

ORIGINAL ARTICLE

Review of the wolf spiders from Hainan Island, China (Araneae: Lycosidae)

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Abstract Twenty-eight species in 14 genera of the family Lycosidae Sundevall, 1833 are documented from Hainan Island, China, including five new species: *Allotrochosina huangi* Wang, Li & Zhang, **sp. nov.** (♂♀), *Al. limu* Wang, Li & Zhang, **sp. nov.** (♂), *Arctosa hainan* Wang, Li & Zhang, **sp. nov.** (♂♀), *Ar. tangguoi* Wang, Li & Zhang, **sp. nov.** (♂) and *Zoica hainan* Wang, Li & Zhang, **sp. nov.** (♂♀). Eight new synonyms are proposed: *Arctosa danzhounensis* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *Ar. springiosa* Yin, Wang, Xie & Peng, 1993; *Hippasa sinsiloides* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *H. holmerae* Thorell, 1895; *Lycosa hawigvittata* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *L. vittata* Yin, Bao & Zhang, 1995; *Pardosa daxiansongi* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *P. pusiola* (Thorell, 1891); *P. tieshinglii* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *P. sumatrana* (Thorell, 1890); *P. villarealae* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *P. sumatrana* (Thorell, 1890); *Pirata sanya* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *Lysania pygmaea* Thorell, 1890; *Pirata catindigae* Barrion, Barrion-Dupo & Heong, 2012 **syn. nov.** = *Pi. subpiratica* (Bösenberg & Strand, 1906). The genus *Allotrochosina* Roewer, 1960 and the species *Wadicosa okinawensis* (Tanaka, 1985) are newly recorded from China, and *Pardosa aciculifera* Chen, Song & Li, 2001 is recorded from Thailand for the first time. Females of *Arctosa tridentata* Chen & Song, 1999 and *Ocyale qiongzongensis* Yin & Peng, 1997 are described for the first time. Morphological illustrations and photos of all species are given.

Key words New record, morphology, synonym, taxonomy.

1 Introduction

Hainan Island is the second largest island of China, located in the tropical and subtropical region. Wolf spiders (Araneae: Lycosidae) are one of the most diverse and common spider groups worldwide, with 2431 species (WSC, 2020), of which 312 are known from China (Li, 2020). Here, we review all species of lycosids from Hainan Island examining previously collected material as well as new collections.

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2 Materials and methods

Photos were taken using a Canon EOS 7D with an EF 100 mm f/2.8 Macro USM Lens. All specimens are preserved in 75% ethanol and were examined, illustrated, photographed and measured using a Leica M205A stereomicroscope equipped with a drawing tube, a Leica DFC450 Camera and LAS software (Ver. 4.6). Male palps and female epigynes were examined and illustrated after dissection from the specimen. Female genitalia were cleared in lactic acid solution. SEM images were made with a Zeiss Evo LS10 SEM in the School of Life Science, Southwest University, Chongqing, China. Eye sizes were measured as the maximum diameter in dorsal view. Leg measurements are shown as: total length (femur, patella and tibia, metatarsus, tarsus). All measurements are given in millimetres. Terminology follows Framenau (2007).

Specimens are deposited in following institutions:

SWUC—School of Life Science, Southwest University, Chongqing, China;

HANU—College of Environment and Plant Protection, Hainan University, Haikou, China;

IZCAS—Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

Abbreviations used in the text and figure legends:

ALE—anterior lateral eye;

AME—anterior median eye;

Co—conductor;

CO—copulatory opening;

Em—embolus;

FD—fertilization duct;

Ho—hood;

HS—head of spermatheca;

LA—lateral apophysis;

MA—median apophysis;

PLE—posterior lateral eye;

PME—posterior median eye;

Se—septum;

SS—stalk of spermatheca;

Ss—stem of septum;

St—subtegulum;

TA—terminal apophysis;

Te—tegulum.

3 Taxonomy

Family Lycosidae Sundevall, 1833

Genus *Allotrochosina* Roewer, 1960

Allotrochosina Roewer, 1960: 927. Type species: *Lycosa schauinslandi* Simon, 1899, from New Zealand.

Remarks. This is the first record of this genus from China. Prior to this study, three species were known, all from Australia and New Zealand (WSC, 2020). Diagnostic characteristics include: lack of bristles on tip of the male palp; subtegulum elongated, situated along the prolateral margin of the cymbium; embolus and terminal apophysis reduced and crowded together at tip of bulb (Vink, 2001; Framenau, 2008).

Allotrochosina huangi Wang, Li & Zhang, sp. nov. (Figs 1A–B, 3A–I, 4A–D, 5A–E)

Type material. Holotype ♂, Ledong County, Jianfengling Nature Reserve, Mingfeng Valley, 18°44.485'N, 108°50.812'E, elev. 960 m, 28.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC). Paratypes. 9♂13♀, same data as holotype (SWUC); 2♂4♀, Jianfengling Nature Reserve, Wufengqu, 18°44.415'N, 108°51.802'E, elev. 900 m, 18 May 2011, Y.Y. Zhou leg. (IZCAS).

Etymology. The specific name comes from the family name of the collector, Guiqiang Huang; noun (name) in genitive

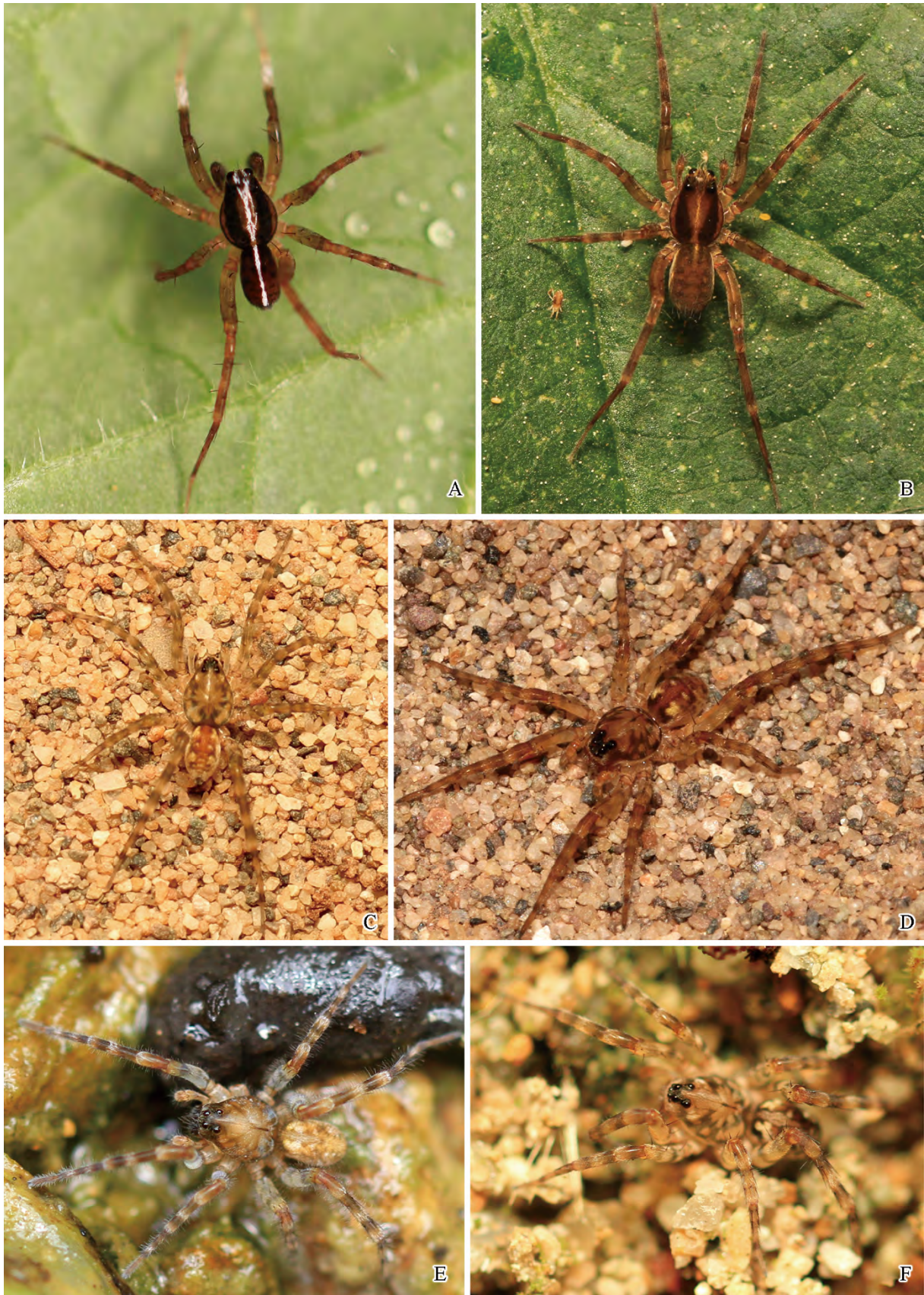


Figure 1. Photos of living specimens. A. *Allotrochosina huangi* Wang, Li & Zhang, **sp. nov.**, male; B. *Al. huangi* Wang, Li & Zhang, **sp. nov.**, female; C. *Arctosa depectinata* (Bösenberg & Strand, 1906), male; D. *Ar. depectinata* (Bösenberg & Strand, 1906), female; E. *Ar. vaginalis* Yu & Song, 1988, male; F. *Ar. vaginalis* Yu & Song, 1988, female.

case.

Diagnosis. The new species resembles *A. schauinslandi* (Simon, 1899) (Vink, 2002: 18, figs 7, 34, 41, 68, 95; Framenau, 2008: 467, fig. 7) but differs by the crescent-shaped embolus (Figs 3C–G, 4A–D, 5A–C); the embolus is needle-shaped, and

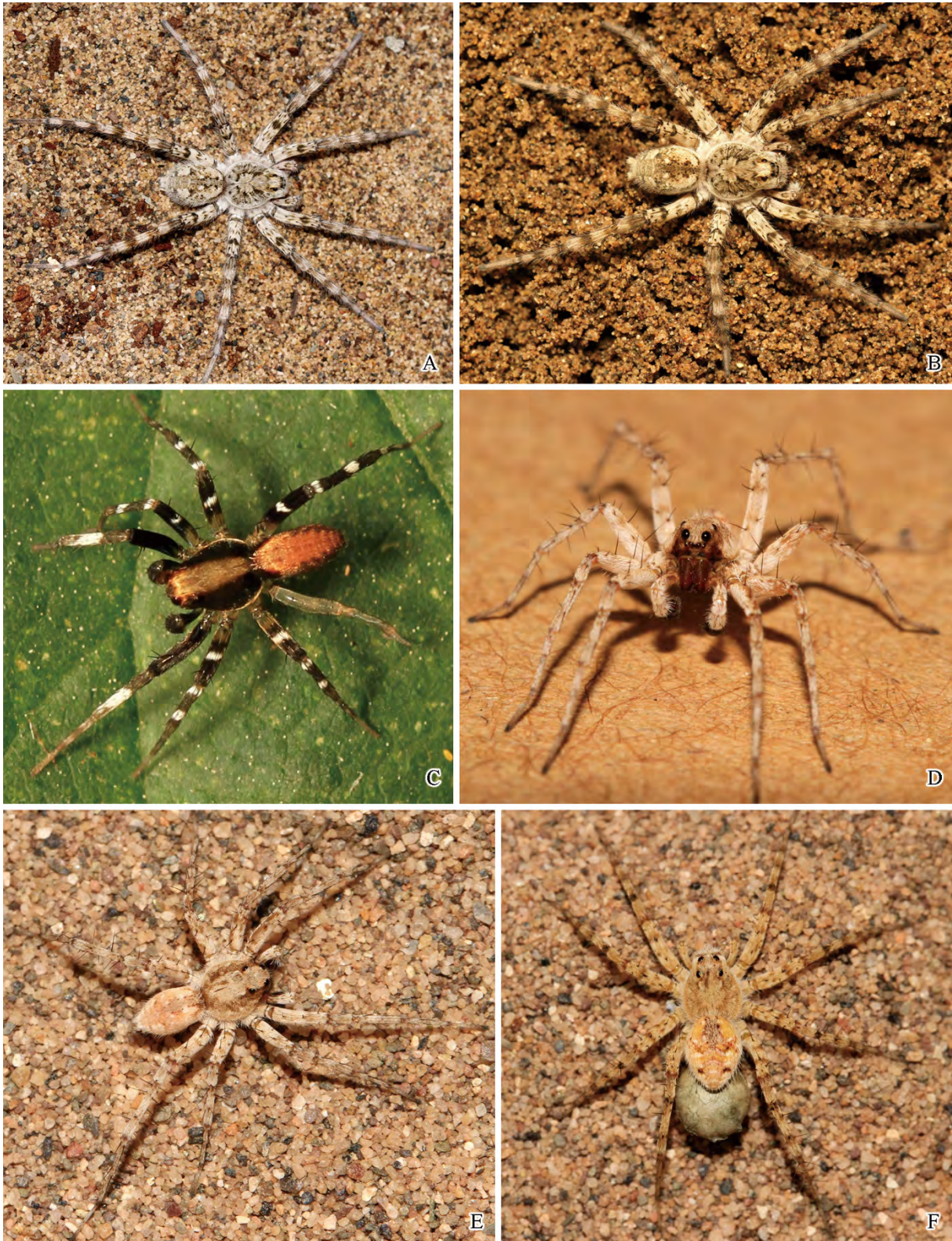


Figure 2. Photos of living specimens. A. *Ocyale qionghongensis* Yin & Peng, 1997, male; B. *Oc. qionghongensis* Yin & Peng, 1997, female. C. *Ovia alboannulata* (Yin, Peng, Xie, Bao & Wang, 1997), male; D–E. *Wadicosa okinawensis* (Tanaka, 1985), male; F. *W. okinawensis* (Tanaka, 1985), female.

the embolic division has a small beak-shaped projection in *A. schauinslandi*. Females can be differentiated by the shape and orientation of the spermathecae (Figs 3H–I, 5D–E).

