is derived from the name of the type locality, Fanjing Mountain National Nature Reserve; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Yinjiang County, Ziwei Township, Fanjing Mountain National Nature Reserve, Huguosi; 27°54.72' N, 108°28.62' E; 1500 m a.s.l.; 9 May 2021; X.Q. Mi *et al.* leg.; TRU-JS 0529.

Paratypes

CHINA • 1 ♀; Guizhou, Yinjiang County, Ziwei Township, Fanjing Mountain National Nature Reserve, Mianxuling; 27°54.83' N, 108°40.03' E; 2000 m a.s.l.; 17 Jul. 2015; C. Wang *et al.* leg.; TRU-JS 0530 • 2 ♀♀, 1 ♂; same locality as for preceding; 23 Jul. 2021; X.Q. Mi *et al.* leg.; TRU-JS 0531–0533.

Description

Male (holotype)

MEASUREMENTS. Total length 4.11. Carapace 1.90 long, 1.33 wide. Abdomen 2.13 long, 1.03 wide. Eye sizes and inter-distances: AME 0.42, ALE 0.26, PLE 0.24, AERW 1.26, PERW 1.38, EFL 1.10. Legs: I 4.83 (1.45, 1.25, 1.20, 0.58, 0.35), II 3.04 (0.88, 0.48, 0.70, 0.63, 0.35), III 3.02 (0.83, 0.43, 0.68, 0.73, 0.35), IV 4.01 (1.13, 0.53, 1.05, 0.95, 0.35).

HABITUS. Carapace stippled, yellow-brown to dark brown, covered with thin setae; fovea oval, hollowed (Fig. 47D). Chelicerae yellow, with two promarginal teeth and one retromarginal tooth (Fig. 47G). Legs pale yellow to orange, leg I with five and two pairs of ventral macrosetae on patellae and metatarsi, respectively (Fig. 47H). Abdomen elongated, dorsum yellow-brown to dark brown, with two pairs of muscle depressions and transverse white stripe formed by setae medially followed by arc-shaped transverse stripes; venter pale to yellow (Fig. 47D–E).

PALP. Femur with triangular medio-prolateral apophysis; patellae swollen; tibia stubby, with strongly sclerotized, curved retrolateral apophysis about one-third cymbial length and pointed apically, paliform dorsal apophysis, and broad ventral apophysis; bulb swollen; MA large, strongly sclerotized, divided into three processes in ventral view; embolus forming basal disc, and spiraled to blunt tip reaches to cymbial tip (Fig. 46).

Female (paratype, TRU-JS 0530)

MEASUREMENTS. Total length 4.16. Carapace 1.72 long, 1.24 wide. Abdomen 2.44 long, 1.32 wide. Eye sizes and inter-distances: AME 0.41, ALE 0.24, PLE 0.22, AERW 1.20, PERW 1.36, EFL 1.00. Legs: I 3.64 (1.13, 0.88, 0.88, 0.45, 0.30), II 2.53 (0.80, 0.40, 0.58, 0.45, 0.30), III 2.63 (0.78, 0.35, 0.60, 0.60, 0.30), IV 3.63 (1.00, 0.50, 0.95, 0.83, 0.35).

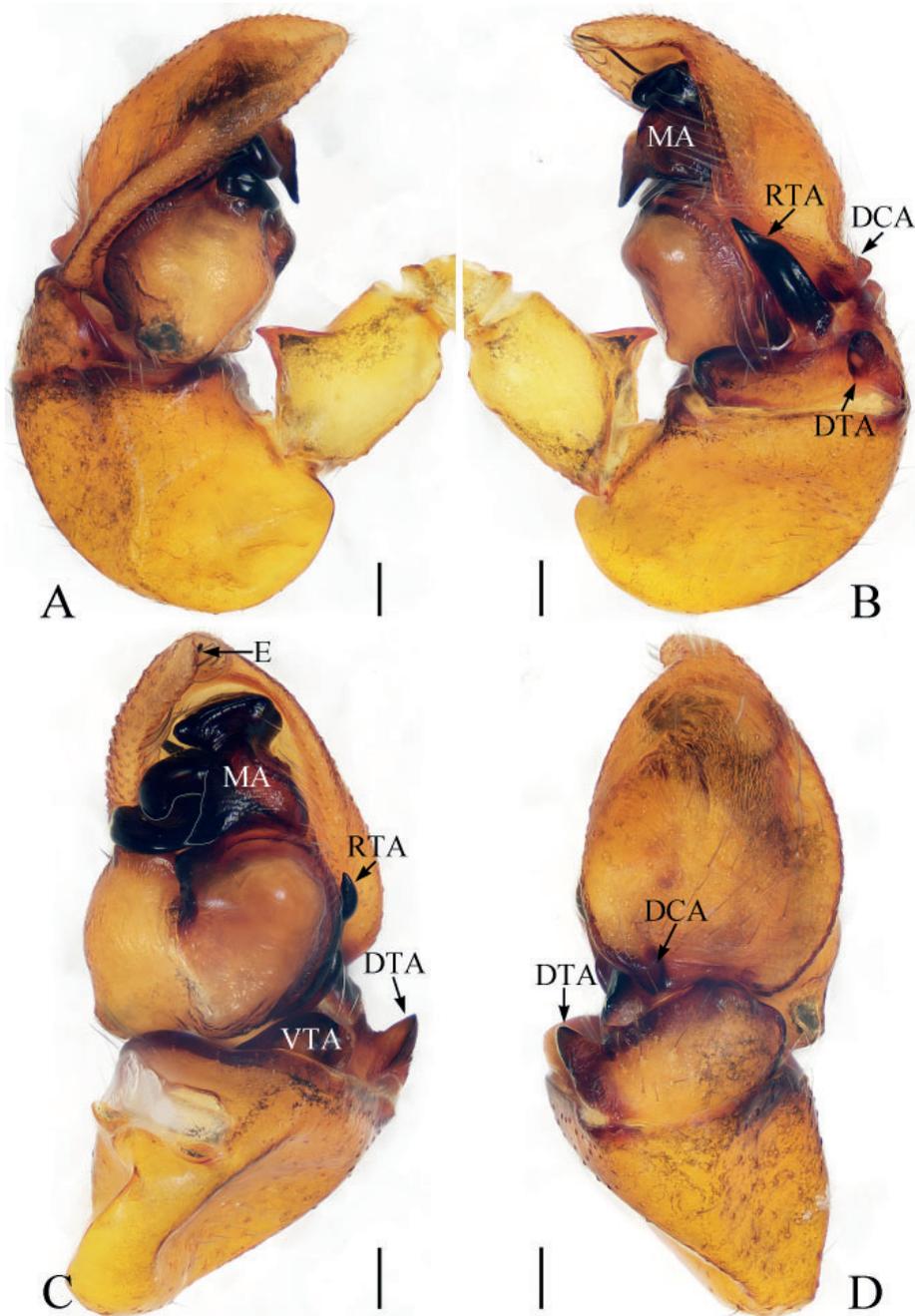


Fig. 46. Male palp of *Synagelides fanjingensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0529). **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

