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Monograph

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Survey of Linyphiidae spiders (Arachnida: Araneae) from Wulipo National Nature Reserve, Chongqing, China

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Abstract. An extensive survey of Linyphiidae spiders from Wulipo National Nature Reserve (NNR), Chongqing has been conducted, in which 24 species belonging to 16 genera are recorded including two new genera and eight new species described here as: *Agyneta* Hull, 1911, *A. orthogonia* sp. nov. (♂♀); *Dicristatus* gen. nov., *D. minutus* gen. et sp. nov. (♂♀); *Dicymbium* Menge, 1868, *D. pingqianense* sp. nov. (♂♀); *Himalaphantes* Tanasevitch, 1992, *H. azumiensis* (Oi, 1979) (♂♀); *Indophantes* Saaristo & Tanasevitch, 2003, *I. wushanensis* sp. nov. (♂♀); *Ketambea* Millidge & Russell-Smith, 1992, *K. nigripectoris* (Oi, 1960) (♂♀); *Molestia* Tu, Saaristo & Li, 2006, *M. pollicaris* sp. nov. (♂♀); *Neriene* Blackwall, 1833, *N. calozonata* Chen & Zhu, 1989 (♀), *N. cavaleriei* (Schenkel, 1963) (♂♀), *N. emphana* (Walckenaer, 1841) (♂♀), *N. japonica* (Oi, 1960) (♂♀), *N. limbatinella* (Bösenberg & Strand, 1906) (♀), *N. longipedella* (Bösenberg & Strand, 1906) (♂♀), *N. oidedicata* van Helsdingen, 1969 (♀); *Prosoponoides* Millidge & Russell-Smith, 1992, *P. sinense* (Chen, 1991) (♂♀); *Ryojius* Saito & Ono, 2001, *R. simplex* sp. nov. (♂♀); *Stemonyphantes* Menge, 1866, *S. bifurcus* sp. nov. (♂); *Syedra* Simon, 1884, *S. oii* Saito, 1983; *Tapinopa* Westring, 1851, *T. guttata* Komatsu, 1937 (♀); *Tenuiphantes* Saaristo & Tanasevitch, 1996, *T. ancatus* (Zhu, Li & Sha, 1986) (♂♀); *Walckenaeria* Blackwall, 1833, *Walckenaeria asymmetrica* Song & Li, 2011 (♂♀); *Wuliphantes* gen. nov., *W. guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov. (♂♀), *W. tongluensis* (Chen & Song, 1988) gen. et comb. nov. (♂♀), *W. trigyrus* gen. et sp. nov. (♂♀). Male of *Tenuiphantes ancatus* (Zhu, Li & Sha, 1986) is described here for the first time as new to science. The taxonomic status of *Bathyphantes guanshan* Irfan, Wang & Zhang, 2022 and *Bathyphantes tongluensis* (Chen & Song, 1988) is revised and proposed here as: *Wuliphantes tongluensis* (Chen & Song, 1988) gen. et comb. nov. (♂♀) and *Wuliphantes guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov. (♂♀), respectively. Morphological descriptions, photos of body and copulatory organs, as well as the locality map are provided.

Keywords. Morphology, new genera, new species, sheet-web spiders.

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Introduction

Linyphiidae is the second largest family of spiders with 4730 species in 625 genera distributed worldwide (WSC 2022). The fauna of Linyphiidae spiders from Chongqing was not much studied and only eight species belonging to five genera had been recorded (Chen & Gao 1990; Song & Li 2008; Quan & Chen 2012; Li *et al.* 2018; Irfan *et al.* 2022a).

Wulipo NNR covers more than 35 000 hectares of area and is located in the northeast of Wushan County, Chongqing, adjacent to Shennongjia, Hubei. It has many vegetation types, such as forest, shrub, and subalpine meadow. Wulipo has a complex terrain with dense gullies, undulating mountains, and a wide range of altitude differences. In southwest China, Wulipo is rich in wild animal and plant resources, especially small invertebrates.

In Wulipo, there has never been any survey of Linyphiidae spiders. This study is the first ever of Linyphiidae from the Wulipo NNR and while examining the specimens, 24 species belonging to 16 genera were recognized, including two new genera and eight new species. The taxonomic status of *Bathyphantes guanshan* Irfan, Wang & Zhang, 2022 and *Bathyphantes tongluensis* Chen & Song, 1988 is revised and proposed here as: *Wuliphantes guanshan* (Irfan, Wang & Zhang 2022) gen. et comb. nov. and *Wuliphantes tongluensis* (Chen & Song, 1988) gen. et comb. nov., respectively.

Material and methods

In Wulipo NNR, about 15 localities in Dangyang and Guanyang town were visited three times during October, 2020 and April and July, 2021 (each time for a week), and no habitat information was recorded for individual specimens. Specimens were collected by hand picking and sieving leaf litter, and were kept in 75% ethanol. The left male palps were used for photography. After dissection, epigynes were cleared in trypsin enzyme solution before examination and photography. The specimens were examined, and measured using a Leica M205A stereo microscope equipped with drawing tube, Leica DFC450 Camera and LAS software (ver. 4.6). Photos were taken with a Kuy Nice CCD mounted on an Olympus BX53 compound microscope. Compound focus images were generated using Helicon Focus 6.7.1 software. Eye sizes were measured at the maximum dorsal diameter. Leg measurements are shown as total length (femur, patella and tibia, metatarsus, tarsus). All measurements are in millimeters. Specimens are deposited in the School of Life Sciences, Southwest University, Chongqing (SWUC), China. Map was created using the online mapping software SimpleMappr (Shorthouse 2010) (Fig. 64). The terminology used in the text and figure legends follows Irfan *et al.* (2022b).

Abbreviations

Dmf = described male and female
Tmf = transfer male and female

Somatic morphology

AER = anterior eye row
ALE = anterior lateral eye
AME = anterior median eye
AME–ALE = the distance between AME and ALE
AME–AME = the distance between AMEs
PER = posterior eye row
PLE = posterior lateral eye
PME = posterior median eye
PME–PLE = distance between PME and PLE

PME–PME = distance between PMEs
 PMP = posterior median plate

Male palp

apo = anterior pocket of paracymbium
 appo = apical pocket of paracymbium
 ARP = anterior radical process
 ATA = anterior part of terminal apophysis
 AX = apex of embolus
 CP = cymbial process
 DPE = dorsal projection of embolic plate
 DPS = distal part of scape
 DSA = distal suprategular apophysis
 DTA = dorsal tibial apophysis
 fg = Fickert's gland
 E = embolus
 EM = embolic membrane
 EP = embolus proper
 EPL = embolic plate
 LC = lamella characteristica
 LL = lateral lobe
 LP = lateral pocket
 MM = median membrane
 MSA = marginal suprategular apophysis
 MT = median tooth of DSA
 PCA = proximal cymbial apophysis
 PC = paracymbium
 PH = pit hook
 ppo = posterior pocket of paracymbium
 PTA = polateral tibial apophysis
 PT = protegulum
 RBP = cymbial retrobasal process
 R = radix
 RTA = retrolateral tibial apophysis
 SPT = suprategulum
 ST = subtegulum
 TA = terminal apophysis
 TH = thumb
 TP = radical tailpiece
 T = tegulum
 VPL = ventral projection of lamella

Epigyne

BS = basal part of scape
 CD = copulatory duct
 CO = copulatory opening
 DP = dorsal plate
 F = fissure
 FD = fertilization duct
 P = paramula

PS	=	pseudoscape
PPS	=	posterior part of scape
S	=	spermatheca
SC	=	scape
ST	=	stretcher
VP	=	ventral plate

Results

Class Arachnida Cuvier, 1812
Order Araneae Clerck, 1757
Family Linyphiidae Blackwall, 1859
Genus *Agyneta* Hull, 1911 (丘皿蛛属)

Agyneta orthogonia sp. nov. (矩丘皿蛛)

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Figs 1–3

Differential diagnosis

The male of this new species can be distinguished from all other congeners by the prolateral margin of anterior part of terminal apophysis flap-like with several teeth (Fig. 1A, D), seems like an aperture in ventral view (Fig. 1D). Female epigyne resembles that of *Agyneta mollis* (O. Pickard-Cambridge, 1871) in having the similar proximal part of scape and the small stretcher (Fig. 2; Dupérré 2013: figs 155–157), but can be distinguished from the latter species by the spermathecae present anteriorly in anterior view in new species (Fig. 2B, E), whereas present antero-laterally in the latter species in new species (Fig. 2B, E), (Dupérré 2013: figs 156–157).

Etymology

The epithet is derived from the Latin adjective ‘*orthogonius*’ meaning ‘rectangular’ and referring to the proximal cymbial apophysis somewhat rectangular in prolateral view (Fig. 1A).

Type material

Holotype

CHINA • ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Xiang Yaocai Village; 31°18'57.96" N, 110°5'23.55" E; elev. 1681 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-03-01.

Paratypes

CHINA • 6 ♂♂, 3 ♀♀; same collection data as for holotype; SWUC-T-LIN-03-02–10 • 20 ♂♂, 12 ♀♀; Wushan County, Dangyang Town, Qizhi Mountain; 31°28'6.55" N, 109°58'42.97" E; elev. 1475 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-03-11–42 • 2 ♂♂, 3 ♀♀; Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°16'8.98" N, 110°4'34.11" E; elev. 1445 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-03-43–47.

Description

Male (holotype, Figs 1, 3A)

MEASUREMENTS. Total 2.58 long; carapace 1.18 long, 0.94 wide; abdomen 1.39 long, 0.94 wide. Eye sizes and interdistances: AME 0.06, ALE 0.09, PME 0.08, PLE 0.09, AME–AME 0.02, PME–PME 0.04, AME–ALE 0.03, PME–PLE 0.04, ALE–ALE 0.33, PLE–PLE 0.36, ALE–PLE 0.01, AME–PME 0.07.

CEPHALOTHORAX. Carapace yellow, brownish along margin, radiating lines; fovea, cervical and radial grooves distinct. Clypeus 0.21 high.

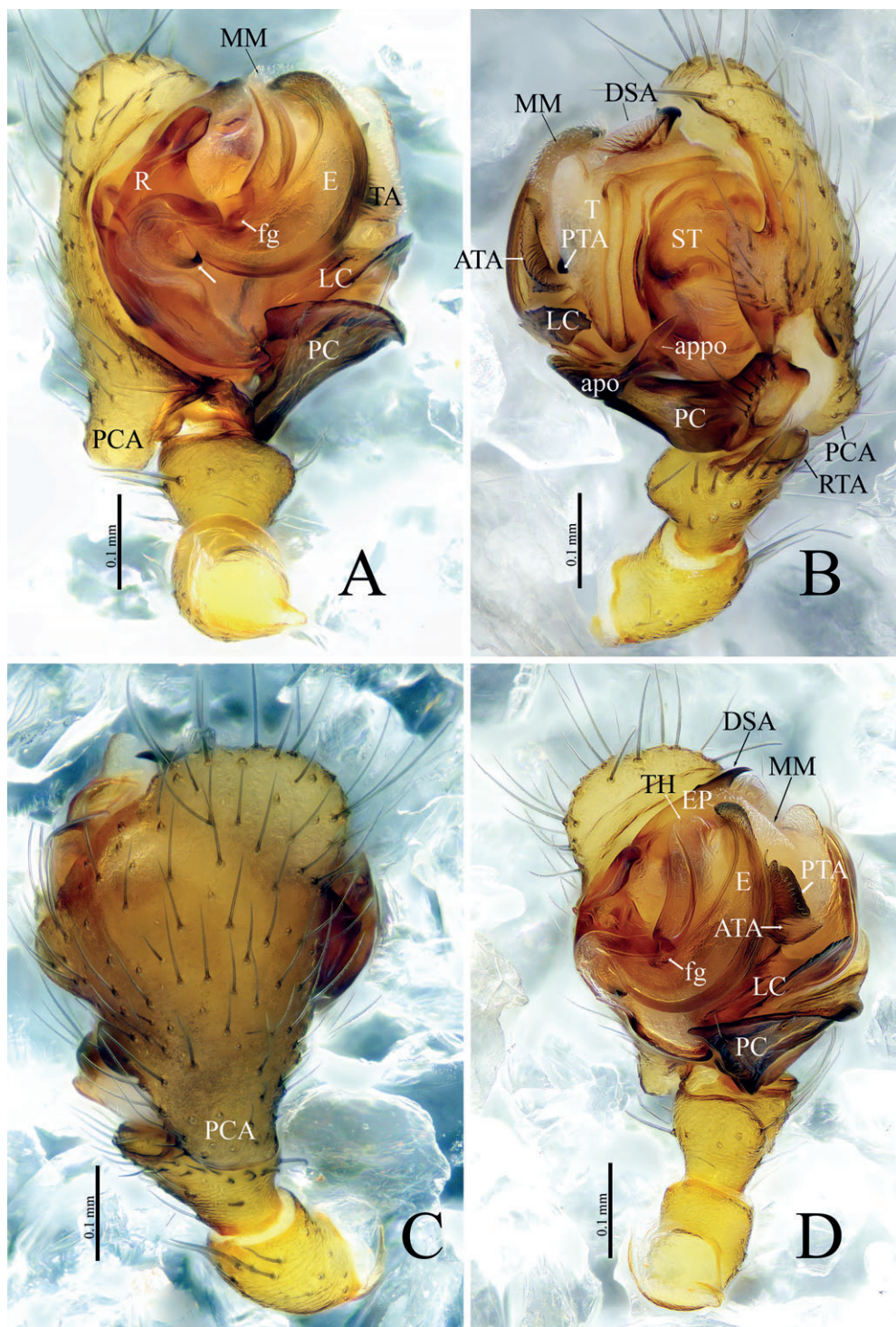


Fig. 1. *Agyneta orthogonia* sp. nov., ♂ holotype, left palp (SWUC-T-LIN-03-01). A. Prolateral view. B. Retrolateral view. C. Dorsal view D. Ventral view.

CHELICERAE. Yellowish-brown, excavated; retromargin at the base of fang with a rectangular projection; promargin and retromargin with two teeth.

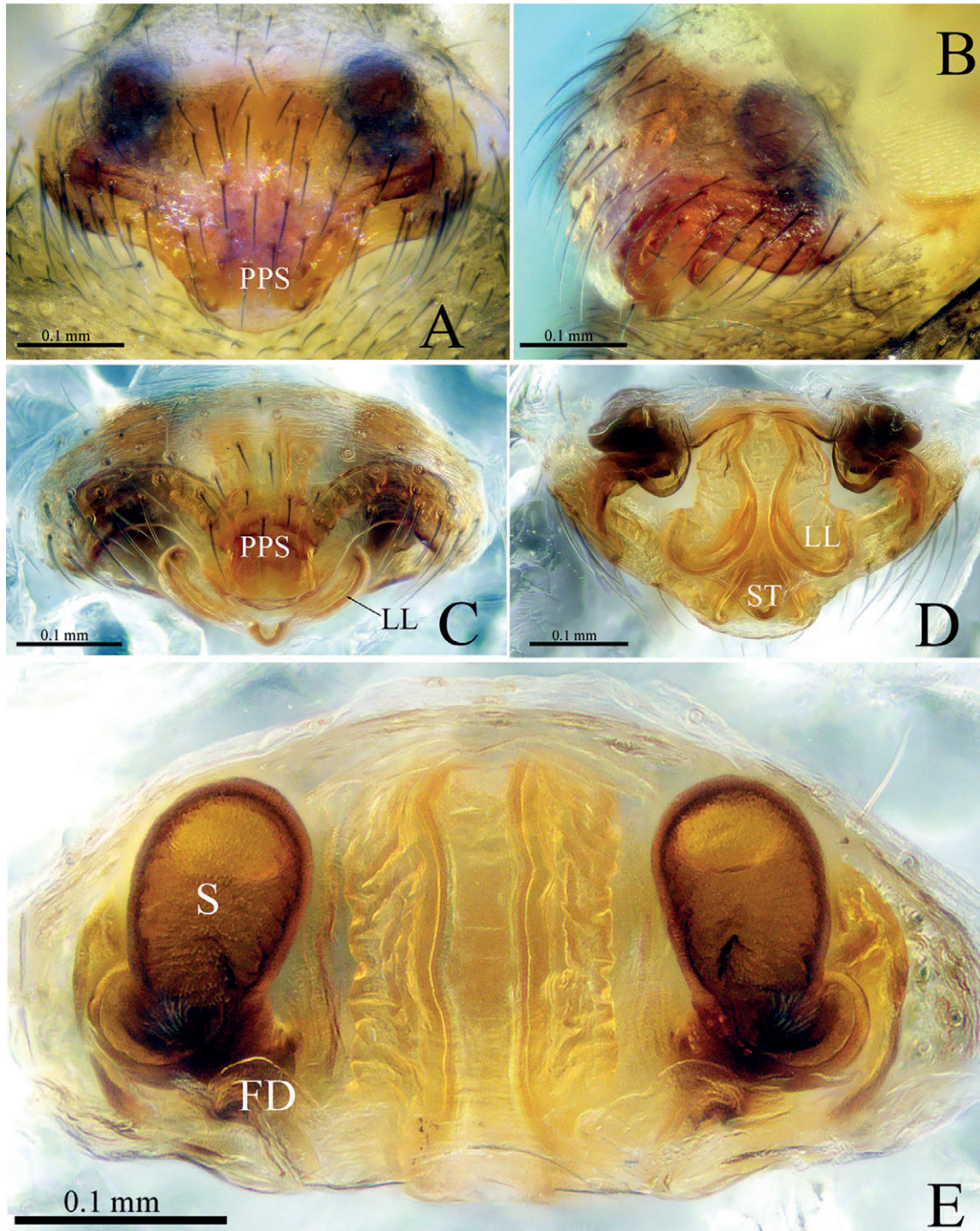


Fig. 2. *Agyneta orthogonia* sp. nov., ♀ (one of paratypes, SWUC-T-LIN-03-02). A, C. Epigyne, ventral view. B. Epigyne, lateral view. D. Epigyne, dorsal view. E. Vulva, anterior view.

LEG MEASUREMENTS. Legs long, yellow. Length of legs: I 3.66 (1.03, 1.23, 0.85, 0.55), II 3.27 (0.95, 1.03, 0.75, 0.54), III 2.83 (0.77, 0.94, 0.69, 0.43), IV 3.89 (1.05, 1.38, 0.92, 0.54). Leg formula IV-I-II-III. TmI 0.28 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Uniformly brown.

PALP (Fig. 1). Retrolateral tibial apophysis long, with blunt end; with two retrolateral and on dorsal trichobothria. Cymbium retrolateral margin with a shallow depression at the base; prolateral margin with a small tubercle; proximal cymbial apophysis somewhat rectangular in prolateral view. Paracymbium with well-developed anterior and apical pocket; apical pocket with two projections. Distal suprategular apophysis with medially bears a transparent column with small pit-hook; median membrane well-developed with serrated margin. Radix with a small transparent projection at the base of embolus, with sclerotized curved tip (white arrow indicates the position); lamella characteristica simple, without

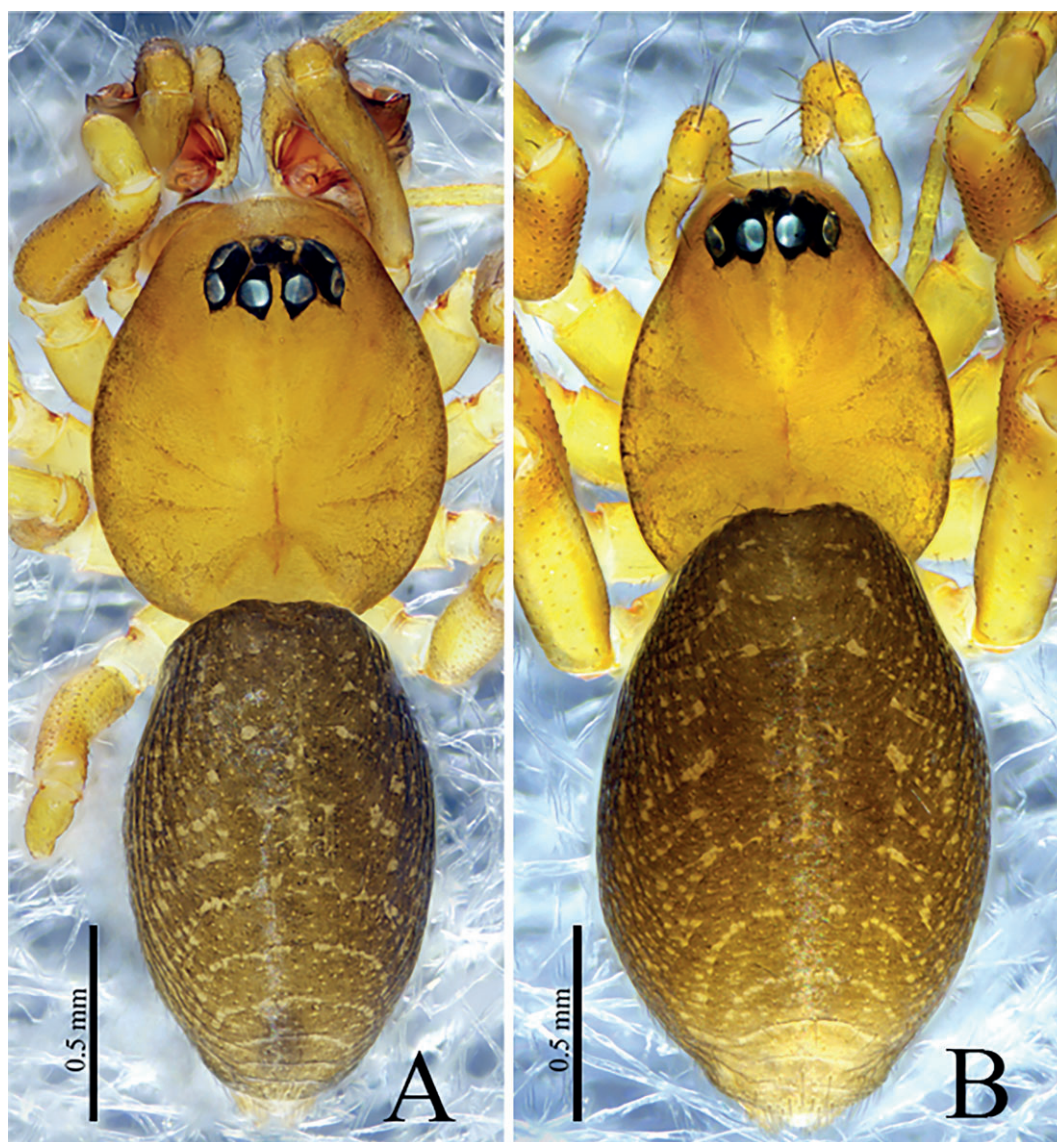


Fig. 3. *Agyneta orthogonia* sp. nov., habitus, dorsal view. A. Holotype ♂ (SWUC-T-LIN-03-01). B. Paratype ♀ (SWUC-T-LIN-03-02).

any spikes, relatively sclerotized, apically with serrated margin; anterior terminal apophysis flap-like, widened proximally, tip with several teeth; posterior terminal apophysis sclerotized, broad with smooth tip; embolus moderately bent, with a long, needle-shaped tooth at its base. Embolus relatively large, with Fickert's gland present proximally. Embolus proper set apically, with serrated margin; thumb long reaching almost equal to the embolus proper, with blunt end.

Female (paratype, SWUC-T-LIN-03-02, Figs 2, 3B)

MEASUREMENTS. Total 2.36 long; carapace 0.99 long, 0.76 wide; abdomen 1.44 long, 0.89 wide. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.07, PLE 0.07, AME–AME 0.01, PME–PME 0.03, AME–ALE 0.03, PME–PLE 0.03, ALE–ALE 0.27, PLE–PLE 0.29, ALE–PLE 0.01, AME–PME 0.05.

CEPHALOTHORAX. Same as in male. Clypeus 0.14 high.

CHELICERAE. Yellowish-brown, not excavated; promargin and retromargin with five teeth.

LEG MEASUREMENTS. Legs long, yellow. Length of legs: I 3.21 (0.86, 1.09, 0.73, 0.53), II 2.92 (0.79, 0.98, 0.64, 0.51), III 2.67 (0.76, 0.87, 0.57, 0.47), IV 3.58 (0.94, 1.24, 0.88, 0.52). Leg formula IV-I-II-III. TmI 0.23 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Same as in male.

EPIGYNE (Fig. 2). With wide proximal part of scape, narrowing evenly; lateral lobes of scape well-developed; stretcher small; pit deep. Spermathecae globular, pointing dorso-ventrally; fertilization ducts relatively thick, extending antero-mesally.

Distribution

Known from type locality.

Dicristatus gen. nov. (二叉蛛属)

urn:lsid:zoobank.org:act:532E0F83-75FE-440E-9007-A1F7A4460AC4

Type species

Dicristatus minutus gen. et sp. nov.

Etymology

The generic name is an arbitrary combination of letters. Gender is masculine.

Diagnosis

Dicristatus gen. nov. can be distinguished from all other Erigoninae genera by the following combination of features: in male palp, retrolateral tibial apophysis absent; dorsal tibial apophysis large, tongue-shaped in ventral view, retrolateral margin with a row of comb macrosetae, ventrally with a pair of comb-shaped projections with several teeth; cymbial retrobasal process with a small projection, extending retrolaterally, covering basal part of paracymbium; paracymbium J-shaped, distal arm tip with ventral indent; distal suprategular apophysis robust, distally bifurcated, completely covering the embolus. Embolic division: Anterior radical process elongated, strongly sclerotized, outer surface serrated; embolic membrane reduced, curved with pointed end; embolus strongly sclerotized, minute with pointed end, hardly visible on undissected palp (Fig. 4). Female can be distinguished by the following combination of features: copulatory ducts extending posteriorly above the epigastric furrow, forming a broad loop outside the ventral plate; dorsal plate heart-shaped (Fig. 5).

Dicristatus minutus gen. et sp. nov. (微二叉蛛)

urn:lsid:zoobank.org:act:5C8B2773-385A-4E81-AC05-6A9A922C0075

Figs 4–6

Differential diagnosis

Dicristatus minutus gen. et sp. nov. can be diagnosed by the lower projection of dorsal tibial apophysis with seven teeth and the upper projection with six teeth; anterior radical process comma-shaped in retrolateral view in male palp. Dorsal plate outline anteriorly V-shaped in epigyne.

Etymology

The epithet is derived from the Latin adjective ‘*minutus*’ meaning ‘minute’ and referring to the very small embolus, completely covered by the distal suprategular apophysis in male palp (Fig. 4B, D).

Type material

Holotype

CHINA • ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°15'26.72" N, 110°4'34.11" E; elev. 1542 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-04-01.

Paratypes

CHINA • 1 ♀; same collection data as for holotype; SWUC-T-LIN-04-02 • 1 ♀; Chongqing, Wushan County, Guanyang Town, Zhuxian Township Miaotang; 31°21'39.92" N, 110°06'07.50" E; elev. 1065 m; 19 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-04-03.

Description

Male (holotype, Figs 4, 6A)

MEASUREMENTS. Total 1.61 long; carapace 0.79 long, 0.60 wide; abdomen 0.98 long, 0.62 wide. Eye sizes and interdistances: AME 0.03, ALE 0.07, PME 0.07, PLE 0.07, AME–AME 0.02, PME–PME 0.07, AME–ALE 0.03, PME–PLE 0.04, ALE–ALE 0.24, PLE–PLE 0.27, ALE–PLE 0.01, AME–PME 0.05.

CEPHALOTHORAX. Carapace yellow; cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.15 high.

CHELICERAE. With six promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 2.56 (0.69, 0.88, 0.56, 0.43), II 2.28 (0.61, 0.78, 0.52, 0.37), III 1.94 (0.55, 0.62, 0.44, 0.33), IV 2.52 (0.72, 0.85, 0.58, 0.37). Leg formula I-IV-II-III. TmI 0.29 and TmIV absent. Tibial spine formula: 2-2-1-1.

ABDOMEN. Oval, light gray to green, densely covered with fine spines, ventral side light gray.

PALP (Fig. 4). Patella short, medially grooved. Tibia with one retrolateral and one dorsal trichobothria, retrolateral tibial apophysis absent; dorsal tibial apophysis large, tongue-shaped in ventral view, retrolateral margin with a row of comb macrosetae, ventrally with a pair of comb-shaped projections; lower projection with seven teeth and upper projection with six teeth; cymbial retrobasal process with a small projection, extending retrolaterally, covering basal part of paracymbium; paracymbium J-shaped, distal arm tip with an indent; protégulum small; suprategulum with a sharp median tooth of distal suprategular apophysis; distal suprategular apophysis robust, distally bifurcated, completely covering the embolus. Embolic division: tailpiece foot-shaped; anterior radical process comma-

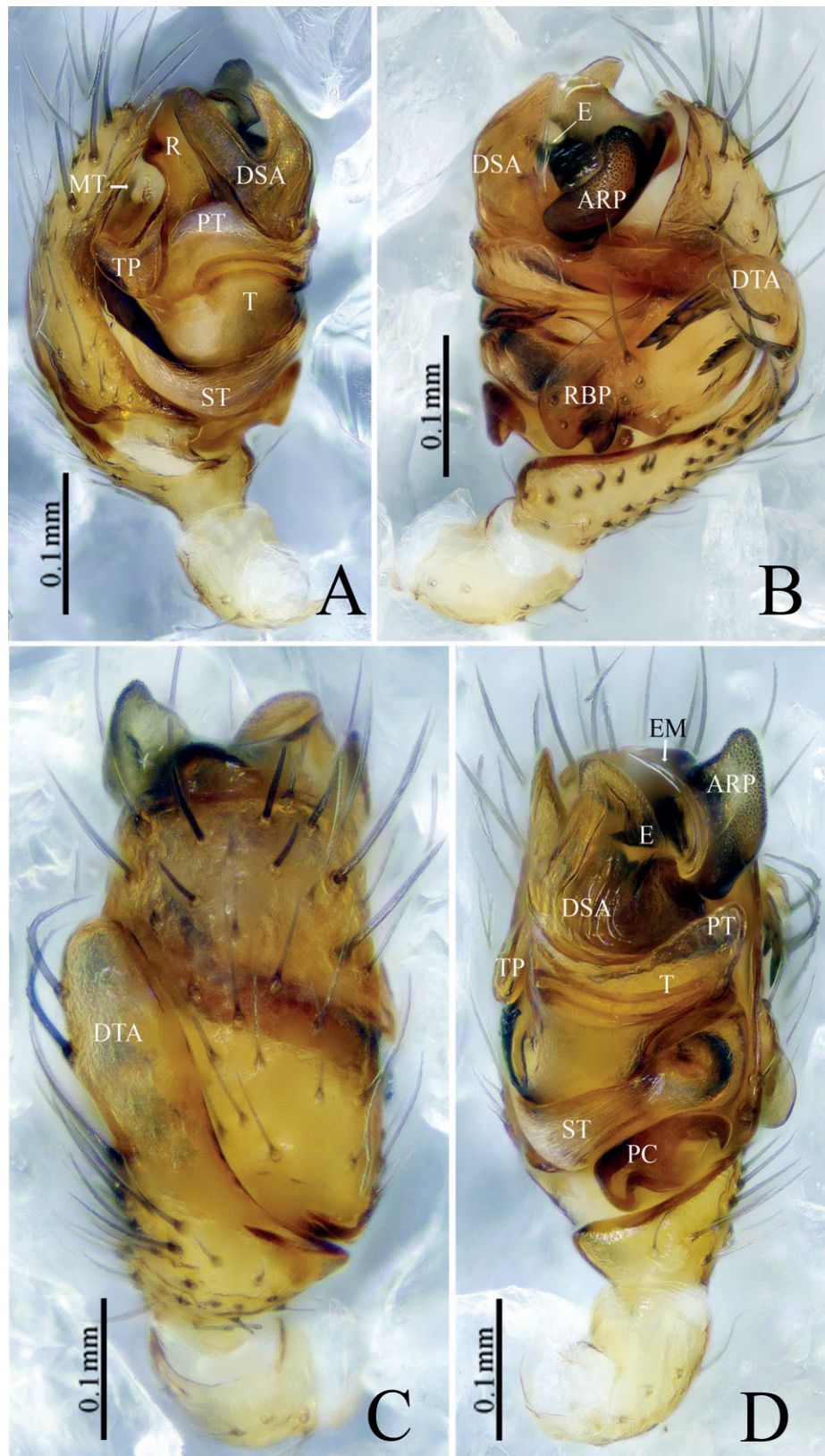


Fig. 4. *Dicristatus minutus* gen. et sp. nov., ♂ holotype (SWUC-T-LIN-04-01), left palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

shaped in retrolateral view, strongly sclerotized, outer surface serrated; embolic membrane reduced, curved with pointed end; embolus black, strongly sclerotized, minute with pointed end, hardly visible on undissected palp.