Description. Male. Total length 2.66–2.91. Holotype (Fig. 3A) total length 2.85. Carapace 1.60 long, 1.11 wide; opisthosoma 1.24 long, 0.78 wide. Live specimens with a long stripe of white setae from the base of the median eyes to the base of the spinnerets. Carapace yellow-brown. Eye region black. Cervical groove distinct, radial furrows indistinct. Eye sizes and interdistances: AME 0.06, ALE 0.05, PME 0.23, PLE 0.17; AME–AME 0.05, AME–ALE 0.07, PME–PME 0.14, PME–PLE 0.16. Clypeus 0.08 high. Chelicerae yellow-brown, with 3 promarginal and 2 retromarginal teeth. Labium yellowish brown. Endites yellow-brown. Sternum yellowish brown and scutellate, with sparse, yellow-brown setae.

Legs yellowish brown. Leg measurements: I 4.11 (1.03, 1.36, 1.08, 0.64); II 3.70 (1.04, 1.28, 0.87, 0.51); III 3.69 (1.02, 1.15, 1.01, 0.51); IV 5.20 (1.30, 1.66, 1.50, 0.74). Dorsum yellow-brown, with black pigmentation. Ventrum yellowish brown.

Palp (Figs 3C–G, 4A–D, 5A–C). Terminal apophysis small, hook-shaped, covered by conductor. Median apophysis

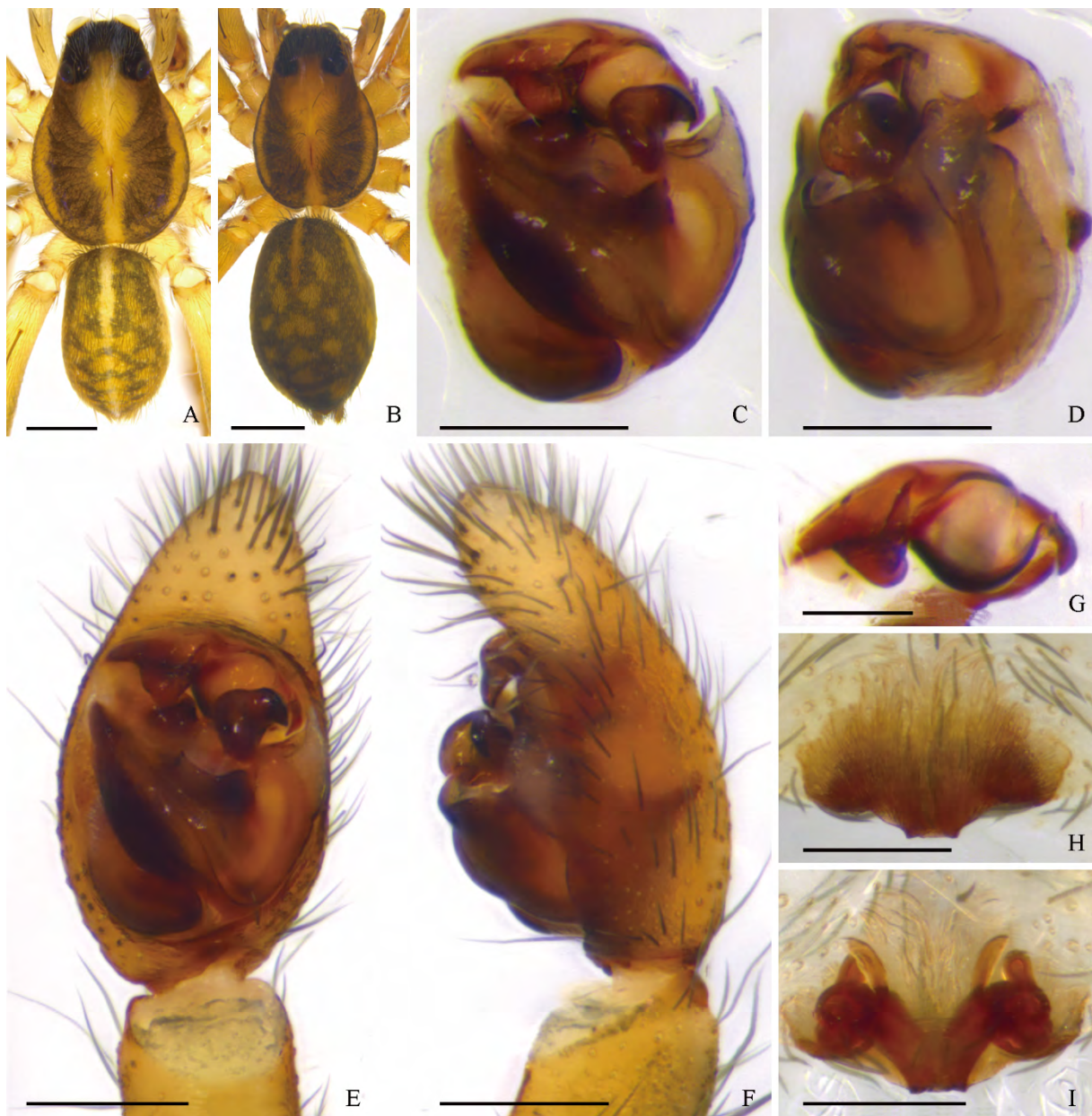


Figure 3. *Allotrochosina huangi* Wang, Li & Zhang, **sp. nov.**, holotype male (A, E–F), paratype male (C–D, G), paratype female (B, H–I). A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Embolus and terminal apophysis, ventral view; H. Epigyne, ventral view; I. Vulva, dorsal view. Scale bars: A=0.5 mm; B=1.0 mm; C–F, H–I=0.2 mm; G=0.1 mm.

liver-shaped, slightly sclerotized. Embolus crescent-shaped. Conductor wide, membranous, tapering distally.

Female (paratype, Fig. 3B) total length 5.37. Carapace 2.52 long, 1.70 wide; opisthosoma 2.85 long, 1.71 wide. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.26, PLE 0.20; AME–AME 0.05, AME–ALE 0.10, PME–PME 0.15, PME–PLE 0.21. Clypeus height 0.08. Leg measurements: I 4.97 (1.43, 1.70, 1.12, 0.72); II 4.66 (1.32, 1.56, 1.11, 0.67); III 4.61 (1.30, 1.53, 1.19, 0.59); IV 6.55 (1.74, 2.07, 1.85, 0.89). Leg formula: 4123. Opisthosoma oval. Dorsum of opisthosoma yellow-brown, with black pigmentation. Ventrum yellow-brown.

Epigyne (Figs 3H–I, 5D–E). Spermathecal heads round. Spermathecal stalks V-shaped, joined at the base, separated from each other by two times the length of a fertilization duct. Fertilization ducts relatively large, crescent-shaped.

Distribution. China (Hainan).

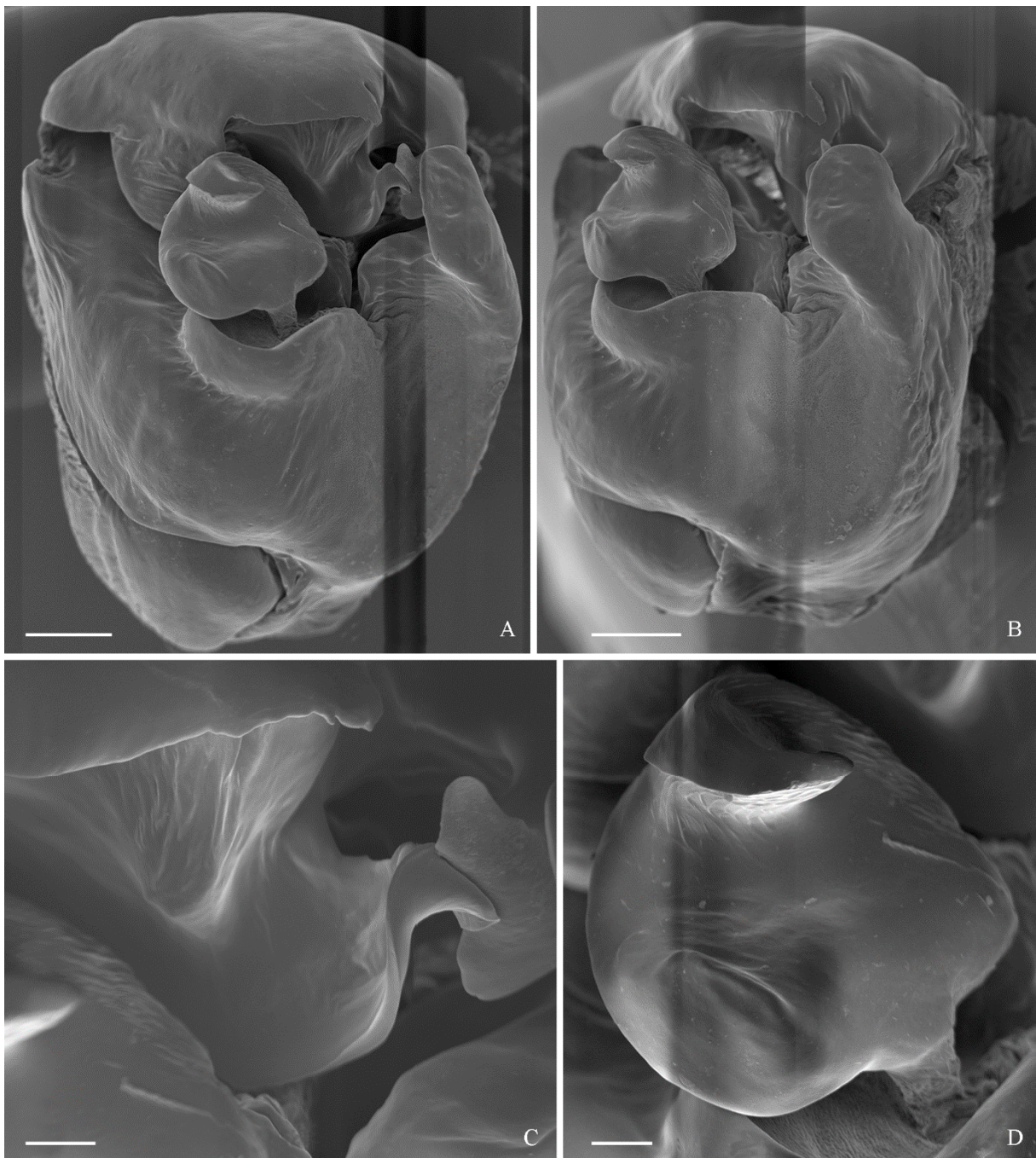


Figure 4. *Allotrochosina huangi* Wang, Li & Zhang, **sp. nov.**, paratype male. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Embolus, ventral view; D. Median apophysis, ventral view. Scale bars: A–B=0.04 mm; C–D=0.01 mm.

Allotrochosina limu Wang, Li & Zhang, *sp. nov.* (Figs 6A–C, 7A–B)

Type material. Holotype ♂, Qiongzong County, Limu Mountain Nature Reserve, Zhufeng, 19°10.874'N, 109°45.322'E, elev. 940m, 4.V.2011, Y.Y. Zhou leg. (IZCAS).

Etymology. The specific epithet refers to the type locality; noun in apposition.

Diagnosis. The new species resembles *A. huangi* Wang, Li & Zhang, *sp. nov.* (Figs 3C–G, 4A–D, 5A–C) but differs by the heart-shaped median apophysis (Figs 6B–C, 7A–B); the median apophysis is liver-shaped in *A. huangi* (Figs 3C–F, 4A–B, D, 5A–C.). Embolus rodlike, pointed at the end in the new species (Figs 6B–C, 7A–B), crescent-shaped in *A. huangi* (Figs 3C–G, 4A–C, 5A–B). In retrolateral view, the terminal apophysis is horn-shaped in the new species (Figs 6B–C, 7A–B) but hook-shaped in *A. huangi* (Figs 3C–G, 4A–C, 5A–C).

Description. Male holotype (Fig. 6A) total length 3.25. Carapace 1.78 long, 1.34 wide; opisthosoma 1.40 long, 1.00 wide. Carapace yellow-brown. Eye region black. Cervical groove and radial furrows indistinct. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.18, PLE 0.15; AME–AME 0.05, AME–ALE 0.03, PME–PME 0.11, PME–PLE 0.12. Clypeus height 0.06. Chelicerae yellow-brown. Labium yellowish brown. Endites yellowish brown. Sternum yellowish brown with sparse brown setae. Legs yellow-brown. Leg measurements: I 4.88 (1.33, 1.66, 1.17, 0.72); II 4.81 (1.39, 1.57, 1.14, 0.71); III 4.55 (1.32, 1.39, 1.18, 0.66); IV 6.07 (1.66, 1.84, 1.70, 0.87). Dorsum of opisthosoma yellow-brown, cardiac mark indistinct. Ventrums yellowish brown.

Palp (Figs 6B–C, 7A–B). Terminal apophysis sclerotized, horn-shaped, with pointed end. Embolus long, rodlike, with pointed end. Conductor membranous, wider than long, tongue-shaped, with blunt end. Median apophysis sclerotized, heart-shaped.

Female unknown.

Distribution. Known only from the type locality, Hainan Island, China.