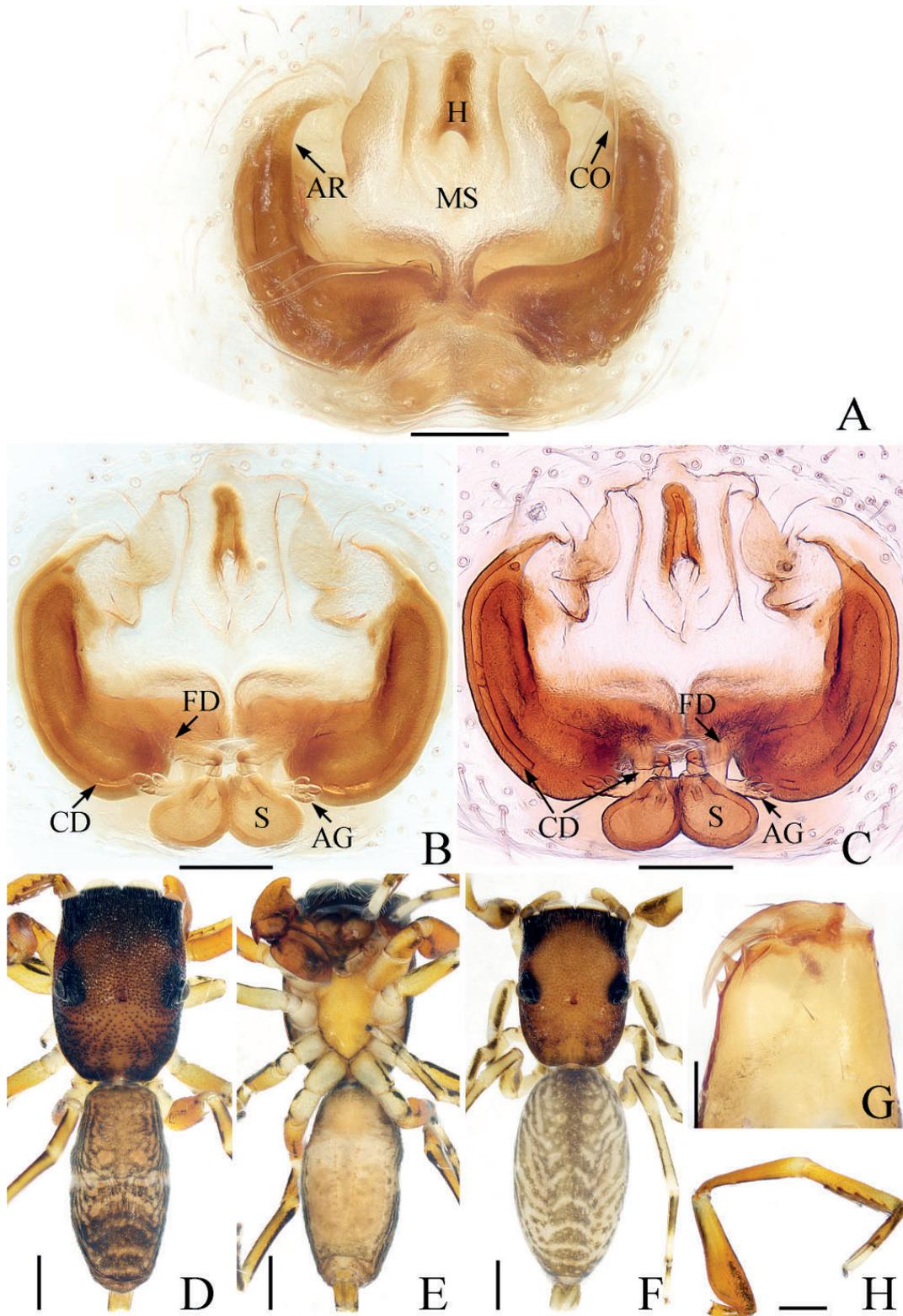


Fig. 47. *Synagelides fanjingensis* Wang, Mi & Peng sp. nov. A–C, F. Paratype, ♀ (TRU-JS 0530). D–E, G–H. Holotype, ♂ (TRU-JS 0529). A. Epigyne, ventral view. B–C. Vulva, dorsal view. D–F. Habitus. D. Dorsal view. E. Ventral view. F. Dorsal view. G. Chelicera, posterior view. H. Leg I, prolateral view. Abbreviations: see Material and methods. Scale bars: A–C, G = 0.1 mm; D–F, H = 0.5 mm.

HABITUS. Similar to that of male except without median transverse white stripe on dorsum of abdomen (Fig. 47F).

EPIGYNE. With tube-shaped anterior hood about three times as long as wide; atrium almost square, with pair of L-shaped lateral ridges, and separated by broad, sub-square median septum; copulatory openings beneath anterior portions of atrial ridges; copulatory ducts slender, curved into C-shape anteromedially and descending posteriorly, with short accessory glands divided into three processes at terminus; spermathecae pear-shaped, touched; fertilization ducts originate from anterior edges of spermathecae, extended transversely (Fig. 47A–C).

Distribution

China (Guizhou) (Fig. 61).

Genus *Thyene* Simon, 1885

Comments

According to the morphological feature, *Thyene* should be polyphyletic. Some Asian species of *Thyene*, such as *T. bivittata*, *T. calebi*, *T. orientalis*, *T. typica*, *T. yuxiensis* and *T. xingrenensis* sp. nov. could be separated into a new genus, or at least should be divided into a group because some unique features which are different from the generotype and its congeners, such as they have the sub-square carapace, which lacks anterior-lateral long setae, the bifurcated retromarginal cheliceral fissidentate tooth, short embolus coiled less than two circles, pair of epigynal hoods, and the consistent copulatory ducts which forming ridges medially and several coils terminally (vs the carapace mostly oval, having a pair of anterolateral long setae, and expanding anterior-laterally in males, just having one retromarginal cheliceral tooth, embolus coiled at least two circles, lacking epigynal hood and with copulatory ducts not forming ridges in generotype and its congeners; see Deeleman-Reinhold 2010: figs 148–162; Metzner 2022). Moreover, *Thyene zhangii* (Peng, Yin, Yan & Kim, 1998) comb. nov., and *T. bilaguncula* (Xie & Peng, 1995) comb. nov. are transferred from *Plexippoides* Prószyński, 1984 and *Ptocasius* Simon, 1885, respectively, because they are consistent with the above-mentioned species in having a very similar habitus, epigyne, and a bifurcated retromarginal cheliceral fissidentate tooth.

Thyene xingrenensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:4190D5CB-157E-4B49-ABF6-A11569150E81

Figs 48–49, 61

Diagnosis

The male of *Thyene xingrenensis* sp. nov. closely resembles that of *T. orientalis* Żabka, 1985 in having a similar habitus and palp, but it can be easily distinguished by the following: (1) the embolus originating at about 8 o'clock position of bulb (Fig. 48A–B), whereas about 6 o'clock position of bulb in *T. orientalis* (Fig. 50A–B); (2) the RTA being directed upward apically in retrolateral view (Fig. 48C), whereas directed towards the antero-retrolateral side in *T. orientalis* (Fig. 50C). It also somewhat resembles that of *T. yuxiensis* Xie & Peng, 1995 in the general shape of the palp, but it can be easily distinguished by the tegular flap, which is directed towards 9:00 o'clock position in ventral view (Fig. 48B), whereas about 12:00 o'clock position in *T. yuxiensis* (Xie & Peng 1995: fig. 4b). The female also resembles *T. orientalis* in the general shape of epigyne, but differs in the epigynal hood, which is triangular (Fig. 49A), whereas slit-shaped in *T. orientalis* (Fig. 51A).

Etymology

The species name is derived from the name of the type locality, Xingren County; adjective.

Type material**Holotype**

CHINA • ♂; Guizhou, Xingren County, Luchuying Township, Qingshuihe Nature Reserve, Mabaoshu Grand Canyon; 25°17.79' N, 104°56.13' E; 1270 m a.s.l.; 3 Aug. 2016; C. Wang *et al.* leg.; TRU-JS 0534.

Paratypes

CHINA • 12 ♀♀, 6 ♂♂; same collection data as for holotype; TRU-JS 0535–0552 • 14 ♀♀, 10 ♂♂; same collection data as for preceding; 4 Aug. 2016; TRU-JS 0553–0576.

Comparative material

Thyene orientalis Xie & Peng, 1995 (Figs 50–51).

CHINA • 4 ♀♀, 3 ♂♂; Guangxi Zhuang Autonomous Region, Beihai City, Tieshangang District, Xinggang Township, Xiaomatou Village, Caobiaotang; 21°33.11' N, 109°29.22' E; 10 m a.s.l.; 4 Oct. 2018; X.Q. Mi *et al.* leg.

Description**Male (holotype)**

MEASUREMENTS. Total length 4.62. Carapace 2.24 long, 1.66 wide. Abdomen 2.36 long, 1.27 wide. Eye sizes and inter-distances: AME 0.51, ALE 0.23, PLE 0.23, AERW 1.48, PERW 1.60, EFL 1.04. Legs: I

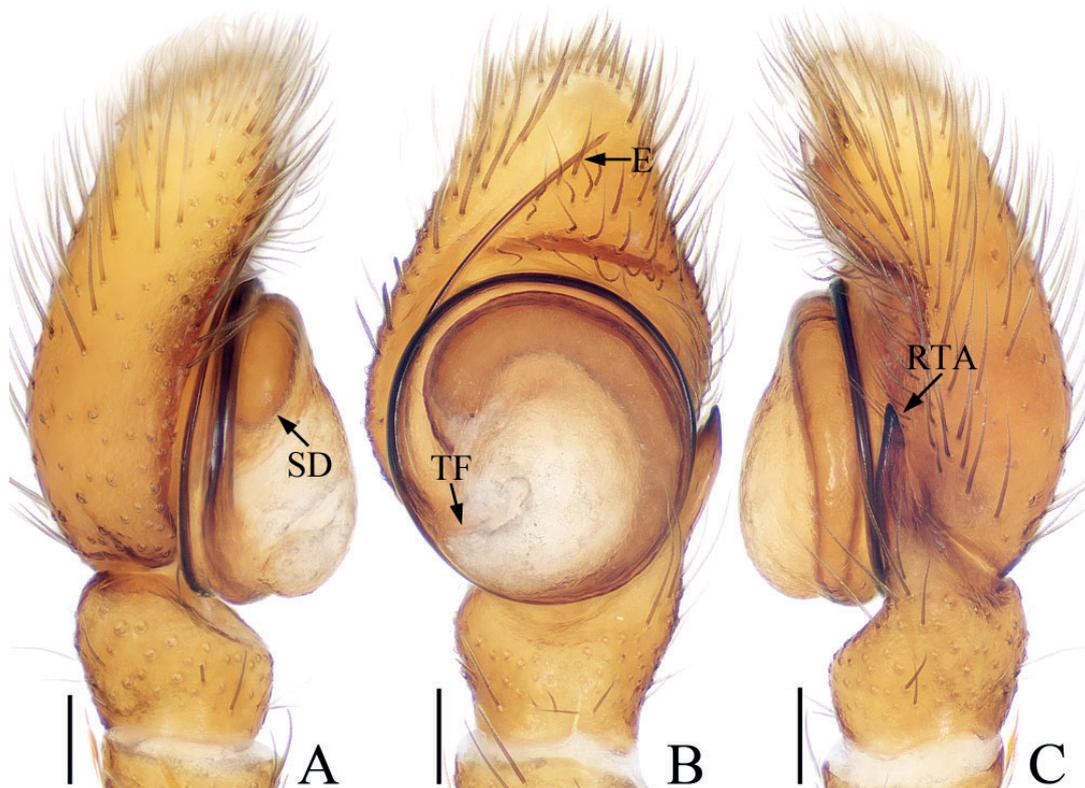


Fig. 48. Male palp of *Thyene xingrenensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0534). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