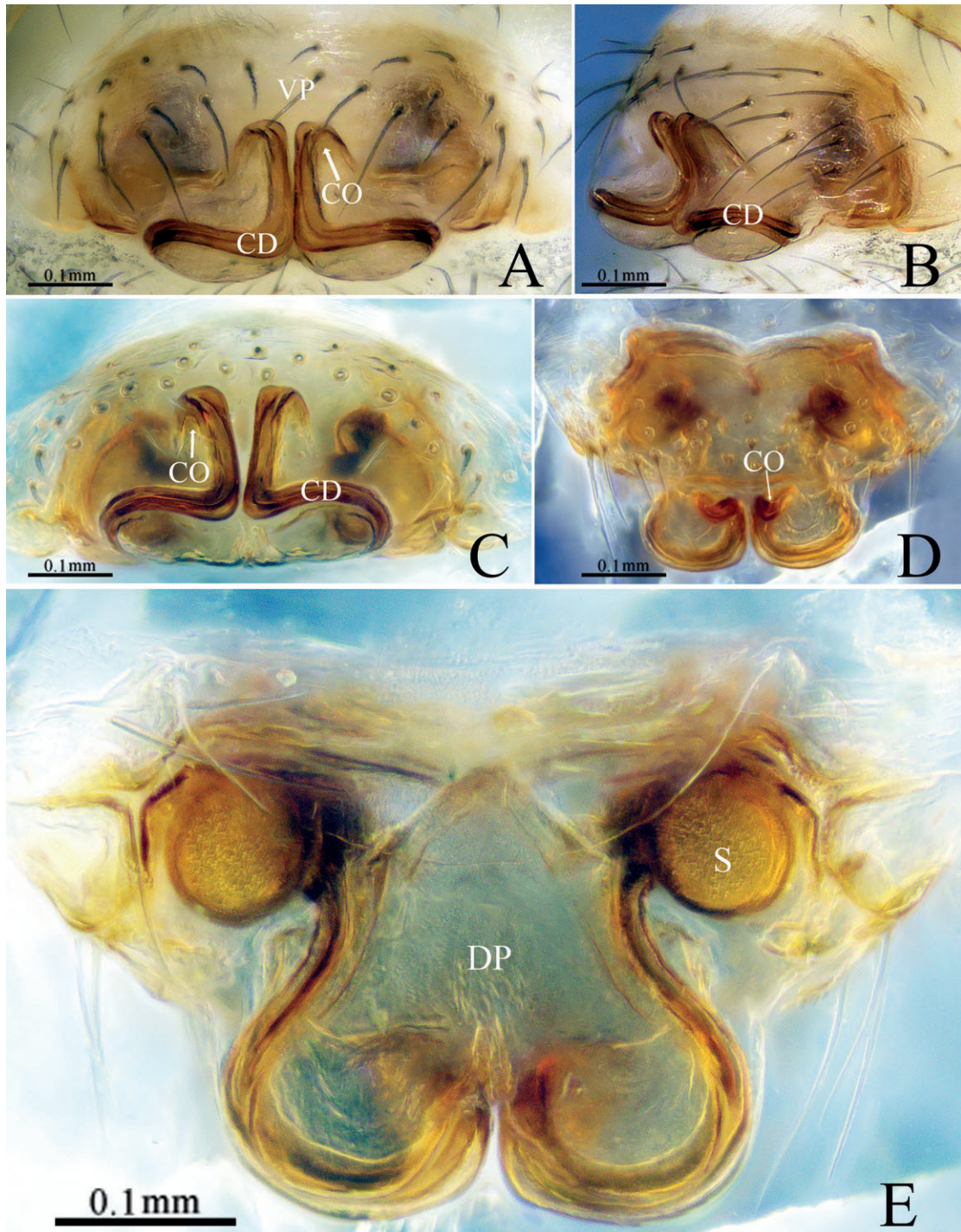


Fig. 5. *Dicristatus minutus* gen. et sp. nov., ♀ paratype (SWUC-T-LIN-04-02). **A, C–D.** Epigyne, ventral view. **B.** Epigyne, lateral view. **E.** Vulva, dorsal view.

Female (paratype, SWUC-T-LIN-04-02, Figs 5, 6B)

MEASUREMENTS. Total 1.82 long; carapace 0.82 long, 0.56 wide; abdomen 1.27 long, 0.67 wide. Eye sizes and interdistances: AME 0.04, ALE 0.07, PME 0.05, PLE 0.08, AME–AME 0.02, PME–PME 0.05, AME–ALE 0.02, PME–PLE 0.03, ALE–ALE 0.23, PLE–PLE 0.28, ALE–PLE 0.01, AME–PME 0.06.

CEPHALOTHORAX. Same as in male. Clypeus 0.11 high.

CHELICERAE. With six promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 2.31 (0.66, 0.84, 0.49, 0.32), II 2.13 (0.61, 0.72, 0.46, 0.34), III 1.84 (0.53, 0.63, 0.39, 0.29), IV 2.40 (0.68, 0.84, 0.49, 0.39). Leg formula IV-I-II-III. TmI 0.39 and TmIV absent. Tibial spine formula: 2-2-1-1.

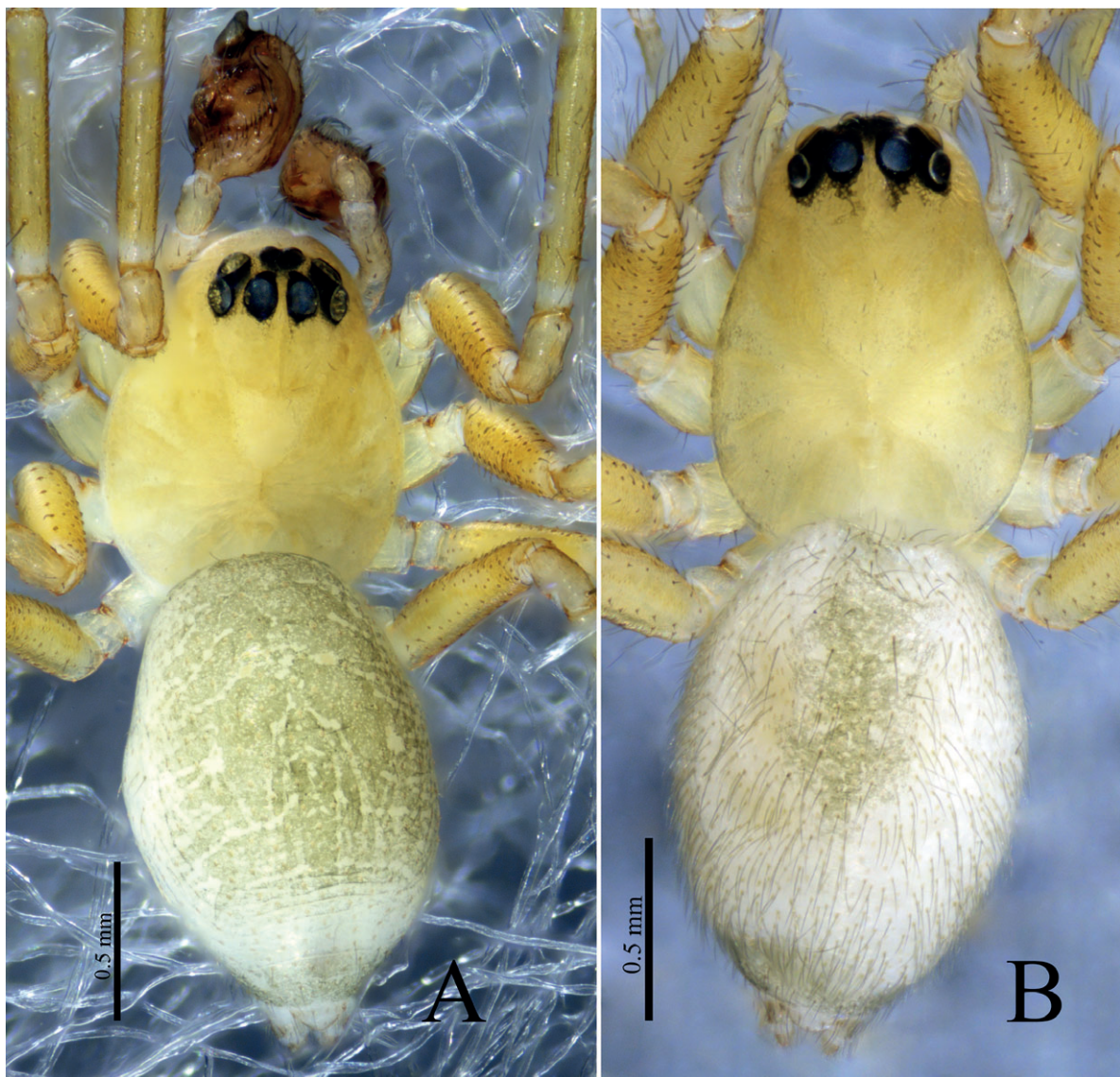


Fig. 6. *Dicristatus minutus* gen. et sp. nov., habitus, dorsal view. **A.** Holotype, ♂ (SWUC-T-LIN-04-01). **B.** Paratype, ♀ (SWUC-T-LIN-04-02).

ABDOMEN. Same as in male.

EPIGYNE (Fig. 5). Ventral plate wider than long; copulatory ducts forming a broad loop outside ventral plate, extending posteriorly above the epigastric furrow; copulatory openings situated mid-ventrally in the inner margin loop of copulatory ducts; dorsal plate heart-shaped, longer than wide, posterior margin round, with a deep depression at center. Vulva: spermathecae round, antero-laterally positioned, pointing away from each other. Fertilization ducts antero-mesally oriented.

Distribution

Known from type locality.

Genus *Dicymbium* Menge, 1868 (双舟蛛属)

Dicymbium pingqianense sp. nov. (前双舟蛛)

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Figs 7–9

Differential diagnosis

The new species resembles *Dicymbium sinofacetum* Tanasevitch, 2006 in having the tibia with similar retrolateral tibial apophysis, anterior redical process and epigyne with similar ventral and dorsal plates (Figs 7–8; Song & Li 2008: figs 1–3, 12), but can be distinguished by the embolus with two loops in new species (Fig. 7B), whereas with one loop in *D. sinofacetum* (Song & Li 2008: fig. 2); tailpiece oval in new species (Fig. 7A), whereas with foot-shaped in *D. sinofacetum* (Song & Li 2008: fig. 3); spermathecae head separated by a minimal distance in new species (Fig. 8D), whereas the gap between spermathecae relatively large in *D. sinofacetum* (Song & Li 2008: fig. 10).

Etymology

This epithet derives from the type locality.

Type material

Holotype

CHINA • ♂; Chongqing, Wushan County, Guanyang Town, Pingqian Management Station; 31°22'22.75" N, 109°56'17.25" E; elev. 1832 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-05-01.

Paratypes

CHINA • 2 ♂♂, 4 ♀♀; same collection data as for holotype; SWUC-T-LIN-05-02-07 • 1 ♂; Wushan County, Dangyang Town, Congping Mountain; 31°23'47.16" N, 110°2'28.04" E; elev. 2150 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-05-08.

Description

Male (holotype, Figs 7, 9A)

MEASUREMENTS. Total 1.76 long; carapace 0.87 long, 0.67 wide; abdomen 0.99 long, 0.67 wide. Eye sizes and interdistances: AME 0.03, ALE 0.08, PME 0.07, PLE 0.07, AME–AME 0.02, PME–PME 0.03, AME–ALE 0.05, PME–PLE 0.04, ALE–ALE 0.31, PLE–PLE 0.33, ALE–PLE 0.01, AME–PME 0.10.

CEPHALOTHORAX. Carapace brown; cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.13 high.

CHELICERAE. With five promarginal and five retromarginal teeth.

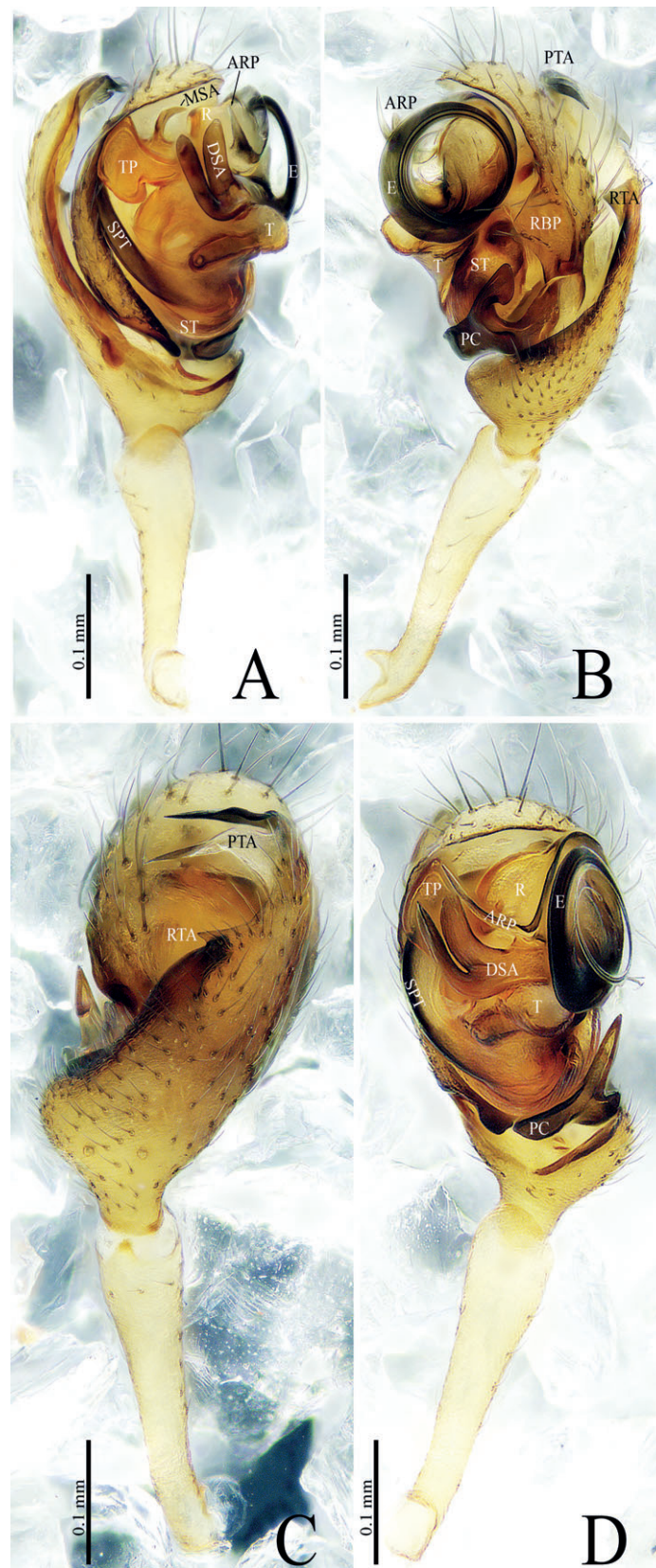


Fig. 7. *Dicymbium pingqianense* sp. nov., ♂ holotype left palp (SWUC-T-LIN-05-01). **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

LEG. Legs long, yellow, covered with fine spines. Length of legs: I 2.51 (0.74, 0.81, 0.54, 0.42), II 2.33 (0.70, 0.74, 0.51, 0.38), III 2 (0.59, 0.62, 0.45, 0.34), IV 2.69 (0.79, 0.91, 0.58, 0.41). Leg formula IV-I-II-III. TmI 0.41 and TmIV absent. Tibial spine formula: 2-2-1-1.

ABDOMEN. Oval, light gray, densely covered with fine spines, ventral side light gray.

PALP (Fig. 7). Patella as long as tibia, relatively broad at distal end. Tibia narrowed distally; with vimineous bifurcate prolateral tibial apophysis strongly curved to retrolateral side; with complicated retrolateral tibial apophysis composed of triangular upper and nether part; with two retrolateral and one prolateral tibial trichobothria. Paracymbium sclerotized, distal arm hook-shaped (Fig. 2). Protegulum reduced or absent. Suprategulum with two apophyses, marginal suprategular apophysis arc-shaped with blunt end; distal suprategular apophysis trifurcate, the small branch of which is mostly covered by the outer two large branches. Anterior radical process long and narrow, with membranous lower surface. Tailpiece curved upwards, oval in prolateral view. Embolus two loops, with a narrow membrane along the inner margin.

Female (paratype, SWUC-T-LIN-05-02, Figs 8–9B)

MEASUREMENTS. Total 2.03 long; carapace 0.85 long, 0.66 wide; abdomen 1.25 long, 0.84 wide. Eye sizes and interdistances: AME 0.04, ALE 0.07, PME 0.07, PLE 0.06, AME–AME 0.01, PME–PME 0.03, AME–ALE 0.04, PME–PLE 0.04, ALE–ALE 0.27, PLE–PLE 0.28, ALE–PLE 0.01, AME–PME 0.10.

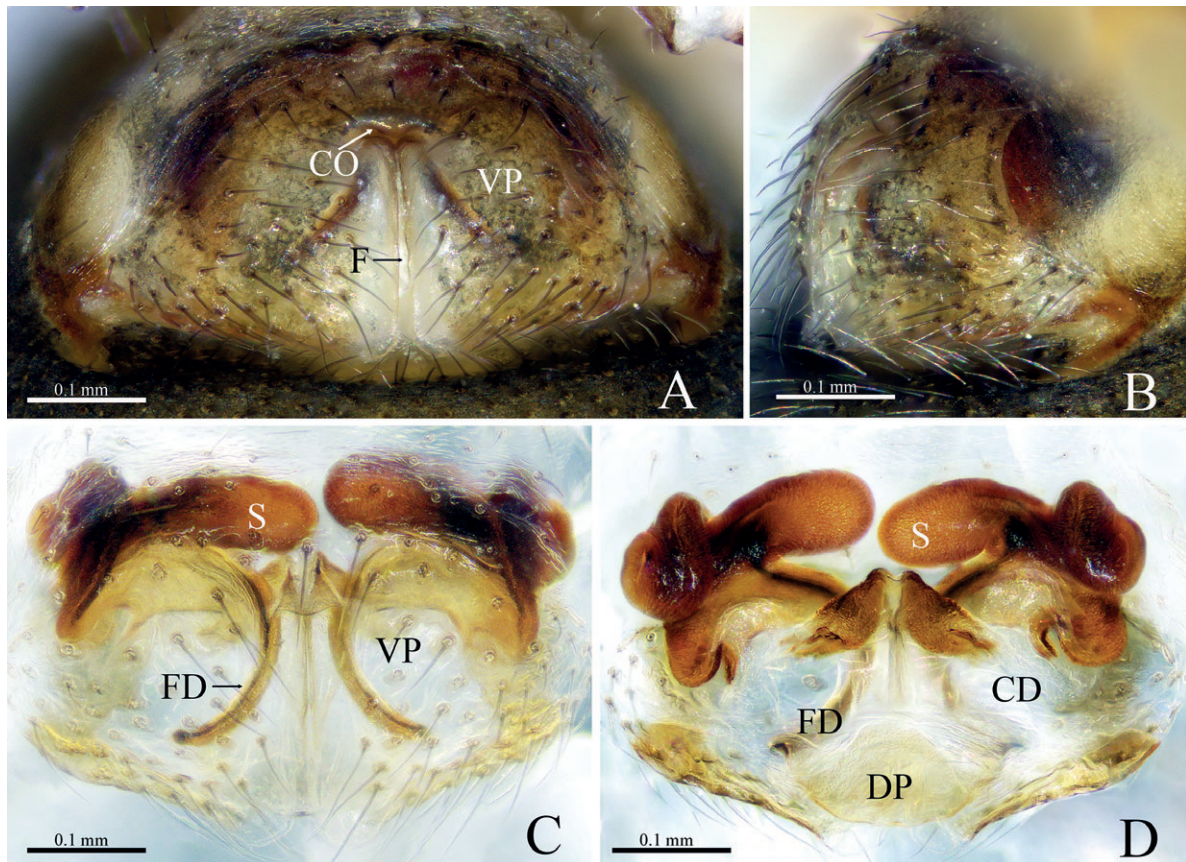


Fig. 8. *Dicymbium pingqianense* sp. nov., ♀ (paratype, SWUC-T-LIN-05-02). A, C. Epigyne, ventral view. B. Epigyne, lateral view. D. Vulva, anterior view.

CEPHALOTHORAX. Same as in male. Clypeus 0.12 high.

CHELICERAE. With five promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 2.58 (0.75, 0.85, 0.54, 0.44), II 2.33 (0.68, 0.76, 0.48, 0.41), III 1.99 (0.57, 0.65, 0.44, 0.33), IV 2.70 (0.82, 0.92, 0.57, 0.39). Leg formula IV-I-II-III. TmI 0.39 and TmIV absent. Tibial spine formula: 2-2-1-1.

ABDOMEN. Same as in male.

EPIGYNE (Fig. 8). Elliptical with a longitudinal fissure in the center. Dorsal plate triangular, with posterior margins turned up. A pair of semicircular depressions present along the posterior margins of epigyne. Spermathecae oblong and separated by a minimal distance. Copulatory ducts expanded at the beginning

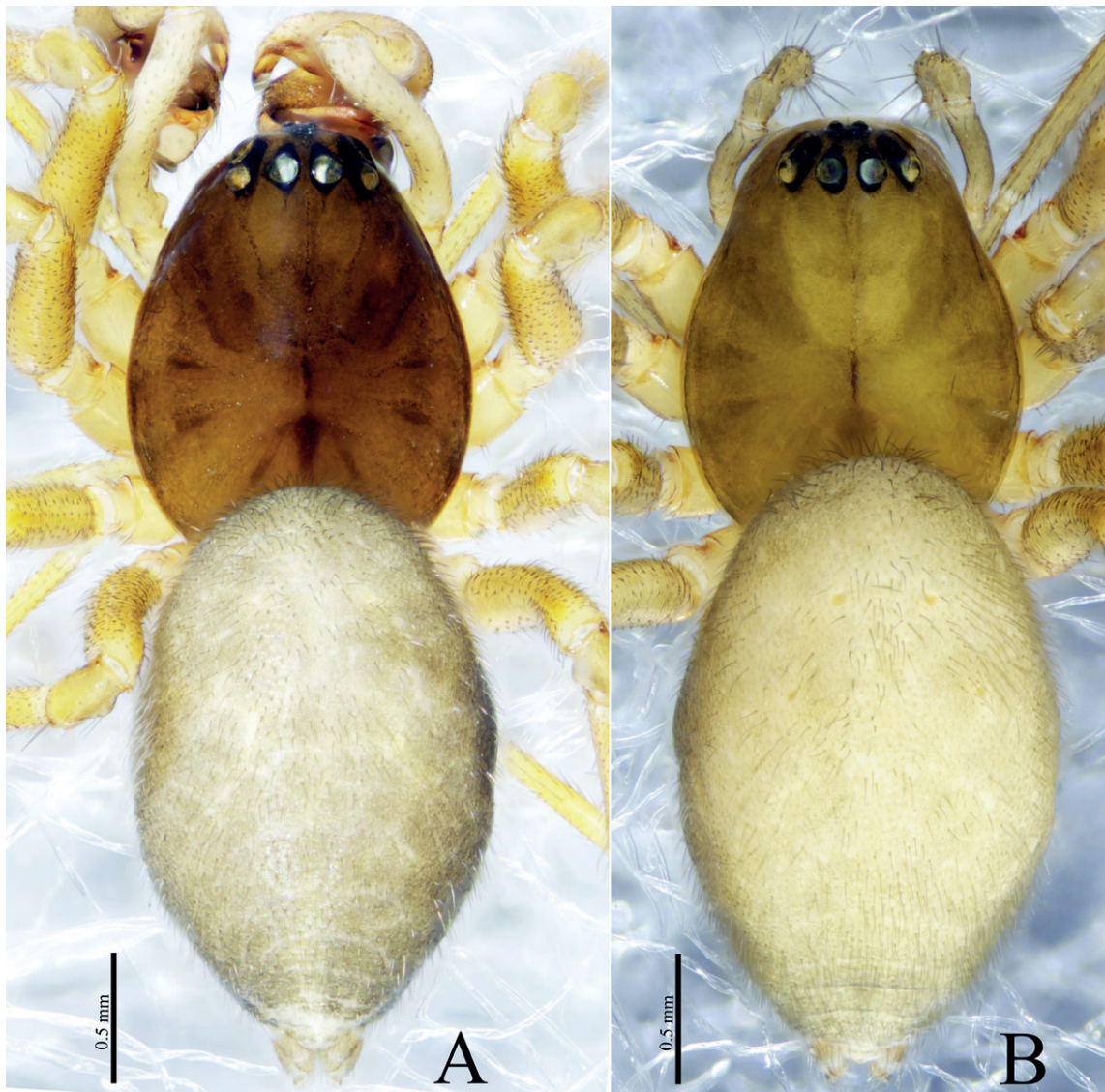


Fig. 9. *Dicymbium pingqianense* sp. nov., habitus, dorsal view. A. Holotype, ♂ (SWUC-T-LIN-05-01). B. Paratype, ♀ (SWUC-T-LIN-05-02).

to be sac-shaped and followed by a broad loop before entering into spermathecae. Fertilization ducts posteriorly orientated and C-shaped.

Distribution

Known from type locality.

Genus *Himalaphantes* (喜峰蛛属) Tanasevitch, 1992

Himalaphantes azumiensis (Oi, 1979) (东喜峰蛛)

Figs 10–12

Lepthyphantes azumiensis Oi, 1979: 333, figs 16–18 (Dmf).

Himalaphantes azumiensis – Tanasevitch 1992: 45, 3f–h (Tmf from *Lepthyphantes*). — Yin *et al.* 2012: 497, fig. 230a–e (f). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♀; Chongqing, Wushan County, Dangyang Town, Wushanya; 31°28'21.35" N, 109°59'10.29" E; elev. 1740 m; 2 Oct. 2020; L.Y.Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-06-01 • 1 ♀; Wushan County, Dangyang Town, Qiqi Mountain Tunnel; 31°28'2.78" N, 109°58'37.42" E; elev. 1368 m; 2 Oct. 2020; L.Y.Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-06-02 • 1 ♀; Wushan County, Dangyang Town, Pingyuan Management Station; 31°22'22.75" N, 109°56'17.25" E; elev. 1832 m; 4 Oct. 2020; L.Y.Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-06-03 • 1 ♂, 1 ♀; Wushan County, Zhuxian Township; 31°17'11.65" N, 110°3'54.82" E; elev. 1253 m; 18 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-06-04–05 • 1 ♀; Wushan County, Guanyang Town, Zhuxian Township Miaotang; 31°21'39.92" N, 110°06'07.50" E; elev. 1065 m; 19 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-06-06.

Distribution

Russia (Far East), China, Japan.

Genus *Indophantes* (印蛛属) Saaristo & Tanasevitch, 2003

Indophantes wushanensis sp. nov. (巫山印蛛)

urn:lsid:zoobank.org:act:C5321FB0-8F3E-4820-9889-AD876CD7B623

Figs 13–16

Differential diagnosis

The new species resembles *Indophantes halonatus* (Li & Zhu, 1995) in having the similar radix and pit hook in male palp and epigyne with quadrangular pseudoscape (Figs 13A–C, 14–15A; Tu, Saaristo & Li 2006: fig. 29), but can be distinguished by: the lateral margin of distal arm of paracymbium with two small lobes in new species (Fig. 13B), whereas with one lobe in *I. halonatus* (Tu, Saaristo & Li 2006: fig. 28). Thumb tomb-shaped in new species (Fig. 14A), whereas serrated margin with pointed tip in *I. halonatus* (Tu, Saaristo & Li 2006, fig. 31). Spermathecae round in new species (Fig. 15D), whereas lobed in *I. halonatus* (Tu, Saaristo & Li 2006: figs 34–35).

Etymology

The epithet is derived from the type locality.

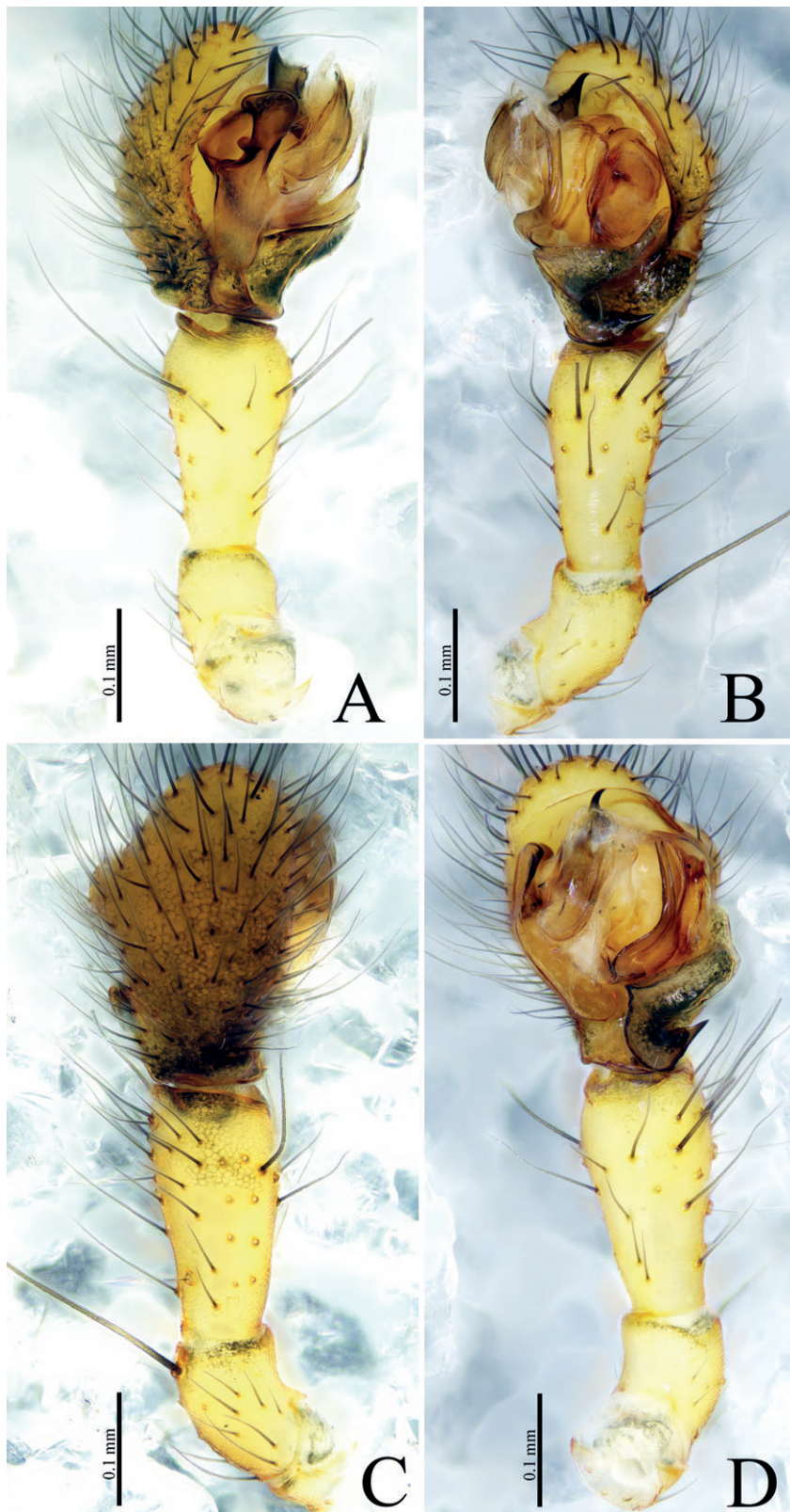


Fig. 10. *Himalaphantes azumiensis* (Oi, 1979), ♂ (SWUC-T-LIN-06-04), palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

Type material**Holotype**

CHINA • ♂; Chongqing, Wushan County, Dangyang Township, Wushanya; 31°28'21.35" N, 109°59'10.29" E; elev. 1740 m; 1 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-07-01.

Paratypes

CHINA • 3 ♂♂, 7 ♀♀; same collection data as for holotype; SWUC-T-LIN-07-02–11 • 3 ♂♂, 1 ♀; Wushan County, Dangyang Town, Congping Mountain; 31°23'47.16" N, 110°2'28.04" E; elev. 2150 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-07-12–15 • 1 ♂, 2 ♀♀; Wushan County, Dangyang Town, Congping Management and Protection Station; 31°23'47.16" N, 110°2'3.32" E; elev. 1970 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-07-16–18 • 1 ♀; Wushan County, Guanyang Town, Pingqian Management Station; 31°22'22.75" N, 109°56'17.25" E; elev. 1832 m; 4 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-07-19 • 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°16'8.98" N, 110°4'34.11" E; elev. 1445 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-07-20 • 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Xiang Yaocai Village; 31°18'57.96" N, 110°5'23.55" E; elev. 1681 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-07-21–22.