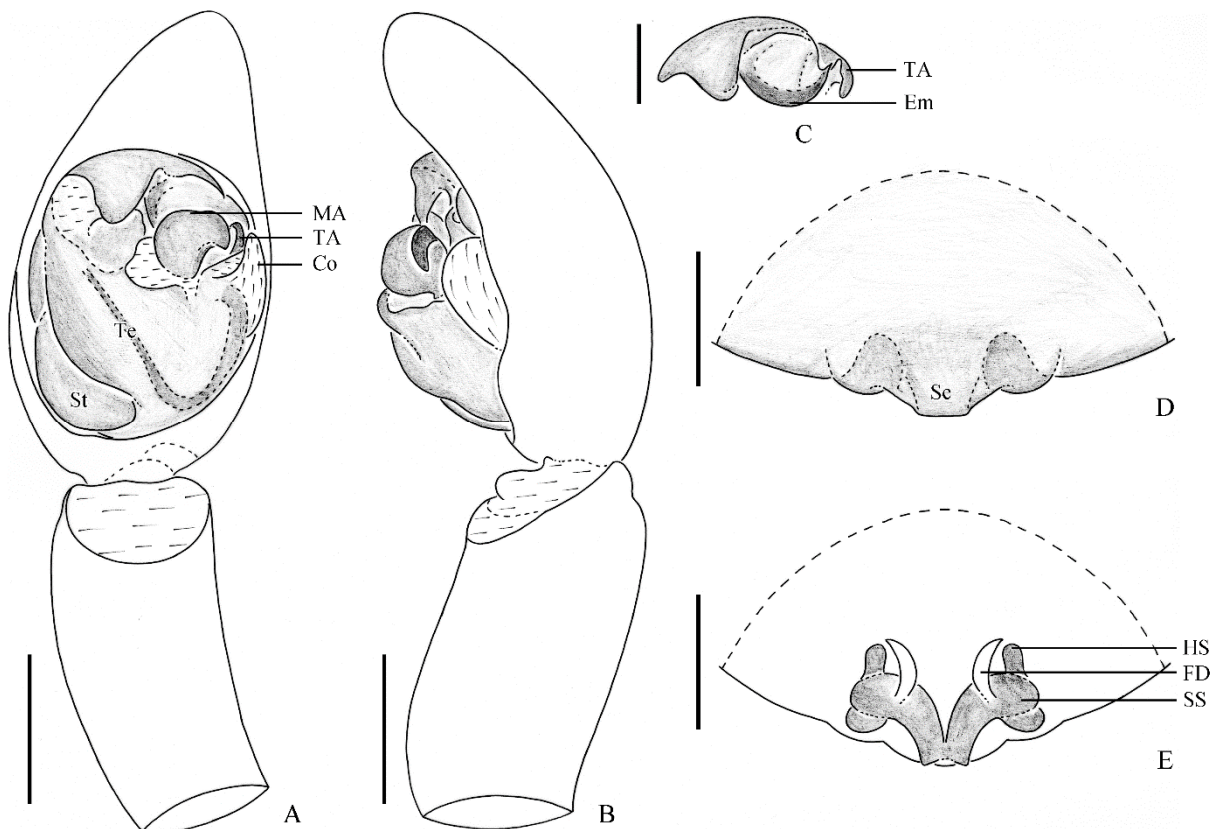


Figure 5. *Allotrochosina huangi* Wang, Li & Zhang, *sp. nov.*, holotype male (A–B), paratype male (C), paratype female (D–E). A. Left male palp, ventral view; B. Same, retrolateral view; C. Embolus and terminal apophysis, ventral view; D. Epigyne, ventral view; E. Vulva, dorsal view. Abbreviations: Co—conductor; FD—fertilization duct; HS—head of spermatheca; MA—median apophysis; Se—septum; SS—stalk of spermatheca; St—subtegulum; TA—terminal apophysis; Te—tegulum. Scale bars: A–B, D–E = 0.2 mm; C = 0.1 mm.

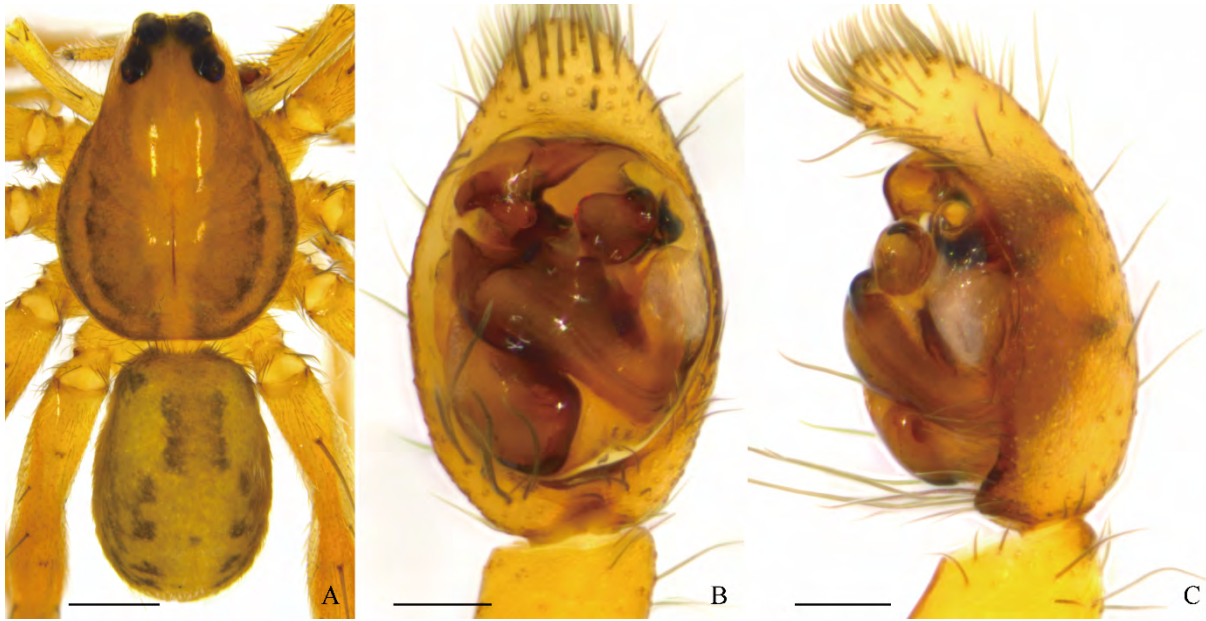


Figure 6. *Allotrochosina limu* Wang, Li & Zhang, **sp. nov.**, holotype male. A. Male habitus, dorsal view; B. Left male palp, ventral view; C. Same, retrolateral view. Scale bars: A=0.5 mm; B–C=0.1 mm.

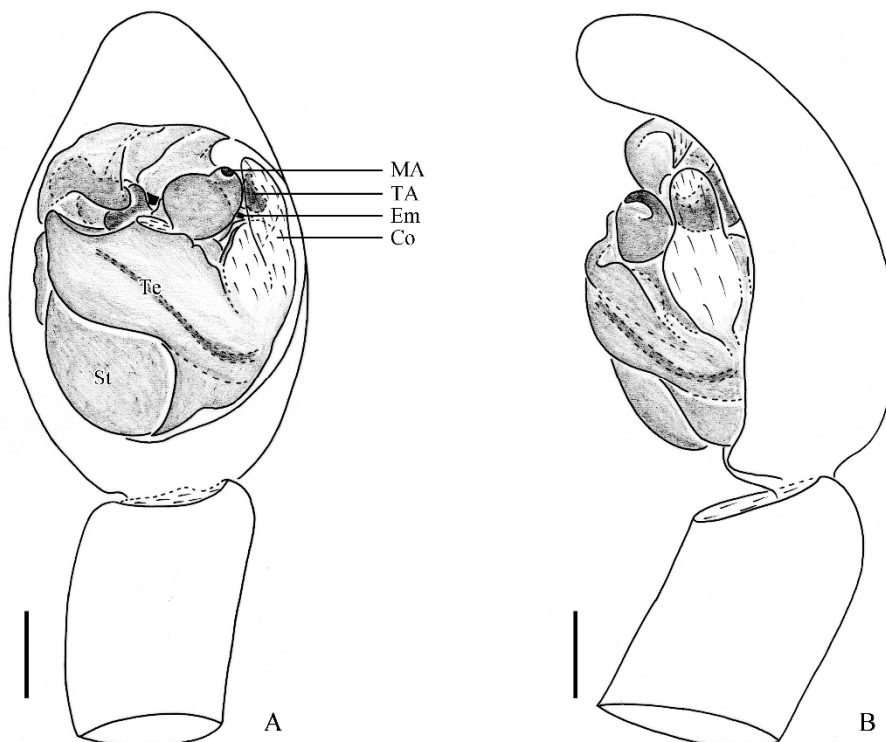


Figure 7. *Allotrochosina limu* Wang, Li & Zhang, **sp. nov.**, holotype male. A. Left male palp, ventral view; B. Same, retrolateral view. Abbreviations: Co—conductor; Em—embolus; MA—median apophysis; St—subtegulum; TA—terminal apophysis; Te—tegulum. Scale bars: A–B=0.1 mm.

Genus *Arctosa* C.L. Koch, 1847

Arctosa C.L. Koch, 1847: 80. Type species: *Aranea cinerea* Fabricius, 1777, from Europe.

Remarks. Currently 170 species are known worldwide, of which 31 species are reported from China (WSC, 2020).

***Arctosa depectinata* (Bösenberg & Strand, 1906)** (Figs 1C–D, 8A–H, 9A–D)

Tarentula depectinata Bösenberg & Strand, 1906: 314, pl. 7, fig. 332 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Wang, Marusik & Zhang (2012) for both sexes. Habitus, male palp and epigyne as in Figs 1C–D, 8A–H, 9A–D.

Material examined. 3♂4♀, Dongfang City, Datian Town, Jubian Bridge, 19°08.451'N, 108°50.641'E, elev. 59 m, 28.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC-2♂3♀, HANU-1♂1♀).

Distribution. China (Fujian, Guangdong, Hainan, Jiangxi, Shandong, Yunnan), Japan.

***Arctosa hainan* Wang, Li & Zhang, sp. nov.** (Figs 10A–H, 11A–F, 12A–D)

Arctosa indicus: Yin *et al.*, 2012: 796, figs 397a–f (♂♀). (misidentified).

Type material. Holotype ♂, Danzhou City, near Tropical Plants Garden, 19°30.597'N, 109°30.217'E, elev. 131 m, 23.III. 2015, L.Y. Wang & G.Q. Huang leg. (SWUC). Paratypes. 11♂10♀, same data as holotype (SWUC).

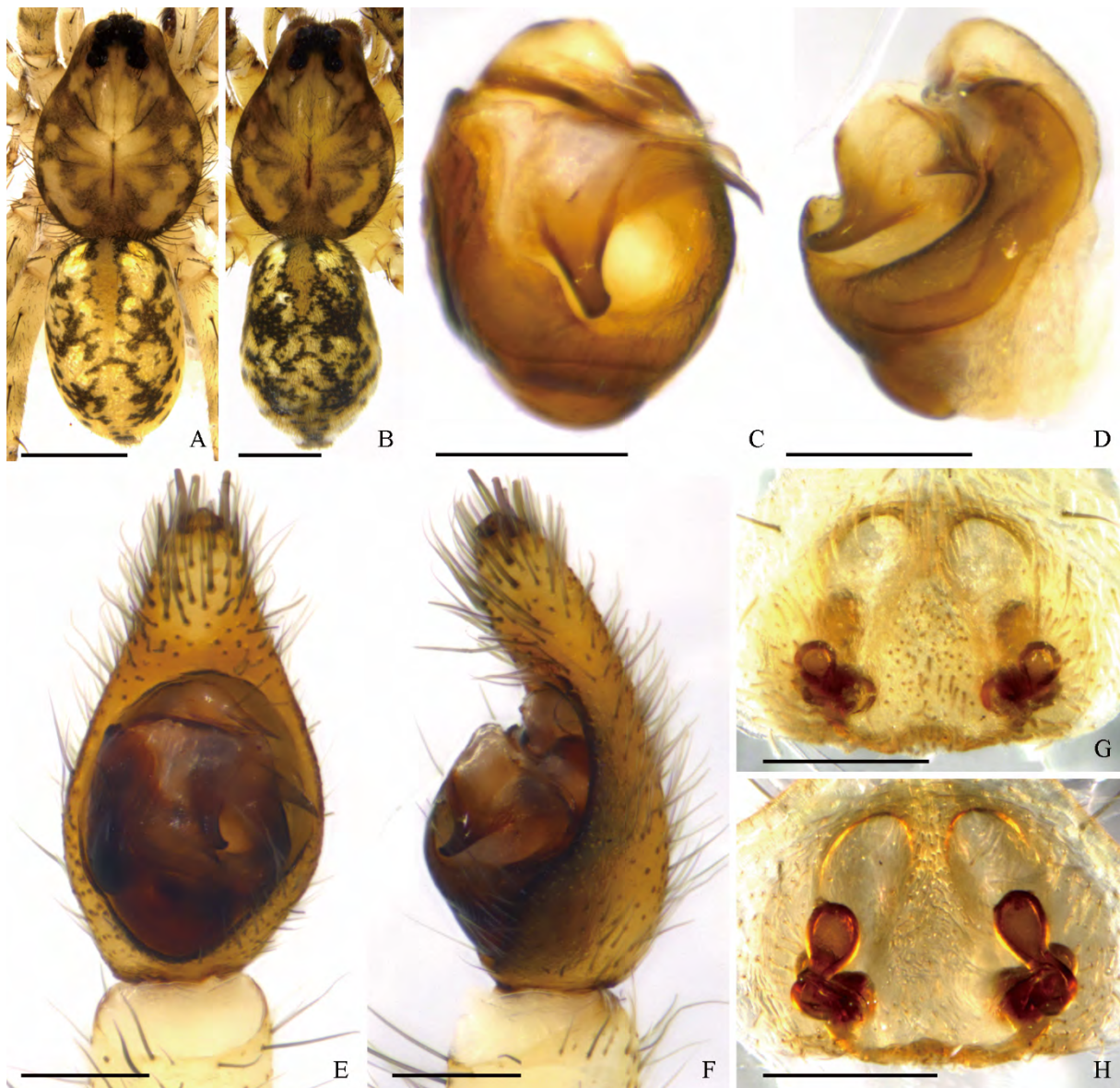


Figure 8. *Arctosa depectinata* (Bösenberg & Strand, 1906), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–H=0.2 mm.

Etymology. The specific epithet refers to the type locality; noun in apposition.

Diagnosis and description. See Yin *et al.* (2012) for both sexes. Habitus, male palp and epigyne as in Figs 10A–H, 11A–F, 12A–D.

Distribution. China (Hainan).