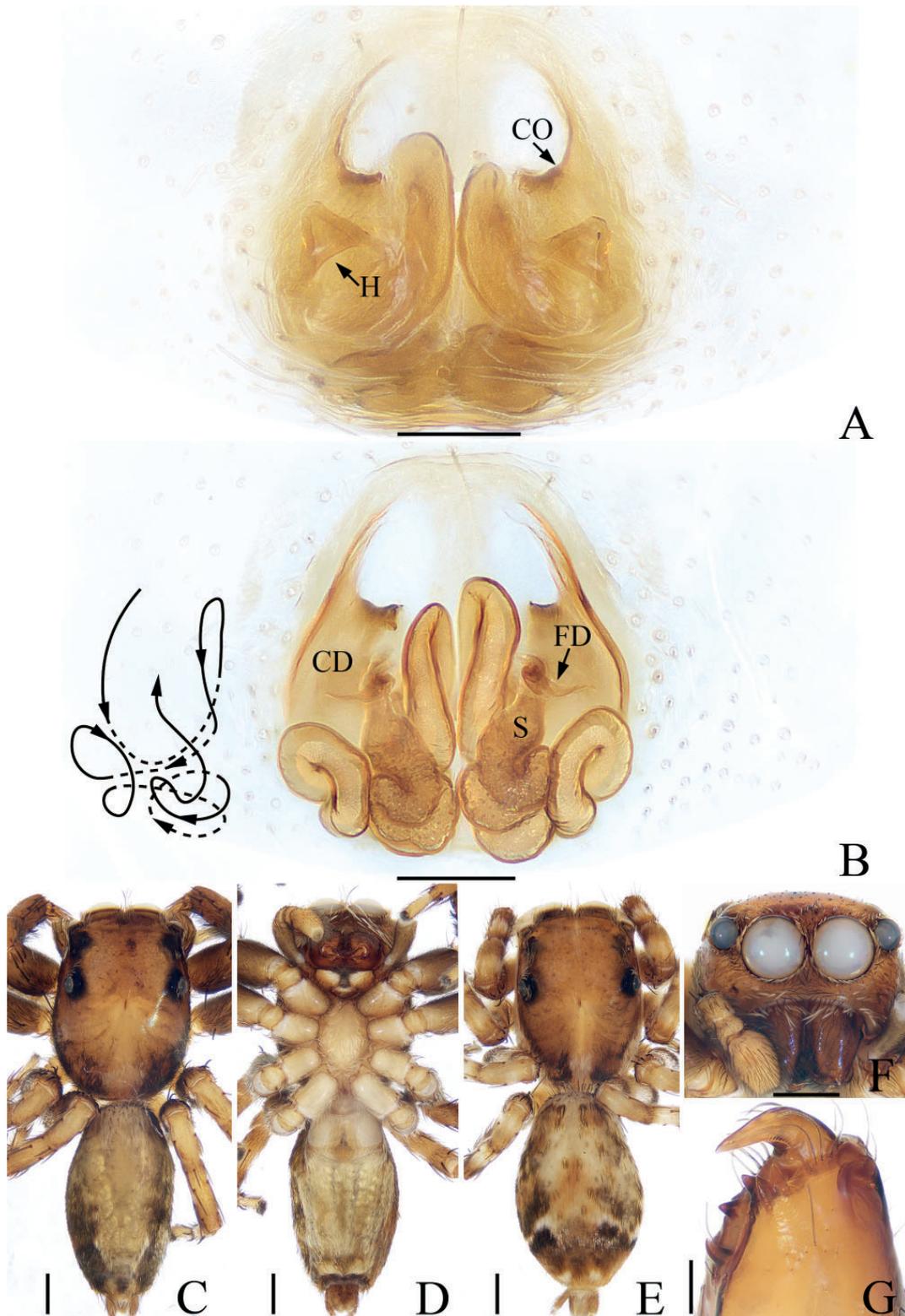


Fig. 49. *Thyene xingrenensis* Wang, Mi & Peng sp. nov. **A–B, E.** Paratype, ♀ (TRU-JS 0535). **C–D, F–G.** Holotype, ♂ (TRU-JS 0534). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

3.86 (1.24, 0.75, 0.80, 0.63, 0.44), II 3.73 (1.22, 0.63, 0.78, 0.66, 0.44), III 4.16 (1.39, 0.65, 0.80, 0.88, 0.44), IV 4.56 (1.41, 0.65, 1.03, 1.01, 0.46).

HABITUS. Carapace yellow-brown, covered with dense dark and off-white scale-like setae along submargin, with several pale yellow scale-like setae on clypeus and longitudinal, indistinct, median yellow band extended across thorax; fovea dark red, longitudinal (Fig. 49C, F). Chelicerae with three promarginal teeth and one retromarginal fissentate tooth with two cusps (Fig. 49F–G). Legs pale to yellow-brown, thorny. Abdomen elongated, dorsum darker laterally, with irregular longitudinal yellow-brown band medially, covered with dense setae; venter gray-white to brown (Fig. 49C–D).

PALP. Tibia wider than long; RTA tapered, about 1.5 times as long as tibia, slightly curved medially and pointed apically in retrolateral view; bulb round, with linguiform tegular flap directed towards about 9 o'clock in ventral view; embolus originates at about 8 o'clock and coiled more than one circle to pointed tip (Fig. 48).

Female (paratype, TRU-JS 0535)

MEASUREMENTS. Total length 4.66. Carapace 2.18 long, 1.59 wide. Abdomen 2.45 long, 1.59 wide. Eye sizes and inter-distances: AME 0.50, ALE 0.24, PLE 0.23, AERW 1.45, PERW 1.53, EFL 0.98. Legs: I 3.43 (1.10, 0.63, 0.75, 0.54, 0.41), II 3.22 (1.07, 0.55, 0.65, 0.54, 0.41), III 3.95 (1.32, 0.58, 0.78, 0.78, 0.49), IV 4.34 (1.34, 0.63, 0.90, 0.98, 0.49).

HABITUS. Similar to that of male except only with two promarginal cheliceral teeth and filiform pattern on dorsum of abdomen (Fig. 49E).

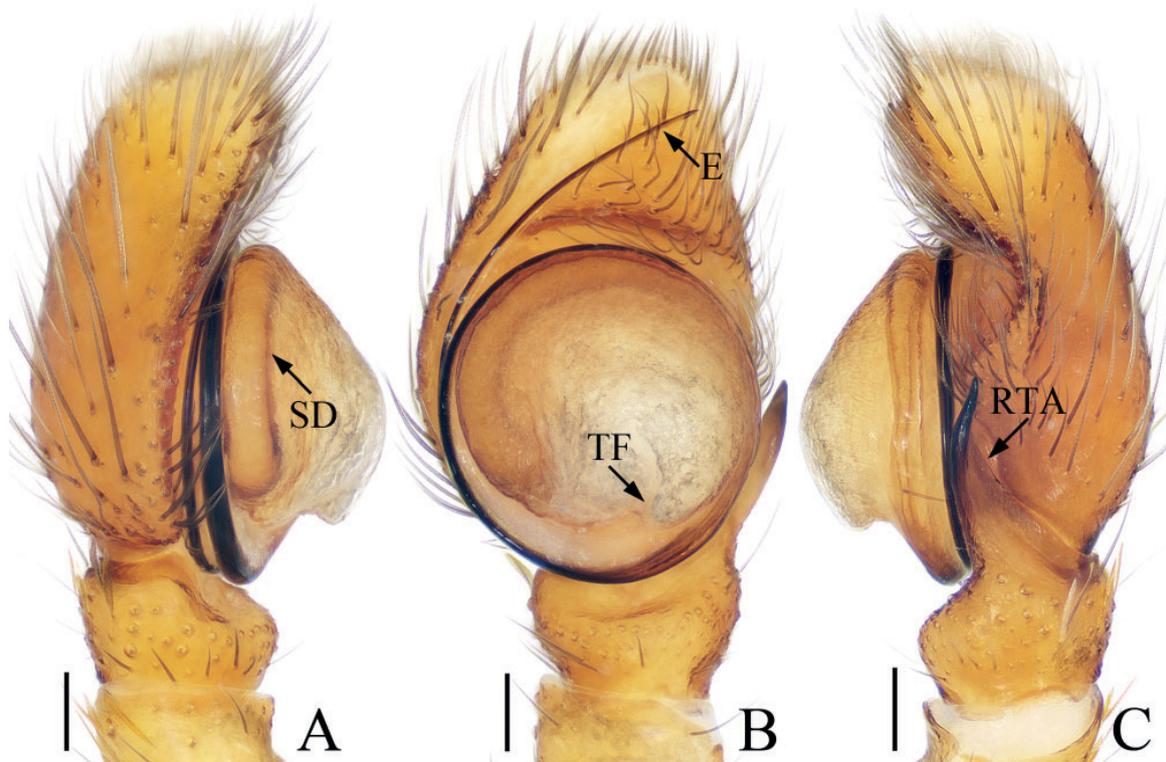


Fig. 50. Male palp of *Thyene orientalis* Žabka, 1985. **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