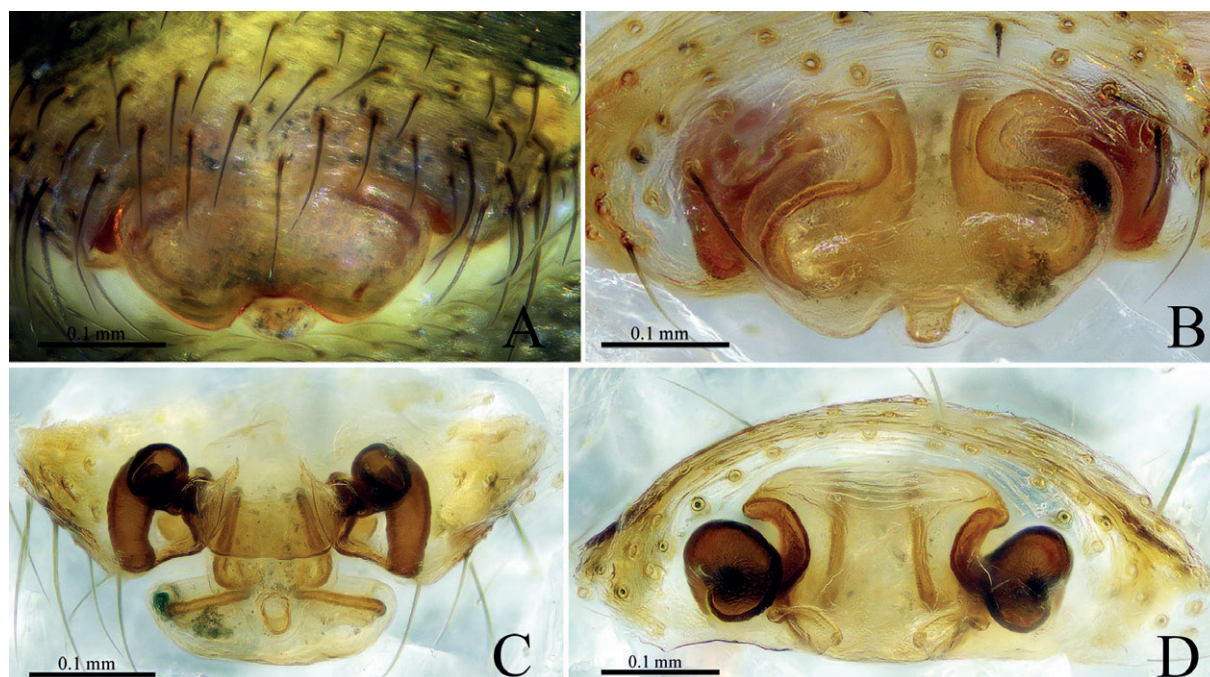


Fig. 11. *Himalaphantes azumiensis* (Oi, 1979), ♀ (SWUC-T-LIN-06-02). **A–B.** Epigyne, ventral view. **C.** Epigyne, dorsal view. **D.** Vulva, anterior view.

Description

Male (holotype, Figs 13, 16A)

MEASUREMENTS. Total 2.26 long; carapace 1.02 long, 0.81 wide; abdomen 1.23 long, 0.73 wide. Eye sizes and interdistances: AME 0.06, ALE 0.10, PME 0.09, PLE 0.10, AME–AME 0.02, PME–PME 0.04, AME–ALE 0.04, PME–PLE 0.03, ALE–ALE 0.35, PLE–PLE 0.38, ALE–PLE contiguous, AME–PME 0.08.



Fig. 12. *Himalaphantes azumiensis* (Oi, 1979), habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-06-04). **B.** ♀ (SWUC-T-LIN-06-02).

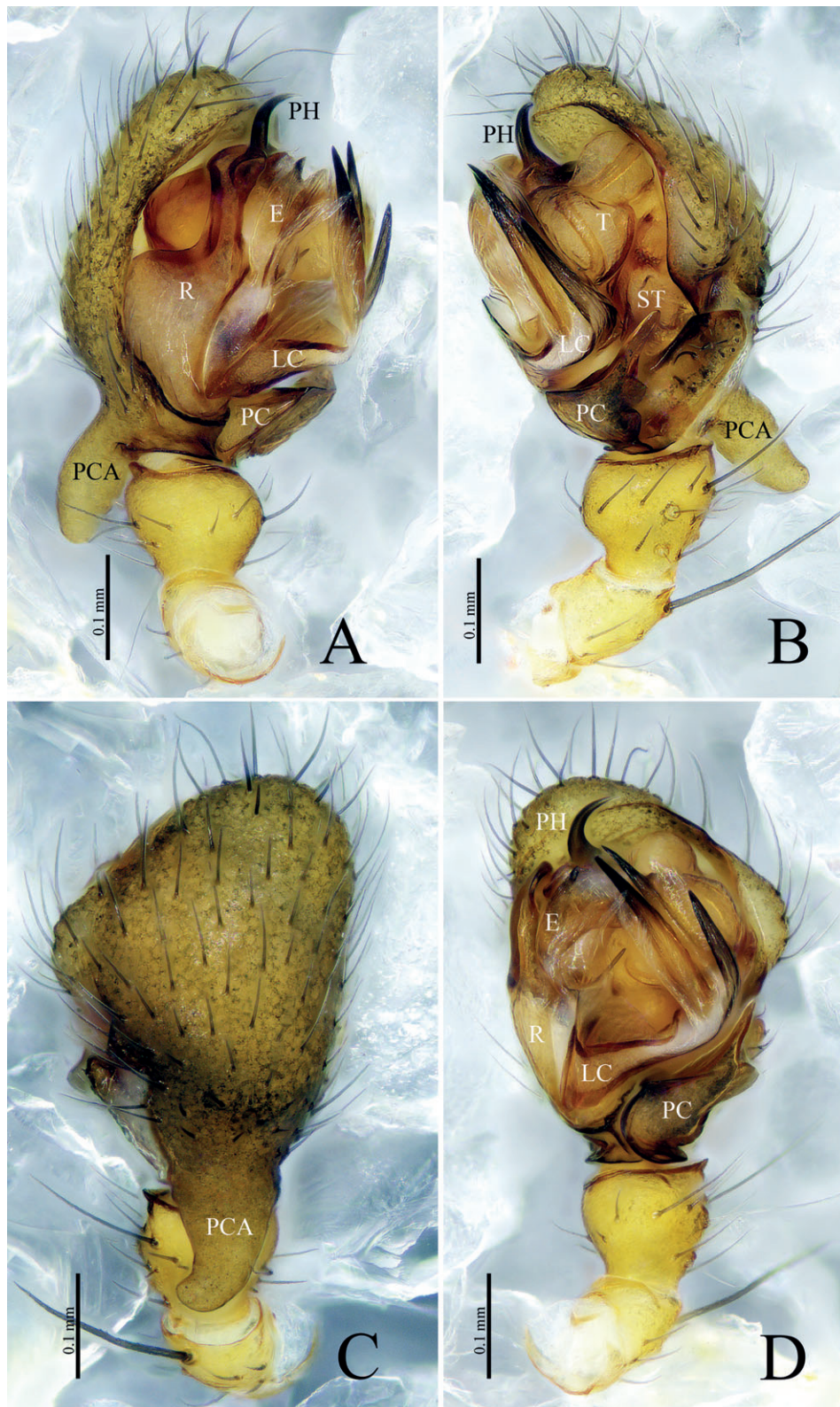


Fig. 13. *Indophantes wushanensis* sp. nov., ♂ holotype left palp (SWUC-T-LIN-07-01). A. Prolateral view. B. Retrolateral view. C. Dorsal view. D. Ventral view.

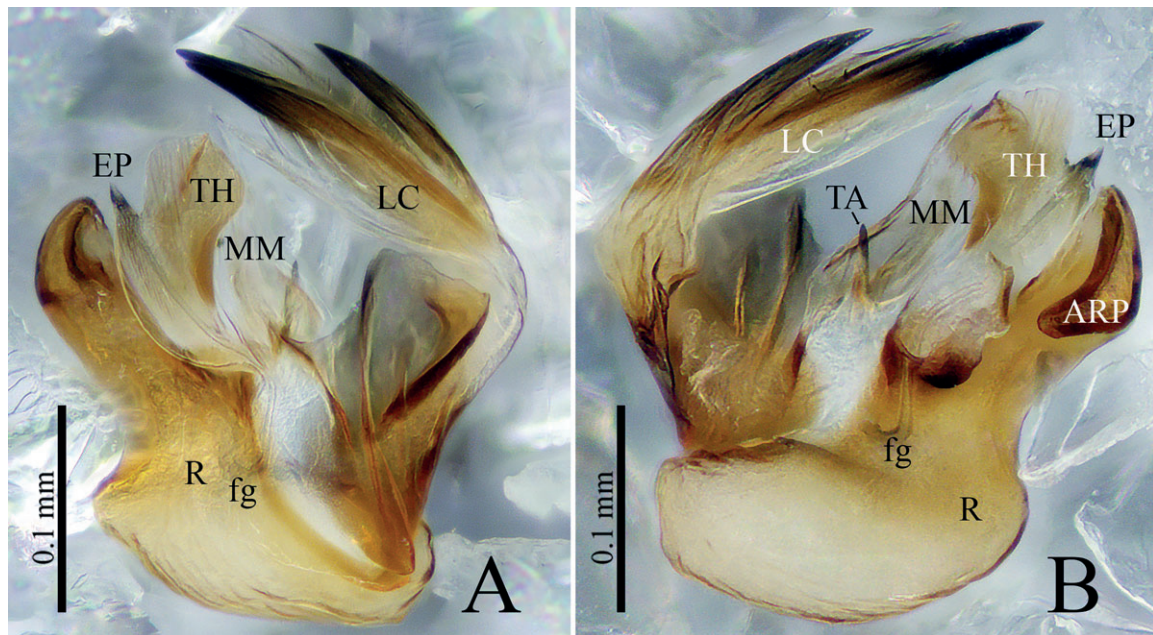


Fig. 14. *Indophantes wushanensis* sp. nov., ♂ paratype, embolic division (SWUC-T-LIN-07-03). **A.** Dorsal view. **B.** Ventral view.

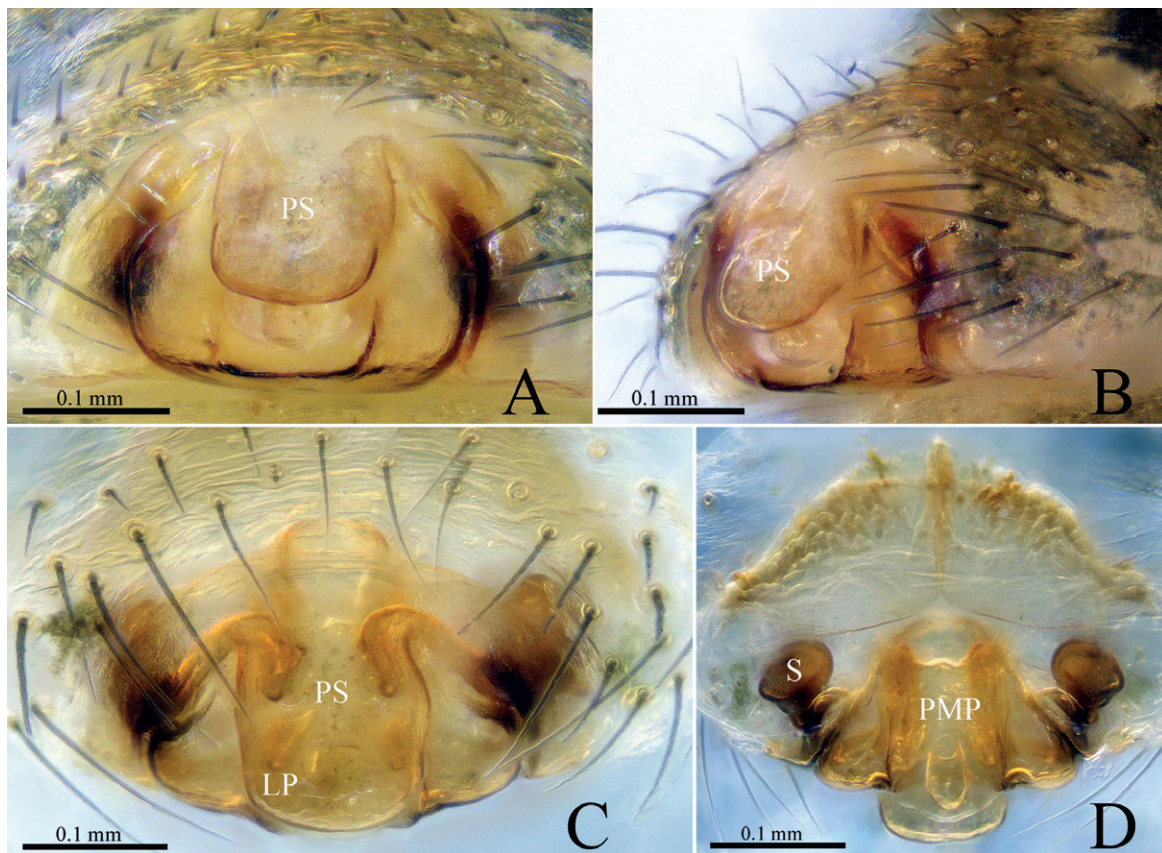


Fig. 15. *Indophantes wushanensis* sp. nov., ♀ paratype epigyne (SWUC-T-LIN-07-02). **A, C.** Ventral view. **B.** Lateral view. **D.** Dorsal view.

CEPHALOTHORAX. Carapace yellow, cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.17 high.

CHELICERAE. With three promarginal and five retromarginal teeth.



Fig. 16. *Indophantes wushanensis* sp. nov., habitus, dorsal view. A. Holotype ♂ (SWUC-T-LIN-07-01). B. Paratype ♀ (SWUC-T-LIN-07-02).

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 5.55 (1.44, 1.71, 1.45, 0.95), II 4.88 (1.29, 1.52, 1.25, 0.82), III 3.54 (1, 1.07, 0.93, 0.54), IV 4.57 (1.23, 1.40, 1.22, 0.72). Leg formula I-II-IV-III. TmI 0.27 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Oval, grey, posteriorly with three chevrons, base of spinnerets black, ventral side grey.

PALP (Figs 13–14). Patella shorter than tibia, dorsally with a long spine; tibia conic, with two retrolateral and one dorsal trichobothria; proximal cymbial apophysis thumb-shaped with blunt end; paracymbium sclerotized, U-shaped, distal arm margin with two small lobes, narrowing apically; distal part of supratégulum protruding above, with claw-like pit hook. Lamella characteristic with basal sclerite, with three chitinised branches and one additional more or less transparent extension with frayed margin. Terminal apophysis short with pointed end. Embolus with bifurcated tip with pointed end. Embolus proper sclerotized with pointed tip. Thumb tomb-like, with pointed apex.

Female (paratype, SWUC-T-LIN-07-02, Figs 15, 16B)

MEASUREMENTS. Total 2.25 long; carapace 1.04 long, 0.77 wide; abdomen 1.47 long, 0.95 wide. Eye sizes and interdistances: AME 0.05, ALE 0.09, PME 0.09, PLE 0.10, AME–AME 0.03, PME–PME 0.05, AME–ALE 0.05, PME–PLE 0.03, ALE–ALE 0.34, PLE–PLE 0.36, ALE–PLE contiguous, AME–PME 0.10.

CEPHALOTHORAX. Same as in male. Clypeus 0.12 high.

CHELICERAE. With five promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 4.74 (1.23, 1.51, 1.21, 0.79), II 4.23 (1.14, 1.31, 1.06, 0.72), III 3.09 (0.86, 0.91, 0.81, 0.51), IV 3.98 (1.14, 1.20, 1.01, 0.63). Leg formula I-II-IV-III. TmI 0.25 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Same as in male.

EPIGYNE (Fig. 15). Pseudoscape rectangular; stretcher tongue-shaped; entrance groove presents inside lateral pockets; posterior median plate triangular; spermathecae round.

Distribution

Known from type locality.

Genus *Ketambea* Millidge & Russell-Smith, 1992 (亚其蛛属)

Ketambea nigripectoris (Oi, 1960) (黑斑亚其蛛)

Figs 17–19

Neolinyphia nigripectoris Oi, 1960: 227, figs 330–332 (Dmf).

Ketambea nigripectoris – Zhou *et al.* 2018: 492, figs 1a–d, 2a–b, 3a–d, 4a–d (mf, T from *Neriene*). — Li *et al.* 2018: 6, figs 4a–g, 5a–e, 6a–e (mf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♂, 3 ♀♀; Chongqing, Wushan County, Guanyang Township, Nongcun; 31°20'37.14" N, 109°56'24.17" E; elev. 1348 m; 24 Jul. 2021; Z. S. Zhang, L.Y. Wang and T.Y. Ren leg.; SWUC-T-LIN-08-01–04 • 2 ♂♂; Wushan County, Guanyang Town, Xinmin Village; 31°20'28.56" N,

109°55'16.77" E; elev. 1340 m; 22 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-08-05-06 • 1 ♂, 3 ♀♀; Wushan County, Guanyang Town, Zhuxian Township Miaotang; 31°21'39.92" N, 110°06'07.50" E; elev. 1065 m; 19 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-08-07-10 • 1 ♀; Wushan County, Dangyang Town, Yuling Village; 31°21'45.72" N, 109°58'3.68" E; elev. 760 m; 22 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren

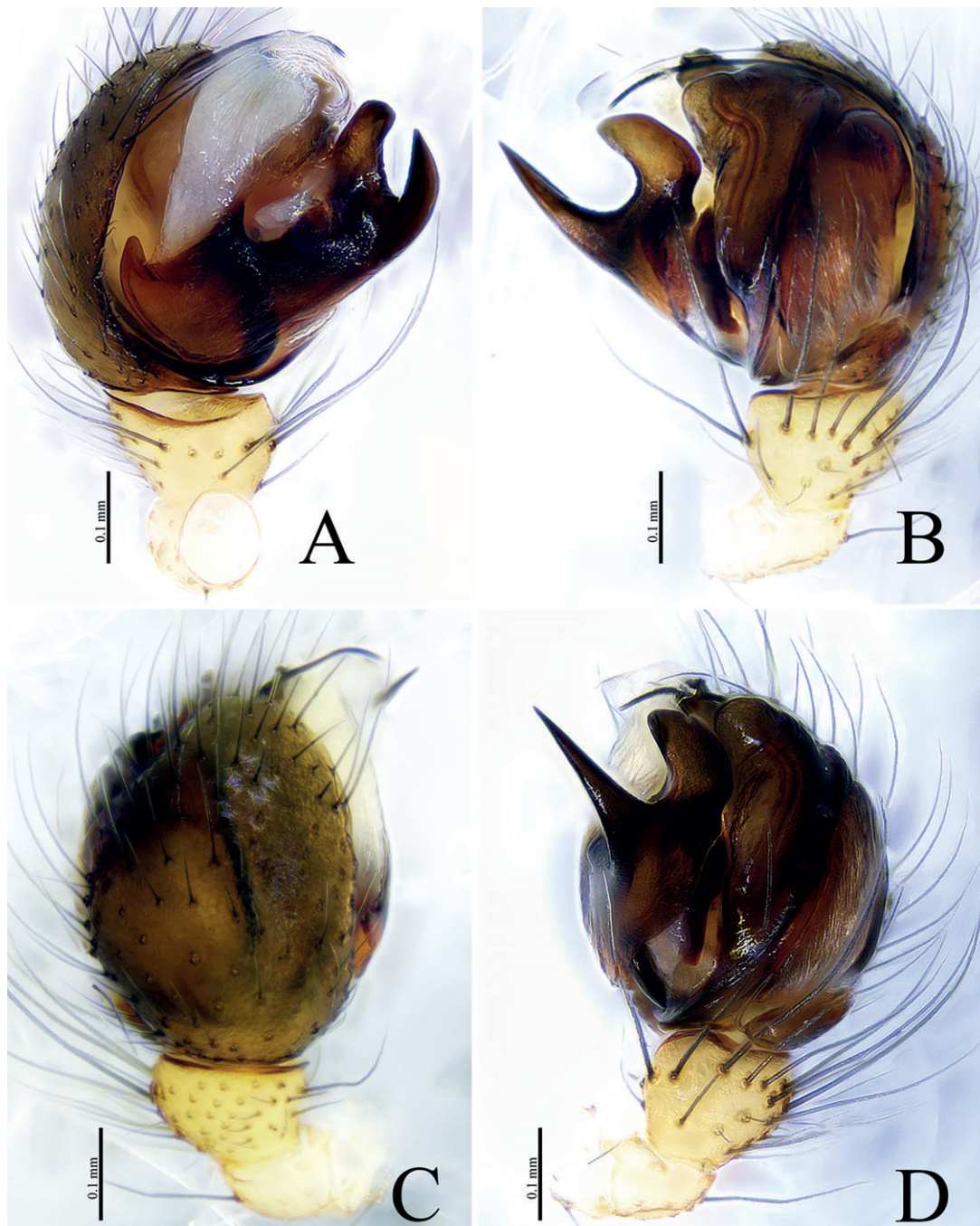


Fig. 17. *Ketambea nigripectoris* (Oi, 1960), ♂ (SWUC-T-LIN-08-01), palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view.

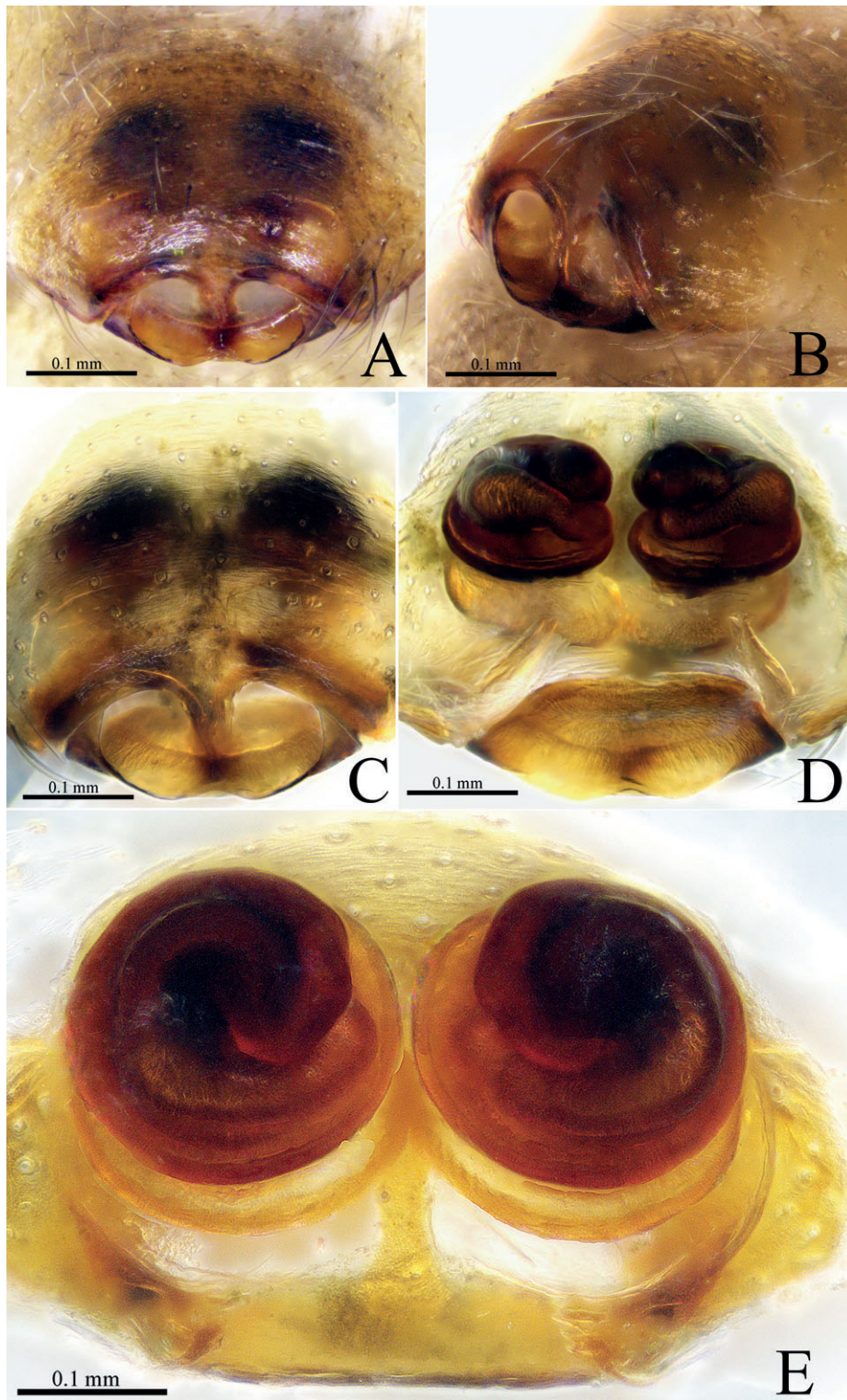


Fig. 18. *Ketambea nigripectoris* (Oi, 1960), ♀ (SWUC-T-LIN-08-02). A, C. Epigyne, ventral view. B. Epigyne, lateral view. D. Vulva, dorsal view. E. Vulva, anterior view.

leg.; SWUC-T-LIN-08-11 • 2 ♀♀; Wushan County, Guanyang Township Rural Area; 31°20'39.76" N, 109°56'4.14" E; elev. 1329 m; 22 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-08-12-13.

Distribution

Russia (Far East), China, Korea, Japan.



Fig. 19. *Ketambea nigripectoris* (Oi, 1960), habitus, dorsal view. A. ♂ (SWUC-T-LIN-08-01). B. ♀ (SWUC-T-LIN-08-02).

Genus *Molestia* (帽蛛属) Tu, Saaristo & Li, 2006

***Molestia pollicaris* sp. nov.** (拇指帽蛛)

urn:lsid:zoobank.org:act:3D683307-EC36-4D97-852F-3D5B208EB386

Figs 20–23

Differential diagnosis

The new species can be distinguished from all other congeners by the tibia with a thumb-shaped retrolateral tibial apophysis; terminal apophysis wing-shaped with pointed end; embolus proper minute, lateral margin highly sclerotized, round in male palp (Figs 20–21); scape C-shaped; posterior median plate trapezoid (Fig. 23E).

Etymology

The epithet is derived from the Latin adjective ‘*pollicaris*’ meaning ‘of or belonging to a thumb’ and referring to the tibia with a thumb-shaped retrolateral tibial apophysis in male palp (Fig. 20C–D).

Type material

Holotype

CHINA • ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Xiang Yaocai Village; 31°18′57.96″ N, 110°5′23.55″ E; elev. 1681 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-09-01.

Paratypes

CHINA • 12 ♂♂, 17 ♀♀; same collection data as for holotype; SWUC-T-LIN-09-02–30 • 1 ♂, 5 ♀♀; Wushan County, Dangyang Town, Congping Management and Protection Station; 31°23′47.16″ N, 110°2′3.32″ E; elev. 1970 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-09-31–36 • 1 ♀; Wushan County, Guanyang Town, Pingqian Management Station; 31°22′22.75″ N, 109°56′17.25″ E; elev. 1832 m; 4 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-09-37–38 • 4 ♀♀; Wushan County, Dangyang Town, Wushanya; 31°28′21.35″ N, 109°59′10.29″ E; elev. 1740 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-09-39–42 • 2 ♂♂; Wushan County, Guanyang Town, Zhuxian Township, Zhaoyang Ping; 31°16′23.77″ N, 110°5′45.79″ E; elev. 1575 m; 5 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-09-43–44 • 6 ♂♂, 3 ♀♀; Wushan County, Dangyang Town, Congping Mountain; 31°23′47.16″ N, 110°2′28.04″ E; elev. 2150 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-09-45–53.

Description

Male (holotype, Figs 20, 23A)

MEASUREMENTS. Total 2.32 long; carapace 1.09 long, 0.89 wide; abdomen 1.38 long, 0.84 wide. Eye sizes and interdistances: AME 0.05, ALE 0.10, PME 0.09, PLE 0.10, AME–AME 0.02, PME–PME 0.03, AME–ALE 0.05, PME–PLE 0.06, ALE–ALE 0.39, PLE–PLE 0.44, ALE–PLE 0.01, AME–PME 0.09.

CEPHALOTHORAX. Carapace yellow, cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.16 high.

CHELICERAE. With two promarginal and two retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 5.62 (1.41, 1.77, 1.51, 0.93), II 4.68 (1.25, 1.44, 1.21, 0.78), III 3.50 (1, 1.03, 0.92, 0.55), IV 4.78 (1.33, 1.38, 1.25, 0.82). Leg formula I-IV-II-III. TmI 0.31 and TmIV absent. Tibial spine formula: 2-2-2-2.

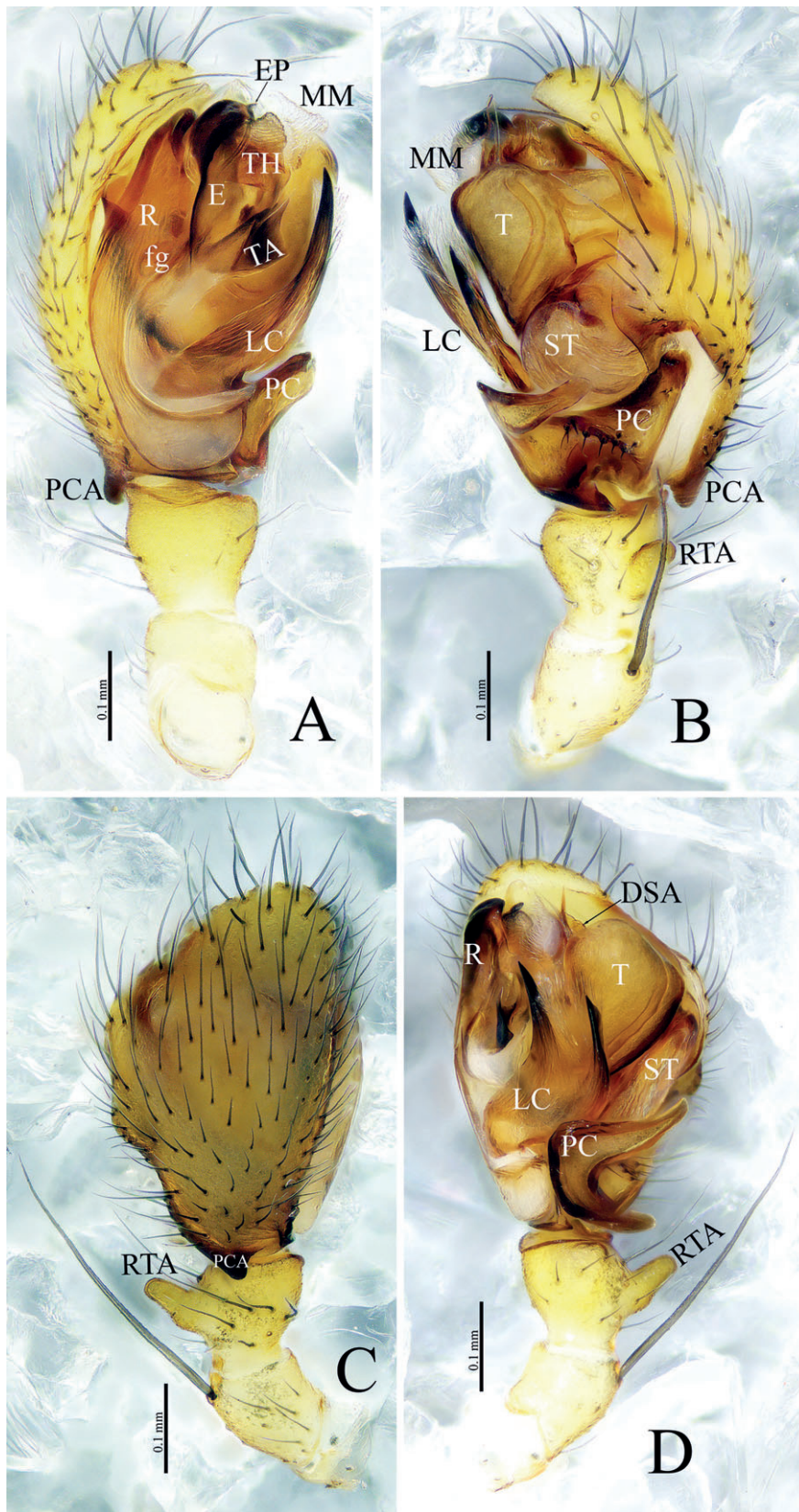


Fig. 20. *Molestia pollicaris* sp. nov., holotype ♂, left palp (SWUC-T-LIN-09-01). A. Prolateral view. B. Retrolateral view. C. Dorsal view. D. Ventral view.

ABDOMEN. Oval, grey, posteriorly with four chevrons, base of spinnerets black, ventral side grey.

PALP (Figs 20–21). Patella shorter than tibia with a long dorsal spine; tibia conic, distal margin much broader than proximal end, with two retrolateral and one dorsal trichobothria, with a thumb-shaped retrolateral tibial apophysis with blunt end; proximal cymbial apophysis short, with blunt end; prolateral margin of cymbium provided with an outgrowth. Basal part of paracymbium with somewhat triangular projection with sharp pointed end; distal arm grooved, distally narrow with blunt end. Distal suprategular apophysis relatively strong sclerotized, distal end grooved. Radix longer than wide, with a long proximal radical apophysis. Lamella characteristic with basal sclerite, with two chitinised branches and one additional more or less transparent extension with frayed margin. Fickert's gland present within radix. Terminal apophysis sclerotized, wing-shaped with pointed end. Embolus broad; distally relatively round with minute embolus proper and unmodified thumb.