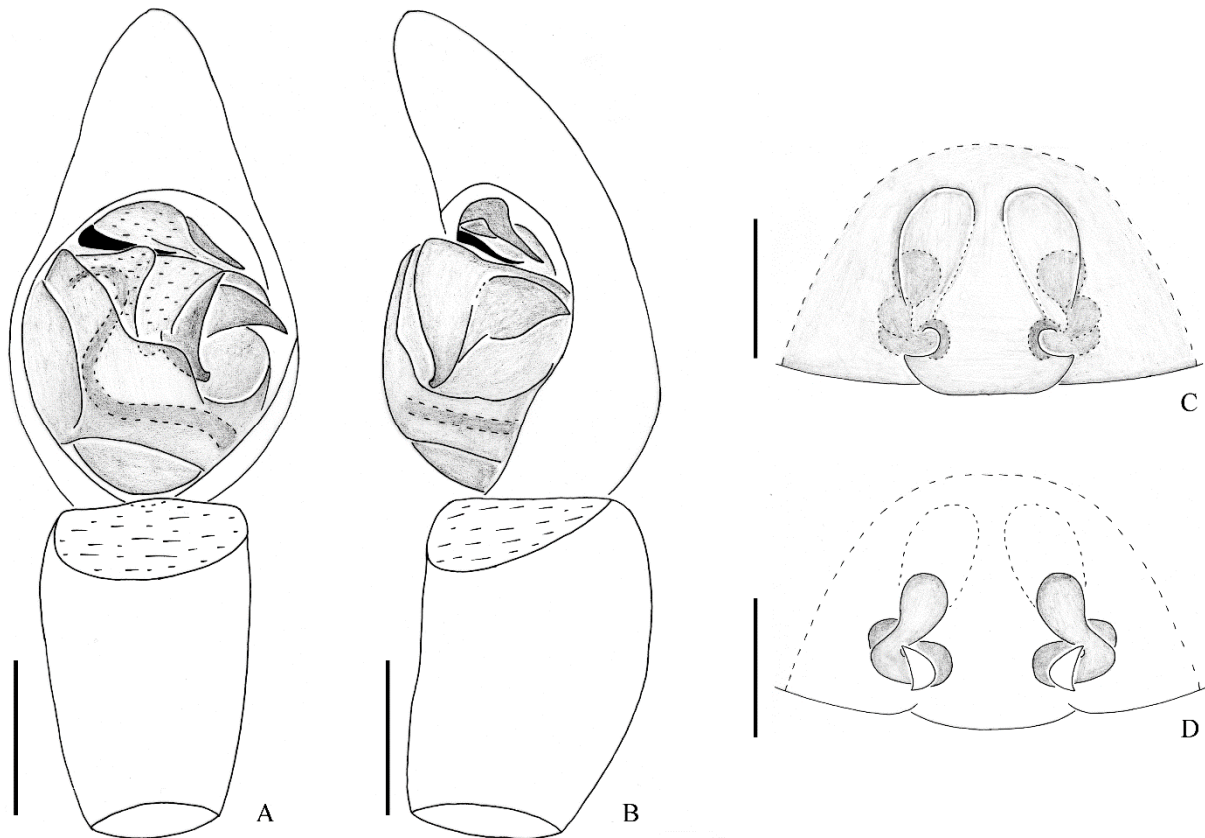


Figure 9. *Arctosa depectinata* (Bösenberg & Strand, 1906). A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.2 mm.

***Arctosa springiosa* Yin, Wang, Xie & Peng, 1993** (Figs 13A–H, 14A–E, 15A–D)

Arctosa springiosa Yin *et al.*, 1993: 15, figs 31–34 (♂♀).

Arctosa danzhounensis Barrion, Barrion-Dupo & Heong, 2012: 13, figs 13A–E (♂). **syn. nov.**

Description. See Yin *et al.* (2012) for both sexes. Habitus, male palp and epigyne as in Figs 13A–H, 14A–E, 15A–D.

Material examined. 1♂ (holotype of *A. danzhounensis*), Danzhou, 9–13.VIII.2010, A.T. Barrion & S.C. Villareal leg. (HANU); 1♀, Wuzhishan City, Shuiman Town, 13.VIII.2007, F. Zhang leg. (SWUC); 1♂, Danzhou City, near Tropical Plants Garden, 19°30.597'N, 109°30.217'E, elev. 131 m, 23.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. China (Chongqing, Fujian, Hainan, Hunan, Yunnan).

***Arctosa tangguoi* Wang, Li & Zhang, sp. nov.** (Figs 16A–E, 17A–D, 18A–B)

Type material. Holotype ♂, Lingshui County, Diaoluo Mountain Nature Reserve, 18°41.445'N, 109°52.410'E, elev. 620 m, 16.IV.2009, G. Tang leg. (IZCAS).

Etymology. The specific epithet is taken from the name of Mr. Guo Tang in honour of his great contribution to Chinese arachnology; noun (name) in genitive case.

Diagnosis. The new species resembles *A. hainan* Wang, Li & Zhang, **sp. nov.** (Figs 10C–F, 11A–F, 12A–B) but differs by the sword-shaped median apophysis (Figs 16B–E, 17A–B, D, 18A–B), which is slightly curved with a hook-shaped tip in the latter (Figs 10C–F, 11A–D, F, 12A–B). Terminal apophysis axe-shaped in the new species (Figs 16B–E, 17A–C, 18A–B), knife-shaped in *A. hainan* Wang, Li & Zhang, **sp. nov.** (Figs 10C–F, 11A–E, 12A–B). Embolus crescent-shaped in the

new species (Figs 16B–E, 17A–C, 18A–B), longer than wide with broad tip in the latter (Figs 10C–F, 11A–E, 12A–B).

Description. Male holotype (Fig. 16A) total length 4.40. Carapace 2.55 long, 1.81 wide; opisthosoma 1.91 long, 1.39 wide. Carapace black-brown. Eye region black-brown. Fovea longitudinal. Cervical groove and radial furrows indistinct. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.21, PLE 0.16; AME–AME 0.06, AME–ALE 0.04, PME–PME 0.13, PME–PLE 0.16. Clypeus height 0.06. Chelicerae brown. Labium yellow-brown. Endites yellow-brown, longer than wide. Sternum yellow-brown, with sparse brown setae. Legs yellow-brown, with brown pigmentation. Leg measurements: I 5.23 (1.65, 1.92, 1.01, 0.65); II 5.14 (1.46, 1.76, 1.13, 0.79); III 4.97 (1.39, 1.55, 1.32, 0.71); IV 7.25 (1.87, 2.27, 2.06, 1.05). Dorsum of opisthosoma black-brown, with 5 pairs of white spots, cardiac mark distinct. Ventrum yellow-brown.

Palp (Figs 16B–E, 17A–D, 18A–B). Median apophysis sword-shaped, with an anterior furrow. Terminal apophysis longer than wide, distally axe-shaped. Conductor small, membranous. Embolus crescent-shaped with an outgrowth medially.

Female unknown.

Distribution. Known only from the type locality, Hainan Island, China.

***Arctosa tridentata* Chen & Song, 1999** (Figs 19A–F, 20A–D)

Arctosa tridentata Chen & Song, 1999: 139, figs 4–7 (♂).

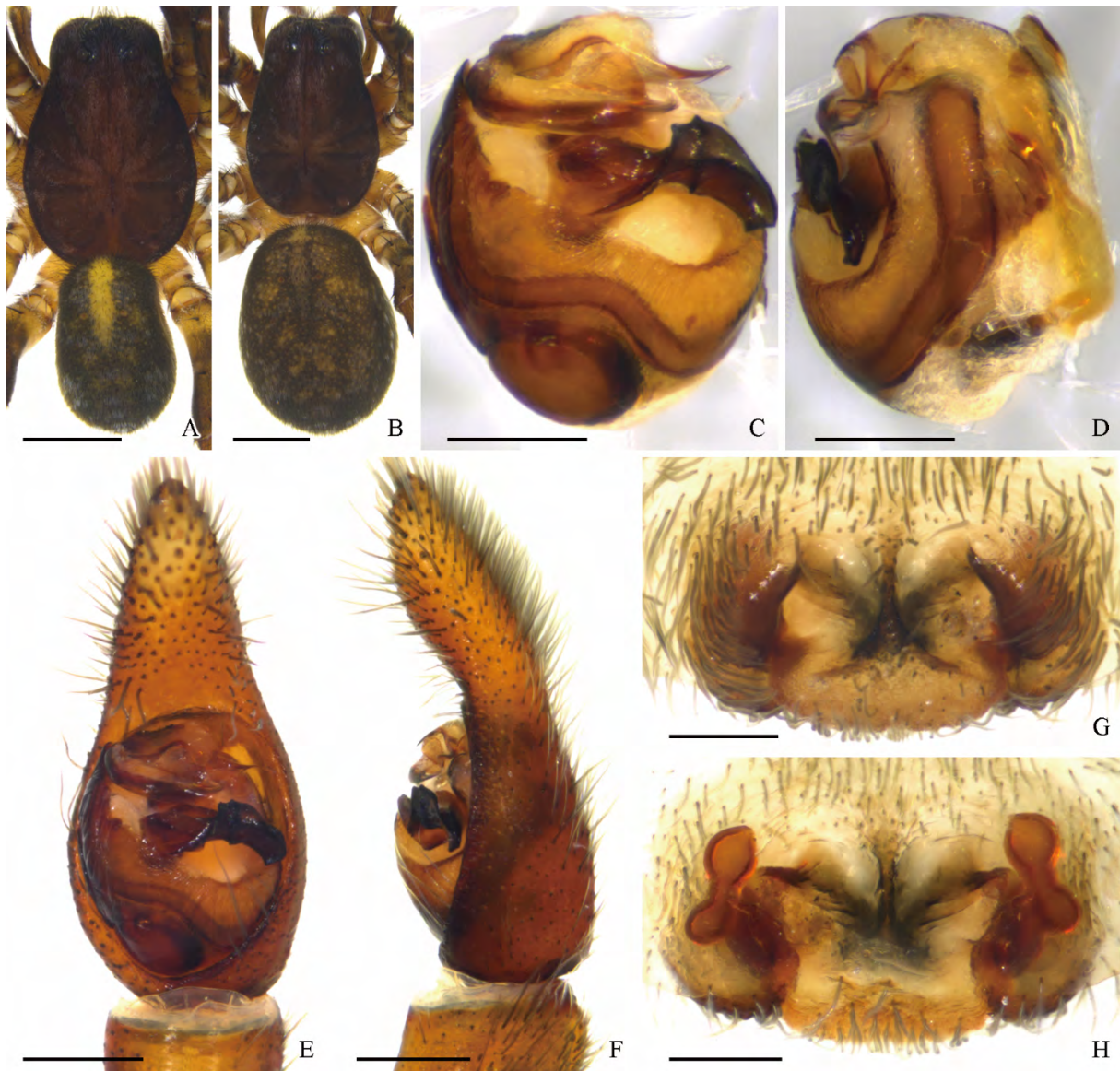


Figure 10. *Arctosa hainan* Wang, Li & Zhang, **sp. nov.**, holotype male (A, E–F), paratype male (C–D), paratype female (B, G–H). A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B = 2.0 mm; C–D, G–H = 0.2 mm; E–F = 0.3 mm.

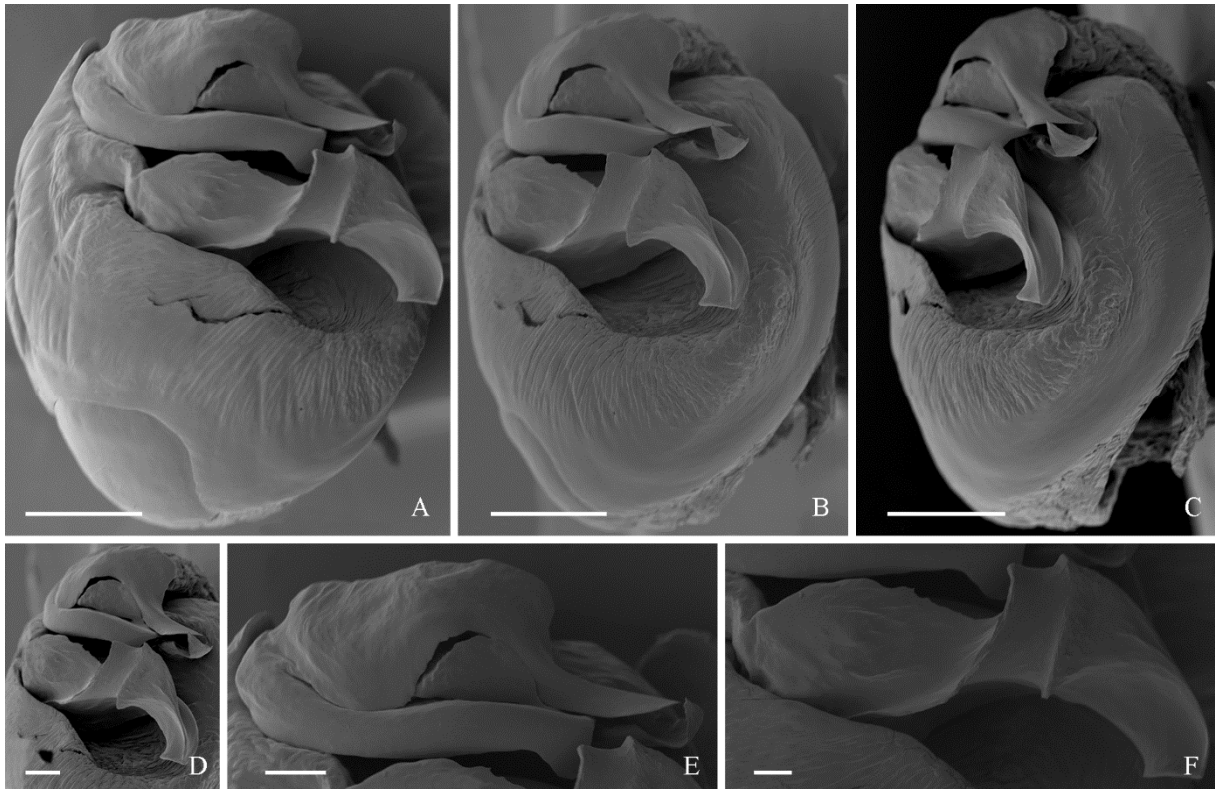


Figure 11. *Arctosa hainan* Wang, Li & Zhang, **sp. nov.**, male from Hainan. A. Left male palp, bulbus, ventral view; B–C. Same, retrolateral view; D. Same, retrolateral view E. Embolus and terminal apophysis, ventral view; D. Median apophysis, ventral view. Scale bars: A–C=0.1 mm; D–E=0.04 mm; F=0.02 mm.