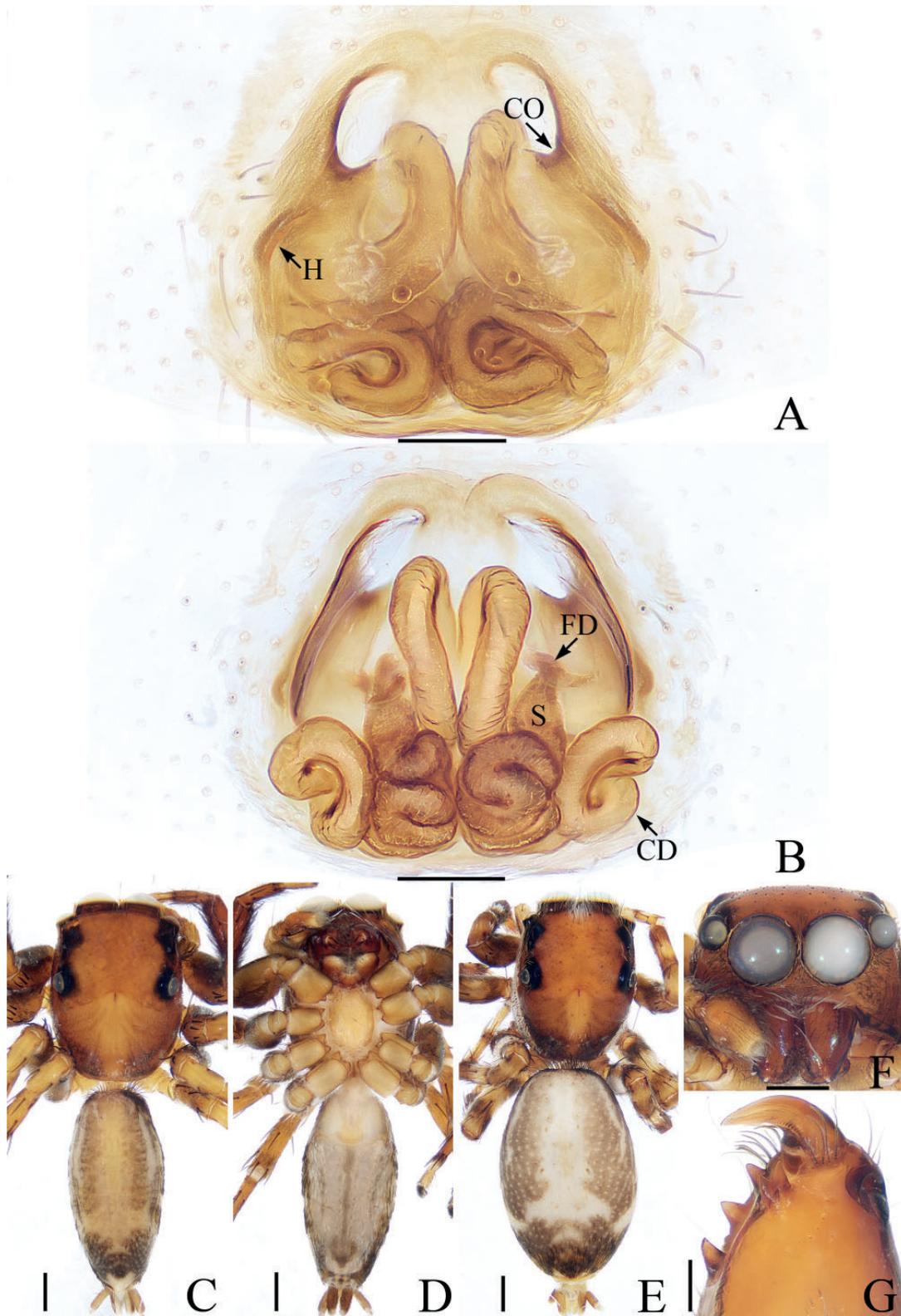


Fig. 51. *Thyene orientalis* Žabka, 1985. A–B, E. ♀. C–D, F–G. ♂. A. Epigyne, ventral view. B. Vulva, dorsal view. C–E. Habitus. C. Dorsal view. D. Ventral view. E. Dorsal view. F. Carapace, frontal view. G. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

EPIGYNE. With pair of mediolateral triangular hoods opened towards oblique posteriorly; copulatory openings anteriorly located, slit-shaped with C-shaped margins; copulatory ducts long, forming ridges anteromedially and several coils at terminus; spermathecae tube-shaped; fertilization ducts short, extended transversely (Fig. 49A–B).

Distribution

China (Guizhou) (Fig. 61).

Genus *Toxeus* C.L. Koch, 1846

Toxeus fodingensis Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:A95CC868-8E44-4D9C-847A-7226E7A1DC3C

Figs 52–53, 57

Diagnosis

The male of *Toxeus fodingensis* sp. nov. closely resembles that of *T. hainan* Wang & Li, 2022 in the general shape of the habitus and palp, but it can be distinguished by the following: (1) the paturon having a small distal apophysis on the outside margin (Fig. 53H), whereas absent in *T. hainan* (Wang & Li 2022b: fig. 18j); (2) the palpal tibia being about 1.5 times as long as wide in retrolateral view (Fig. 52C), whereas about 2.4 times as long as wide in *T. hainan* (Wang & Li 2022b: fig. 17b). The female also

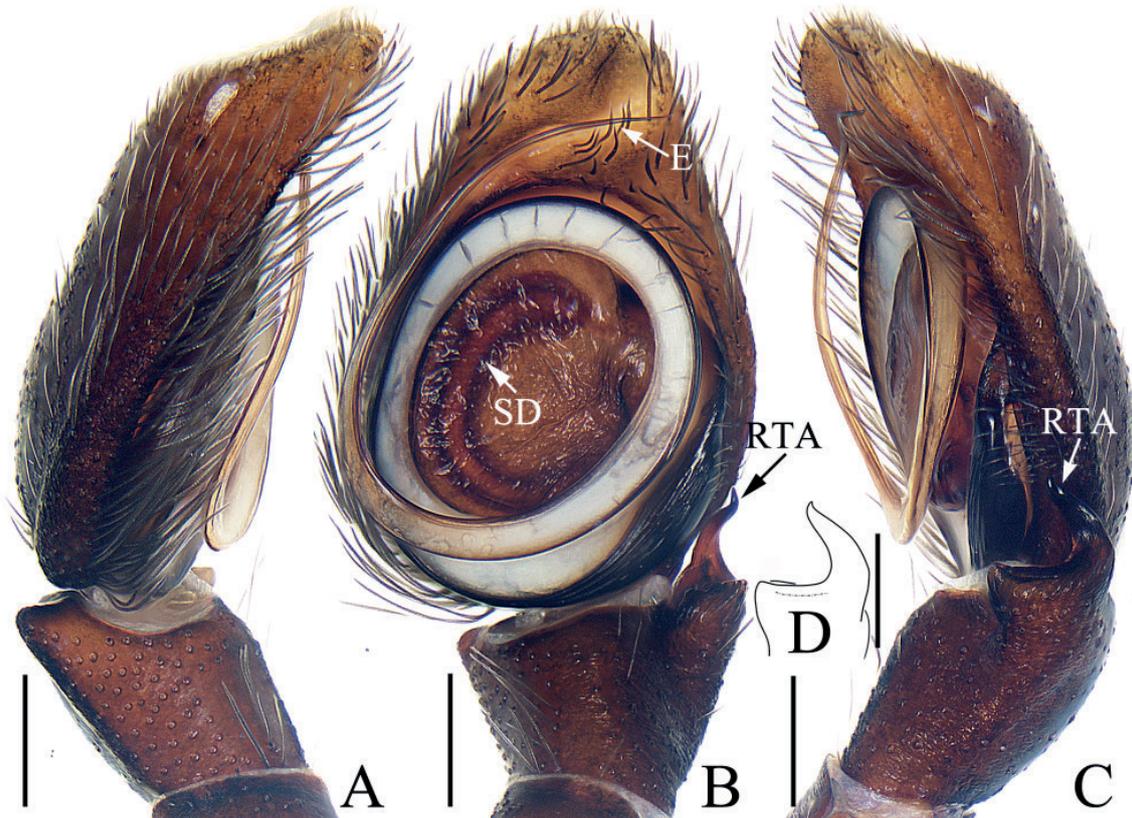


Fig. 52. Male palp of *Toxeus fodingensis* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0577). **A.** Proximal view. **B.** Ventral view. **C.** Retrolateral view. **D.** RTA, retrolateral view. Abbreviations: see Material and methods. Scale bars: **A–C** = 0.2 mm; **D** = 0.1 mm.