Female (paratype, SWUC-T-LIN-09-02, Figs 22, 23B)

MEASUREMENTS. Total 2.65 long; carapace 1.08 long, 0.82 wide; abdomen 1.64 long, 1.26 wide. Eye sizes and interdistances: AME 0.07, ALE 0.10, PME 0.09, PLE 0.10, AME–AME 0.01, PME–PME 0.03, AME–ALE 0.06, PME–PLE 0.04, ALE–ALE 0.37, PLE–PLE 0.41, ALE–PLE contiguous, AME–PME 0.10.

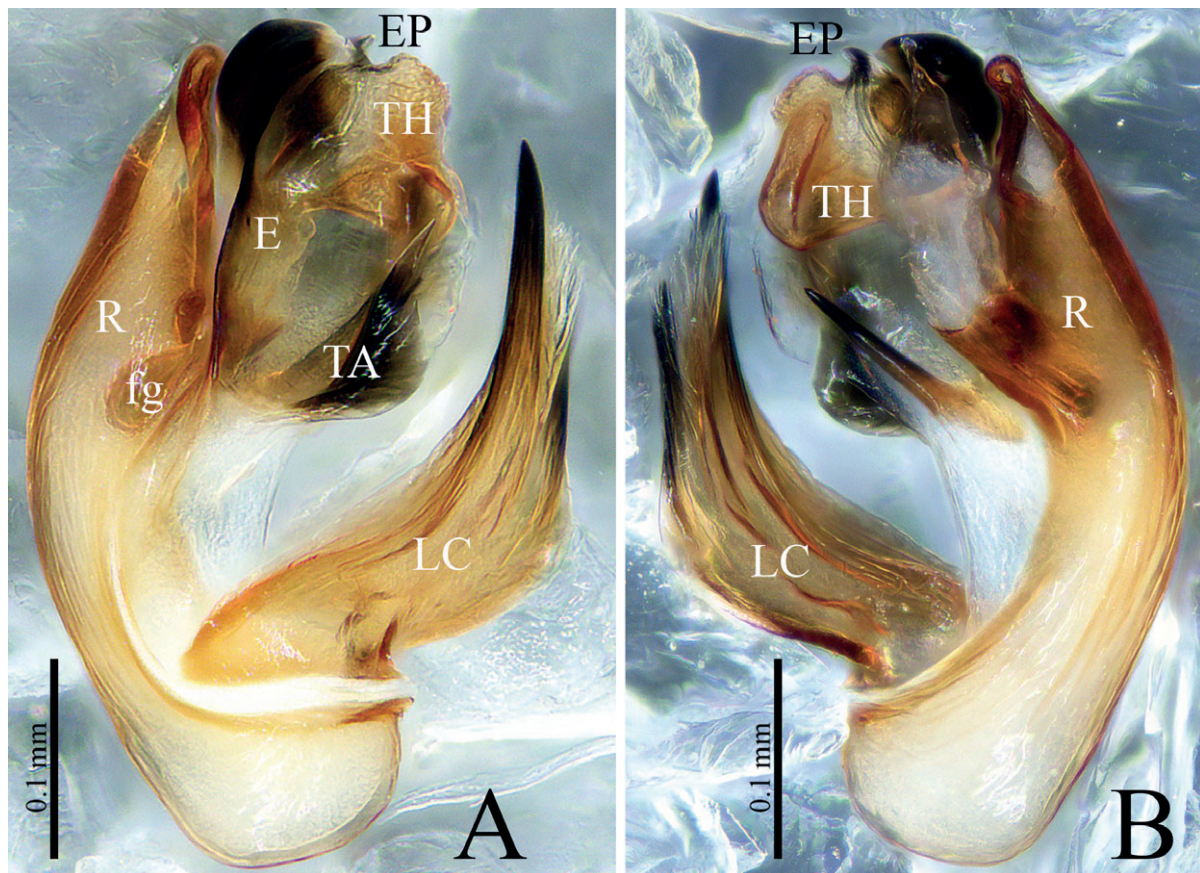


Fig. 21. *Molestia pollicaris* sp. nov., paratype ♂, embolic division (SWUC-T-LIN-09-03). **A.** Dorsal view. **B.** Ventral view.

CEPHALOTHORAX. Carapace yellow, cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.14 high.

CHELICERAE. With three promarginal and five retromarginal teeth.

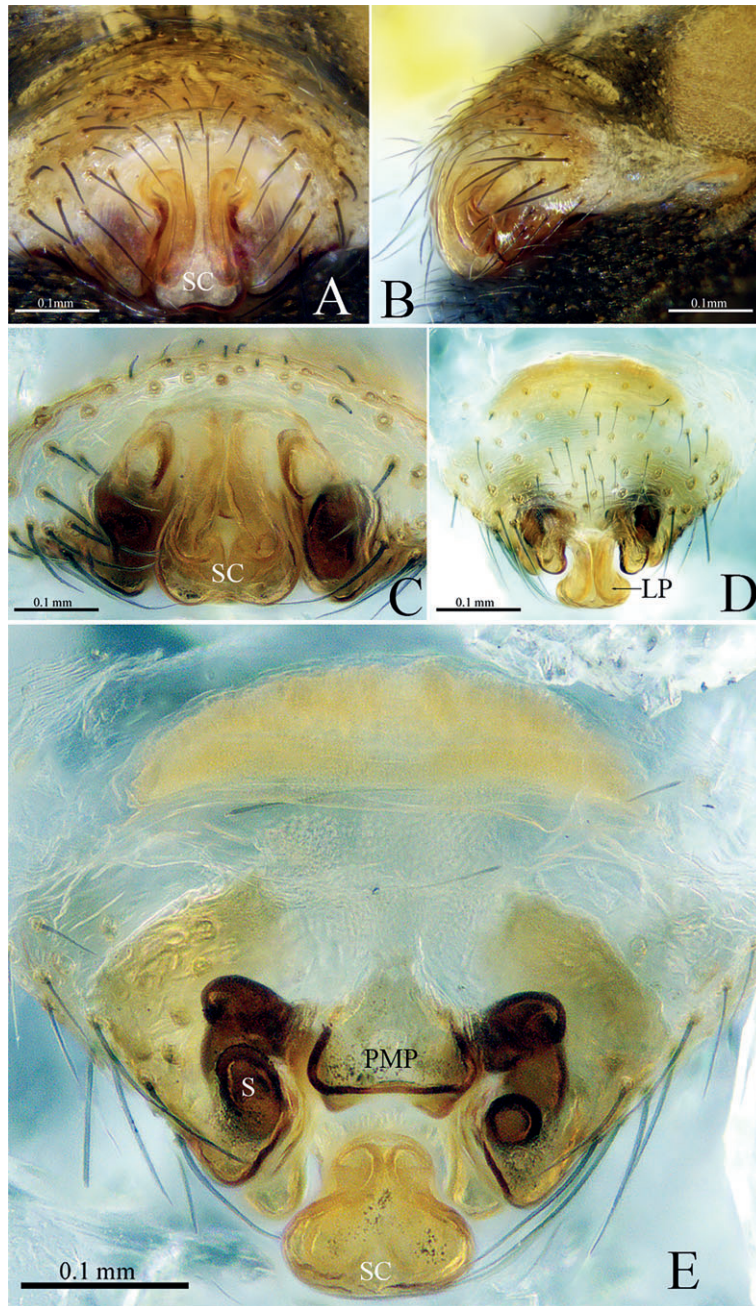


Fig. 22. *Molestia pollicaris* sp. nov., paratype ♀, epigyne (SWUC-T-LIN-09-02). **A, C–D.** Ventral view. **B.** Lateral view. **E.** Dorsal view.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 4.63 (1.25, 1.44, 1.16, 0.78), II 3.97 (1.12, 1.22, 0.98, 0.65), III 3.10 (0.91, 0.95, 0.77, 0.47), IV 4.02 (1.19, 1.17, 1.05, 0.61). Leg formula I-IV-II-III. TmI 0.31 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Same as in male.

EPIGYNE (Fig. 22A–D). Scape longer than wide, with lateral pockets on inner surface. Stretcher absent. Posterior median plate broad, trapezoid. Spermathecae C-shaped, situated dorso–laterally.



Fig. 23. *Molestia pollicaris* sp. nov., habitus, dorsal view. **A.** Holotype ♂ (SWUC-T-LIN-09-01). **B.** Paratype ♀ (SWUC-T-LIN-09-02).

Distribution

Known from type locality.

Genus *Neriere* Blackwall, 1833 (盖蛛属)

Neriere calozonata Chen & Zhu, 1989 (丽带盖蛛)
Figs 24, 39A

Neriere calozonata Chen & Zhu, 1989: 162, figs 12–18 (Df).

Neriere calozonata – Yin *et al.* 2012: 519, fig. 243a–c (f). — Li *et al.* 2018: 24, figs 21a–i, 22a–f, 23a–e (mf).

Material examined

CHINA • 3 ♀♀; Chongqing, Wushan County, Guanyang Town, Pingqian Management Station; 31°22'23.87" N, 109°55'44.24" E; elev. 1814 m; 22 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-10-01–03.

Distribution

China (Chongqing).

Neriere cavaleriei (Schenkel, 1963) (卡氏盖蛛)
Figs 25–27

Linyphia cavaleriei Schenkel, 1963: 119, fig. 71 (Dm).

Neriere cavaleriei – van Helsdingen 1969: 153, figs 200–204 (Tm from *Linyphia*). — Fu 2018: 40, figs 5, 6a–c, pl. 9 (f). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♂, 2 ♀♀; Chongqing, Wushan County, Dangyang Town, Reshuiba; 31°24'2.02" N, 109°58'24.16" E, elev. 790 m; 24 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-11-01–03.

Distribution

China (Chongqing), Vietnam.

Neriere emphana (Walckenaer, 1841) (醒目盖蛛)
Figs 28–30

Linyphia emphana Walckenaer, 1841: 246 (Df); Dahl, 1883: 38 (Dm).

Neriere emphana – van Helsdingen 1969: 210, figs 11–12, 294–304 (mf). — Li *et al.* 2018: 24, figs 21a–i, 22a–f, 23a–e (mf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

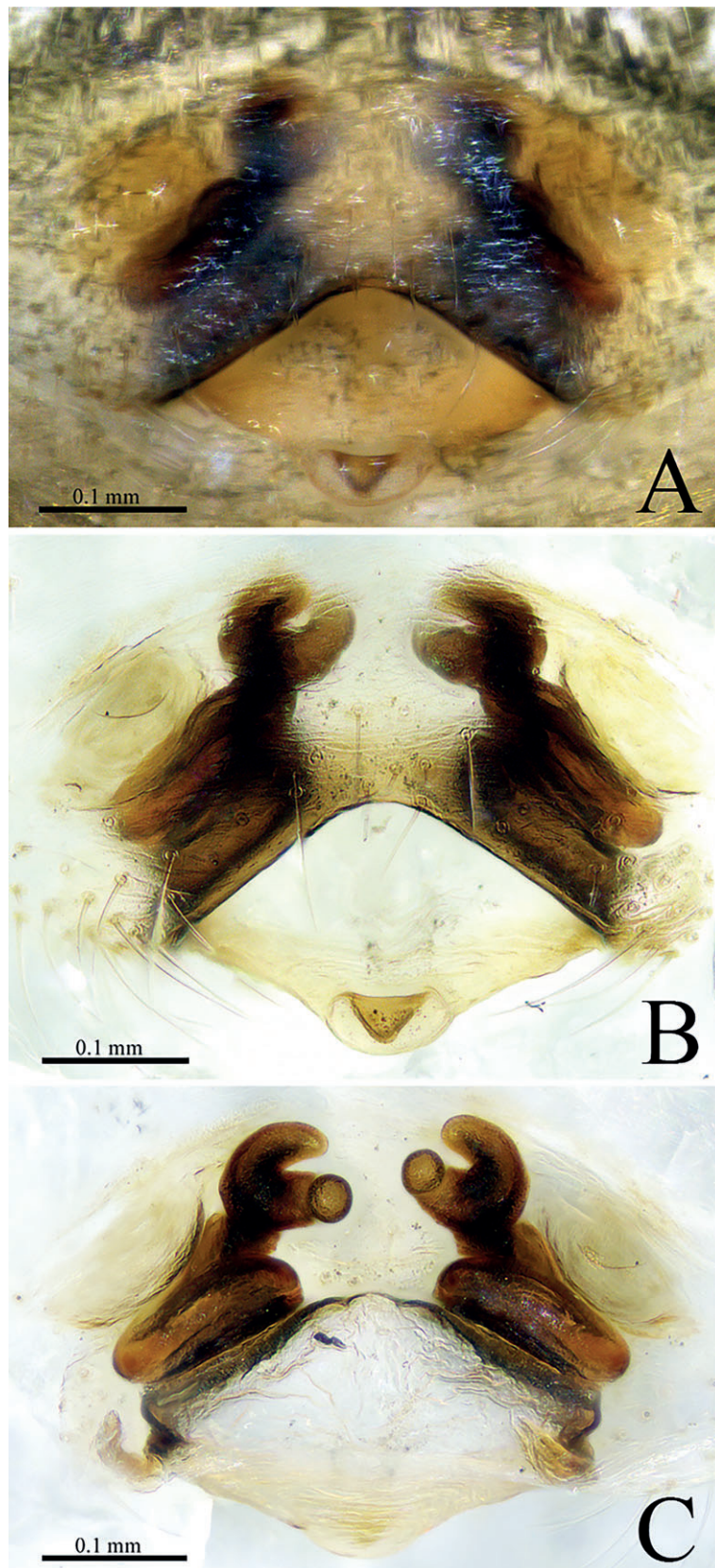


Fig. 24. *Neriene calozonata* Chen & Zhu, 1989, ♀ (SWUC-T-LIN-10-01). A–B. Epigyne, ventral view. C. Vulva, dorsal view.

Material examined

CHINA • 1 ♂, 1 ♀; Chongqing, Wushan County, Dangyang Town, Wushanya; 31°28'27.41" N, 109°59'5.22" E; elev. 1753 m; 21 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-12-01-02 • 1 ♀; Wushan County, Guanyang Town, Pingqian Management Station; 31°21'35.66" N,

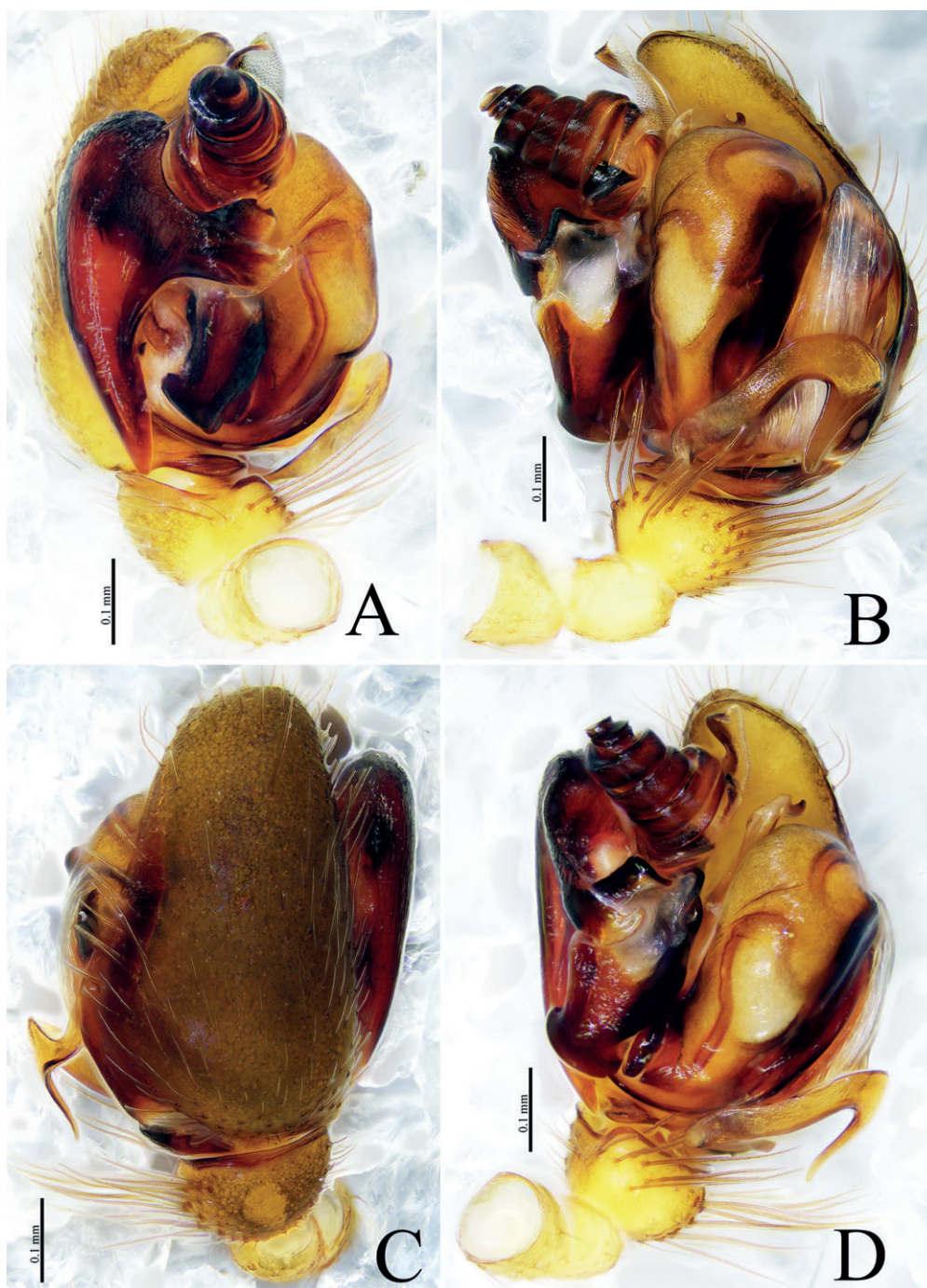


Fig. 25. *Neriene cavaleriei* (Schenkel, 1963), ♂ palp (SWUC-T-LIN-11-01). A. Prolateral view. B. Retrolateral view. C. Ventral view. D. Dorsal view.

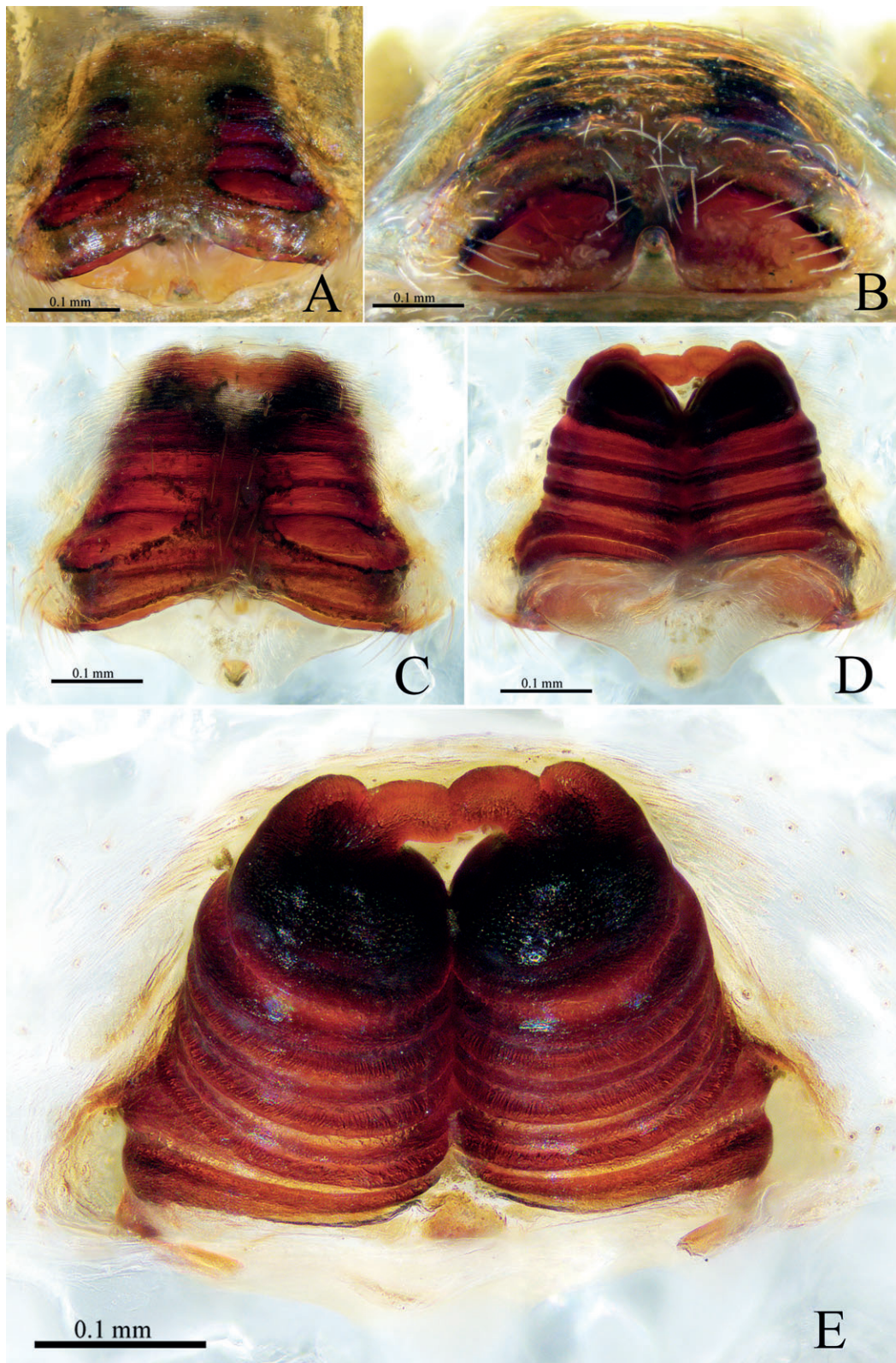


Fig. 26. *Neriene cavaleriei* (Schenkel, 1963) ♀ (SWUC-T-LIN-11-02). A–C. Epigyne, ventral view. D–E. Vulva, dorsal view.

109°54'49.24" E; elev. 1835 m; 23 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-12-03.

Distribution

Europe, Caucasus, Russia (Europe to Far East), Kazakhstan, Iran, Central Asia, China (Chongqing), Korea, Japan.



Fig. 27. *Neriene cavaleriei* (Schenkel, 1963), habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-11-01). **B.** ♀ (SWUC-T-LIN-11-02).

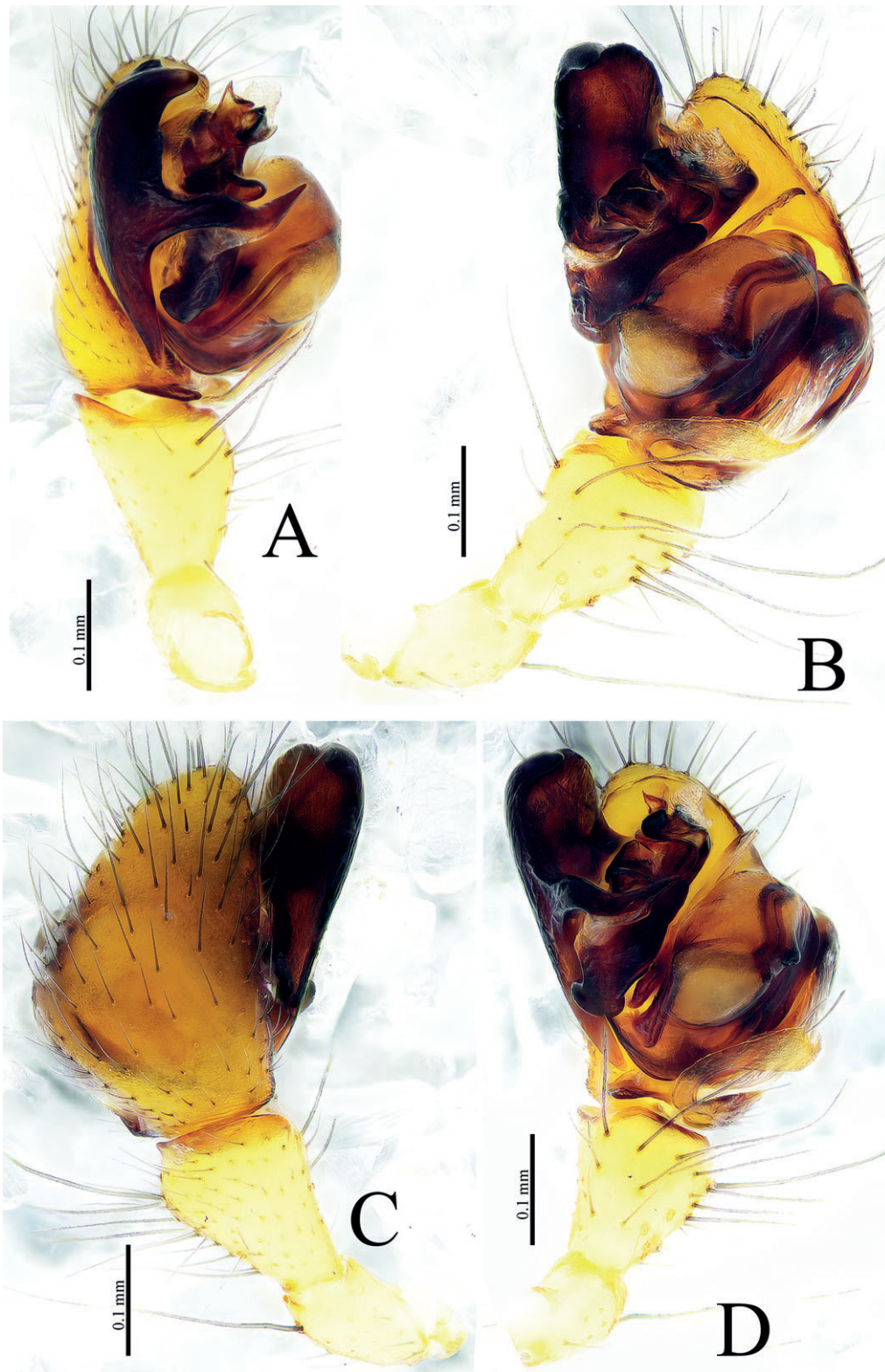


Fig. 28. *Neriene emphana* (Walckenaer, 1841), ♂ palp (SWUC-T-LIN-12-01). **A.** Prolateral view **B.** Retrolateral view **C.** Ventral view. **D.** Dorsal view.

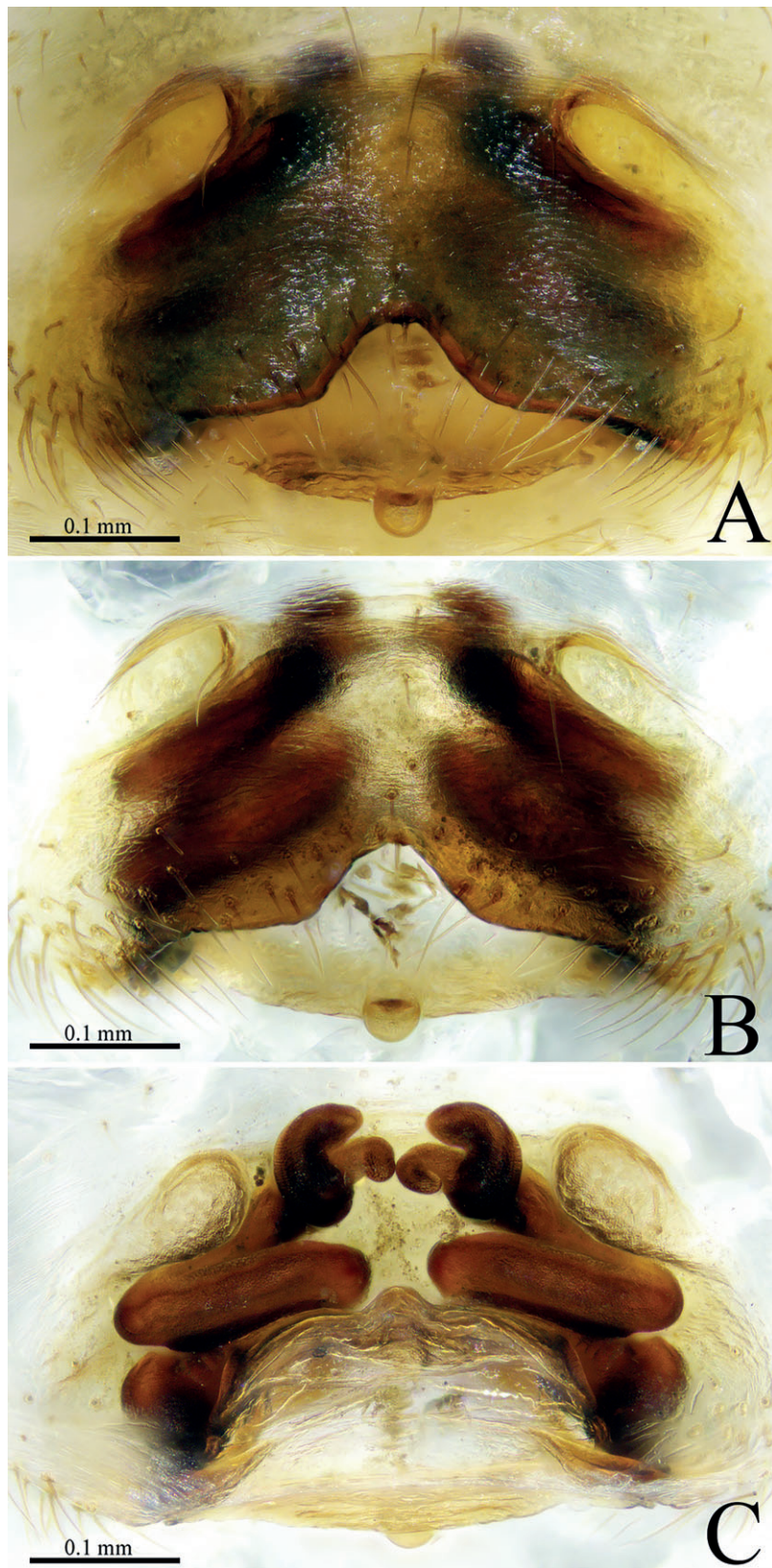


Fig. 29. *Neriene emphana* (Walckenaer, 1841), ♀ (SWUC-T-LIN-12-02). A–B. Epigyne, ventral view. C. Vulva, dorsal view.



Fig. 30. *Neriene emphana* (Walckenaer, 1841), habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-12-01). **B.** ♀ (SWUC-T-LIN-12-02).

Neriene japonica (Oi, 1960) (日本盖蛛)

Figs 31–33

Neolinyphia japonica Oi, 1960a: 224, figs 322–324 (Dmf).

Neriene japonica – van Helsdingen 1969: 270, figs 367–375 (mf). —Fu 2018: 40, figs 5–7a–c, pl. 9 (f). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♂, 2 ♀♀; Chongqing, Wushan County, Zhuxian Township, Miaotong; 31°21'39.92" N, 110°06'07.50" E; elev. 1065 m; 19 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-13-01-03.