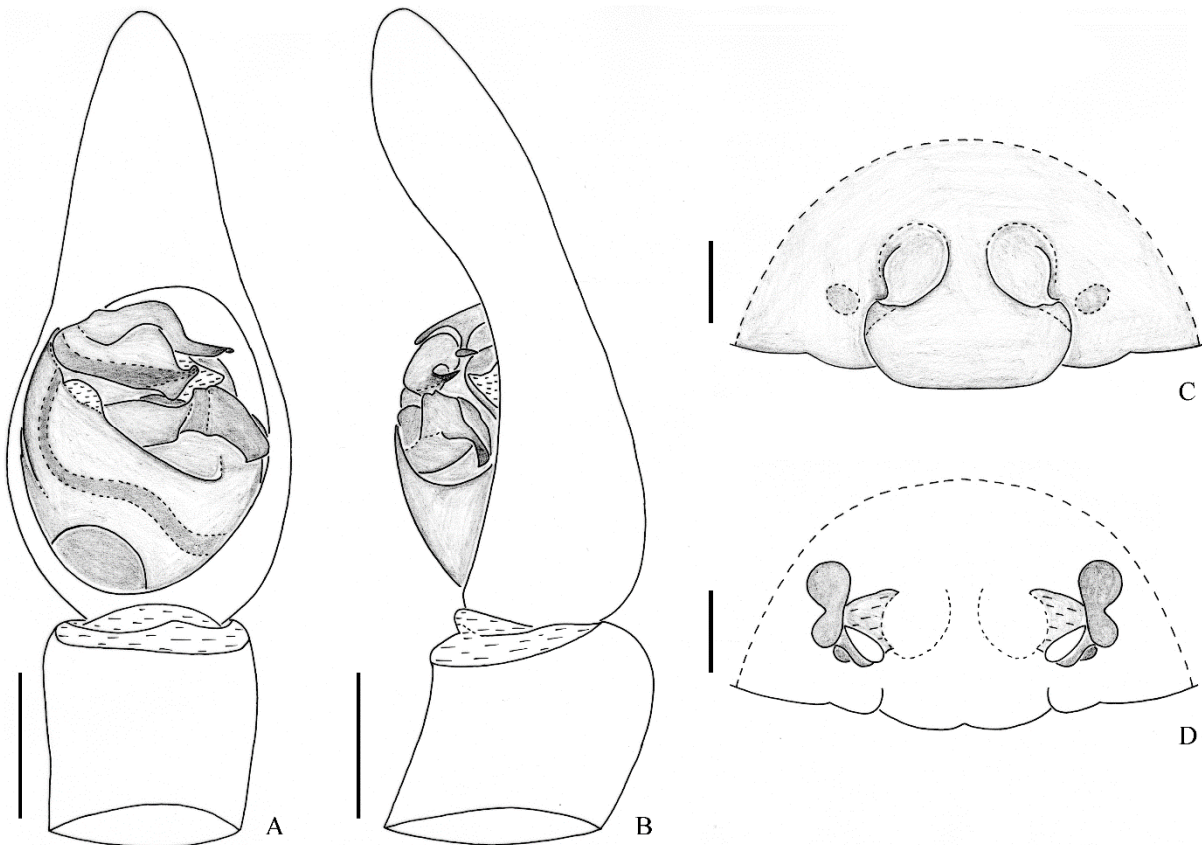


Figure 12. *Arctosa hainan* Wang, Li & Zhang, **sp. nov.**, holotype male (A–B), paratype female (C–D). A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.2 mm.



Figure 13. *Arctosa springiosa* Yin, Wang, Xie & Peng, 1993, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbous part, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A=1.0 mm; B=2.0 mm; C–H=0.2 mm.

Material examined. 1♂1♀, Danzhou City, Fanjia, Fengjidu, 19°17.988'N 109°41.837'E, elev. 188 m, 19.I.2015, C. Jin leg. (SWUC); 1♀, Baisha County, Yacha Farm, Ten Team, 19°16.481'N, 109°27.727'E, elev. 146 m, 24.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Diagnosis. This species is similar to *A. kawabe* Tanaka, 1985 (Tanaka, 1991: 306, figs 25–28) but differs by the median apophysis with three small projections (Figs 19C–D, 20A–B), whereas there is a single projection in *A. kawabe*. The terminal apophysis is finger-shaped in the new species (Figs 19C–D, 20A–B) but knife-shaped in *A. kawabe*. Septum of epigyne longer than wide in the new species (Figs 19E–F, 20C–D), as long as wide in *A. kawabe*.

Description. Male (Fig. 19A) total length 5.79. Carapace 3.00 long, 2.12 wide; opisthosoma 2.50 long, 1.76 wide. Carapace yellow-brown. Cervical groove and radial furrows indistinct. Eye sizes and interdistances: AME 0.10, ALE 0.09, PME 0.29, PLE 0.23; AME–AME 0.07, AME–ALE 0.05, PME–PME 0.16, PME–PLE 0.20. Clypeus height 0.10. Chelicerae yellow-brown. Labium yellow-brown. Endites yellow-brown. Sternum yellowish brown, with brown setae. Legs yellow-brown, with black pigmentation. Leg measurements: I 7.75 (2.12, 2.80, 1.76, 1.07); II 7.43 (2.04, 2.49, 1.82, 1.08); III 6.38 (1.69, 2.09, 1.61, 0.99); IV 10.28 (2.69, 3.41, 2.94, 1.24). Leg formula: 4123. Opisthosoma oval. Dorsum of opisthosoma yellow-brown, cardiac mark yellow-brown. Ventrums yellow-brown.

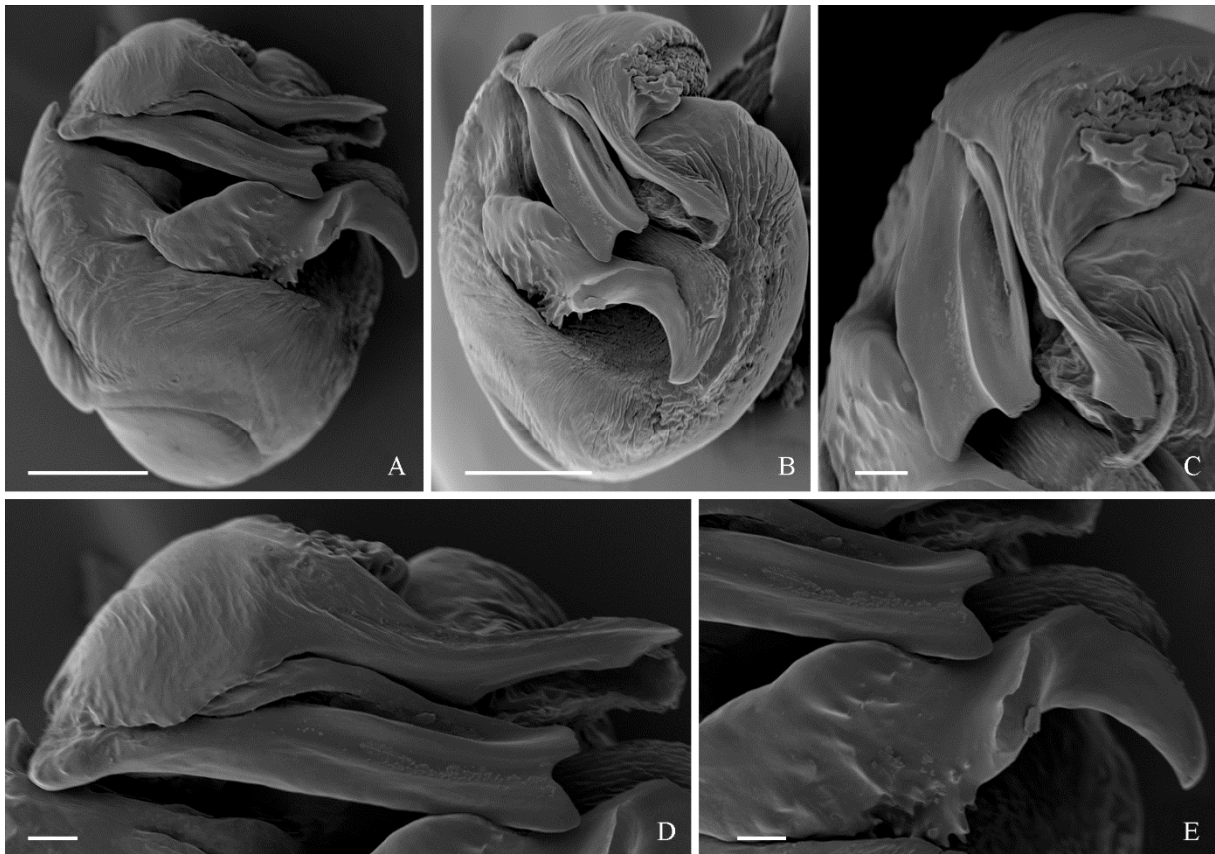


Figure 14. *Arctosa springiosa* Yin, Wang, Xie & Peng, 1993, male from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Embolus and terminal apophysis, retrolateral view; D. Conductor, embolus and terminal apophysis, ventral view; E. Median apophysis, ventral view. Scale bars: A–B=0.1 mm; C–E=0.02 mm.

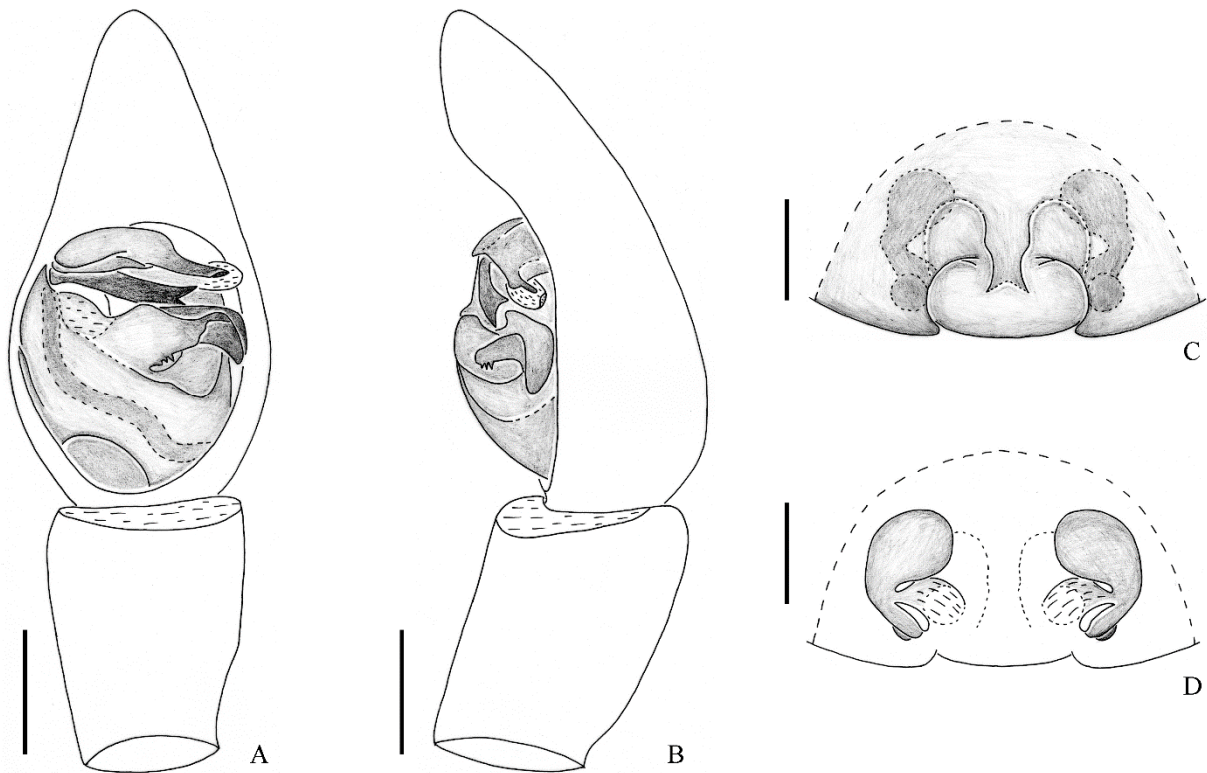


Figure 15. *Arctosa springiosa* Yin, Wang, Xie & Peng, 1993, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.2 mm.

Palp (Figs 19C–D, 20A–B). Terminal apophysis fingerlike. Embolus robust, with a bifurcate tip. Conductor membranous, rounded distally. Median apophysis robust, with three small projections.

Female (Fig. 19B) total length 6.59. Carapace 3.59 long, 2.47 wide; opisthosoma 2.99 long, 2.00 wide. Eye sizes and interdistances: AME 0.11, ALE 0.09, PME 0.32, PLE 0.26; AME–AME 0.09, AME–ALE 0.06, PME–PME 0.23, PME–PLE 0.24. Clypeus height 0.12. Leg measurements: I 9.10 (2.66, 3.22, 1.98, 1.24); II 8.10 (2.38, 2.77, 1.79, 1.16); III 7.70 (2.14, 2.41, 1.96, 1.19); IV 11.90 (3.08, 3.82, 3.47, 1.53). Leg formula: 4123. Opisthosoma oval. Dorsum of opisthosoma yellow-brown. Venter yellow-brown.

Epigyne (Figs 19E–F, 20C–D). Septum narrow, the stem top wider anteriorly. Spermathecal heads round, spermathecal stalks long. Fertilization ducts large and crescent-shaped.



Figure 16. *Arctosa tangguoi* Wang, Li & Zhang, **sp. nov.**, holotype male. A. Male habitus, dorsal view; B. Left male palp, ventral view; C. Same, retrolateral view; D. Right male palp, bulbus, ventral view (overturn); D. Same, retrolateral view (overturn). Scale bars: A = 1.0 mm; B–C = 0.2 mm; D–E = 0.1 mm.