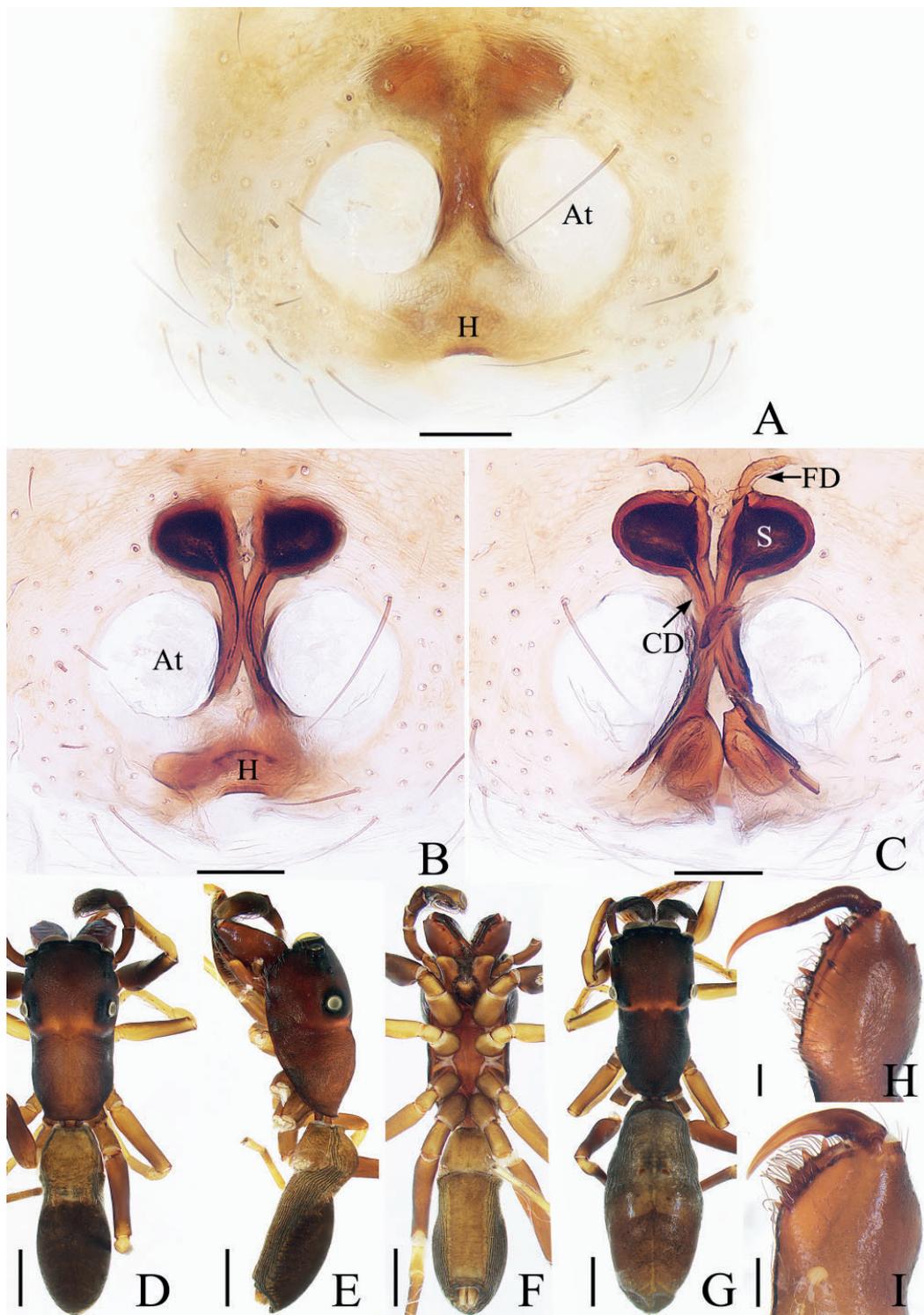


Fig. 53. *Toxeus fodingensis* Wang, Mi & Peng sp. nov. A–C, G, I. Paratype, ♀ (TRU-JS 0578). D–F, H. Holotype, ♂ (TRU-JS 0577). A–B. Epigyne, ventral view. C. Vulva, dorsal view. D–G. Habitus. D. Dorsal view. E. Lateral view. F. Ventral view. G. Dorsal view. H–I. Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–C = 0.1 mm; D–G = 1.0 mm; H–I = 0.2 mm.

resembles that of *T. hainan* in having very similar epigyne, but it can be easily distinguished by the epigynal hood, which is about three-fifths the spermathecal width (Fig. 53A–B), whereas about 1.3 times the spermathecal width in *T. hainan* (Wang & Li 2022b: fig. 18b).

Etymology

The species name is derived from the name of the type locality, Foding Mountain National Nature Reserve; adjective.

Type material

Holotype

CHINA • ♂; Guizhou, Shiqian County, Pingshan Township, Foding Mountain National Nature Reserve, Tuanshan; 27°21.59' N, 108°9.37' E; 890 m a.s.l.; 12 Jul. 2017; X.Q. Mi *et al.* leg.; TRU-JS 0577.

Paratype

CHINA • 1 ♀; same collection data as for holotype; TRU-JS 0578.

Description

Male (holotype)

MEASUREMENTS. Total length 6.51. Carapace 3.11 long, 1.67 wide. Abdomen 3.29 long, 1.27 wide. Eye sizes and inter-distances: AME 0.54, ALE 0.30, PLE 0.29, AERW 1.53, PERW 1.67, EFL 1.31. Legs: I 6.06 (1.95, 0.90, 1.78, 0.93, 0.50), II 5.06 (1.53, 0.75, 1.35, 0.93, 0.50), III 5.65 (1.65, 0.75, 1.30, 1.40, 0.55), IV 8.12 (2.28, 0.88, 2.13, 2.25, 0.58).

HABITUS. Carapace red-brown, with dark anterior and lateral margins, and sub-square cephalic region (Fig. 53D–E). Chelicerae with small distal apophyses on outside margins of paturon, and six teeth on both retromargin and promargin (Fig. 53H). Sternum about 2.6 times as long as wide (Fig. 53F). Legs yellow to red-brown except femora I dark brown, with one, five, and two pairs of ventral macrosetae on patellae, tibiae, and metatarsi I, respectively (Fig. 53D). Abdomen elongated, slightly constricted at anterior two-fifths, dorsum yellow-brown to dark brown, with pair of muscle depressions and several indistinct arc-shaped, transverse streaks, covered by big scutum posteromedially; venter with broad, longitudinal yellow-brown band medially (Fig. 53D–F).

PALP. Tibia about 1.5 times as long as wide in retrolateral view; RTA broadened at base, and continue bifurcated into reduced ventral ramus and sclerotized, tapered dorsal ramus twisted into an S-shape in ventral view, curved into pointed tip directed towards cymbium in retrolateral view; bulb flat, almost round; embolus flat, coiled with about two spirals, tapered to pointed tip at distal half (Fig. 52).

Female (paratype, TRU-JS 0578)

MEASUREMENTS. Total length 6.45. Carapace 2.72 long, 1.36 wide. Abdomen 3.59 long, 1.60 wide. Eye sizes and inter-distances: AME 0.49, ALE 0.26, PLE 0.25, AERW 1.38, PERW 1.46, EFL 1.15. Legs: I 5.83 (1.78, 1.00, 1.70, 0.85, 0.50), II 4.86 (1.48, 0.75, 1.28, 0.85, 0.50), III 5.69 (1.63, 0.75, 1.38, 1.38, 0.55), IV 7.84 (2.20, 0.88, 2.05, 2.13, 0.58).

HABITUS. Similar to that of male except with dark thorax, and five cheliceral teeth on both retromargin and promargin (Fig. 53G, I).

EPIGYNE. With sub-square posterior hood; atria paired, round; sclerotized portions of copulatory ducts swollen into sub-cube at beginning, and then ascending as arc-shape to connect to posterior edges of sub-oval spermathecae; fertilization ducts originate from anterior edges of inner sides of spermathecae, slightly curved medially (Fig. 53A–C).

Distribution

China (Guizhou) (Fig. 57).

Genus *Yaginumaella* Prószyński, 1979

Yaginumaella zabkai Wang, Mi & Peng sp. nov.

urn:lsid:zoobank.org:act:518666B8-AD14-4035-93B2-5531B3F4BA0F

Figs 54–55, 57

Diagnosis

The male of *Yaginumaella zabkai* Wang, Mi & Peng sp. nov. resembles that of *Y. dali* Shao, Li & Yang, 2014 in the general shape of habitus and copulatory organs, but it can be distinguished by the following: (1) the embolus being acutely narrowed at distal end (Fig. 54B), whereas tapered in *Y. dali* (Shao *et al.* 2014: fig. 4); (2) the RTA being about 1.5 times as long as tibia (Fig. 54C), whereas almost as long as tibia in *Y. dali* (Shao *et al.* 2014: fig. 5). The female also resembles that of *Y. dali* in the general shape of epigyne, but it can be distinguished by the distance between the epigynal hoods, which is less than their width (Fig. 55A), whereas about 1.5 times as great as their width in *Y. dali* (Shao *et al.* 2014: fig. 2).