Distribution

Russia (Far East), China, Korea, Japan

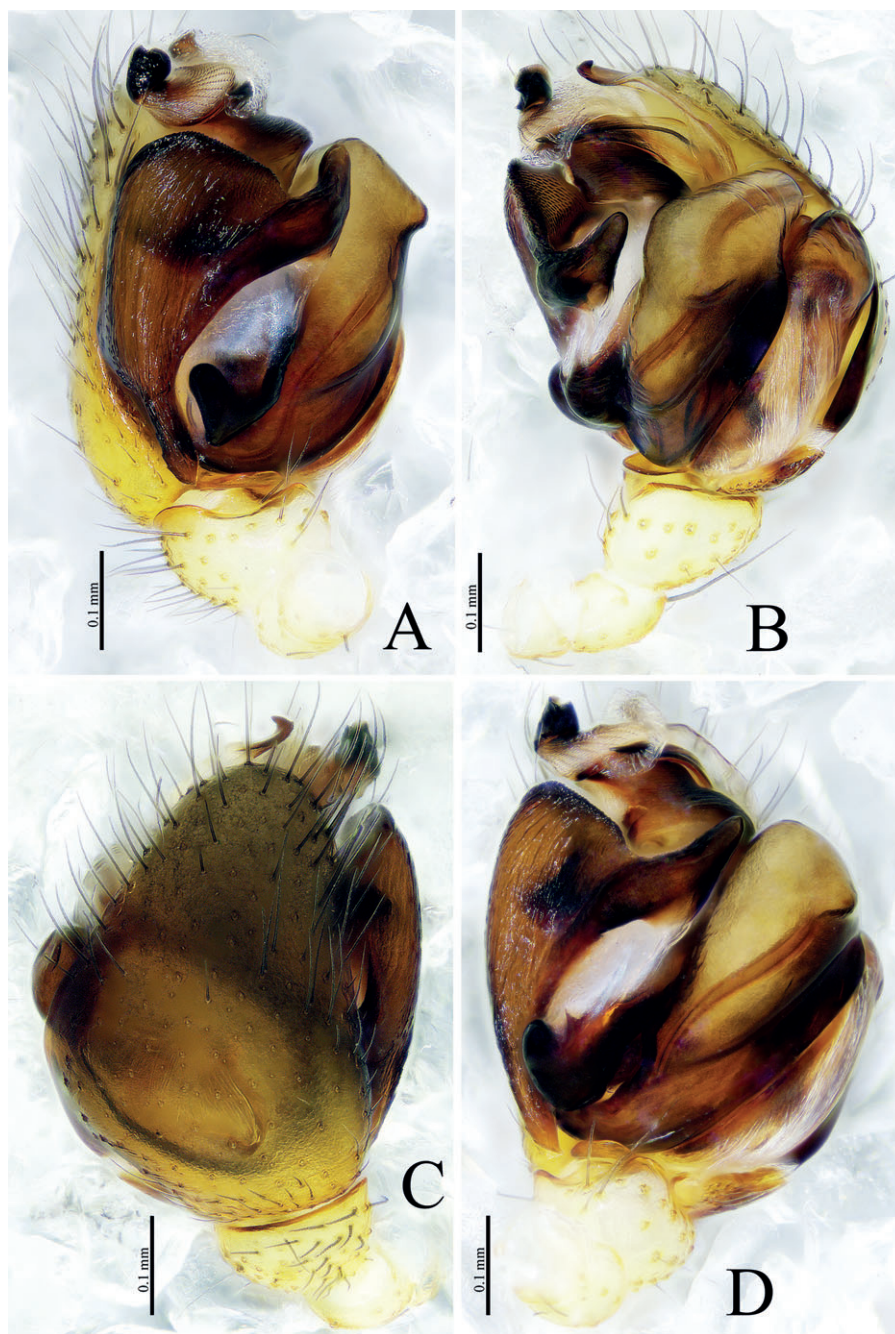


Fig. 31. *Neriene japonica* (Oi, 1960), ♂ palp (SWUC-T-LIN-13-01). **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view.

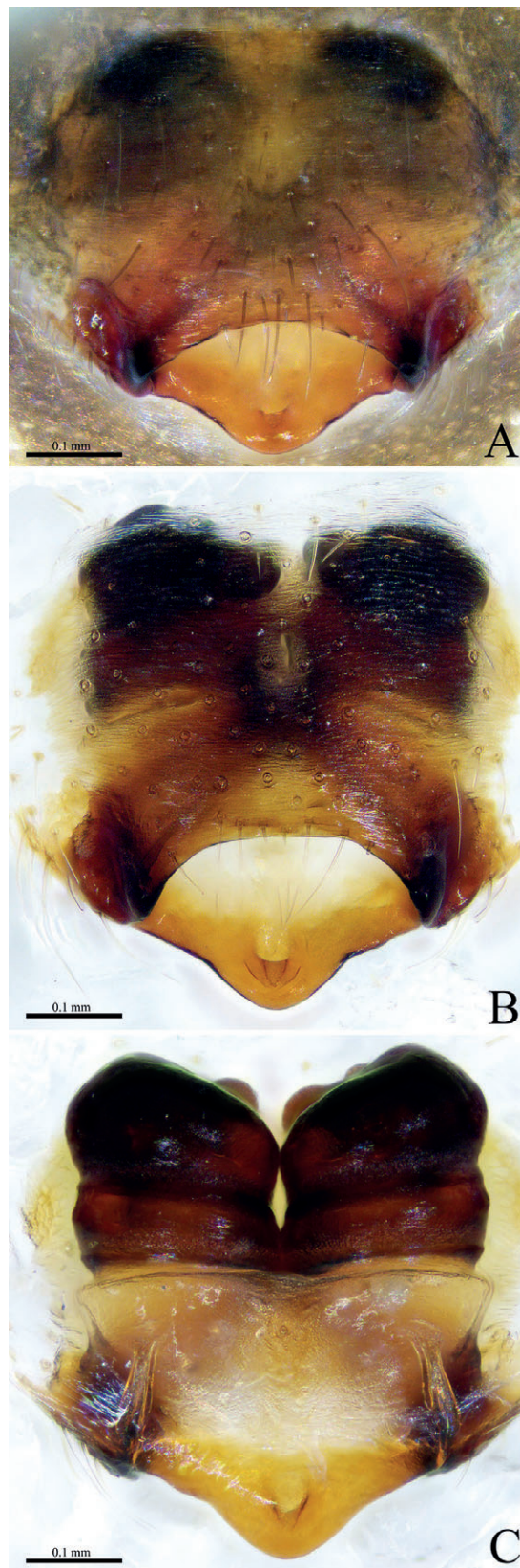


Fig. 32. *Neriene japonica* (Oi, 1960), ♀ (SWUC-T-LIN-13-02). **A–B.** Epigyne, ventral view. **C.** Vulva, dorsal view.



Fig. 33. *Neriene japonica* (Oi, 1960), habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-13-01). **B.** ♀ (SWUC-T-LIN-13-02).

Neriene limbatinella (Bösenberg & Strand, 1906) (窄边盖蛛)

Fig. 34

Linyphia limbatinella Bösenberg & Strand, 1906: 174, pl. 12, fig. 248 (Dm).

Neriene limbatinella – van Helsdingen 1969: 278, figs 386–393 (mf, S). — Yin *et al.* 2012: 529, fig. 250a–f (mf). — Li *et al.* 2018: 24, figs 21a–i, 22a–f, 23a–e (mf).

Material examined

CHINA • 1 ♀; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Zhaoyang Ping; 31°16'23.77" N, 110°5'45.79" E; elev. 1575m; 5 Oct. 2020; Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-14-01.

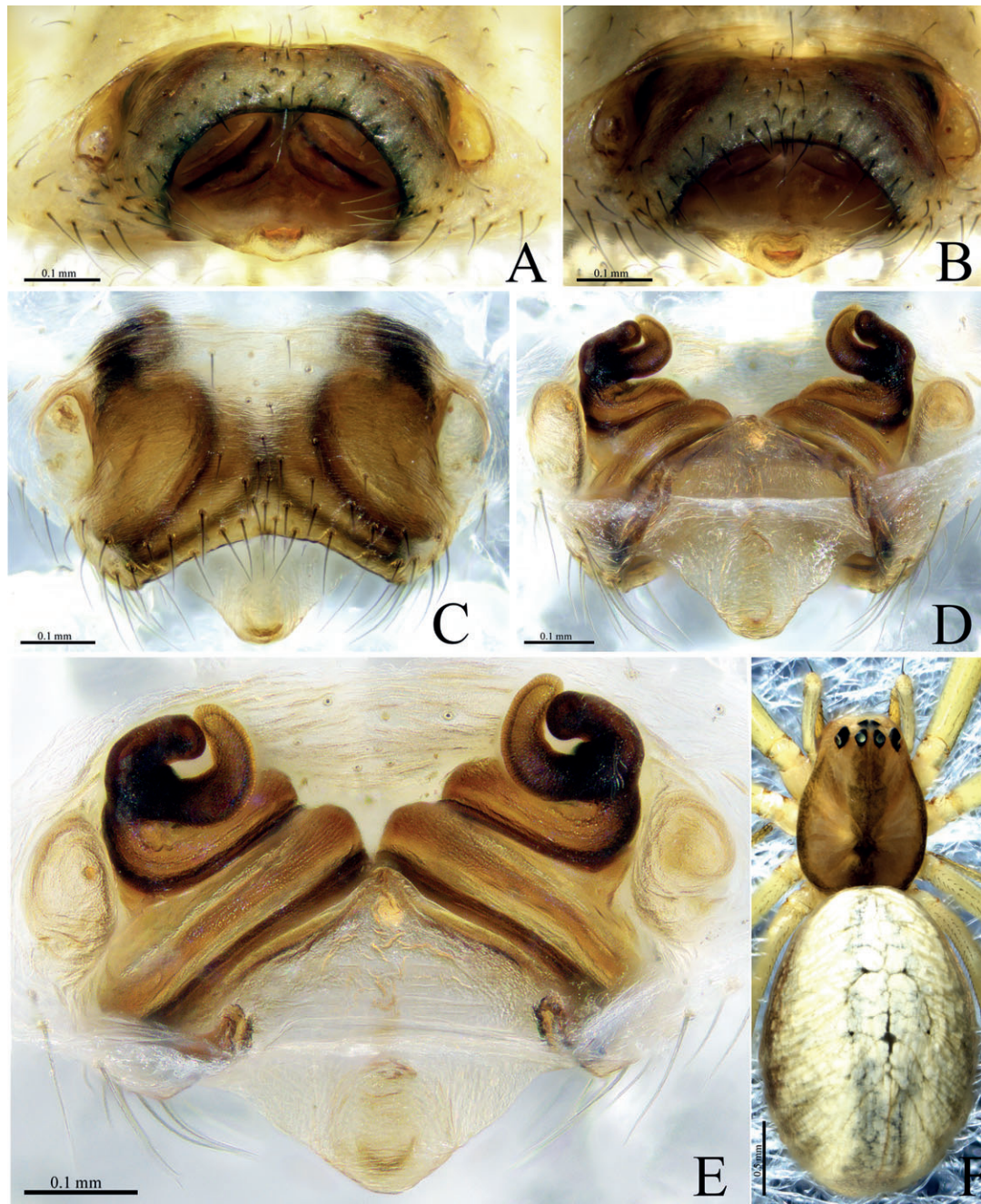


Fig. 34. *Neriene limbatinella* (Bösenberg & Strand, 1906), ♀ (SWUC-T-LIN-14-01). A–C. Epigyne, ventral view. D–E. Vulva, dorsal view. F. Habitus, dorsal view.

Distribution

Russia (Far East), China (Chongqing), Korea, Japan.

Neriene longipedella (Bösenberg & Strand, 1906) (长肢盖蛛)
Figs 35–37

Linyphia marginata longipedella Bösenberg & Strand, 1906: 173, fig. 192.

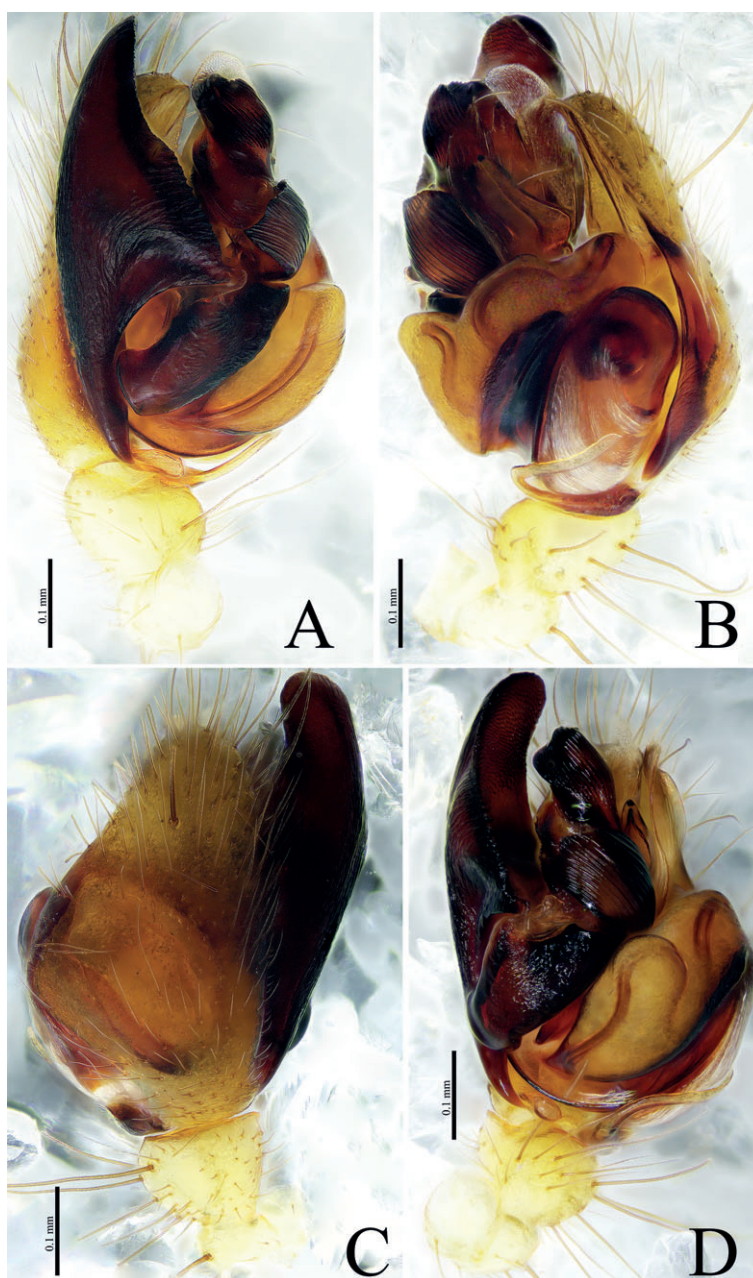


Fig. 35. *Neriene longipedella* (Bösenberg & Strand, 1906), ♂ palpus (SWUC-T-LIN-15-01). A. Prolateral view. B. Retrolateral view. C. Ventral view. D. Dorsal view.

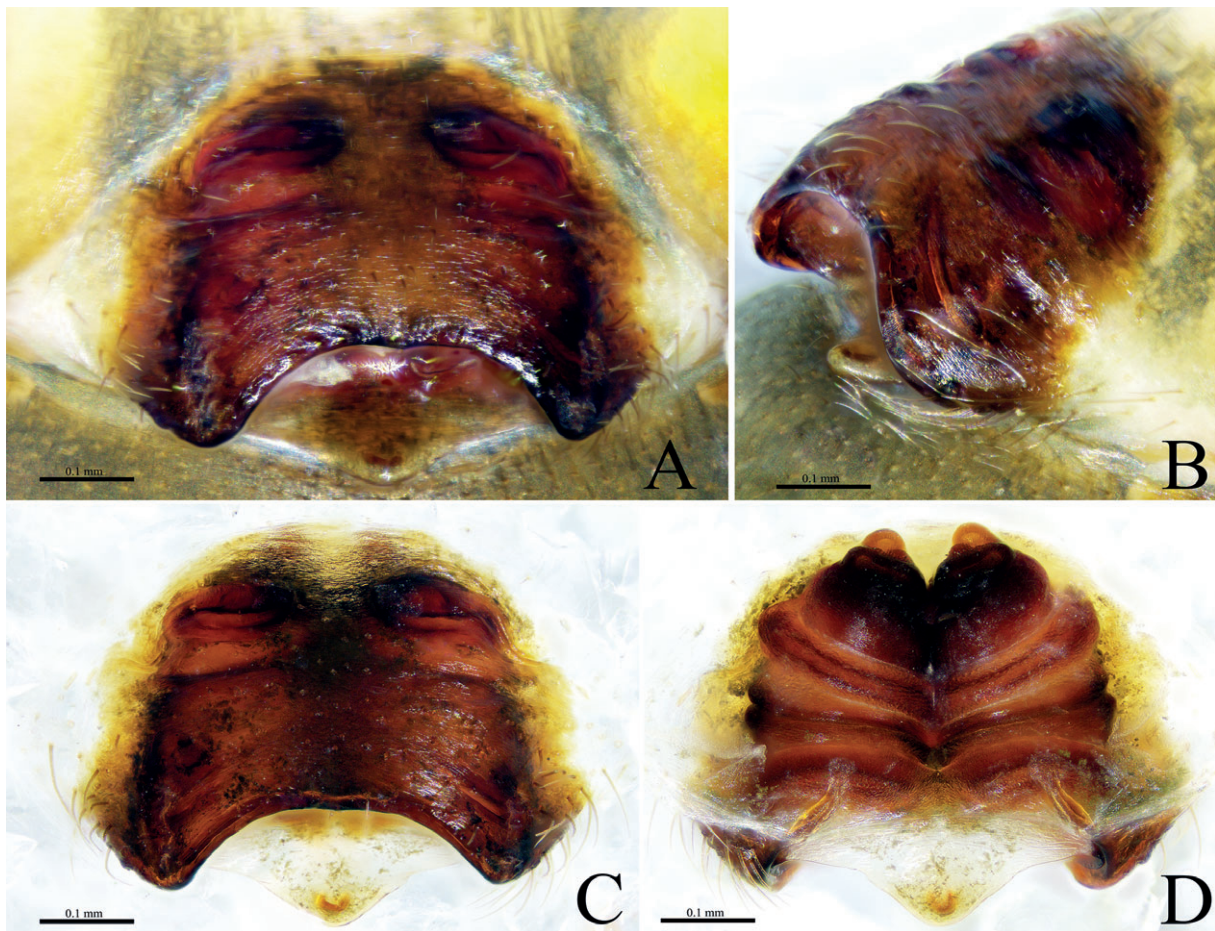


Fig. 36. *Neriene longipedella* (Bösenberg & Strand, 1906), ♀ (SWUC-T-LIN-15-02). **A, C.** Epigyne, ventral view. **B.** Epigyne, lateral view. **D.** Vulva, dorsal view.

Neriene longipedella – van Helsdingen 1969: 235, figs 325–333 (mf). — Fu 2018: 42, figs 5–9a–g, pl. 10 (mf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♂, 2 ♀♀; Chongqing, Wushan County, Guanyang Town, Pingqian Management Station; 31°21'35.66" N, 109°54'49.24" E; elev. 1835 m; 22 Jul. 2021; Z. S. Zhang, L.Y.Wang and T.Y. Ren leg.; SWUC-T-LIN-15-01–03.

Distribution

Russia (Far East), China, Korea, Japan.



Fig. 37. *Neriene longipedella* (Bösenberg & Strand, 1906), habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-15-01). **B.** ♀ (SWUC-T-LIN-15-02).

Neriene oidedicata van Helsdingen, 1969 (大井盖蛛)
Figs 38–39B

Linyphia albolimbata Yaginuma, 1960: 41, fig. 40.3 (f, misidentified).

Neriene oidedicata – van Helsdingen 1969: 146, figs 189–199 (Dmf). — Fu 2018: 44, figs 5–11a–c, pl. 10 (f, lapsus). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♀; Chongqing, Wushan County, Dangyang Township, Congping Management Station; 31°23'38.91" N, 110°01'56.59" E; elev. 1941 m; 19 Apr. 2021; Z. S. Zhang, L.Y.Wang and Z. J. Shi leg.; SWUC-T-LIN-16-01–03 • 1 ♀; Chongqing, Wushan County, Zhuxian Township, Miaotang; 31°21'39.92" N, 110°06'07.50" E; elev. 1065 m; 19 Jul. 2021; Z.S. Zhang, L.Y Wang and T.Y. Ren leg.; SWUC-T-LIN-16-04.

Distribution

Nepal, China, Russia (Far East), Korea, Japan.

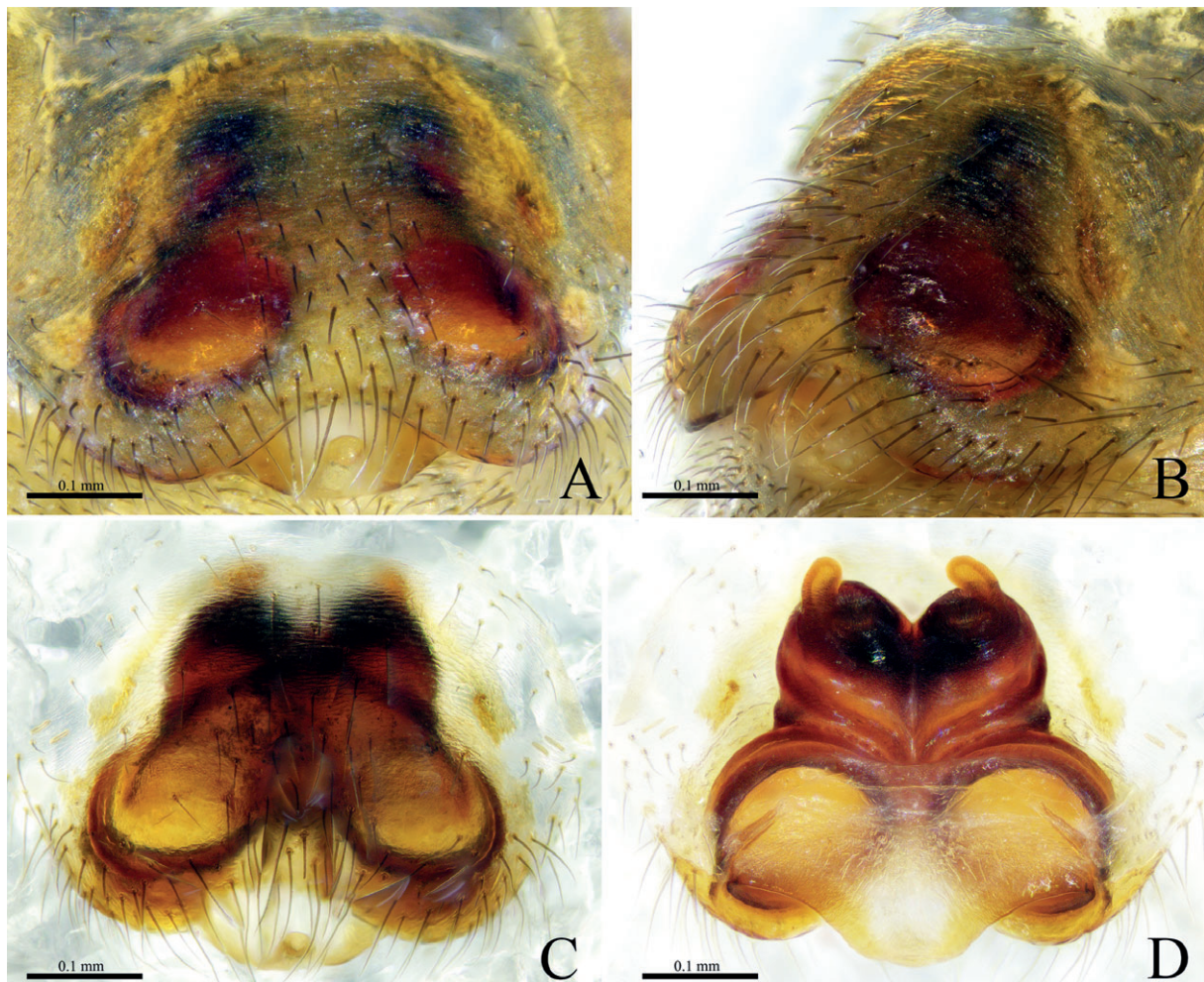


Fig. 38. *Neriene oidedicata* van Helsdingen, 1969, ♀ (SWUC-T-LIN-16-01). **A, C.** Epigyne, ventral view. **B.** Epigyne, lateral view. **D.** Vulva, dorsal view.



Fig. 39. Habitus, dorsal view. **A.** *Neriene calozonata* Chen & Zhu, 1989, ♀ (SWUC-T-LIN-10-01).
B. *Neriene oidedicata* van Helsdingen, 1969, ♀ (SWUC-T-LIN-16-01).

Genus *Prosoponoides* Millidge & Russell-Smith, 1992 (面蛛属)

Prosoponoides sinense (Chen, 1991) (中华面蛛)

Figs 40–42

Neriene sinensis Chen, 1991: 164, fig. 2a–d (Dmf).

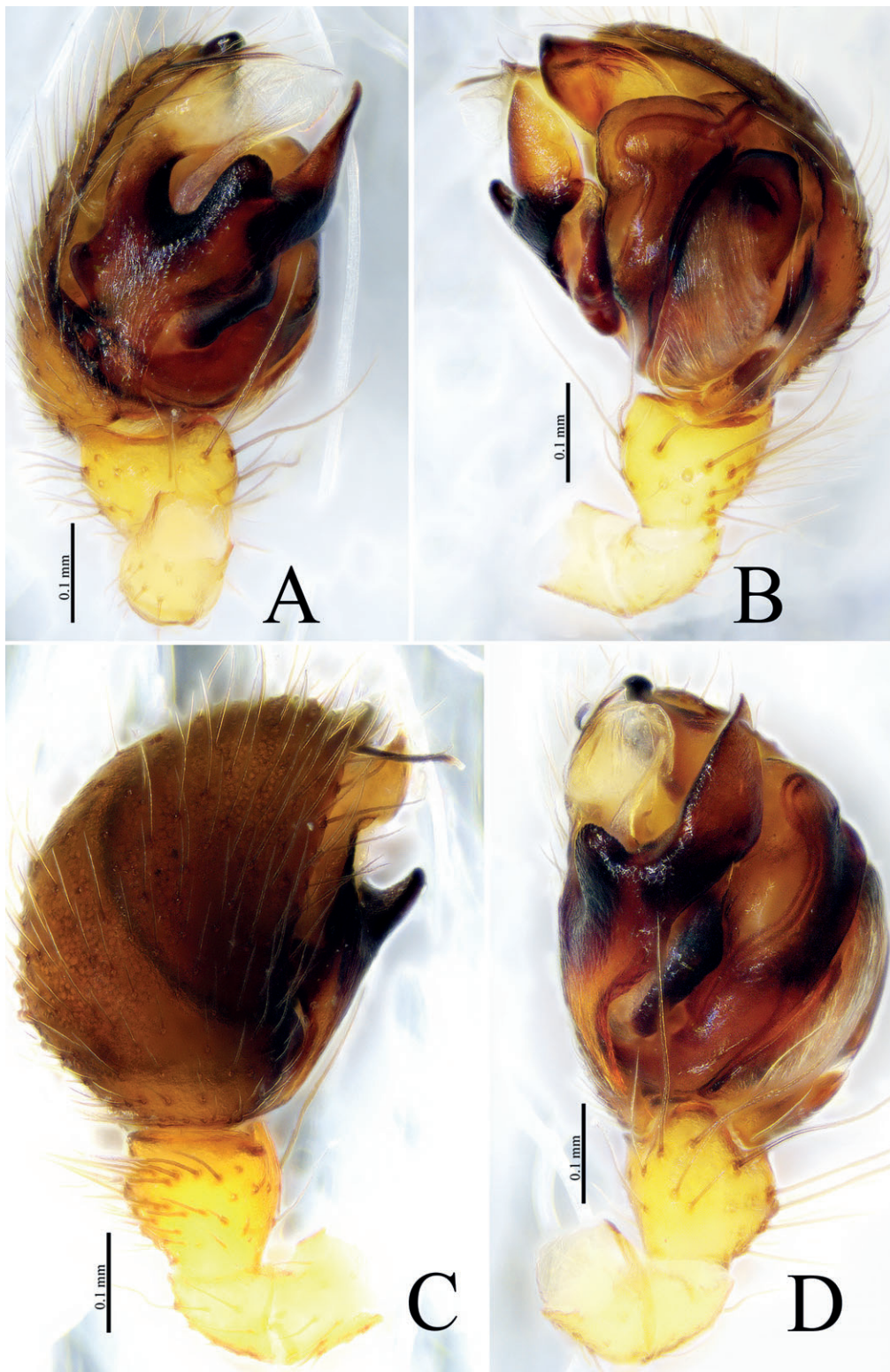


Fig. 40. *Prosoponoides sinense* (Chen, 1991), ♂ (SWUC-T-LIN-17-01), palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view.

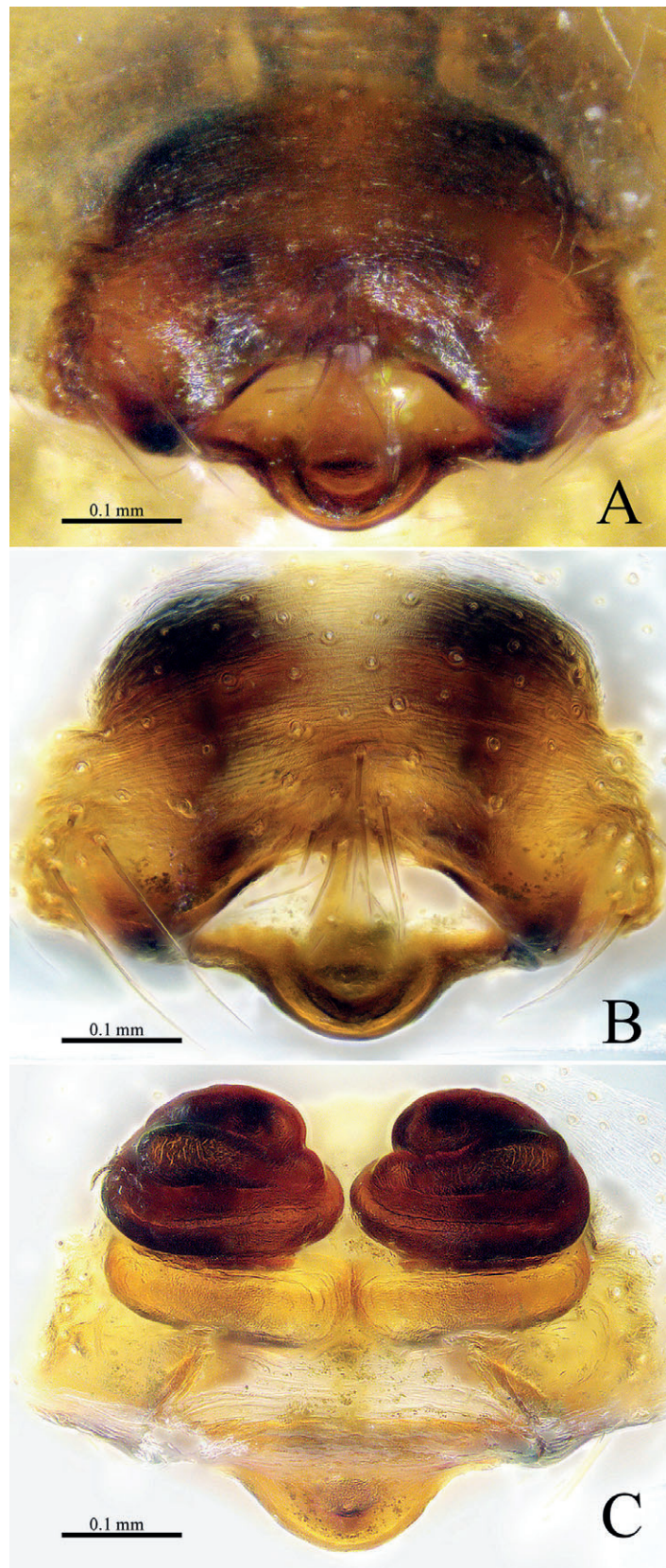


Fig. 41. *Prosoponoides sinense* (Chen, 1991), ♀ (SWUC-T-LIN-17-02). A–B. Epigyne, ventral view. C. Vulva, dorsal view.

Prosoponoides sinensis – Tu & Li 2006a: 113, fig. 9a–h (Tmf from *Neriene*). — Chen *et al.* 2020: 28, figs 4a–e, 5a–e (mf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022)

Material examined

CHINA • 1 ♂, 1 ♀; Chongqing, Wushan County, Zhuxian Township, Miaotang; 31°21'39.92" N, 110°06'07.50" E; elev. 1065 m; 19 Jul. 2021; Z.S. Zhang, L.Y Wang and T.Y. Ren leg.; SWUC-T-LIN-17-01–03.

Distribution

China, Vietnam, Malaysia (peninsula).



Fig. 42. *Prosoponoides sinense* (Chen, 1991), habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-17-01). **B.** ♀ (SWUC-T-LIN-17-02).

Genus *Ryojius* (良治蛛属) Saito & Ono, 2001***Ryojius simplex* sp. nov.** (简良治蛛)

urn:lsid:zoobank.org:act:3798EECE-5A0C-4578-8754-8D5DF908B300

Figs 43–45

Differential diagnosis

The new species resembles *Ryojius nanyuensis* (Chen & Yin, 2000) (Figs 43–47; Tu *et al.* 2006: figs 15–23) but can be distinguished by the lamella characteristic single branched in male palp in new species (Fig. 43A–B, D), whereas with two branches in *R. nanyuensis* (Tu *et al.* 2006: figs 15–16); distal part of paracymbium apex L-shaped in male palp in new species (Fig. 43B), whereas V-shaped in *R. nanyuensis* (Tu *et al.* 2006: fig 15). In epigyne, basal part of scape not covering all of the distal part in ventral view in new species (Fig. 44A–B), whereas covering most of it in *R. nanyuensis* (Tu *et al.* 2006: fig 21).

Etymology

The epithet is derived from the Latin adjective ‘*simplex*’ meaning ‘simple’ and referring to the lamella characteristic of the male palp being simple, with unmodified tip (Fig. 43A–B, D).

Type material**Holotype**

CHINA • ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°15'26.72" N, 110°4'34.11" E; elev. 1542 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-18-01.

Paratypes

CHINA • 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°16'8.98" N, 110°4'34.11" E; elev. 1445 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-18-02.

Description**Male** (holotype, Figs 43, 45A)

MEASUREMENTS. Total 2.18 long; carapace 0.98 long, 0.80 wide; abdomen 1.10 long, 0.76 wide. Eye sizes and interdistances: AME 0.04, ALE 0.07, PME 0.07, PLE 0.07, AME–AME 0.02, PME–PME 0.05, AME–ALE 0.03, PME–PLE 0.05, ALE–ALE 0.31, PLE–PLE 0.33, ALE–PLE contiguous, AME–PME 0.04.