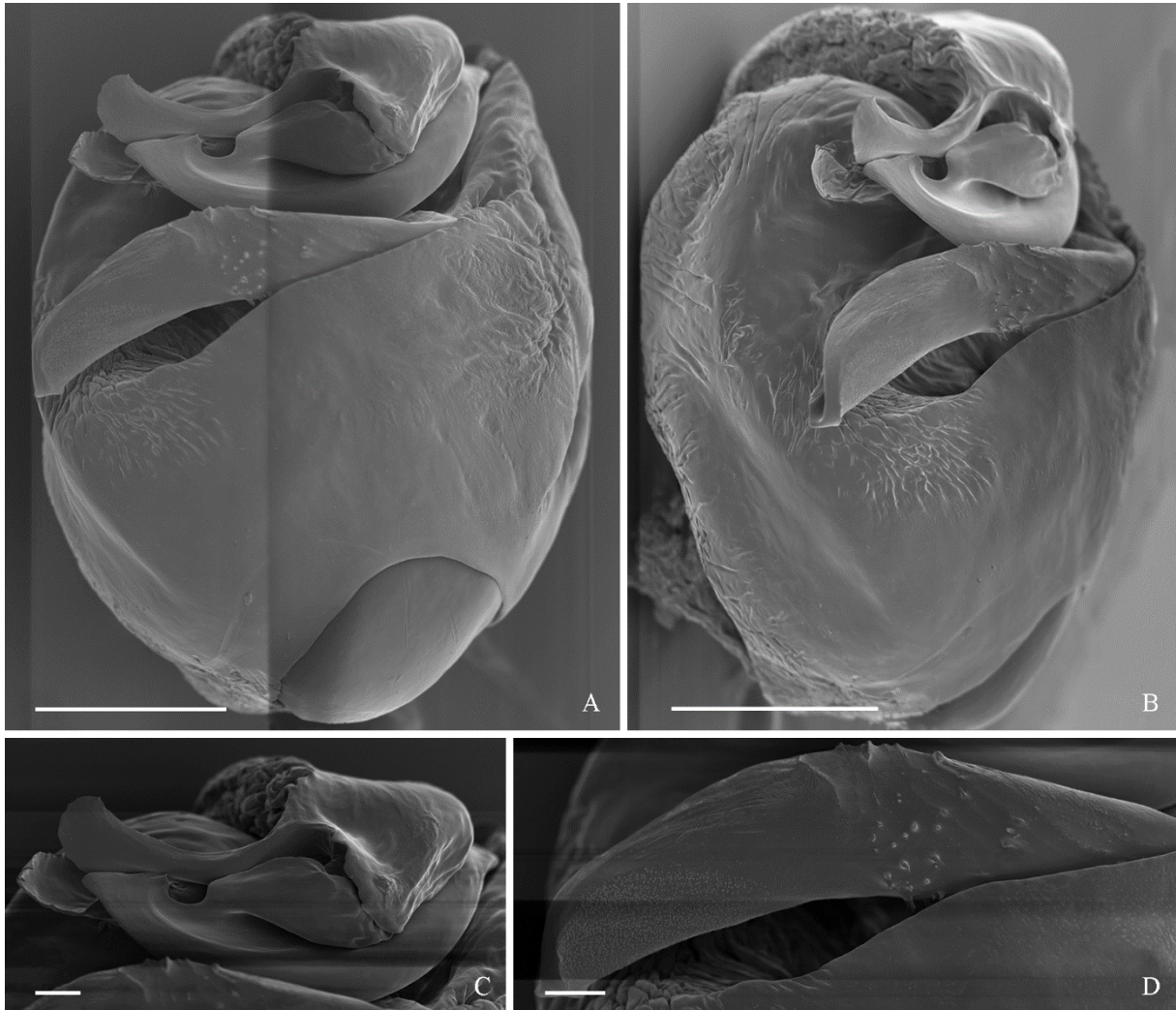


Figure 17. *Arctosa tangguoi* Wang, Li & Zhang, **sp. nov.**, holotype male. A. Right male palp, bulbus, ventral view; B. Same, retrolateral view; C. Conductor, embolus and terminal apophysis, ventral view; D. Median apophysis, ventral view. Scale bars: A–B=0.1 mm; C–D=0.02 mm.

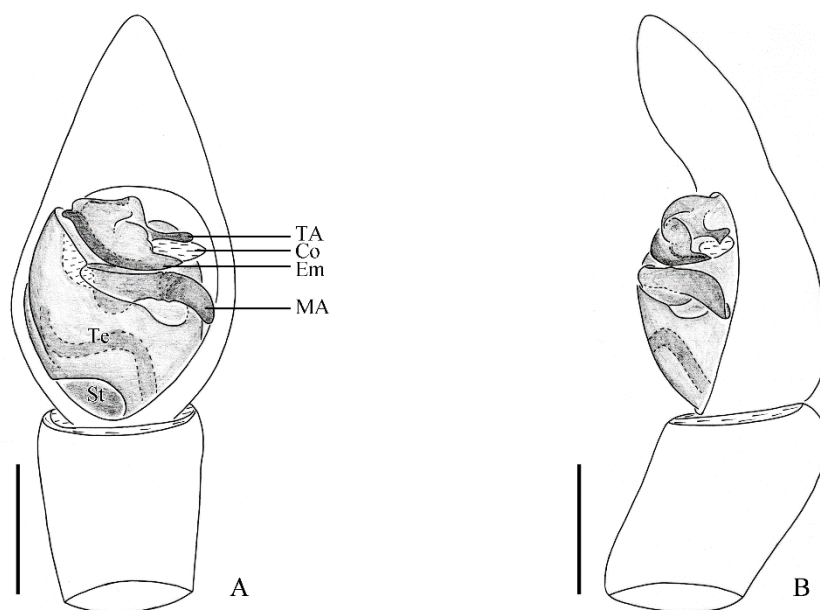


Figure 18. *Arctosa tangguoi* Wang, Li & Zhang, **sp. nov.**, holotype male. A. Left male palp, ventral view; B. Same, retrolateral view. Abbreviations: Co—conductor; Em—embolus; MA—median apophysis; St—subtegulum; TA—terminal apophysis; Te—tegulum. Scale bars=0.2 mm.



Figure 19. *Arctosa tridentata* Chen & Song, 1999, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Epigyne, ventral view; F. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–F=0.2 mm.

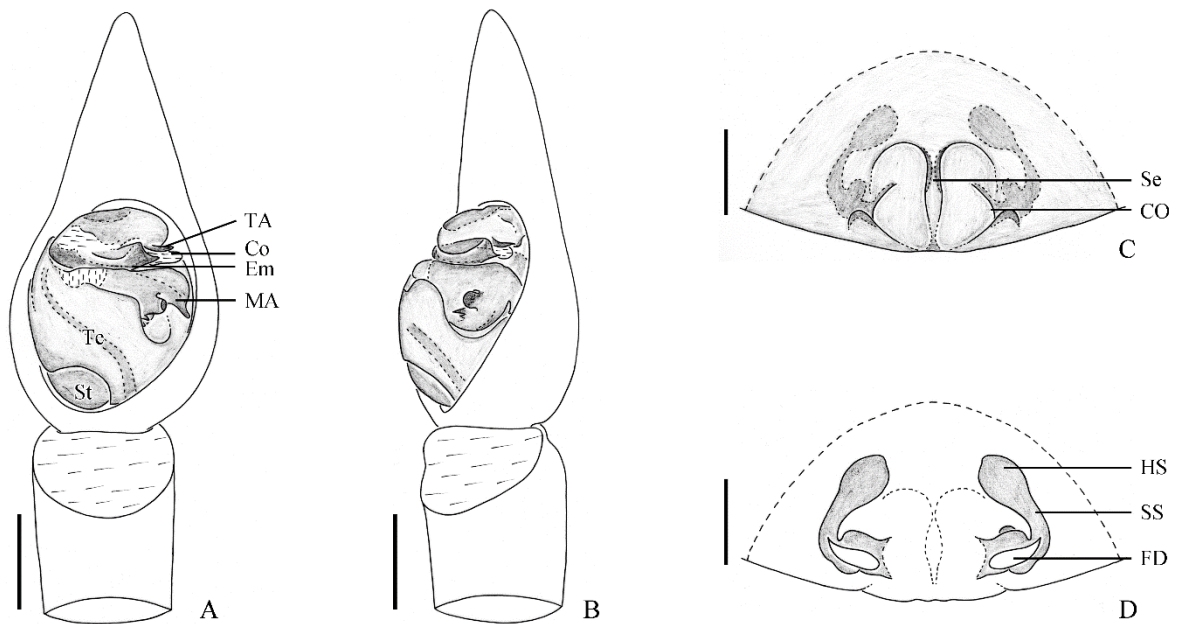


Figure 20. *Arctosa tridentata* Chen & Song, 1999, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Abbreviations: Co—conductor; CO—copulatory opening; FD—fertilization duct; HS—head of spermatheca; MA—median apophysis; Se—septum; SS—stalk of spermatheca; St—subtegulum; TA—terminal apophysis; Te—tegulum. Scale bars=0.2 mm.



Figure 21. *Arctosa vaginalis* Yu & Song, 1988, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–D, G–H=0.2 mm; E–F=0.3 mm.

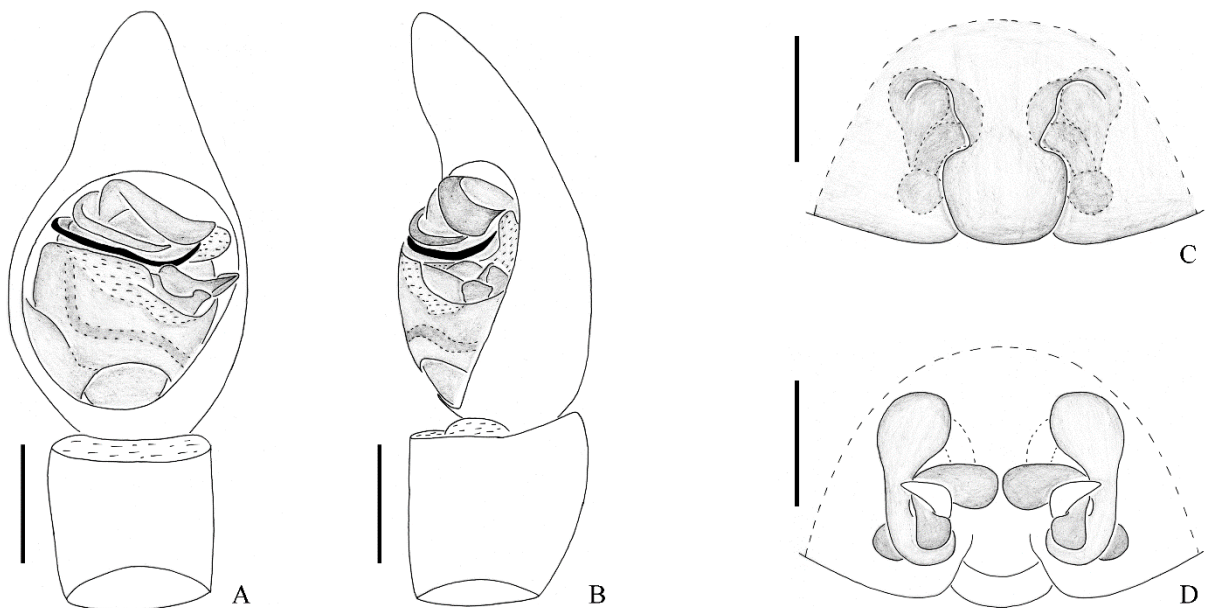


Figure 22. *Arctosa vaginalis* Yu & Song, 1988. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars: A–B=0.3 mm; C–D=0.2 mm.

Distribution. China (Hainan).

Remarks. Although the types of *A. tridentata* were not examined, based on the many specimens of *Arctosa* examined, as well as the the original description of Chen & Song (1999), we conclude these specimens are *A. tridentate*.

***Arctosa vaginalis* Yu & Song, 1988** (Figs 1E–F, 21A–H, 22A–D)

Arctosa vaginalis Yu & Song, 1988: 239, figs 19–22 (♀, ♂ misidentified). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Wang, Marusik & Zhang (2012) for both sexes. Habitus, male palp and epigyne as in Figs 1E–F, 21A–H, 22A–D.

Material examined. 16♂14♀, Qiongzong County, Changzheng Town, river bank, 18°56.532'N, 109°55.843'E,



Figure 23. *Hippasa holmerae* Thorell, 1895, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulb, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–H=0.2 mm.