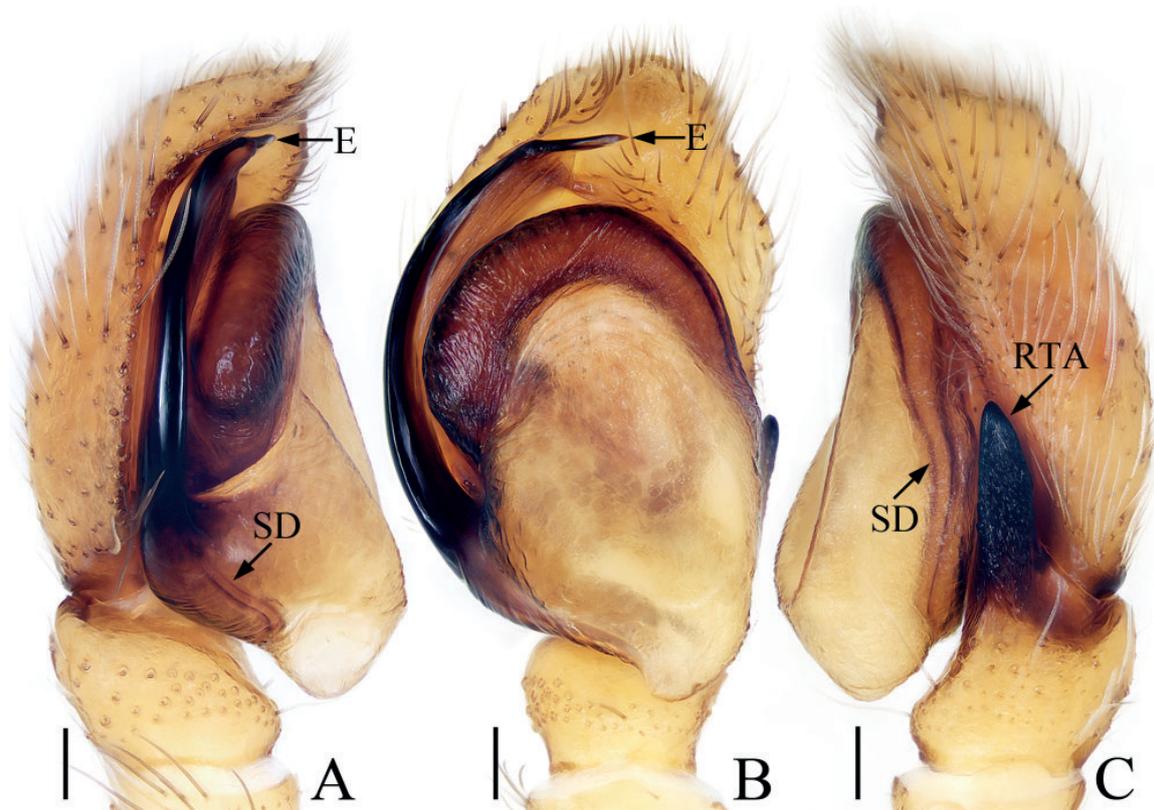


Fig. 54. Male palp of *Yaginumaella zabkai* Wang, Mi & Peng sp. nov., holotype (TRU-JS 0579). **A.** Prolateral view. **B.** Ventral view. **C.** Retrolateral view. Abbreviations: see Material and methods. Scale bars = 0.1 mm.

Etymology

The specific name is a patronym in honor of Professor M. Žabka, who contributed significantly to the taxonomy of jumping spiders; noun (name) in genitive case.

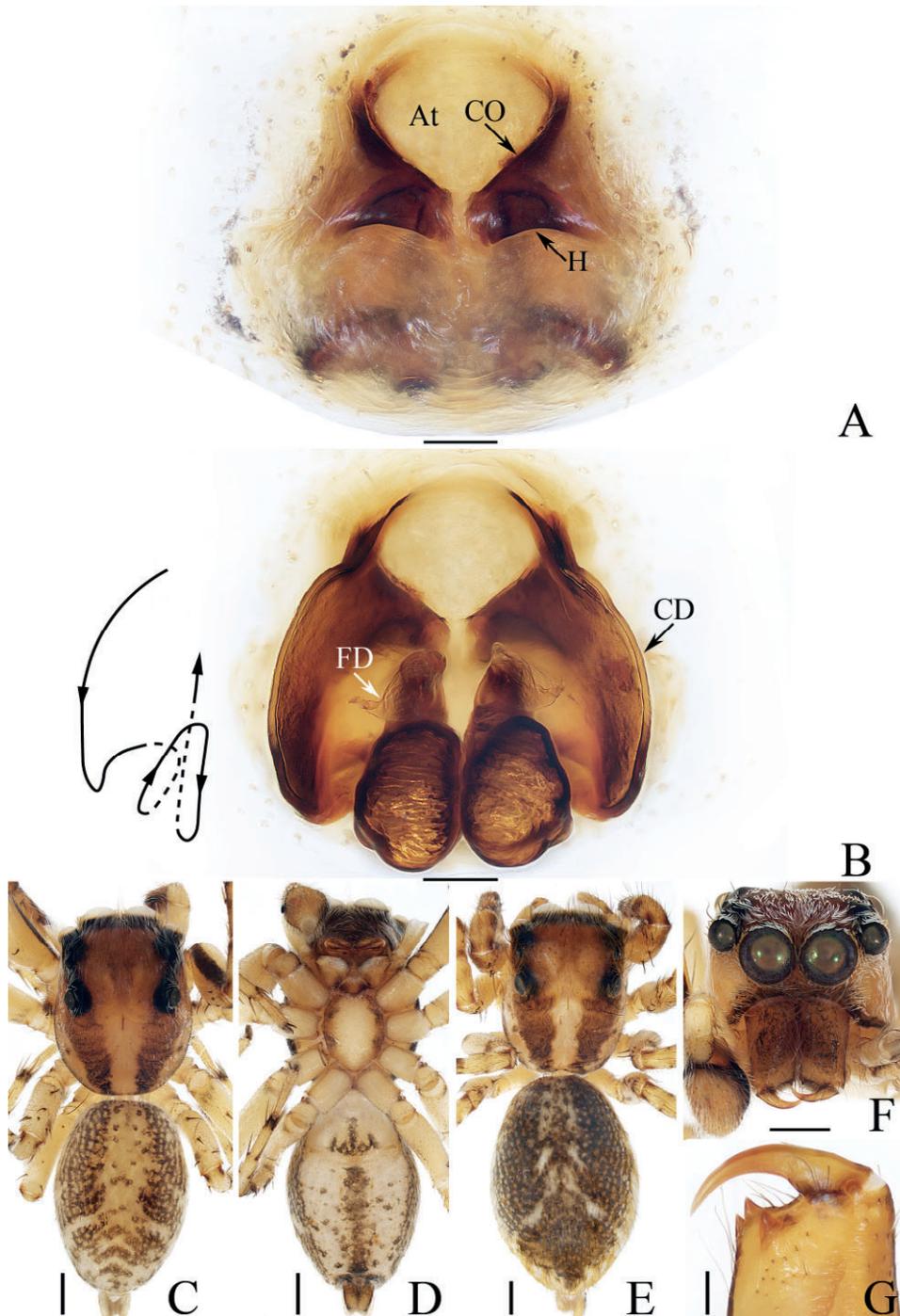


Fig. 55. *Yaginumaella zabkai* Wang, Mi & Peng sp. nov. **A–B, E.** Paratype, ♀ (TRU-JS 0580). **C–D, F–G.** Holotype, ♂ (TRU-JS 0579). **A.** Epigyne, ventral view. **B.** Vulva, dorsal view. **C–E.** Habitus. **C.** Dorsal view. **D.** Ventral view. **E.** Dorsal view. **F.** Carapace, frontal view. **G.** Chelicera, posterior view. Abbreviations: see Material and methods. Scale bars: A–B, G = 0.1 mm; C–F = 0.5 mm.

Type material

Holotype

CHINA • ♂; Yunnan, Jingdong County, Taizhong Township, Dujuanhu; 24°31.22' N, 100°56.56' E; 1504 m a.s.l.; 15 Aug. 2015; X.Q. Mi leg.; TRU-JS 0579.

Paratypes

CHINA • 2 ♀♀, 1 ♂; same collection data as for holotype; TRU-JS 0580–0582 • 1 ♀, 1 ♂; Nanjian County, Yongcui Township, Fenghuang Mountain; 24°55.99' N, 100°22.51' E; 1850 m a.s.l.; 13 Aug. 2015; X.Q. Mi leg.; TRU-JS 0583–0584.

Description

Male (holotype)

MEASUREMENTS. Total length 4.61. Carapace 2.12 long, 1.75 wide. Abdomen 2.40 long, 1.68 wide. Eye sizes and inter-distances: AME 0.50, ALE 0.29, PLE 0.26, AERW 1.58, PERW 1.50, EFL 1.02. Legs: I 4.84 (1.53, 0.63, 1.25, 0.88, 0.55), II 4.18 (1.28, 0.75, 1.05, 0.65, 0.45), III 4.79 (1.45, 0.75, 1.03, 1.01, 0.55), IV 5.06 (1.50, 0.70, 1.15, 1.13, 0.58).