CEPHALOTHORAX. Carapace yellowish-brown, cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.13 high.

CHELICERAE. With six promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 2.75 (0.81, 0.93, 0.61, 0.40), II 2.58 (0.73, 0.88, 0.58, 0.39), III 2.23 (0.65, 0.72, 0.51, 0.35), IV 2.72 (0.79, 0.92, 0.59, 0.42). Leg formula I-IV-II-III. TmI 0.26 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Oval, light grey, dorsally with three cheverons posteriorly, ventral side light grey.

PALP (Fig. 43). Patella short. Tibia with strongly sclerotised dorsal apophysis pointing laterally. Distal part of paracymbium with V-shaped apex, with broad blunt end. Pit hook on suprategulum long, distally

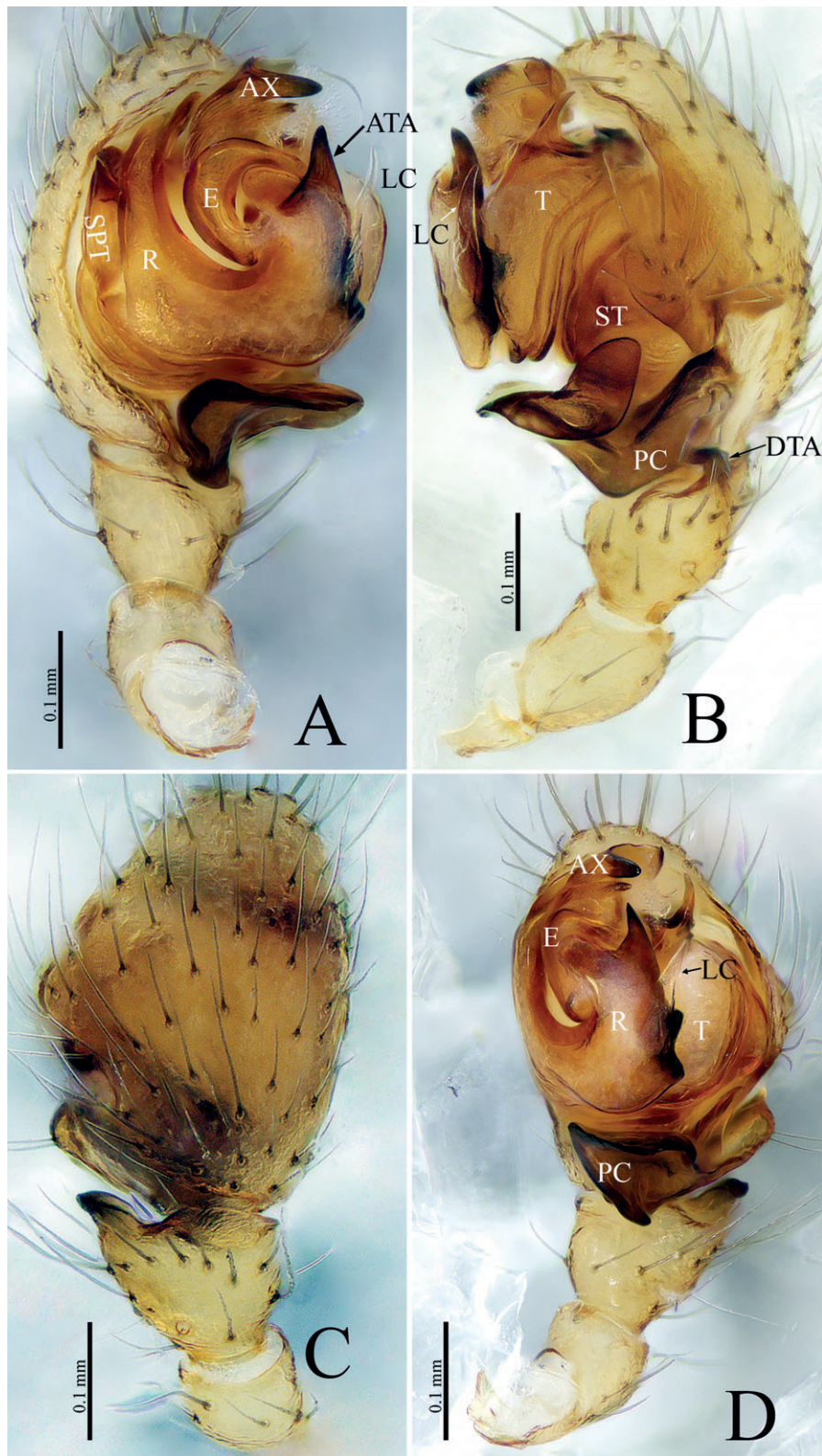


Fig. 43. *Ryojius simplex* sp. nov., ♂ holotype, left palp (SWUC-T-LIN-18-01). **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view.

arc-shaped with pointed end. Radix anterior part long, lancet-like. Lamella characteristica transparent, short, tip unmodified, apex retained below the anterior terminal apophysis. Anterior terminal apophysis thumb-shaped, with blunt end. Embolus conspicuously large, posteriorly curved about half circle, with conspicuous serrated area, embolus proper blunt, apex strongly sclerotized.

Female (paratype, SWUC-T-LIN-18-02, Figs 44, 45B)

MEASUREMENTS. Total 1.83 long; carapace 0.82 long, 0.64 wide; abdomen 1.29 long, 0.58 wide. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.06, PLE 0.07, AME–AME 0.01, PME–PME 0.04, AME–ALE 0.02, PME–PLE 0.04, ALE–ALE 0.26, PLE–PLE 0.29, ALE–PLE contiguous, AME–PME 0.05.

CEPHALOTHORAX. Same as in male. Clypeus 0.12 high.

CHELICERAE. With six promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 2.20 (0.64, 0.76, 0.43, 0.37), II 1.94 (0.57, 0.66, 0.39, 0.32), III 1.67 (0.49, 0.52, 0.36, 0.32), IV 2.11 (0.63, 0.70, 0.44, 0.34). Leg formula I-IV-II-III. TmI 0.24 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Same as in male.

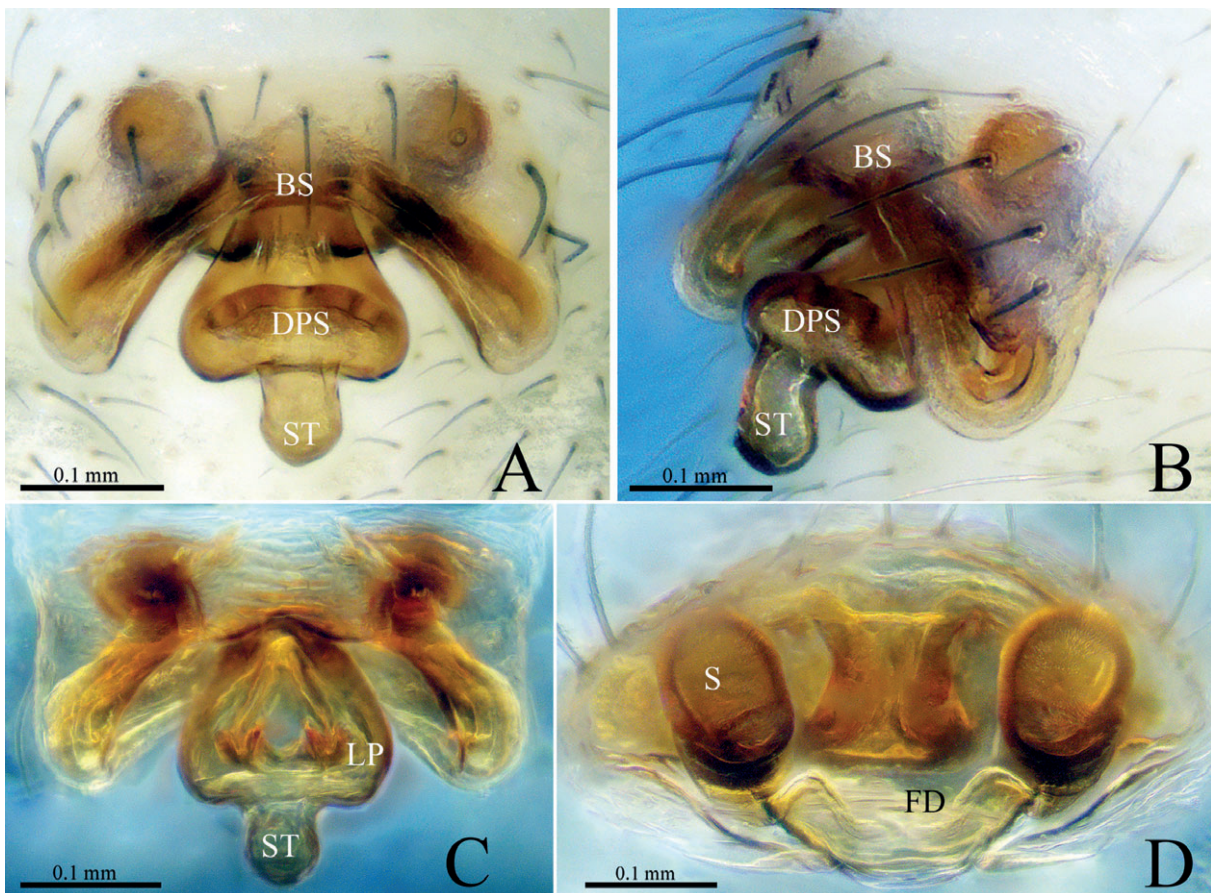


Fig. 44. *Ryojius simplex* sp. nov., ♀ paratype (SWUC-T-LIN-18-02). **A, C.** Epigyne, ventral view. **B.** Epigyne, lateral view. **D.** Vulva, dorsal view.

EPIGYNE (Fig. 44). Scape wider than long, basal part of scape posteriorly C-shaped; distal part of scape grooved with lateral pockets on inner surface. Stretcher conspicuous, tongue-shaped. Posterior median plate broad, somewhat rectangular. Spermathecae globular, situates dorso–laterally.

Distribution

Known from type locality.



Fig. 45. *Ryojius simplex* sp. nov., habitus, dorsal view. **A.** Holotype ♂ (SWUC-T-LIN-18-01). **B.** Paratype ♀ (SWUC-T-LIN-24-02).

Genus *Stemonyphantes* (冠蛛属) Menge, 1866

Stemonyphantes bifurcus sp. nov. (叉冠蛛)

urn:lsid:zoobank.org:act:79E6DE86-42CB-453B-B116-8B35347D28D6

Figs 46, 48A

Differential diagnosis

The new species resembles *Stemonyphantes lineatus* (Linnaeus, 1758) in having the similar paracymbium (Fig. 46B; Hormiga *et al.* 2021: fig. 8a) but can be distinguished by the radix with bifurcated anterior radical process (Fig. 46A); tegulum with three anterior tegular process (Fig. 46A–B, D).

Etymology

The epithet is derived from the Latin adjective ‘*bifurcus*’ meaning ‘bifurcate’ and referring to the distal end of radix being bifurcated with two radical processes in male palp (Fig. 46A–B, D).

Type material

Holotype

CHINA • ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°15'26.72" N, 110°4'34.11" E; elev. 1542 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-19-01.

Paratype

CHINA • 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°16'8.98" N, 110°4'34.11" E; elev. 1445m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-19-02.

Description

Male (holotype, Figs 46, 48A)

MEASUREMENTS. Total 3.57 long; carapace 1.95 long, 1.21 wide; abdomen 1.88 long, 1.43 wide. Eye sizes and interdistances: AME 0.13, ALE 0.13, PME 0.12, PLE 0.12, AME–AME 0.08, PME–PME 0.08, AME–ALE 0.04, PME–PLE 0.11, ALE–ALE 0.61, PLE–PLE 0.64, ALE–PLE 0.02, AME–PME 0.11.

CEPHALOTHORAX. Carapace yellow, cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.28 high.

CHELICERAE. With four promarginal and three retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 7.26 (1.96, 2.33, 1.77, 1.20), II 6.66 (1.82, 2.13, 1.62, 1.09), III 5.39 (1.61, 1.71, 1.31, 0.76), IV 6.78 (1.77, 2.21, 1.81, 0.99). Leg formula I-IV-II-III. TmI 0.26 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Oval, grey, dorsally with black and white patches extending laterally, ventral side grey.

PALP (Fig. 46). Patella as long as tibia, slightly curved, dorsally with long thick spine; tibia longer than wide, with two retrolateral and one dorsal trichobothria; ventral tibial apophysis slightly curved with blunt end. Cymbial process broad, D-shaped in ventral view. Paracymbium J-shaped, with thick spines on proximal part. Tegulum with three anterior tegular apophyses, gradually narrow towards distal end with notched tip. Embolic division: radix longer than wide, anterior radical process bifurcated. Embolus long and thin, whip-like.

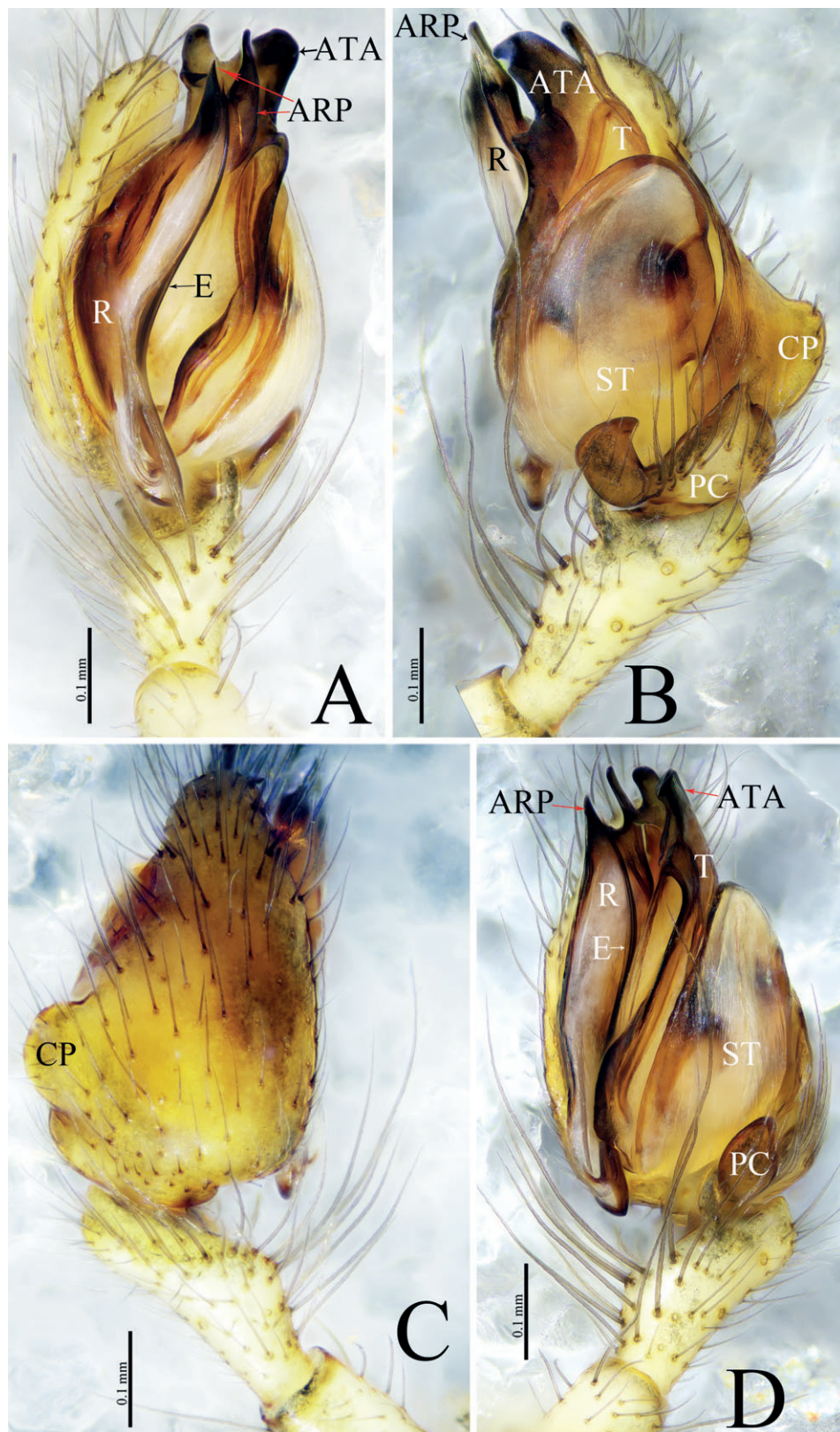


Fig. 46. *Stemonyphantes bifurcus* sp. nov., holotype ♂ (SWUC-T-LIN-19-01), left palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Ventral view. **D.** Dorsal view.

Female
Unknown.

Distribution
Known from type locality.

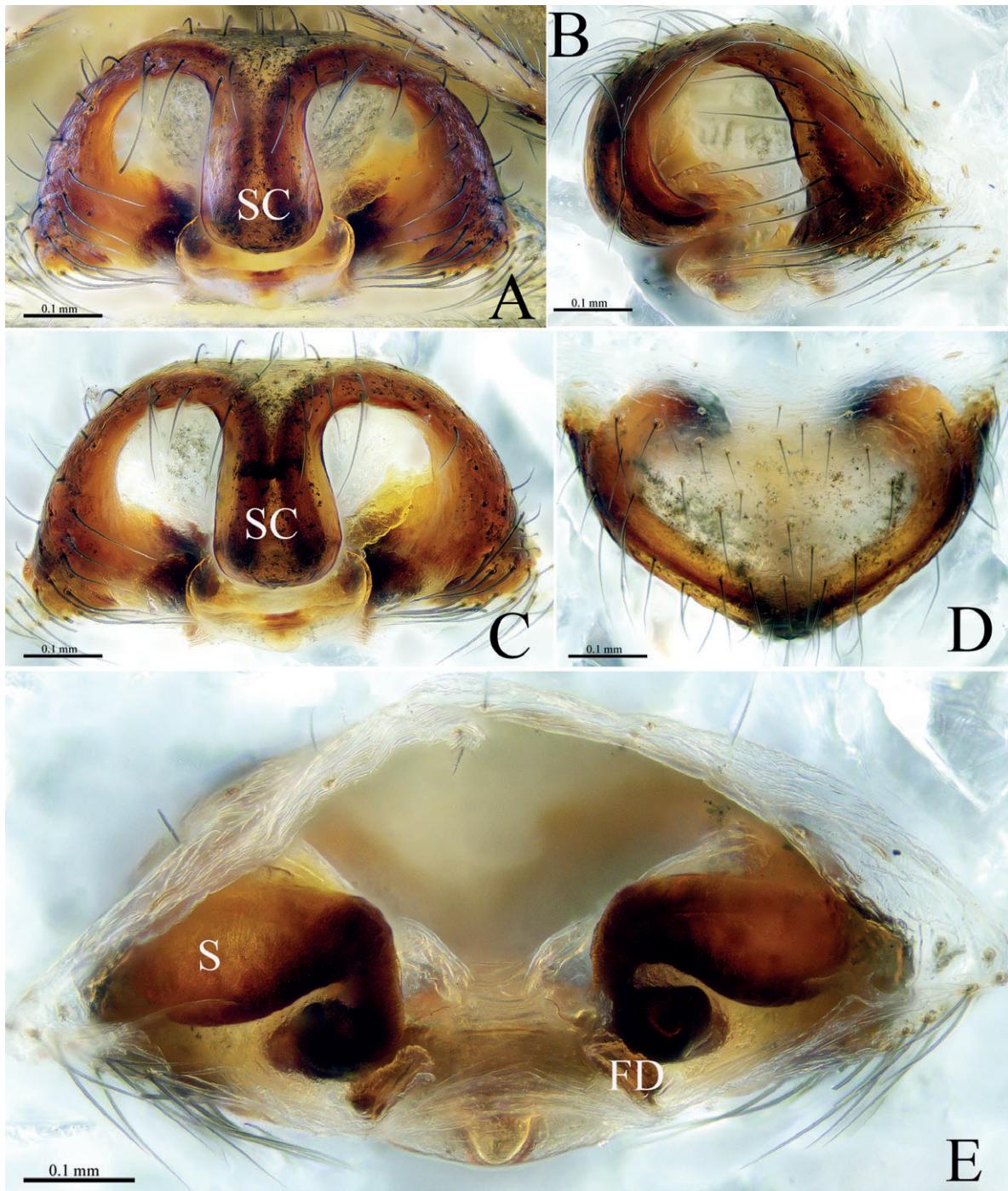


Fig. 47. *Tapinopa guttata* Komatsu, 1937, ♀ (SWUC-T-LIN-21-01). A, C–D. Epigyne, ventral view. B. Epigyne, lateral view. E. Vulva, anterior view.

Genus *Syedra* (蟋蛛属) Simon, 1884

Syedra oii Saito, 1983 (大井蟋蛛)

Syedra oii Saito, 1983: 14, figs 1–4 (Dmf).

Syedra oii – Ohchi 2022: 174, figs 15–16 (f).

Lepthyphantes rutilalus – Zhu & Tu 1986: 100, figs 5–8 (Dmf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♀; Chongqing, Wushan County, Dangyang Town, Qiqi Mountain; 31°28'6.55" N, 109°58'42.97" E; elev. 1475 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-20-01.

Distribution

China, Vietnam, Malaysia (peninsula)

Genus *Tapinopa* (苔蛛属) Westring, 1851

Tapinopa guttata Komatsu, 1937 (八齿苔蛛)

Figs 47–48B

Tapinopa guttata Komatsu 1937: 162 (Dmf, attributed to Kishida).

Tapinopa octodentata Wunderlich & Li, 1995: 337, figs 9–17 (Dmf).

Tapinopa guttata – Zhu & Zhang 2011: 149, fig. 99a–e (mf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♀; Chongqing, Wushan County, Dangyang Town, Qiqi Mountain; 31°28'6.55" N, 109°58'42.97" E; elev. 1475 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-21-01.

Distribution

Russia (Far East), China, Japan.

Genus *Tenuiphantes* (细蛛属) Saaristo & Tanasevitch, 1996

Tenuiphantes ancatus (Zhu, Li & Sha, 1986) (垂耳细蛛)

Figs 49–51

Lepthyphantes ancatus Li & Zhu, 1989: 38, figs a–d (Df).

Lepthyphantes ancatus – Song *et al.* 1999: 181, fig. 101e–f (f).

Tenuiphantes ancatus – Tu *et al.* 2006: 408, figs 11–14 (Tf from *Lepthyphantes*).

Differential diagnosis

The female of *Tenuiphantes ancatus* resembles that of *T. aduncus* (Zhi, Li & Sha, 1986) (Fig. 49A–D, Tu *et al.* 2006: figs 6–9), but male can be distinguished by the distal arm of paracymbium mid ventrally

with a somewhat rectangular projection in ventral view in *T. ancatus* (Fig. 49B, D), whereas distal arm ventrally with a small tooth in *T. aduncus* (Tu *et al.* 2006: fig. 1); distal end of terminal apophysis bifurcated, V-shaped in ventral view in *T. ancatus* (Fig. 49A), whereas anterior terminal apophysis apex furnished with thread-like projections and posterior terminal apophysis membranous in *T. aduncus* (Tu *et al.* 2006: fig. 2); lamella characteristic with three main branches and apex subdivided into several small branches in *T. ancatus* (Fig. 49A–B, D), whereas relatively simple, lower branch much longer, almost touching the distal part of pit hook in retrolateral view in *T. aduncus* (Tu *et al.* 2006: figs 1–2); embolus base with seven dentigerous protrusions in *T. ancatus* (Fig. 49A), whereas with more than 20 dentigerous protrusions in *T. aduncus* (Tu *et al.* 2006: fig. 2).

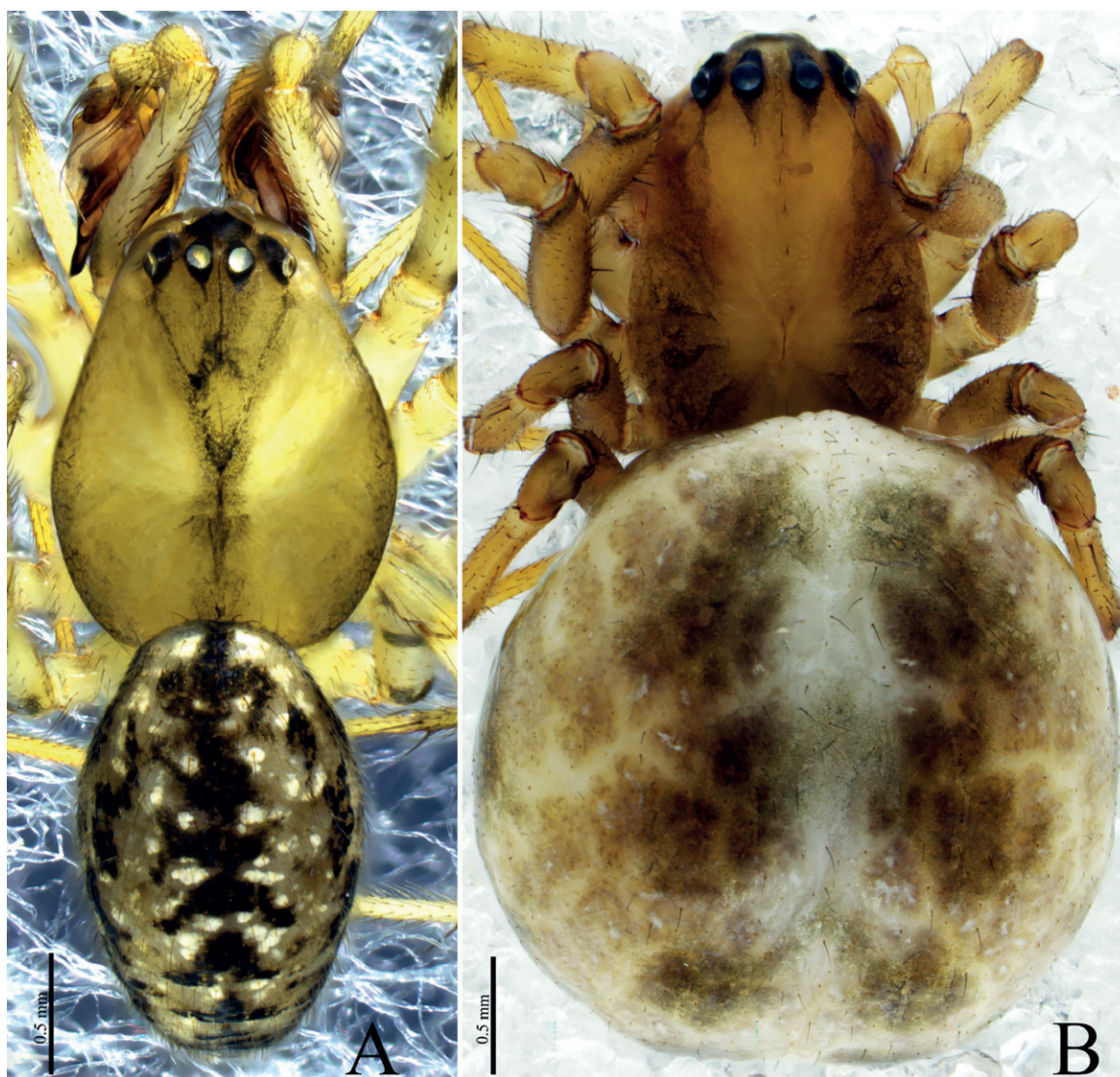


Fig. 48. Habitus, dorsal view. **A.** *Stemonyphantes bifurcus* sp. nov., holotype ♂ (SWUC-T-LIN-19-01). **B.** *Tapinopa guttata* Komatsu, 1937, ♀ (SWUC-T-LIN-21-01).

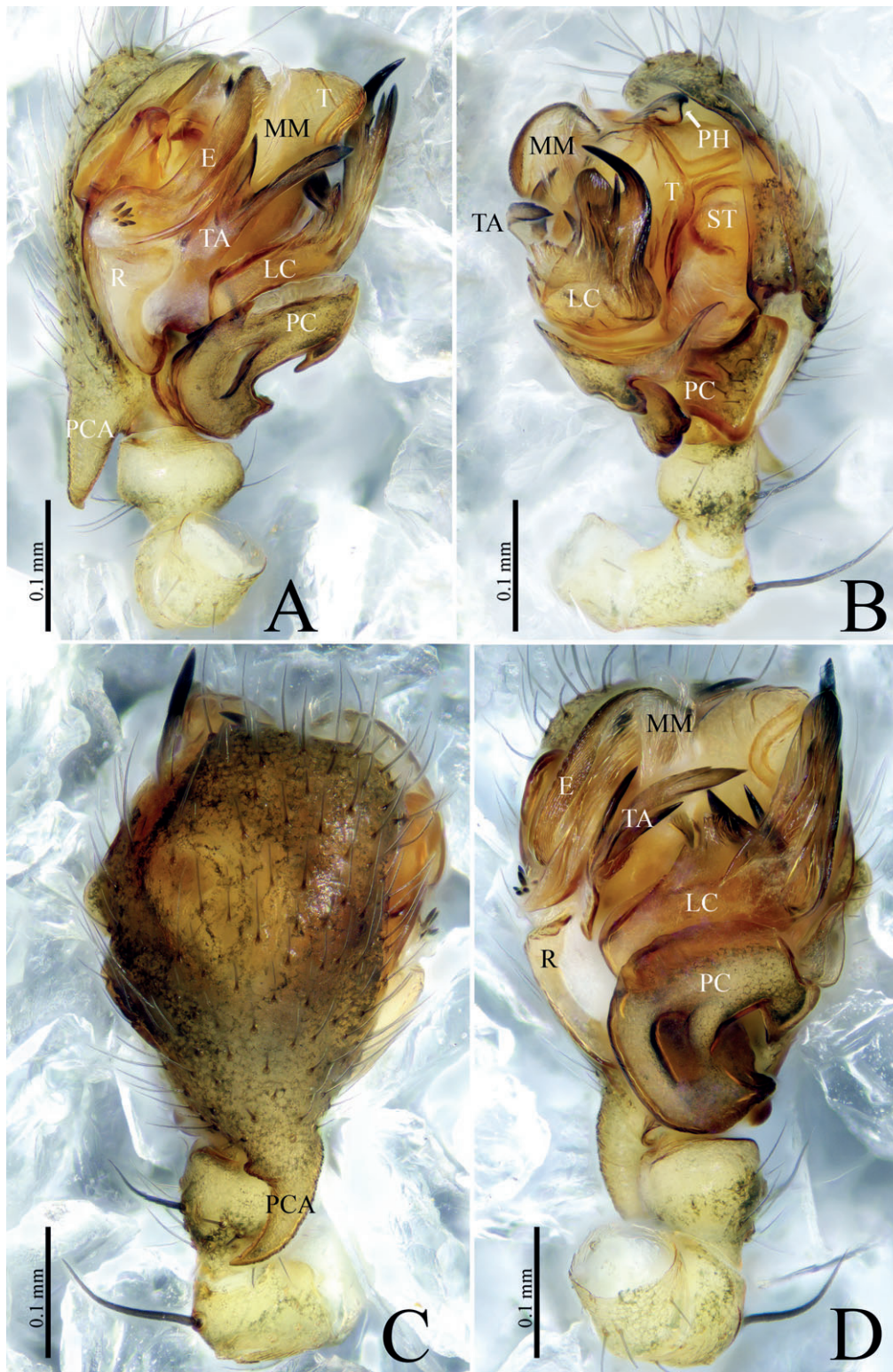


Fig. 49. *Tenuiphantes ancatus* (Zhu, Li & Sha, 1986), ♂ (SWUC-T-LIN-22-01), palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

Material examined

CHINA • 5 ♂♂, 6 ♀♀; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°15'26.72" N, 110°4'34.11" E; elev. 1542 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-01–11 • 1 ♂, 5 ♀♀; Wushan County, Dangyang Town, Congping Management and Protection Station; 31°23'47.16" N, 110°2'3.32" E; elev. 1970 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-02–17 • 1 ♂, 12 ♀♀; Wushan County, Dangyang Town, Congping Mountain; 31°23'47.16" N, 110°2'28.04" E; elev. 2150 m; 3 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-18–30 • 2 ♂♂, 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Zhaoyang Ping; 31°16'23.77" N, 110°5'45.79" E; elev. 1575 m; 5 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-31–33 • 1 ♂, 3 ♀♀; Wushan County, Dangyang Town, Wushanya; 31°28'21.35" N, 109°59'10.29" E; elev. 1740 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-35–38 • 2 ♂♂, 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Xiang Yaocai Village; 31°18'57.96" N, 110°5'23.55" E; elev. 1681 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-39–41 • 1 ♀; Wushan County, Dangyang Town, Qiqi Mountain Tunnel; 31°26'57.00" N, 109°58'45.57" E; elev. 1449 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-22-42 • 1 ♀; Wushan County, Dangyang Town, Reshuiba; 31°24'2.02" N, 109°58'24.16" E; elev. 790 m; 24 Jul. 2021; Z. S. Zhang, L.Y. Wang and T.Y. Ren leg.; SWUC-T-LIN-22-43.