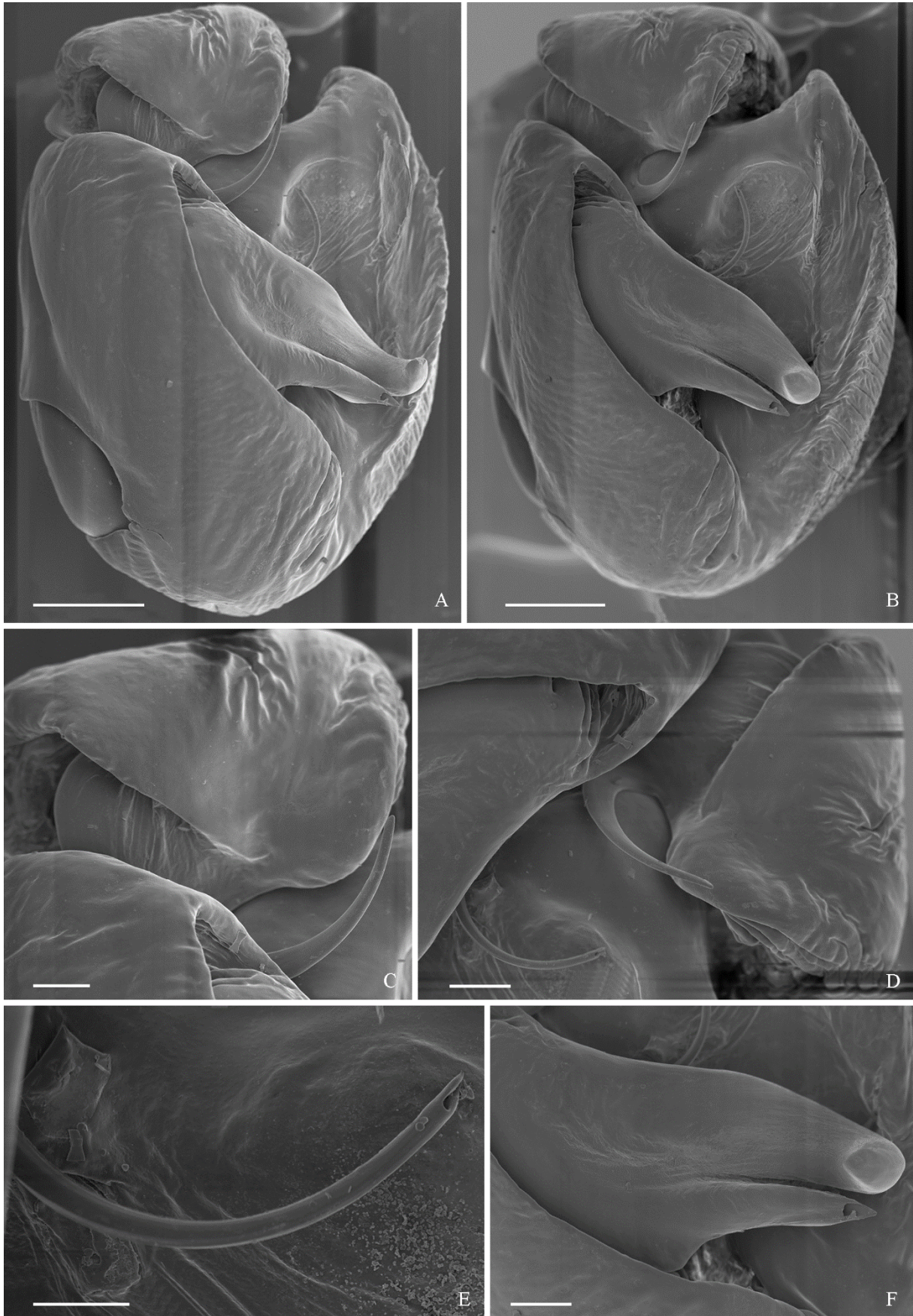


Figure 24. *Hippasa holmerae* Thorell, 1895, male from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. terminal apophysis, ventral view; D. Embolus and terminal apophysis, ventral view; E. Embolus, ventral view; F. Median apophysis, ventral view. Scale bars: A–B=0.1 mm; C=0.03 mm; D, F=0.04 mm; E=0.02 mm.

elev. 178 m, 22.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. China (Guizhou, Hainan, Yunnan).

Genus *Hippasa* Simon, 1885

Hippasa Simon, 1885: 31. Type species: *Pirata agelenoides* Simon, 1884, from India.

Remarks. Currently 37 species are known worldwide, of which 3 species are reported from China (WSC, 2020).

Hippasa holmerae Thorell, 1895 (Figs 23A–H, 24A–F, 25A–D)

Hippasa holmerae Thorell 1895: 218 (types unknown, ♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Hippasa sinsiloides Barrion, Barrion-Dupo & Heong, 2012: 13, figs 14A–G (♂♀). **syn. nov.**

Description. See Wang *et al.* (2015) for both sexes. Habitus, male palp and epigyne as in Figs 23A–H, 24A–F, 25A–D.

Material examined. 1♂ (holotype of *H. sinsiloides*) 5♀ (paratypes of *H. sinsiloides*), Panja Town, Songtao Reservoir, 3.IV.2011, A.T. Barrion, J.L.A. Catindig & S.C. Villareal leg. (HANU); 1♂2♀, Ding'an County, Huangzhu, 21.VIII.2007, F. Zhang & G.X. Han leg. (SWUC).

Distribution. China (Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Taiwan, Yunnan), India, Philippines.

Remarks. We examined the holotype of *H. sinsiloides* as well as several specimens from other provinces in South China and Southeast Asia, confirming that the species is widely distributed in China.

Genus *Lycosa* Latreille, 1804

Lycosa Latreille, 1804: 135. Type species: *Aranea tarantula* Linnaeus, 1758, from Italy.

Remarks. Currently 225 species are known worldwide, of which 27 species are reported from China (WSC, 2020).

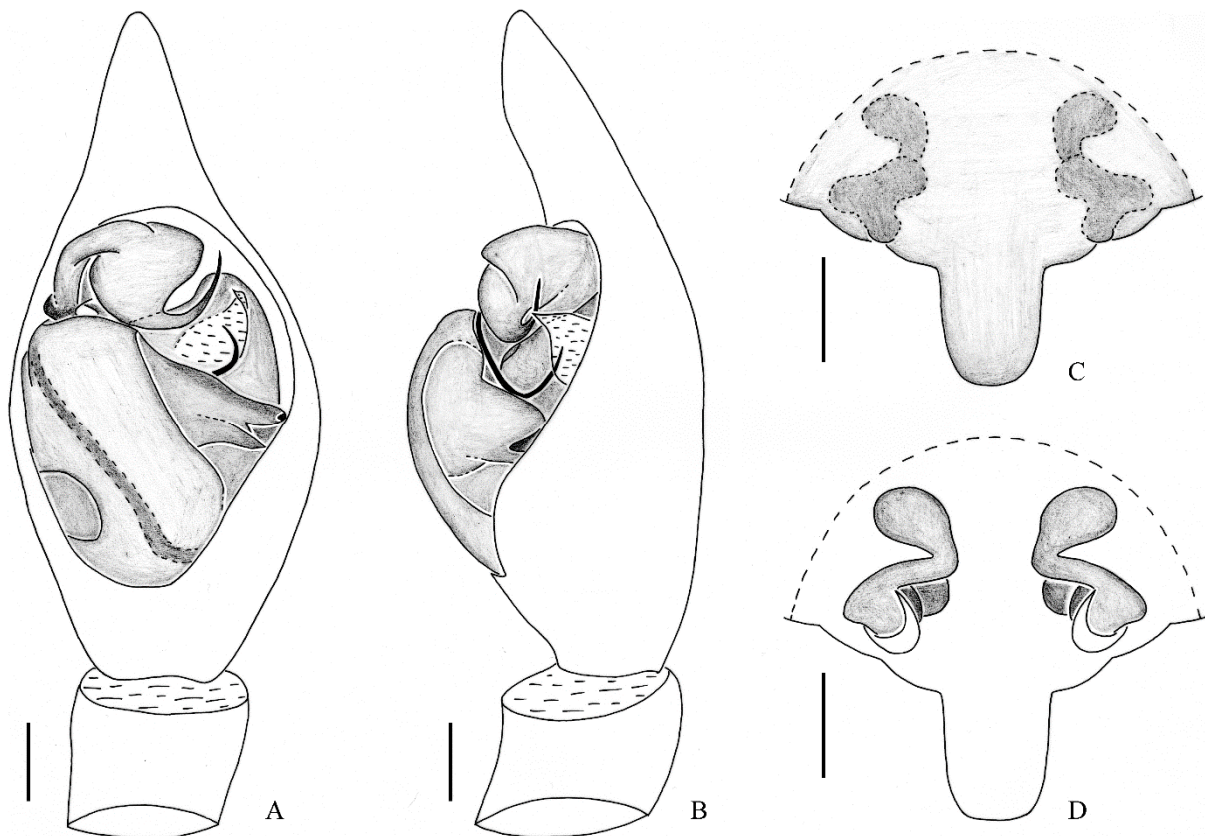


Figure 25. *Hippasa holmerae* Thorell, 1895, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.2 mm.

***Lycosa grahami* Fox, 1935** (Figs 26A–F, 27A–D)

Lycosa grahami Fox, 1935: 455, fig. 3 (♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Yin *et al.* (1997) for both sexes. Habitus, male palp and epigyne as in Figs 26A–F, 27A–D.

Material examined. 1♂1♀, Haikou City, Xiuying District, near Overseas Chinese Middle School, 25.XI.2015, T.L. Lv leg. (SWUC).

Distribution. China (Hainan, Sichuan, Yunnan).



Figure 26. *Lycosa grahami* Fox, 1935, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, ventral view; D. Same, retrolateral view; E. Epigyne, ventral view; F. Vulva, dorsal view. Scale bars: A=2.0mm; B=3.0mm; C–D=0.5mm; E–F=0.3mm.

***Lycosa vittata* Yin, Bao & Zhang, 1995** (Figs 28A–B, 29A–E)

Lycosa vittata Yin, Bao & Zhang, 1995: 32, figs II.1–10 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Lycosa hawigvittata Barrion, Barrion-Dupo & Heong, 2012: 15, figs 15A–H (♂). **syn. nov.**

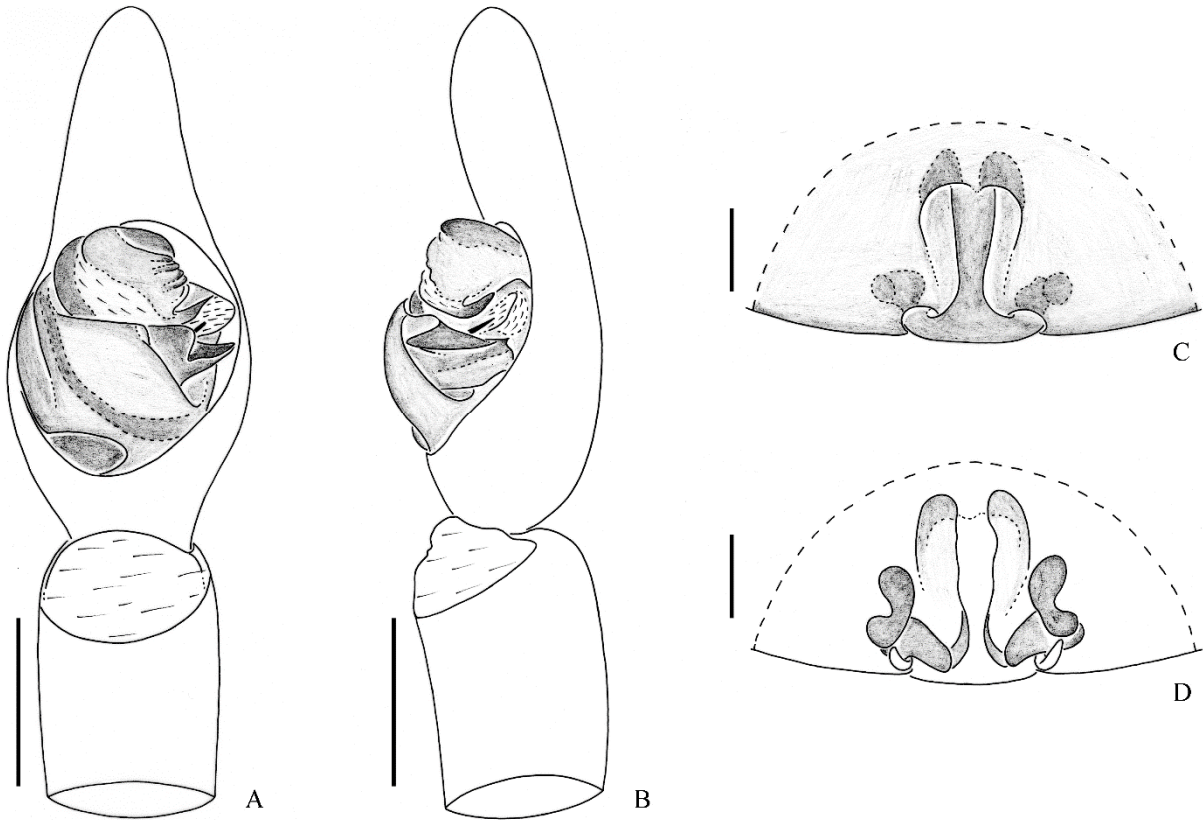


Figure 27. *Lycosa grahami* Fox, 1935, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars: A–B=0.5 mm; C–D=0.3 mm.

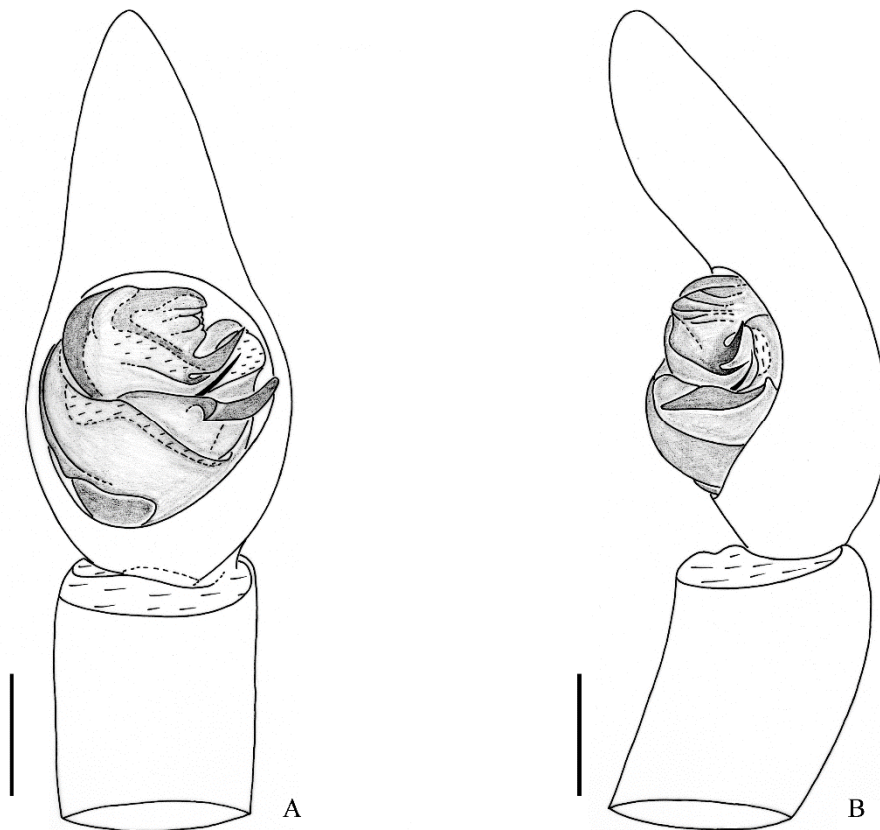


Figure 28. *Lycosa vittata* Yin, Bao & Zhang, 1995, male from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view. Scale bars=0.5 mm.