HABITUS. Carapace yellow to red-brown, setose, with pair of marginal yellow bands, and longitudinal, yellow band extending across thorax; fovea longitudinal, linear, dark red (Fig. 55C, F). Chelicerae yellow,

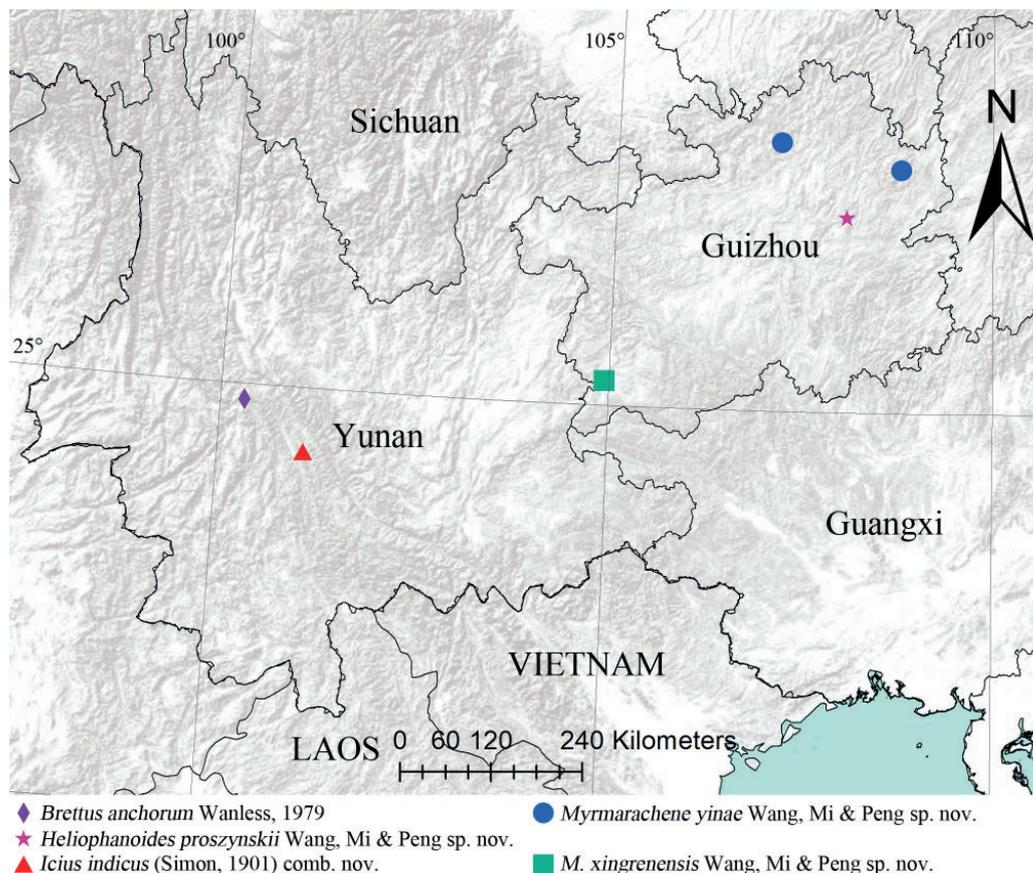


Fig. 56. Distributional records of *Brettus anchorum* Wanless, 1979, *Heliophanoides prozyskii* Wang, Mi & Peng sp. nov., *Icius indicus* (Simon, 1901), *Myrmarachne xingrenensis* Wang, Mi & Peng sp. nov. and *M. yinae* Wang, Mi & Peng sp. nov.

with two promarginal teeth and one retromarginal tooth (Fig. 55G). Legs yellow, with dark stripes on femora I, three, and two pairs of ventral macrosetae on tibiae and metatarsi I, respectively. Abdomen elongate-oval, dorsum yellow to dark brown, dotted laterally, with longitudinal yellow stripe anteromedially; venter pale yellow to brown, with longitudinal, irregular dark stripe medially (Fig. 55C–D).

PALP. Tibia wider than long, with straight, strongly sclerotized RTA about 1.5 times as long as its length and rather pointed apically; cymbium setose; bulb elongate-oval, swollen medio-posteriorly, with small posterior lobe curved towards postero-prolaterally; embolus strongly sclerotized, originates at about 9 o'clock position of bulb, curved into C-shape, and acutely narrowed distally (Fig. 54).

Female (paratype, TRU-JS 0580)

MEASUREMENTS. Total length 5.28. Carapace 2.28 long, 1.88 wide. Abdomen 3.32 long, 2.20 wide. Eye sizes and inter-distances: AME 0.55, ALE 0.36, PLE 0.32, AERW 1.76, PERW 1.72, EFL 1.12. Legs: I 4.36 (1.45, 0.75, 0.88, 0.75, 0.53), II 3.94 (1.25, 0.63, 0.93, 0.65, 0.48), III 4.74 (1.50, 0.75, 0.93, 1.01, 0.55), IV 5.20 (1.63, 0.63, 1.13, 1.23, 0.58).

HABITUS. Similar to that of male (Fig. 55E).

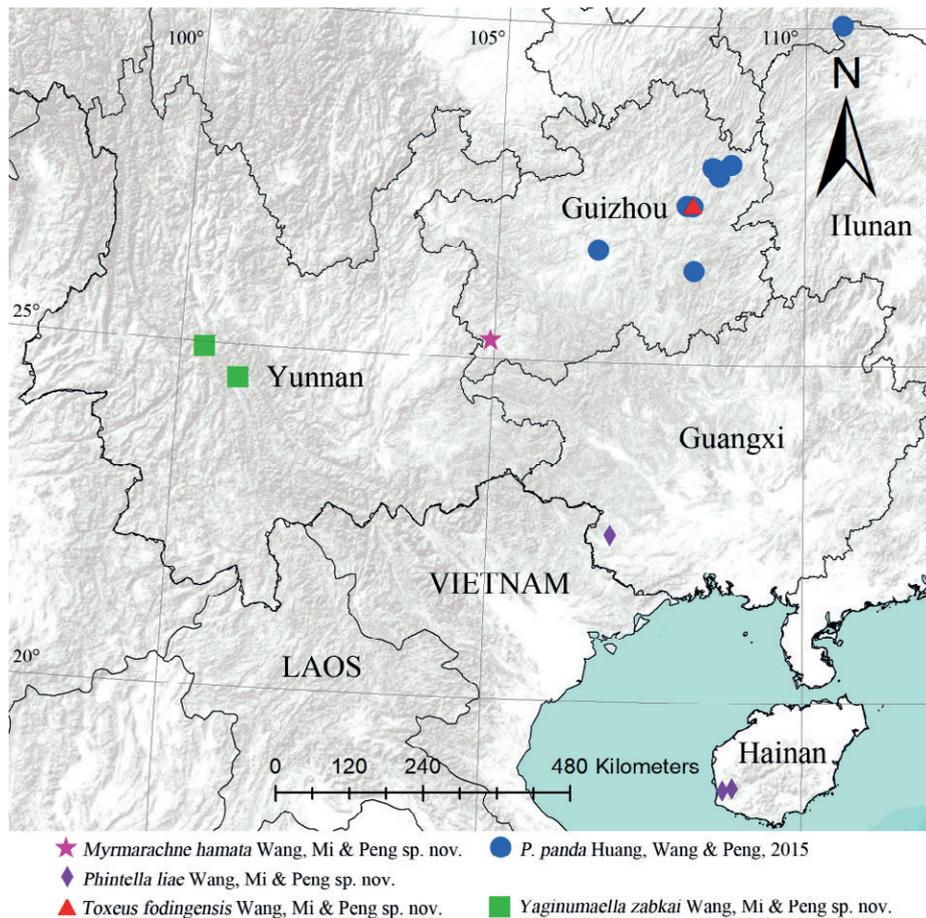


Fig. 57. Distributional records of *Myrmarachne hamata* Wang, Mi & Peng sp. nov., *Phintella liae* Wang, Mi & Peng sp. nov., *P. panda* Huang, Wang & Peng, 2015, *Toxews fodingensis* Wang, Mi & Peng sp. nov. and *Yaginumaella zabkai* Wang, Mi & Peng sp. nov.

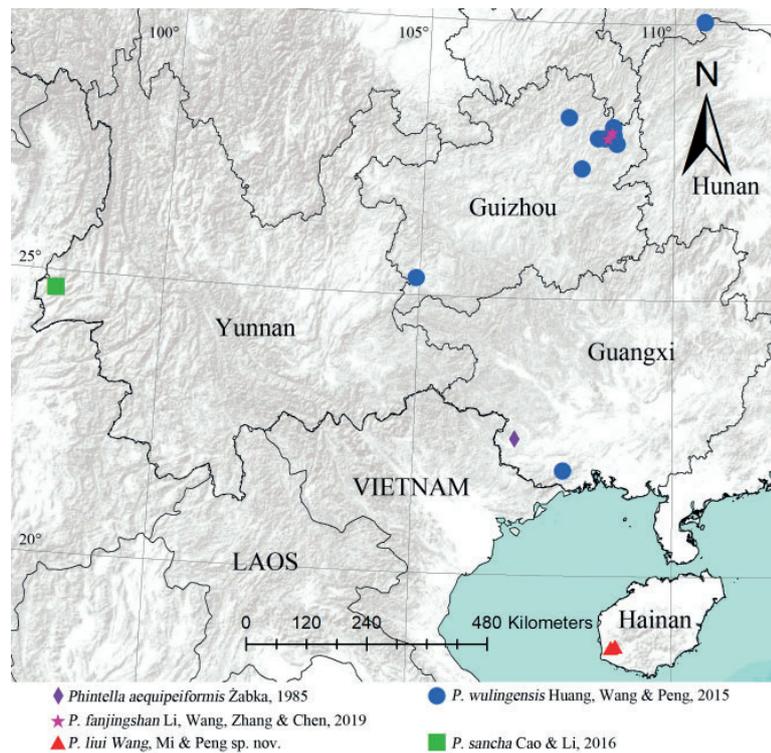


Fig. 58. Distributional records of *Phintella aequipeiformis* Zabka, 1985, *P. fanjingshan* Li, Wang, Zhang & Chen, 2019, *P. liui* Wang, Mi & Peng sp. nov., *P. wulingensis* Huang, Wang & Peng, 2015 and *P. sancha* Cao & Li, 2016.