Description

Male (SWUC-T-LIN-22-01, Fig. 51A, new to science)

MEASUREMENTS. Total 2.08 long; carapace 1.02 long, 0.84 wide; abdomen 1.08 long, 0.74 wide. Eye sizes and interdistances: AME 0.05, ALE 0.09, PME 0.07, PLE 0.08, AME–AME 0.02, PME–PME 0.04, AME–ALE 0.06, PME–PLE 0.04, ALE–ALE 0.34, PLE–PLE 0.36, ALE–PLE 0.01, AME–PME 0.08.

CEPHALOTHORAX. Carapace yellow, cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.17 high.

CHELICERAE. With three promarginal and four retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow, covered with fine spines. Length of legs: I 4.73 (1.14, 1.41, 1.09, 0.73), II 4.12 (1.11, 1.31, 1.02, 0.68), III 3.11 (0.89, 0.95, 0.77, 0.50), IV 4.19 (1.09, 1.34, 1.14, 0.62). Leg formula I-IV-II-III. TmI 0.24 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Oval, light grey, dorsally with six cheverons posteriorly, ventral side light grey.

PALP (Fig. 49). Patella with long, dorsal spine. Tibia unmodified. Cymbium with proximal apophysis, comma-shaped, tip reaches the base of tibia. Paracymbium large, mid-ventrally with somewhat rectangular projection, apical part elongated with blunt end. Pit hook small, mesally grooved with pointed tip. Lamella characteristic three-branched. Terminal apophysis sclerotized, distal end bifurcated, V-shaped. Embolus long, with seven strong teeth-like protrusions on basal part, apical part slightly grooved.

Female (SWUC-T-LIN-22-02, Figs 50–51B)

For diagnosis and description see Tu *et al.* 2006.

Distribution

Known from type locality.

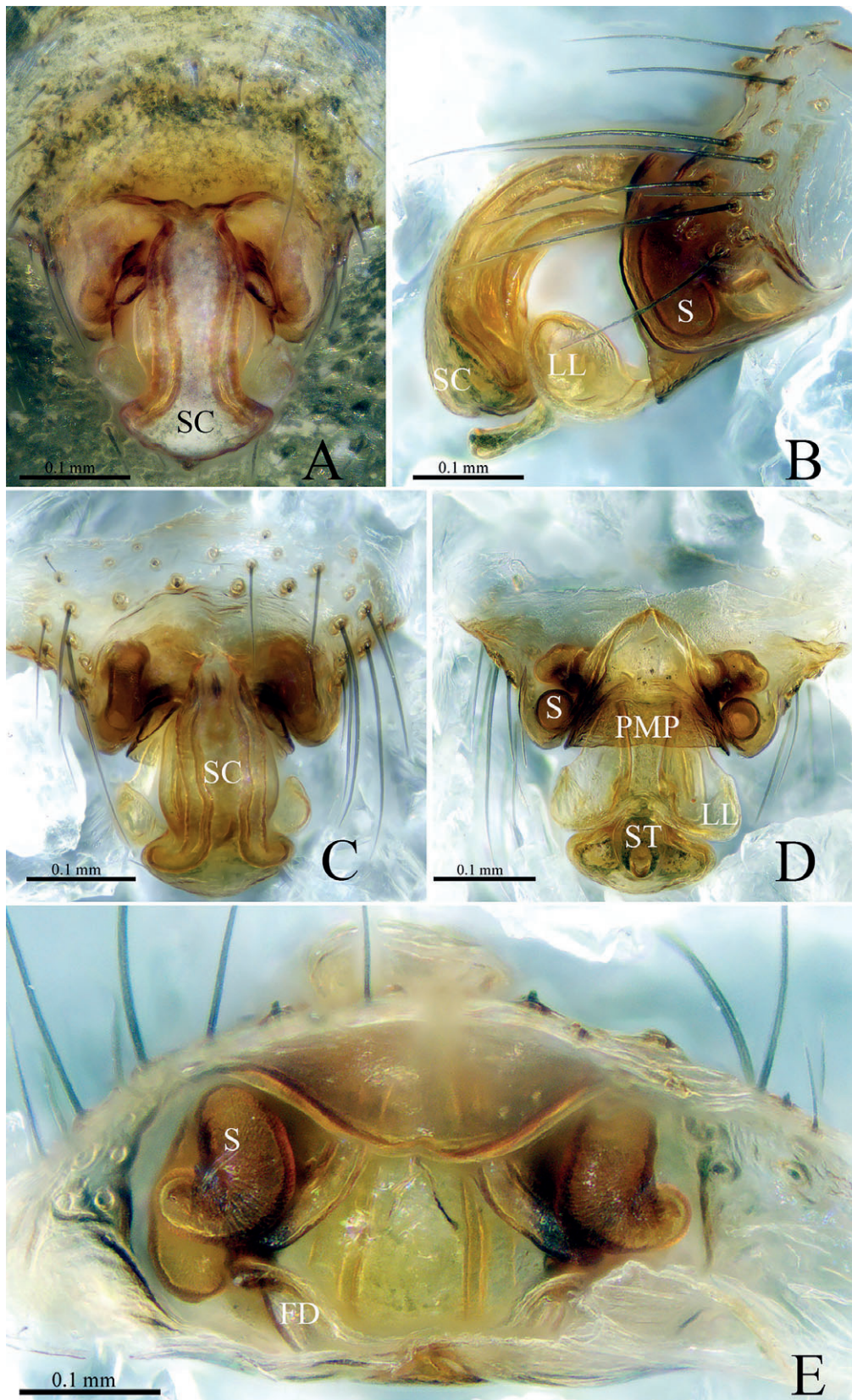


Fig. 50. *Tenuiphantes ancatus* (Zhu, Li & Sha, 1986), ♀ (SWUC-T-LIN-22-02). **A, C.** Epigyne, ventral view. **B.** Epigyne, lateral view. **D.** Epigyne, dorsal view. **E.** Vulva, anterior view.

Remarks

Shennongjia Forest Region (type locality) situated in Hubei Province adjacent to the Wulipo (NNR), Chongqing, all of the specimens examined here belong to the *Tenuiphantes ancatus* (Zhu, Li & Sha, 1986). The genus *Tenuiphantes* can be diagnosed by the important synapomorphies of (1) the embolus of the male comprising a dentigerous protrusion about halfway down and (2) the epigyne proscapus being broadened at either side by a lateral wing-like extension of the median part of the scapus (Saaristo & Tanasevitch 1996). *Tenuiphantes ancatus* shares these synapomorphies: the embolus of the male of *T. ancatus* shows a dentigerous protrusion at the base, and the epigyne of the species has lateral wing-like extensions of the median part of the scapus that support the placement of this species in the genus *Tenuiphantes*.

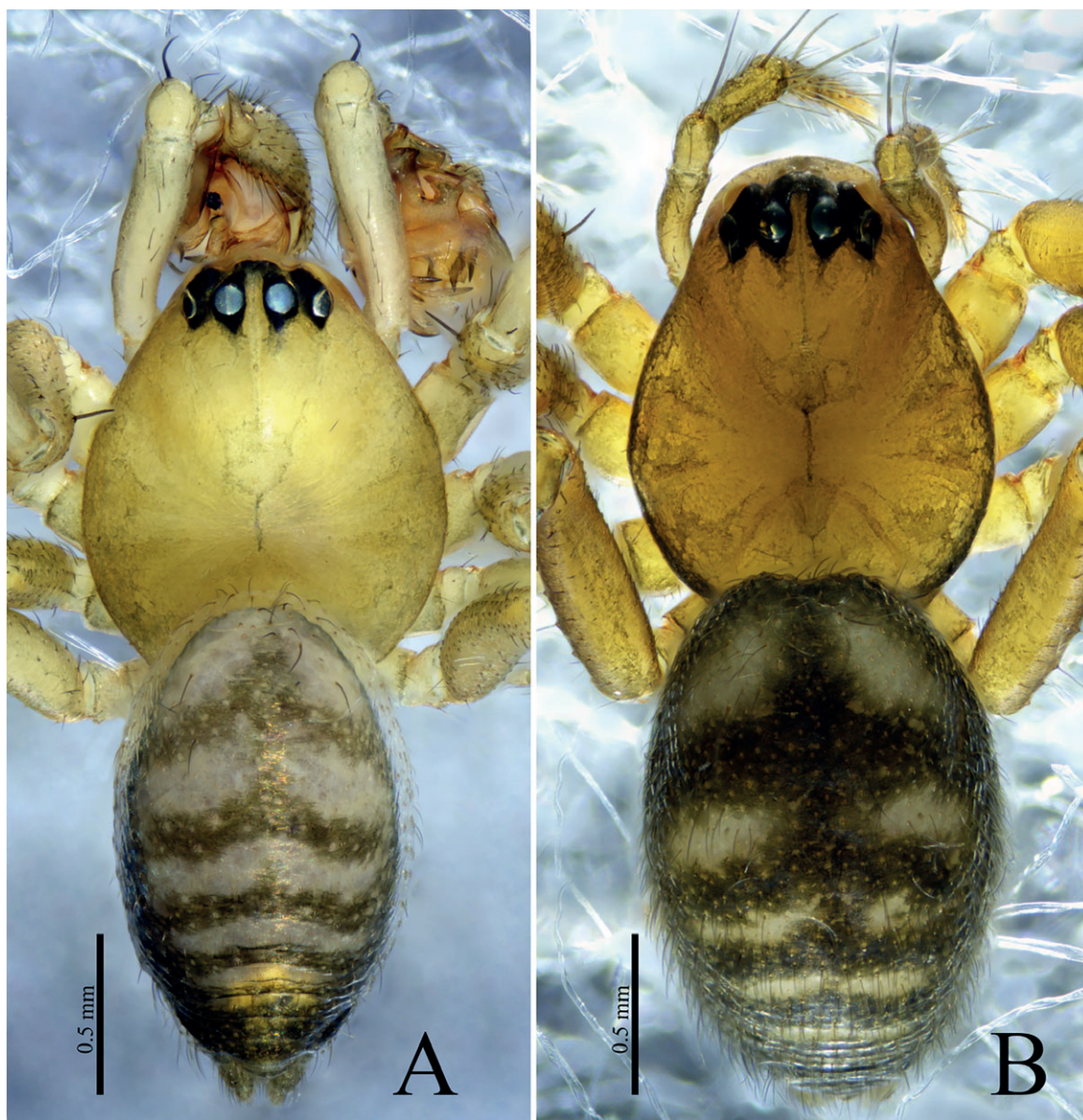


Fig. 51. *Tenuiphantes ancatus* (Zhu, Li & Sha, 1986), habitus, dorsal view. A. ♂ (SWUC-T-LIN-22-01). B. ♀ (SWUC-T-LIN-22-02).

Genus *Walckenaeria* Blackwall, 1833 (瓦蛛属)

Walckenaeria asymmetrica Song & Li, 2011 (不对称瓦蛛)

Figs 52–54

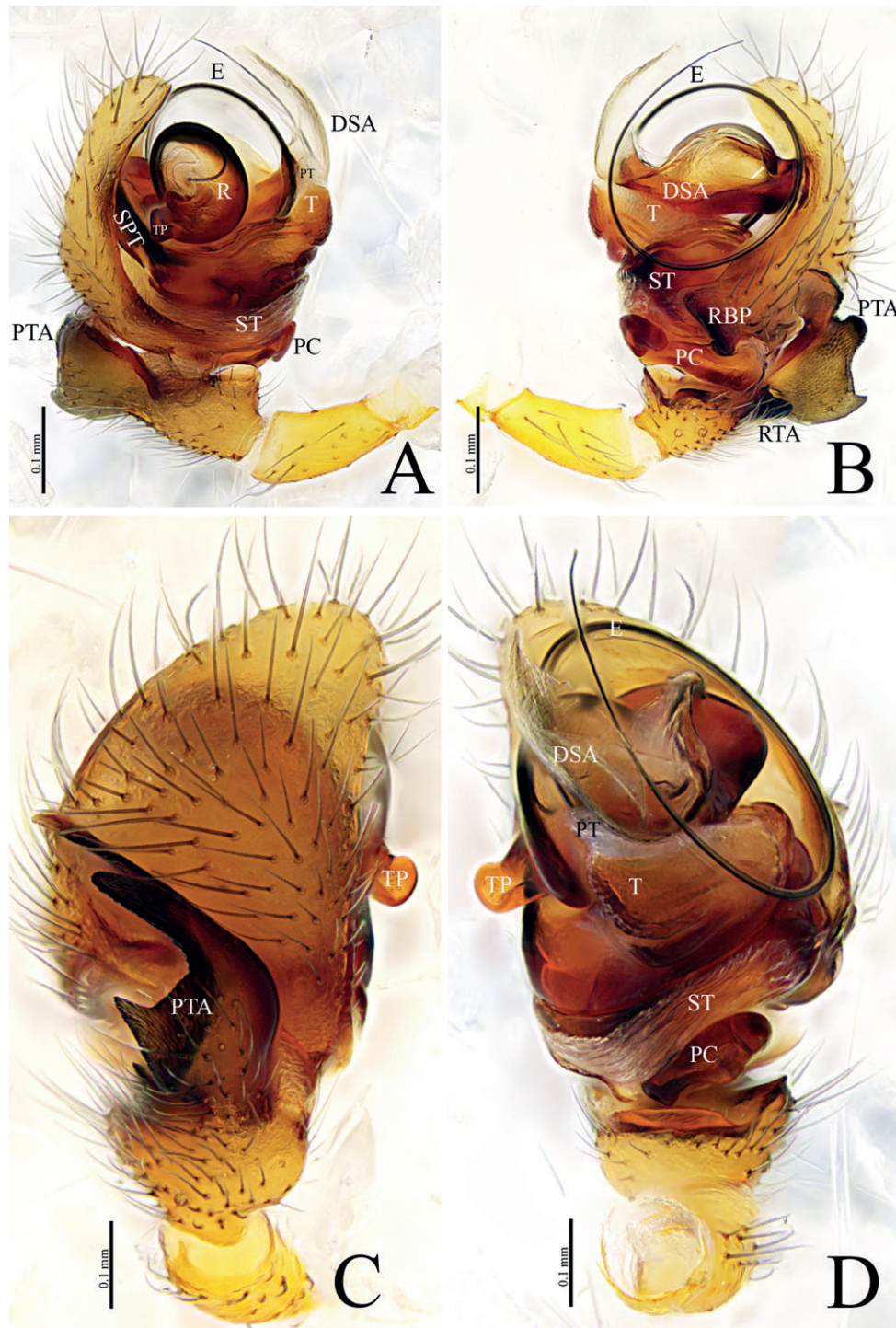


Fig. 52. *Walckenaeria asymmetrica* Song & Li, 2011, ♂ (SWUC-T-LIN-23-01), left palp. A. Prolateral view. B. Retrolateral view. C. Dorsal view. D. Ventral view.

Walckenaeria asymmetrica Song & Li, 2011: 176, figs 1a–g, 2a–g (Dmf).

Material examined

CHINA • 1 ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Zhaoyang Ping; 31°16'23.77" N, 110°5'45.79" E; elev. 1575 m; 5 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-23-01 • 1 ♂; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Xiang Yaocai Village; 31°18'57.96" N, 110°5'23.55" E; elev. 1681 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-23-02 • 5 ♀♀; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°15'26.72" N, 110°4'34.11" E; elev. 1542 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-23-03-07 • 1 ♀; Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°16'8.98" N, 110°4'34.11" E; elev. 1445 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-23-08–09 • 1 ♀; Wushan County, Dangyang Town, Qiqi Mountain; 31°28'6.55" N, 109°58'42.97" E; elev. 1475 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-23-10.

Distribution

China (Chongqing).

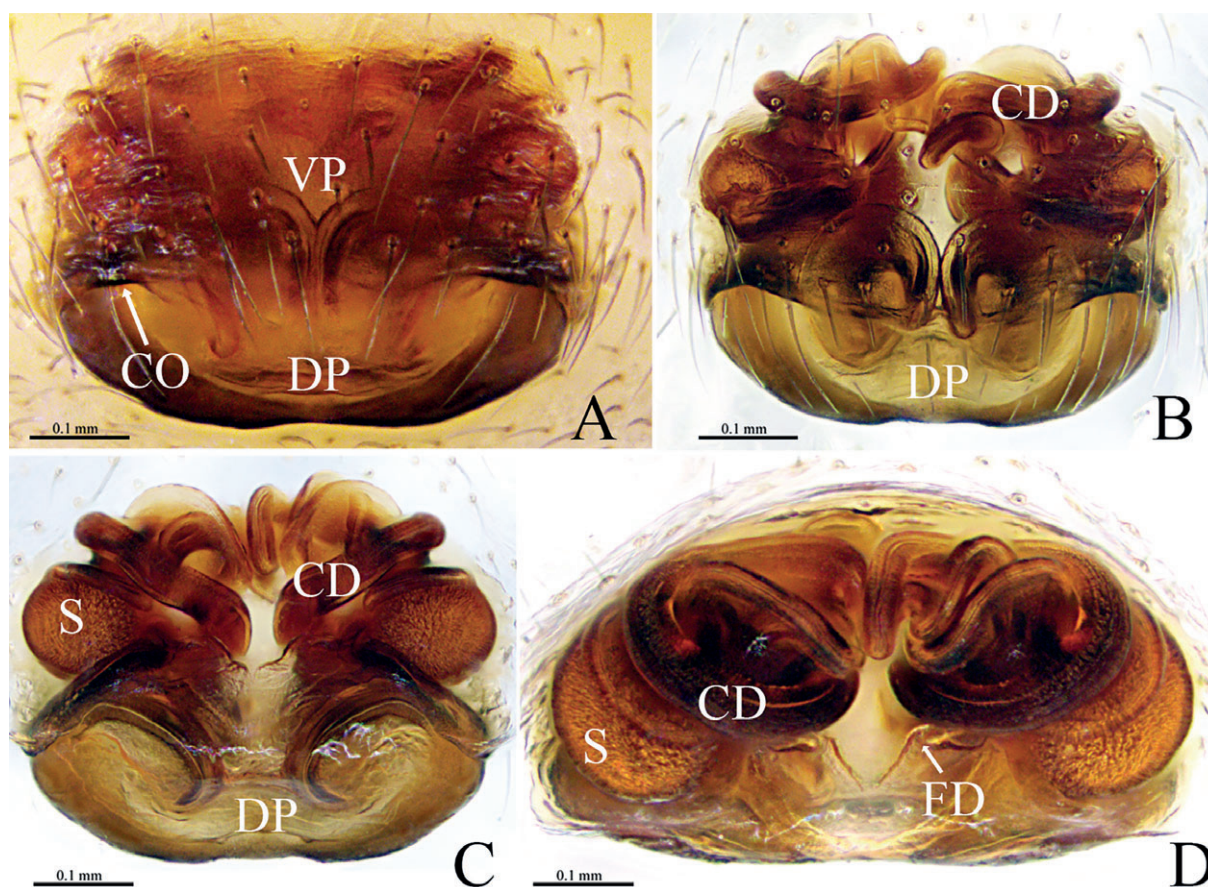


Fig. 53. *Walckenaeria asymmetrica* Song & Li, 2011, ♀ (SWUC-T-LIN-23-02). A–B. Epigyne, ventral view. C–D. Vulva, anterior view.

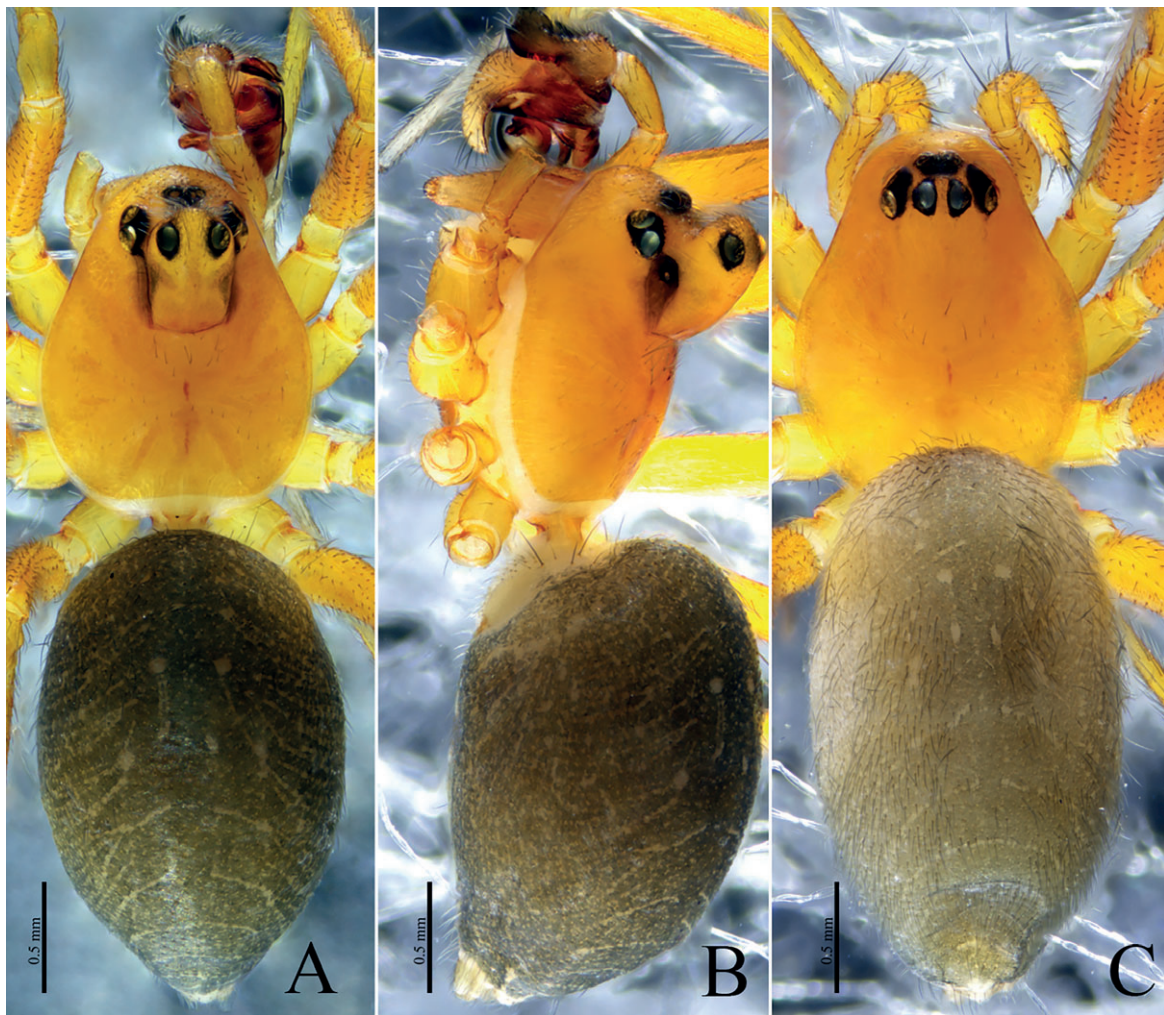


Fig. 54. *Walckenaeria asymmetrica* Song & Li, 2011. A–B. ♂ (SWUC-T-LIN-23-01). C. ♀ (SWUC-T-LIN-23-02). A, C. Habitus, dorsal view. B. Habitus, lateral view.

Wuliphantes gen. nov. (五里蛛属)

urn:lsid:zoobank.org:act:7F4144F4-6674-4C3F-B481-4097D6BDB7D6

Type species

Wuliphantes trigyrus gen. et sp. nov.

Diagnosis

Wuliphantes gen. nov. can be diagnosed by the following synapomorphies as: (1) in male palp, distal end of tegulum narrow, extending forward, long with a conspicuous membranous protegulum; (2) distal suprattegular apophysis absent; (3) embolic plate with two projections (dorsal and ventral); (4) embolus very long, forming more than one coil (depending on the species, the coil number goes from two to four or even more). Female can be diagnosed by: (1) the scape and parmula absent in epigyne; (2) copulatory ducts transparent, with several tightly coiled coils before entering the spermathecae; (3) spermathecae compact to helical.

Etymology

The genus name is derived from the type locality (Wulipo) and the generic name *Bathyphantes*. Gender is masculine.

Composition

Wuliphantes guanshan (Irfan, Wang & Zhang, 2022) gen. et comb. nov., *W. trigyrus* gen. et sp. nov. and *W. tongluensis* (Chen & Song, 1988) gen. et comb. nov.

Remarks

Bathyphantes can be diagnosed with the following set of synapomorphies proposed by Ivie (1969) : in male palp, (1) tegulum with terminal extension of distal suprategular apophysis; (2) embolic plate with relatively large, flat lamella comprise of anterior and dorsal projections; (3) embolus ordinarily stout and coiled at base and becoming slender toward tip. Epigynum consisting of (1) atrium, a large cavity opening posteriorly, with ventral covering below and dorsal wall above; (2) scape, posterior extension of ventral rim of atrium often long and slender, in some cases short and blunt, in others absent, usually with a small pit near distal end; (3) parmula, posterior extension of atrial plate, usually slender, with small pit near distal end; (4) spermathecae, one on each side in anterior part of internal epigynum.

Wuliphantes gen. nov. shares a single character of a simple U- or J-shaped paracymbium with the genera *Bathyphantes* Menge, 1866, *Kaestneria* Wiehle, 1956 and *Porrhomma* Simon, 1884: figs 55b, 61b, 68b (Bosmans 2006: fig. 1; Zhao & Li 2014: figs 5b, 8b, 47b, 49b; Irfan & Peng 2018: figs 3b, 6b; Merrett 1963: fig. 21a–b; Tao *et al.* 1995: figs 76, 82–83; Ruzicka 2018: fig. 2a). *Wuliphantes* gen. nov. can be distinguished from the genera *Bathyphantes* Menge, 1866, *Kaestneria* Wiehle, 1956 and *Porrhomma* Simon, 1884 by the embolus very long, forming two to four coils in *Wuliphantes* gen. nov. (Figs 55A, 58A, 61A), whereas embolus short, probably with half or single coil in *Bathyphantes* (Bosmans 2006: fig. 1; Zhao & Li, 2014 figs 5b, 8b, Zhao & Li, 2014 figs 47b, 49b), embolus stout, relatively short with pointed end in *Kaestneria* (Irfan & Peng 2018: figs 3b, 6b; Merrett 1963: fig. 21a–b; Tao *et al.* 1995: figs 76, 82–83), embolus short, reaching to tip of anterior projection of embolic plate to form half circle in *Porrhomma* (Ruzicka 2018: figs 2a, 19b); embolic plate with two projections (dorsal and ventral) in *Wuliphantes* gen. nov. (Figs 55D, 58A, 61D), whereas with two to three projections (anterior, dorsal and ventral) in *Bathyphantes* (Zhao & Li 2014: figs 5–6, 8), *Kaestneria* (dorsal) (Irfan & Peng 2018: figs 3b, 6b) and in *Porrhomma* (anterior, posterior and dorsal) (Ruzicka 2018: fig. 19b); distal end of tegulum long with a conspicuous membranous protegulum in *Wuliphantes* gen. nov. (Figs 55B, 58B, 61B), whereas distal end of tegulum round, protegulum absent in *Bathyphantes* (Zhao & Li 2014: figs 5–6, 8). Female can be distinguished by the scape absent in epigyne in *Wuliphantes* gen. nov. (Figs 56A–B, 59A–B, 62A–B), whereas present in *Bathyphantes* (Tanasevitch 2011: figs 13, 30–34; 2014: fig. 21), *Kaestneria* (dorsal) (Irfan & Peng 2018: figs 3b, 4a, 6b; Zhao & Li 2014: figs 47b, 48a, 49b) and with a small protegulum in *Porrhomma* (Ruzicka 2018: fig. 2a–b), but can be distinguished by the copulatory ducts transparent, with several tightly coiled coils before entering spermathecae in *Wuliphantes* gen. nov. (Figs 56B–C, 59B–C, 62B–C), whereas without tightened coils in *Bathyphantes* (Tanasevitch 2011: figs 13, 30–34) except *Bathyphantes paracymbialis* Tanasevitch, 2014, of which the copulatory ducts form two wide loops (Tanasevitch 2014: fig. 23); spermathecae compact in *W. guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov. and *W. trigyrus* gen. et sp. nov. (Figs 56C, 62C) and helical in *W. tongluensis* gen. et comb. nov. (Fig. 59C).

The diagnostic characters proposed for *Wuliphantes* gen. nov. (embolus long, forming more than one coil; tegulum with conspicuous protegulum; embolic plate with long ventral projection of lamella in male palp; in the epigyne, scape and parmula absent) are all apomorphic in nature that distinguish this

genus from all other genera and also support *Wuliphantes* gen. nov. to accommodate *W. guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov., *W. trigyrus* gen. et sp. nov. and *W. tongluensis* (Chen & Song, 1988) gen. et comb. nov.

Wuliphantes guanshan (Irfan, Wang & Zhang, 2022) comb. nov. (官山五里蛛)
Figs 55–57

Bathypantes guanshan Irfan, Wang & Zhang, 2022: 18, figs 1a–d, 2a–c, 3a–b (Dmf).

Distribution

China (Chongqing).

Wuliphantes tongluensis (Chen & Song, 1988) comb. nov. (桐庐五里蛛)
Figs 58–60

Bathypantes tongluensis Chen & Song, 1988: 42, figs 1–4 (Dmf).

Bathypantes tongluensis – Yin *et al.* 2012: 480, fig. 219a–e (mf). For full list of publications and synonyms concerning this species see World Spider Catalog (2022).

Material examined

CHINA • 1 ♂, 1 ♀; Chongqing, Wushan County, Guanyang Town, Zhuxian Township, Putao Village; 31°16'8.98" N, 110°4'34.11" E; elev. 1445 m; 6 Oct. 2020; L.Y.Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-24-01–02.

Distribution

China (Chongqing).

Wuliphantes trigyrus gen. et sp. nov. (三圈五里蛛)
urn:lsid:zoobank.org:act:E42DFF20-0133-4382-A787-90B1DE1CAF06
Figs 61–63

Differential diagnosis

The new species resembles *Wuliphantes guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov. and *W. tongluensis* (Chen & Song, 1988) gen. et comb. nov. in having similar genital organs of both male palp and epigyne (Figs 55–56, 58–59, 61–62), but can be distinguished from both of the species by the embolus with about three coils in the new species (Fig. 61A), whereas with four coils in *W. guanshan* (Fig. 55A) and with two coils in *W. tongluensis* (Fig. 58A); base of prottegulum with about eight small teeth in new species (Fig. 58B), whereas teeth absent in both *W. guanshan* (Fig. 55B) and *W. tongluensis* (Fig. 58B). In epigyne, copulatory ducts with about seven coils before entering the spermathecae in the new species (Fig. 62B–C), whereas with eight coils in *W. guanshan* (Fig. 59B–C) and with five coils in *W. tongluensis* (Fig. 59B–C). All of the three species have conspicuous differences in the shape of spermathecae (Figs 56C, 59C, 62C).

Etymology

The epithet is derived from the Latin prefix ‘*tri*’ and the noun ‘*gyrus*’ meaning ‘three and coils’ and referring to the embolus with three circles in male palp (Fig. 61A).

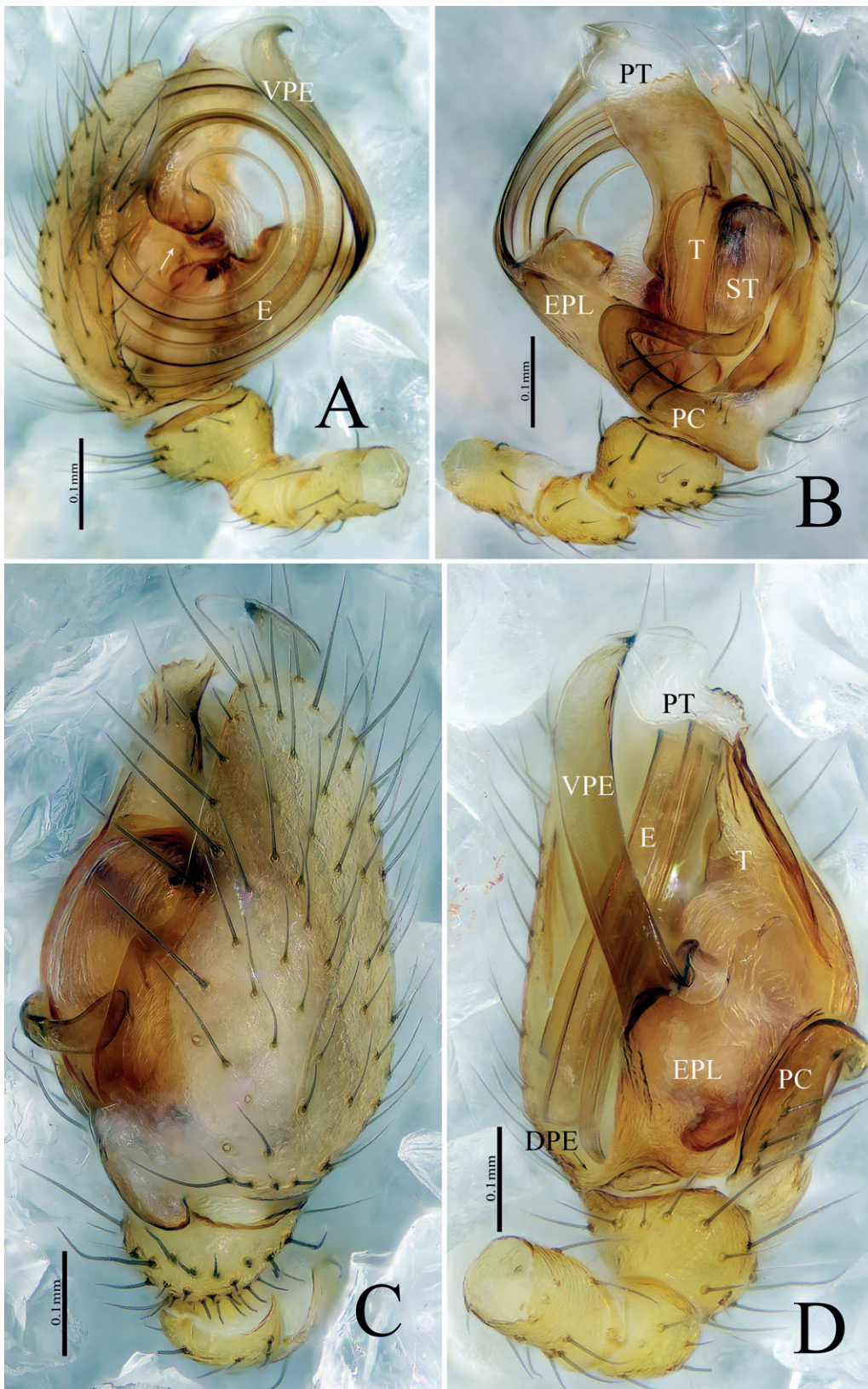


Fig. 55. *Wuliphantes guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov., ♂ (SWUC-T-LIN-01-01), left palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

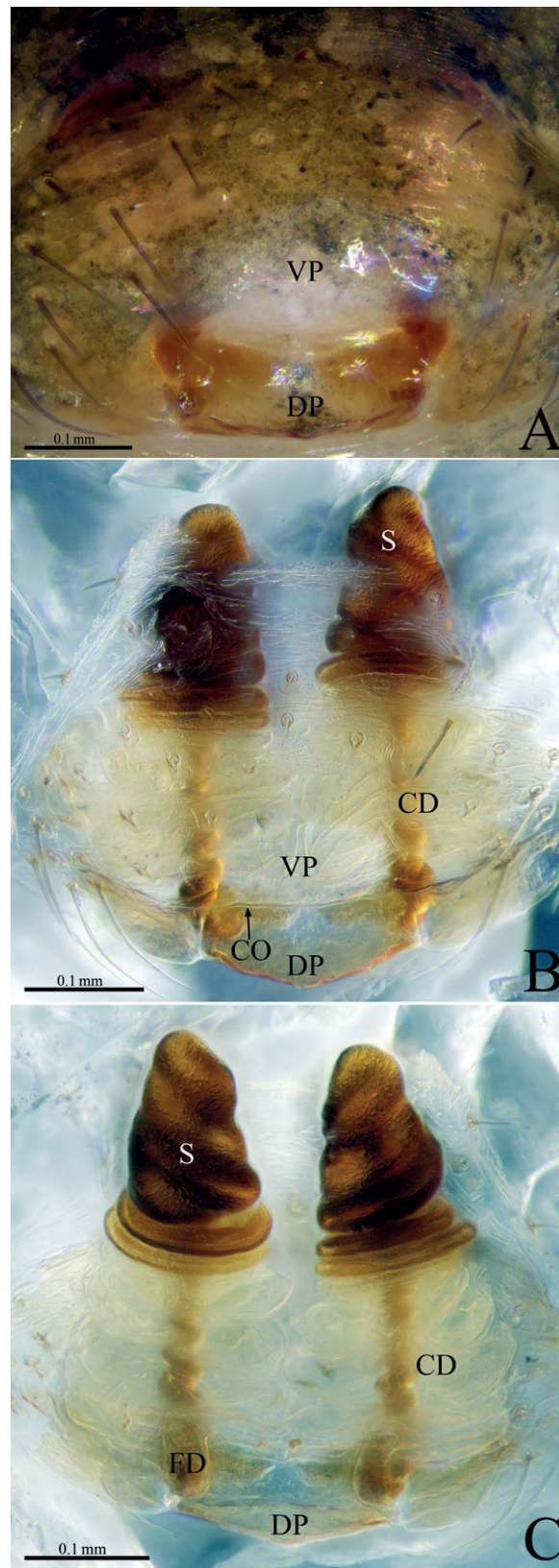


Fig. 56. *Wuliphantes guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov., ♀ (SWUC-T-LIN-01-02). **A–B.** Epigynum, ventral view. **C.** Vulva, dorsal view.

Type material

Holotype

CHINA • ♂; Chongqing, Wushan County, Dangyang Town; 31°24'8.26" N, 109°58'45.57" E; elev. 823 m; 1 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-25-01.

Paratypes

CHINA • 1 ♀; same collection data as for holotype; SWUC-T-LIN-25-02 • 2 ♂♂; Wushan County, Dangyang Town, Wushanya; 31°28'21.35" N, 109°59'10.29" E; elev. 1740 m; 2 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-25-03–04 • 1 ♀; Wushan County,

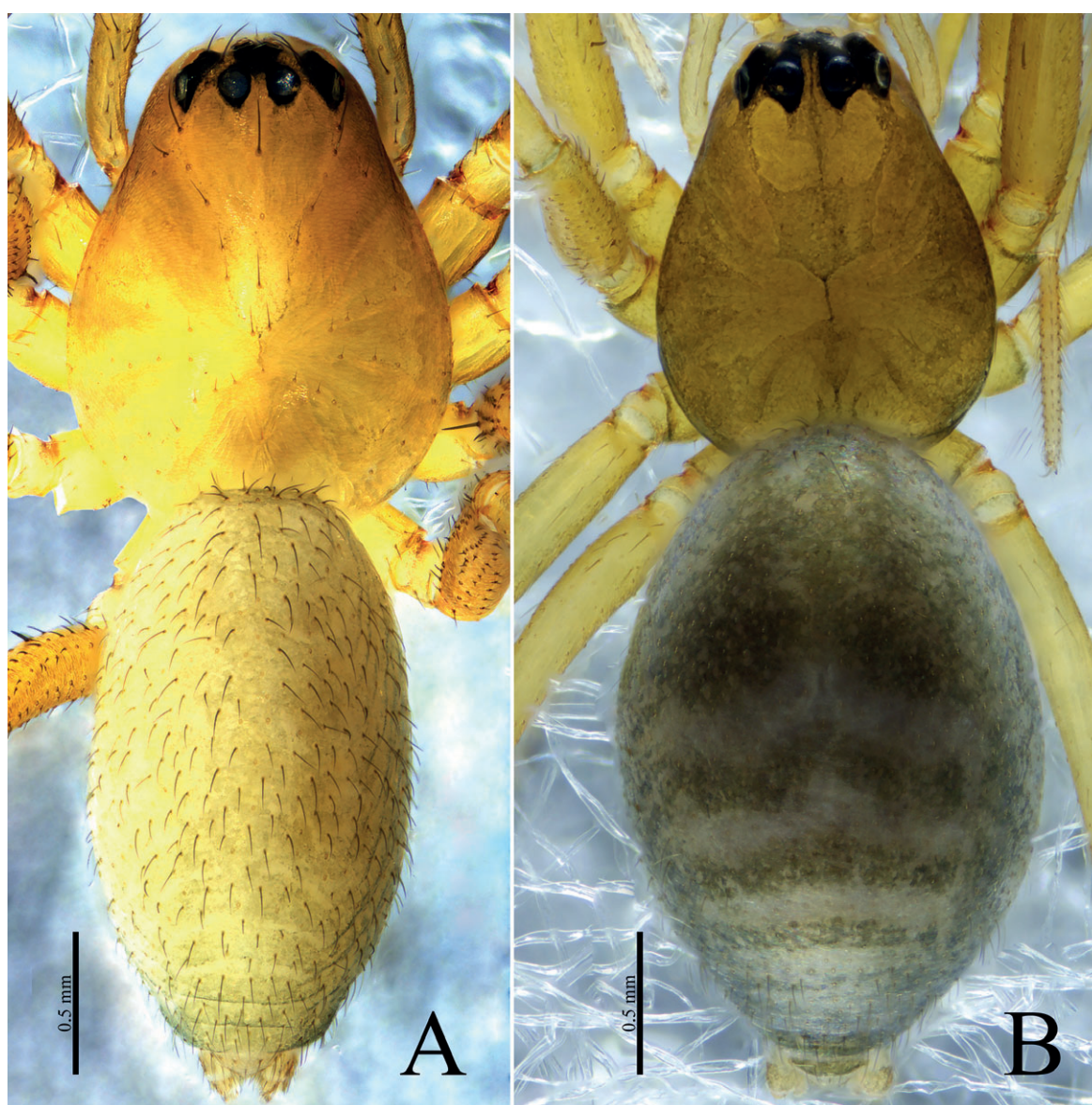


Fig. 57. *Wuliphantes guanshan* (Irfan, Wang & Zhang, 2022) gen. et comb. nov., habitus, dorsal view. A. ♂ (SWUC-T-LIN-01-01). B. ♀ (SWUC-T-LIN-01-02).

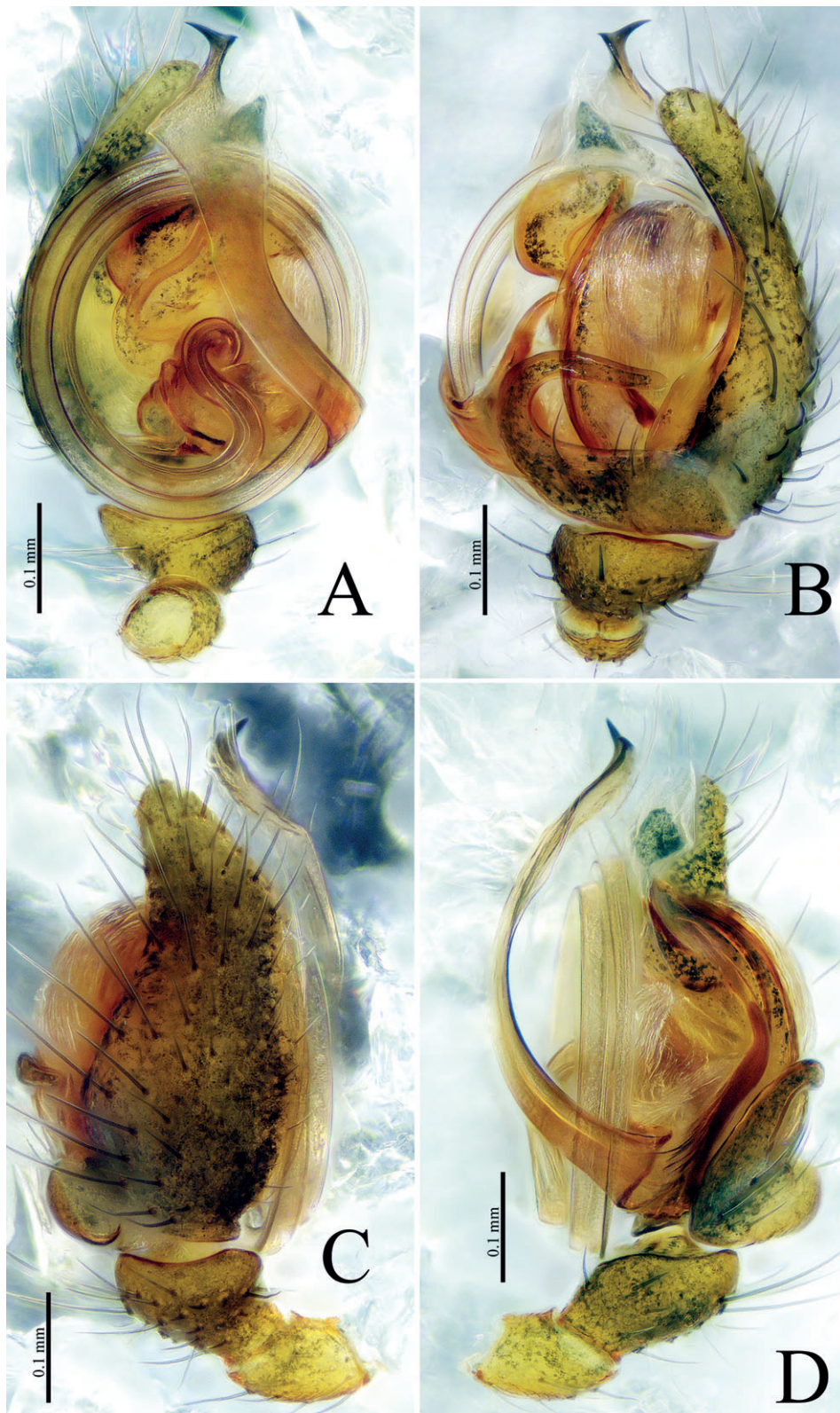


Fig. 58. *Wuliphantes tongluensis* (Chen & Song, 1988) gen. et comb. nov., ♂ (SWUC-T-LIN-24-01), left palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

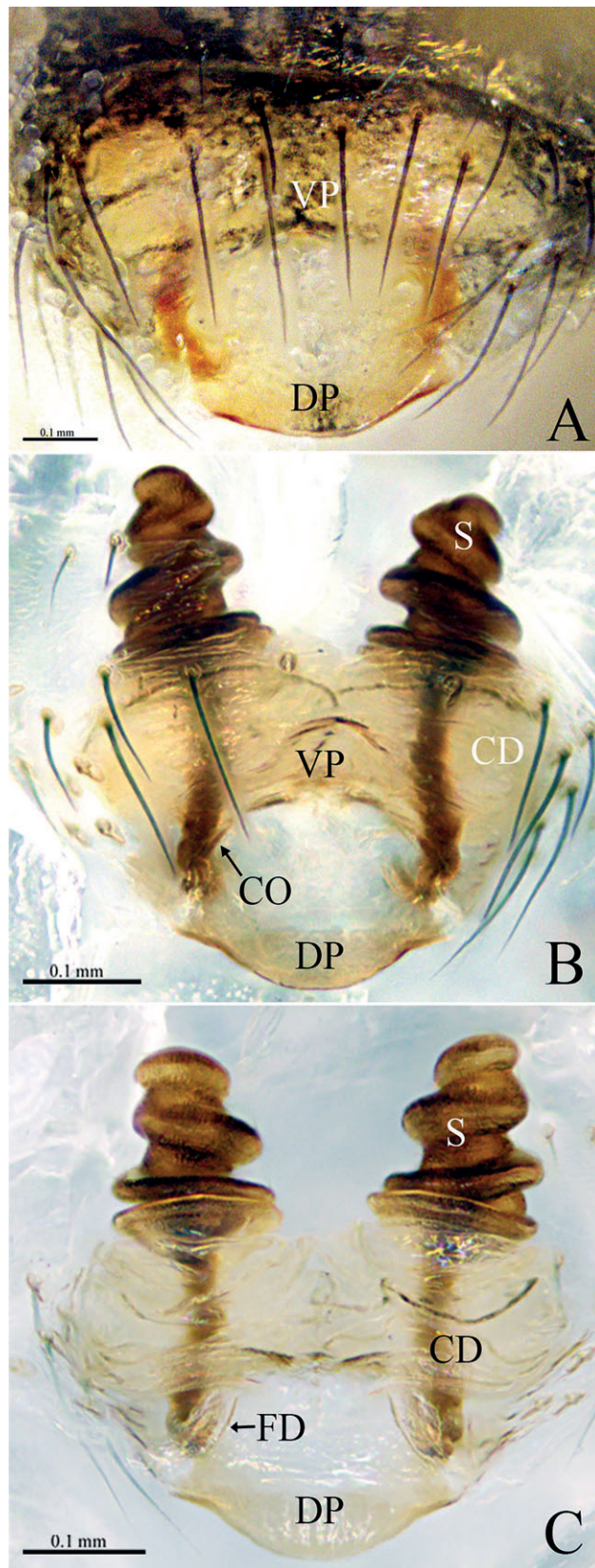


Fig. 59. *Wuliphantes tongluensis* (Chen & Song, 1988) gen. et comb. nov., ♀ (SWUC-T-LIN-24-02). A–B. Epigyne, ventral view. C. Vulva, anterior view.

Guanyang Town, Zhuxian Township, Putao Village; 31°15'26.72" N, 110°4'34.11" E; elev. 1542 m; 6 Oct. 2020; L.Y. Wang, X.W. Zhou, T.Y. Ren, J.X. Zhao and L. Xiao leg.; SWUC-T-LIN-25-05.

Description

Male (holotype, Figs 62, 63A)

MEASUREMENTS. Total 1.87 long; carapace 0.70 long, 0.73 wide; abdomen 1.17 long, 0.71 wide. Eye sizes and interdistances: AME 0.06, ALE 0.09, PME 0.08, PLE 0.09, AME–AME 0.02, PME–PME 0.04, AME–ALE 0.03, PME–PLE 0.04, ALE–ALE 0.33, PLE–PLE 0.36, ALE–PLE 0.01, AME–PME 0.07.



Fig. 60. *Wuliphantes tongluensis* (Chen & Song, 1988) gen. et comb. nov., habitus, dorsal view. **A.** ♂ (SWUC-T-LIN-24-01). **B.** ♀ (SWUC-T-LIN-24-02).

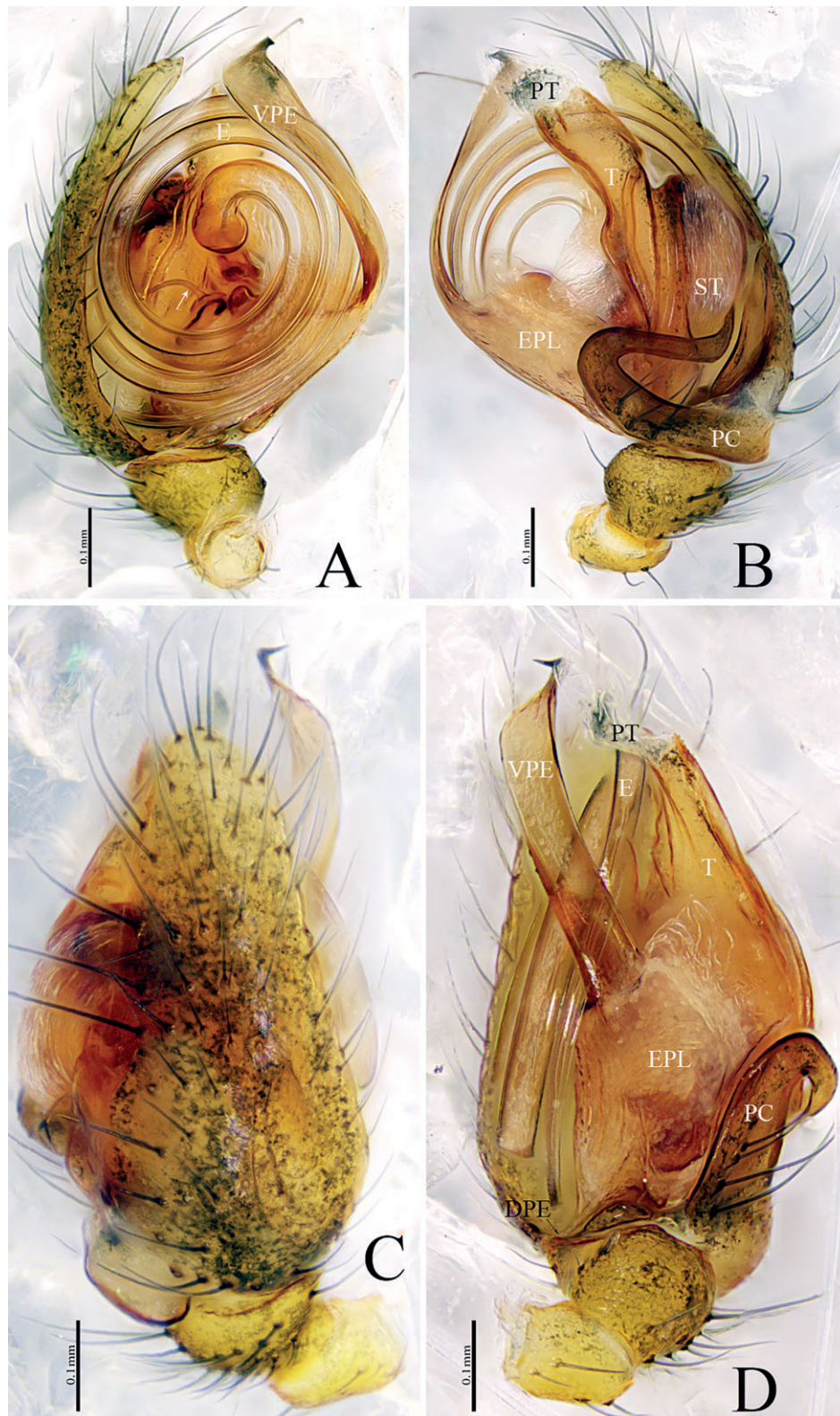


Fig. 61. *Wuliphantes trigyrus* gen. et sp. nov., ♂ holotype (SWUC-T-LIN-25-01), left palp. **A.** Prolateral view. **B.** Retrolateral view. **C.** Dorsal view. **D.** Ventral view.

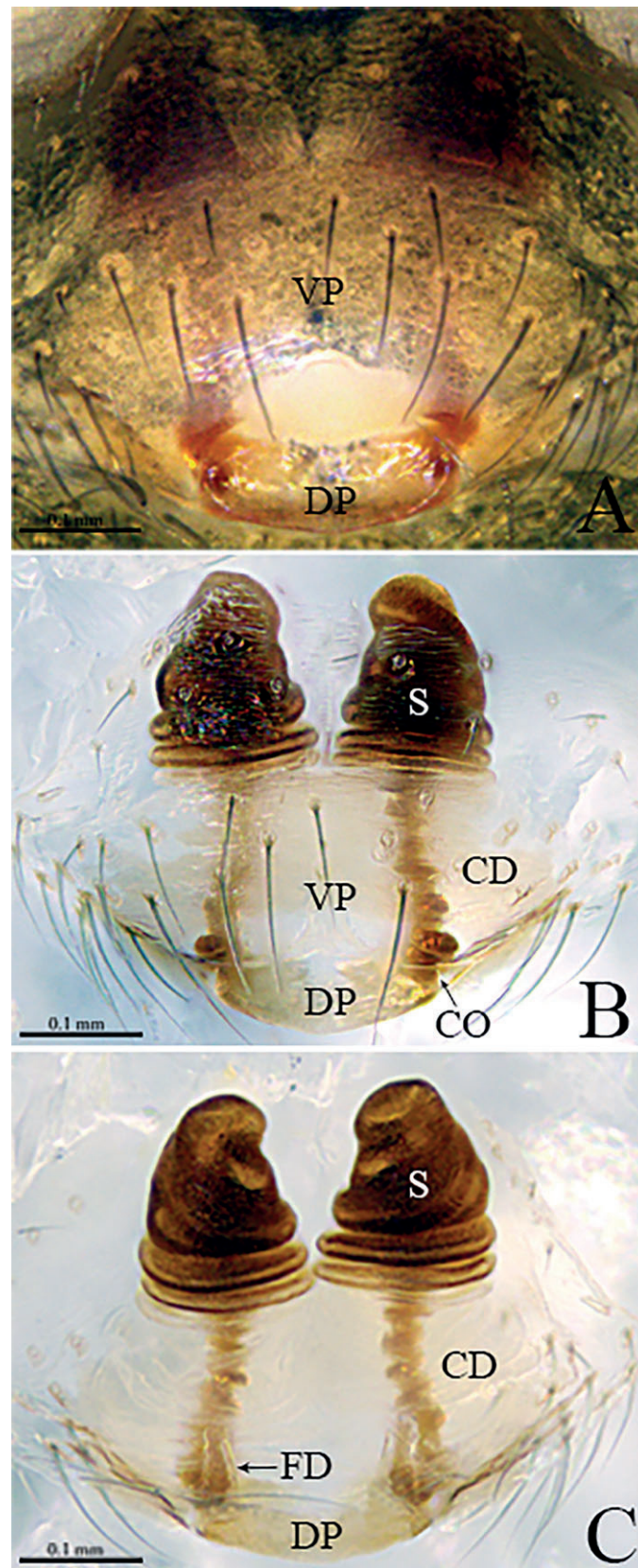


Fig. 62. *Wuliphantes trigyrus* gen. et sp. nov., ♀ (SWUC-T-LIN-25-02). A–B. Epigyne, ventral view. C. Vulva, anterior view.

CEPHALOTHORAX. Carapace yellowish-brown; cephalic region slightly elevated; fovea, cervical and radial grooves distinct. Clypeus 0.15 high.

CHELICERAE. With three promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow. Length of legs: I 3.64 (0.96, 1.19, 0.78, 0.71), II 3.22 (0.91, 1.06, 0.67, 0.58), III 2.54 (0.77, 0.76, 0.54, 0.47), IV 3.55 (0.95, 1.17, 0.76, 0.76, 0.67). Leg formula IV-I-II-III. TmI 0.31 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Oval, gray, dorsally with transverse dark chevrons, ventral side gray.

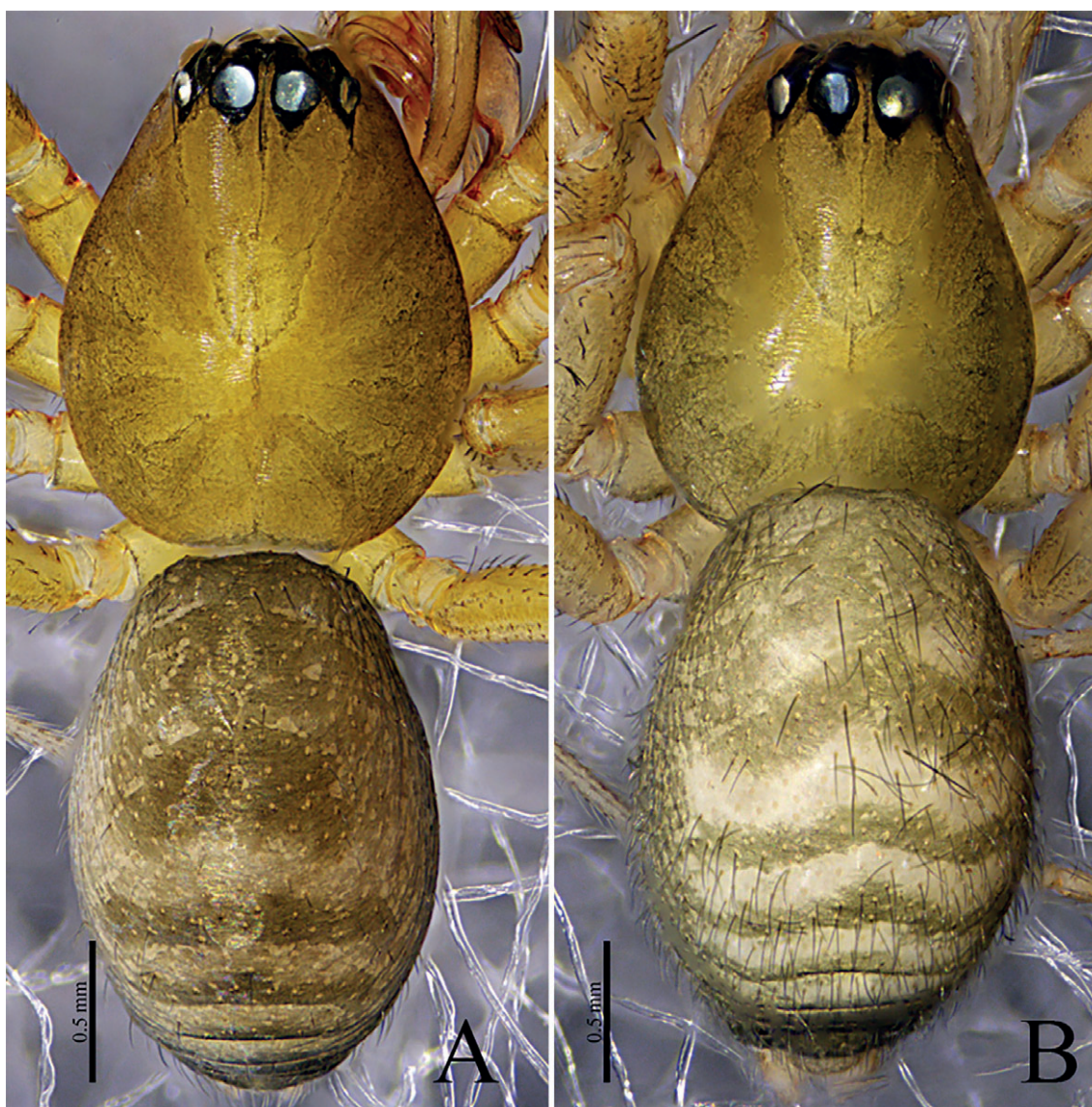


Fig. 63. *Wuliphantes trigyrus* gen. et sp. nov., habitus, dorsal view. A. Holotype, ♂ (SWUC-T-LIN-25-01). B. Paratype, ♀ (SWUC-T-LIN-25-02).

PALP (Fig. 61). Tibia conic, with two retrolateral and one dorsal trichobothrium, with many short and long spine-like hairs on all surfaces. Paracymbium sclerotized, simple, proximal end wide with thick spines, distal arm slightly curved extending towards cymbium with relatively broad tip covered by lateral margin of cymbium; tegulum longer than wide with a well-developed protegulum bulge on ectal side, eight small teeth present at the base of protegulum; embolic plate highly developed, with a short finger-shaped dorsal projection of embolic plate and a long ventral projection of embolic plate extending towards distal end with curved pointed tip; embolic plate dorsally with a long, thick spine (pointed with white arrow on the Fig. 5A); embolus with three coils, originating at 12 o'clock on prolateral side of palp.

Female (paratype, SWUC-T-LIN-25-02, Figs 62, 63B)

MEASUREMENTS. Total 1.65 long; carapace 0.85 long, 0.64 wide; abdomen 1.02 long, 0.65 wide. Eye sizes and interdistances: AME 0.04, ALE 0.07, PME 0.07, PLE 0.07, AME–AME 0.02, PME–PME 0.04, AME–ALE 0.04, PME–PLE 0.04, ALE–ALE 0.28, PLE–PLE 0.30, ALE–PLE contiguous, AME–PME 0.07.

CEPHALOTHORAX. Same as in male. Clypeus 0.12 high.

CHELICERAE. With three promarginal and five retromarginal teeth.

LEG MEASUREMENTS. Legs long, yellow. Length of legs: I 3.26 (0.87, 1.07, 0.74, 0.58), II 3.09 (0.84, 0.95, 0.74, 0.56), III 2.42 (0.71, 0.75, 0.51, 0.45), IV 3.17 (0.92, 0.99, 0.72, 0.54). Leg formula IV-I-II-III. TmI 0.23 and TmIV absent. Tibial spine formula: 2-2-2-2.

ABDOMEN. Same as in male.

EPIGYNE (Fig. 62). Ventral plate unmodified; dorsal plate somewhat rectangular; copulatory opening inconspicuous, present posteriorly; copulatory ducts forming seven coils before joining the spermathecae; spermathecae compact, present at the apex of the dorsal plate; fertilization ducts extending mesally.

Distribution

Known from type locality.

Discussion

The Chongqing region has a lot of nature reserve areas, with an extremely rich insect diversity that provides an excellent food resource for predators, including Linyphiidae spiders. Due to the vast landscape and diverse habitats, the actual number of species of Linyphiidae in Chongqing is expected to be higher than previously reported. This is the first ever extensive survey of Linyphiidae spiders conducted in the Wulipo NNR and is of great significance to provide the basis for future studies in the region.

In addition to the specimens reported in this article, several putative new species in the genera *Bifurcia*, *Gongylidioides* and *Taibaishanus* were recorded as single females. These will be described separately, once additional material, in particular the matching males, becomes available. Additionally, several specimens of both sexes of another species of *Walckenaeria*, close or identical to *W. antica/alticeps*, was collected in Wulipo NNR. A more extensive description of this material will be published separately, with a detailed discussion of habitat preferences and zoogeographical relationships.

In their phylogenetic analysis of the genus *Oedothorax*, Lin *et al.* (2022) report *Oedothorax collinus* as incertae sedis. They state that the entire type series of the species is lost, meaning that the specimens reported here are the only known extant material. A detailed morphological analysis of this material in

the context of the analysis by Lin *et al.* (2022) will be required to clarify the phylogenetic placement of the species, and this will also be published separately.

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Fig. 64. Location of Wulipo National Nature Reserve, Chongqing, China.

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