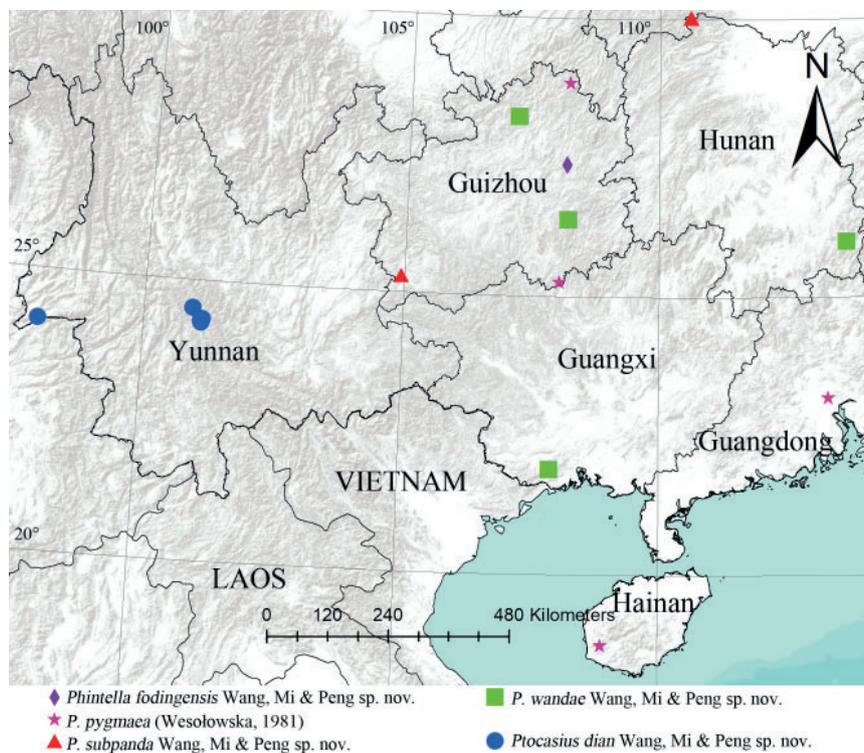


Fig. 59. Distributional records of *Phintella fodingensis* Wang, Mi & Peng sp. nov., *P. pygmaea* (Wesołowska, 1981), *P. subpanda* Wang, Mi & Peng sp. nov., *P. wandae* Wang, Mi & Peng sp. nov. and *Ptocasius dian* Wang, Mi & Peng sp. nov.

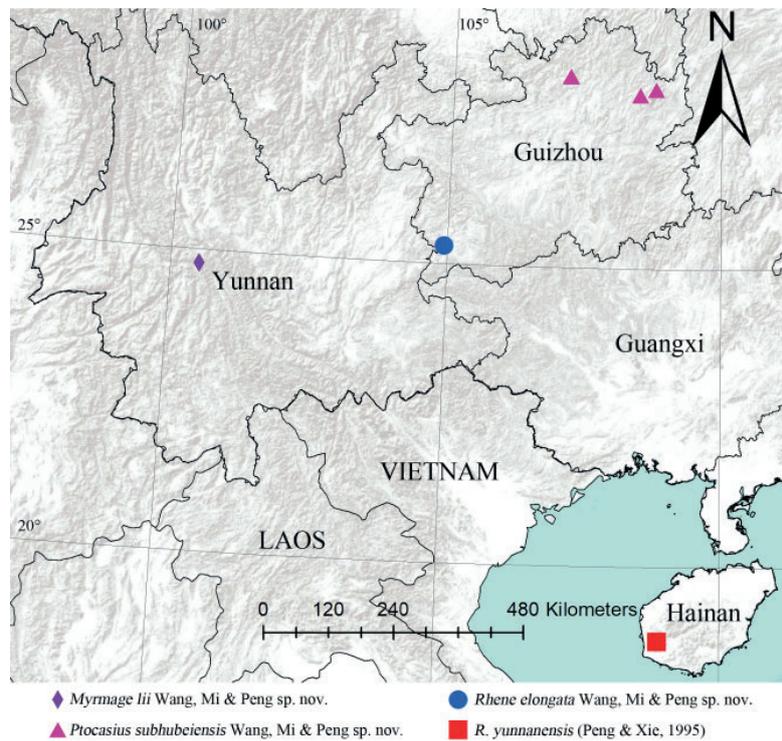


Fig. 60. Distributional records of *Myrmage lii* Wang, Mi & Peng sp. nov., *Ptocasius subhubeiensis* Wang, Mi & Peng sp. nov., *Rhene elongata* Wang, Mi & Peng sp. nov. and *R. yunnanensis* (Peng & Xie, 1995).

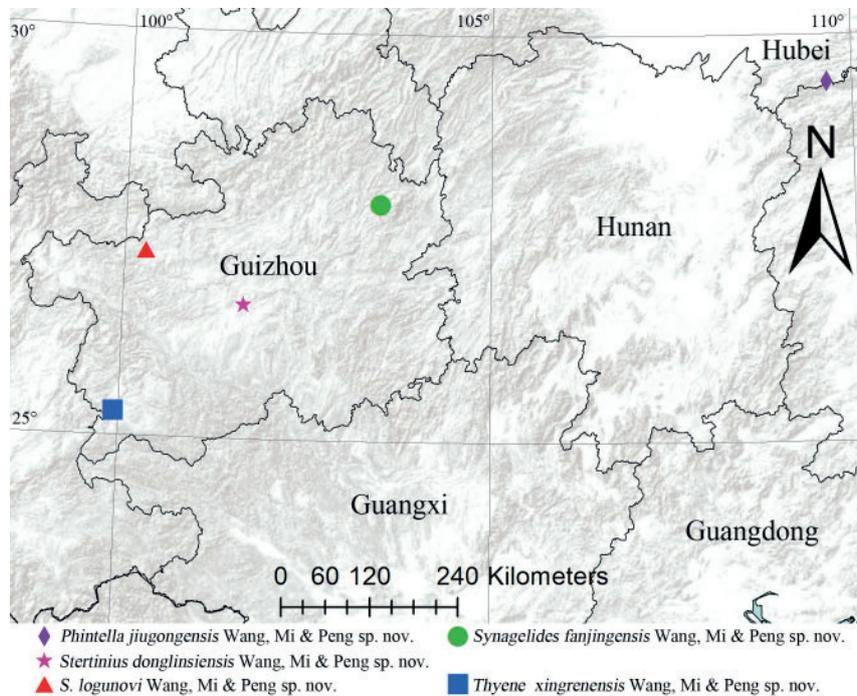


Fig. 61. Distributional records of *Phintella jugongensis* Wang, Mi & Peng sp. nov., *Stertinius donglinsiensis* Wang, Mi & Peng sp. nov., *S. logunovi* Wang, Mi & Peng sp. nov., *Synagelides fanjingensis* Wang, Mi & Peng sp. nov. and *Thyene xingrenensis* Wang, Mi & Peng sp. nov.

EPIGYNE. Slightly longer than wide; atrium oval, anteriorly located, with pair of arc-shaped lateral ridges, followed by pair of hoods separated from each other less than their width; copulatory openings beneath atrial ridges; copulatory ducts long, curved and twisted; spermathecae indistinct; fertilization ducts lamellar, transversely extending (Fig. 55A–B).

Distribution

China (Yunnan) (Fig. 57).

Discussion

Including the species described in the present work, the list of Chinese jumping spiders has increased to at least 651 species in 136 genera, representing about one-tenth, and one-fifth of the worldwide jumping spiders in number of species and genera, respectively, and far exceeding those of adjacent countries such as India (349 species in 110 genera), Vietnam (157 species in 69 genera) and Japan (149 species in 70 genera) (Metzner 2023). However, it is certain that our current knowledge does not represent the true diversity of Chinese jumping spiders, as most of the Chinese regions remains poorly studied and taxonomic studies are very limited. The taxonomic study of jumping spiders from Xishuangbanna is a convincing example. Before 2016, Xishuangbanna, like most regions of China, was known only from several sporadic described species, but thanks to the conduction of “All Species Inventory” of spiders from the Xishuangbanna Tropical Botanical Garden, the number of known species in this region has risen to 145, including 58 new to science. According to the prediction of the eventual total number of Chinese spider species by Li (2020), the true diversity of Chinese jumping spiders will reach ca 1500 species. It might be expected most of them will be discovered in southern China, especially the tropical area and southwest mountain area. Among those, some large tribes, and some leaf-litter dwellers genera will present a very high diversity.

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