Description. See Yin, Bao & Zhang (1995) for both sexes. Habitus and male palp as in Figs 28A–B, 29A–E.

Material examined. 1♂ (holotype of *Lycosa hawigvittata*), Dapo, Dapo Village, 25.III–9.IV.2011, A.T. Barrion, J.L.A. Catindig & S.C. Villareal leg. (HANU); 1♂, Danzhou City, Heshhe Town, 19°34.616'N, 109°41.921'E, elev. 90 m, 23.VI.2019, L.Y. Wang, T. Yuan, P. Liu & L. Yuan leg. (SWUC).

Distribution. China (Guangxi, Hainan, Yunnan).

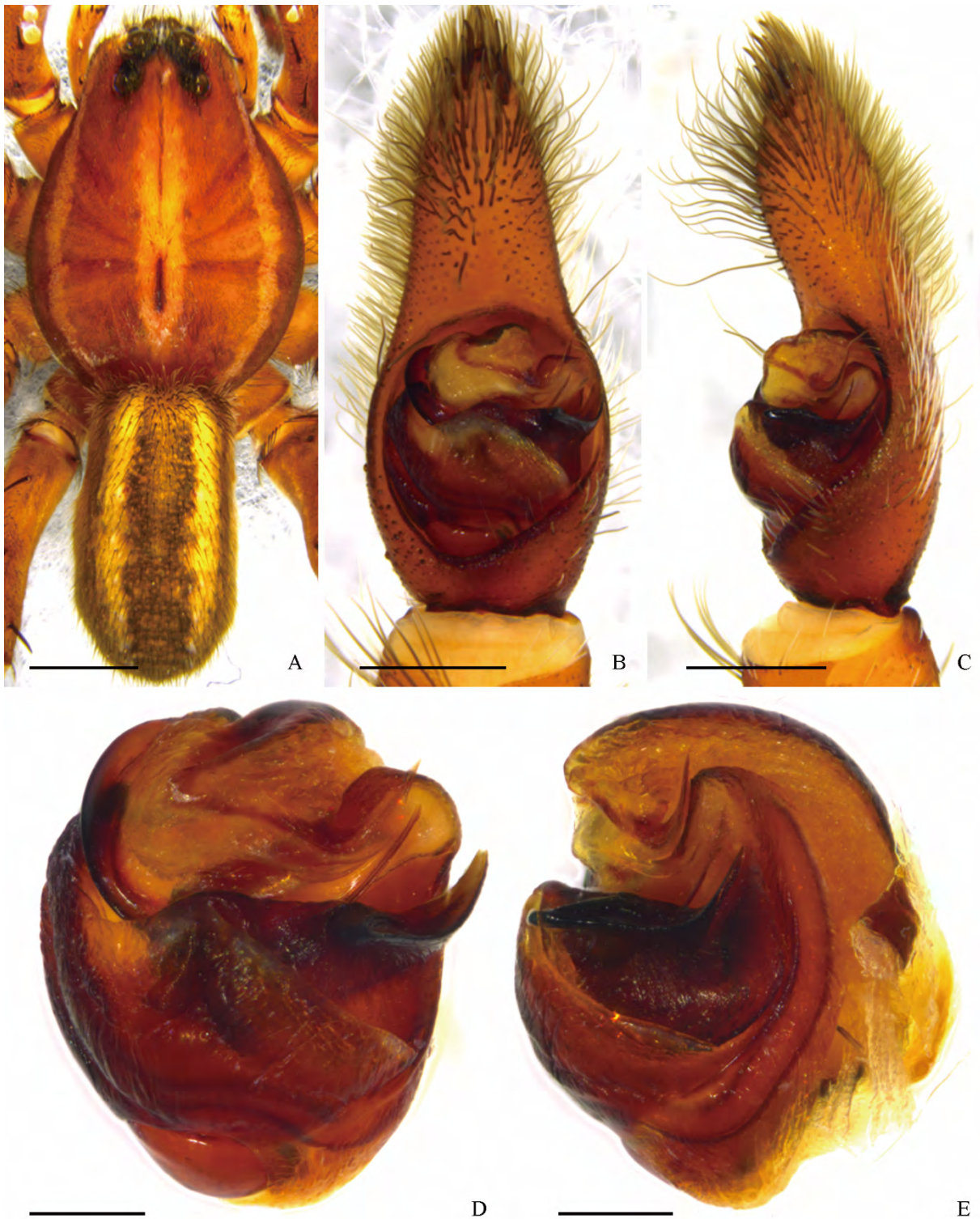


Figure 29. *Lycosa vittata* Yin, Bao & Zhang, 1995, male from Hainan. A. Male habitus, dorsal view; B. Left male palp, ventral view; C. Same, retrolateral view; D. Left male palp, bulbus, ventral view; E. Same, retrolateral view. Scale bars: A=2.0 mm; B–C=0.5 mm; D–E=0.2 mm.

Remarks. Although the types of *L. vittata* were not examined, it is clear that *L. hawigvittata* is a junior synonym of *L. vittata* based on the original descriptions by Yin, Bao & Zhang (1995).

Genus *Lysania* Thorell, 1890

Lysania Thorell, 1890a: 312. Type species: *Lysania pygmaea* Thorell, 1890, from Malaysia.

Remarks. Currently, 4 species are known from Asia, of which 2 species are reported from China (WSC, 2020).

***Lysania pygmaea* Thorell, 1890** (Figs 30A–H, 31A–C, 32A–D)

Lysania pygmaea Thorell, 1890a: 313 (♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Pirata sanya Barrion, Barrion-Dupo & Heong, 2012: 19, figs 10A–D (♂). **syn. nov.**

Description. See Li, Wang & Zhang (2013) for both sexes. Habitus, male palp and epigyne as in Figs 30A–H, 31A–C, 32A–D.



Figure 30. *Lysania pygmaea* Thorell, 1890, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=0.5 mm; C–H=0.1 mm.

Material examined. 1♂ (holotype of *Pirata sanya*), Sanya, 9–13.VIII.2010, A.T. Barrion & S.C. Villareal leg. (HANU); 1♀, Bawangling Nature Reserve, 31.VII.2007, F. Zhang leg. (SWUC).

Distribution. China (Guangxi, Hainan, Yunnan), Malaysia.

Remarks. Although the types of *L. pygmaea* were not examined, *Pirata sanya* is clearly a junior synonym of *L. pygmaea* based on the descriptions by Lehtinen & Hippa (1979).

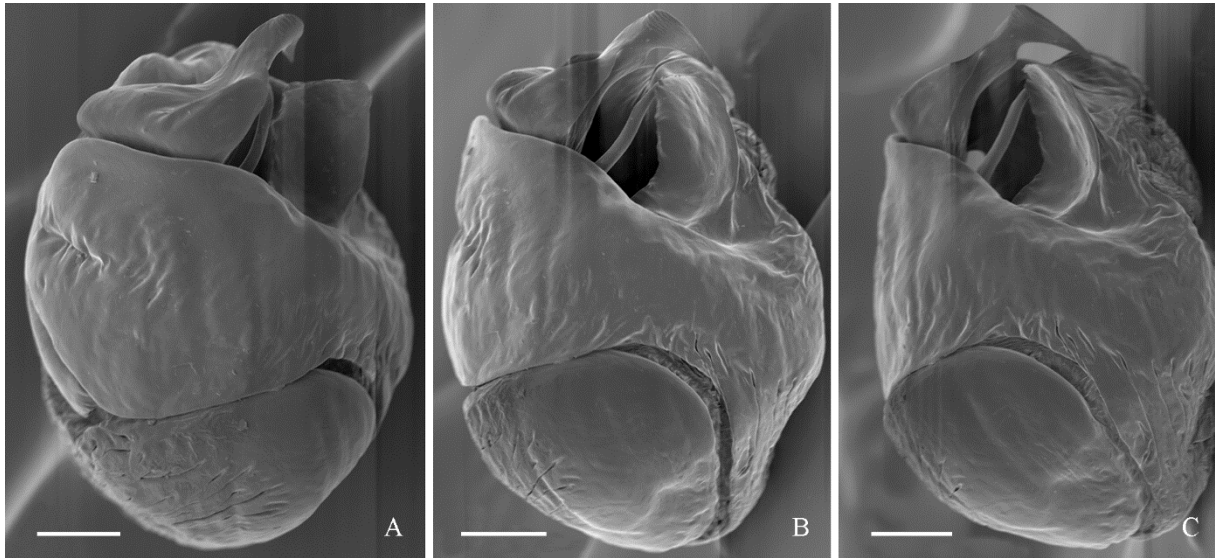


Figure 31. *Lysania pygmaea* Thorell, 1890, male from Hainan. A. Left male palp, bulb, ventral view; B–C. Same, retrolateral view. Scale bars=0.04 mm.

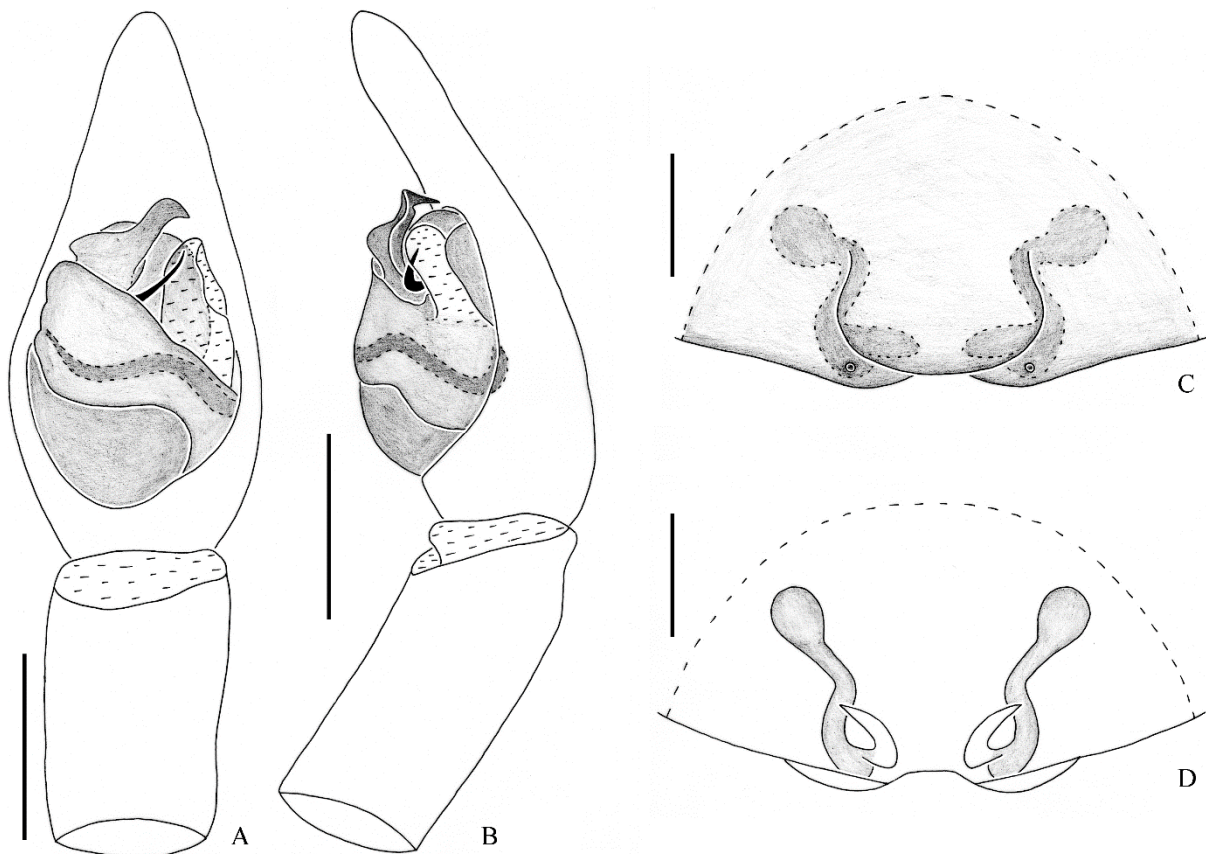


Figure 32. *Lysania pygmaea* Thorell, 1890. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars: A–B=0.2 mm; C–D=0.1 mm.

Genus *Ocyale* Audouin, 1826

Ocyale Audouin, 1826: 149. Type species: *Ocyale atalanta* Audouin, 1826, from North Africa.

Remarks. Currently, 3 species are known in Asia, and 1 species is reported from China (WSC, 2020).

***Ocyale qiongzongensis* Yin & Peng, 1997 (Figs 2A–B, 33A–H, 34A–F, 35A–D)**

Ocyale qiongzongensis Yin & Peng, 1997: 6, figs 1–3 (♂); Yin *et al.*, 1997: 22, figs 8a–f (♂); Song, Zhu & Chen, 1999: 329, fig. 1920 (♂).

Material examined. 3♂2♀, Qiongzong County, Shenyun Town, Shentong Village, Changhua River, 18°57.813'N, 109°33.395'E, elev. 207 m, 24.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC); 2♂5♀, Qiongzong County, Shenyun Town, Nanping Village, Changhua River, 18°58.224'N, 109°34.208'E, elev. 164 m, 25.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Diagnosis. This species is similar to *O. grandis* Alderweireldt, 1996 (Alderweireldt, 1996: 1358, figs 16–17, 23, 30–31) but differs by the sinuous median apophysis with a twisted tip in ventral view (Figs 33C–F, 34A–B, E, 35A–B); the median apophysis is horn-shaped with a pointed tip in *O. grandis*. The epigyne of *O. qiongzongensis* has a wide septum



Figure 33. *Ocyale qiongzongensis* Yin & Peng, 1997, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=3.0 mm; C–D, G–H=0.5 mm; E–F=1.0 mm.

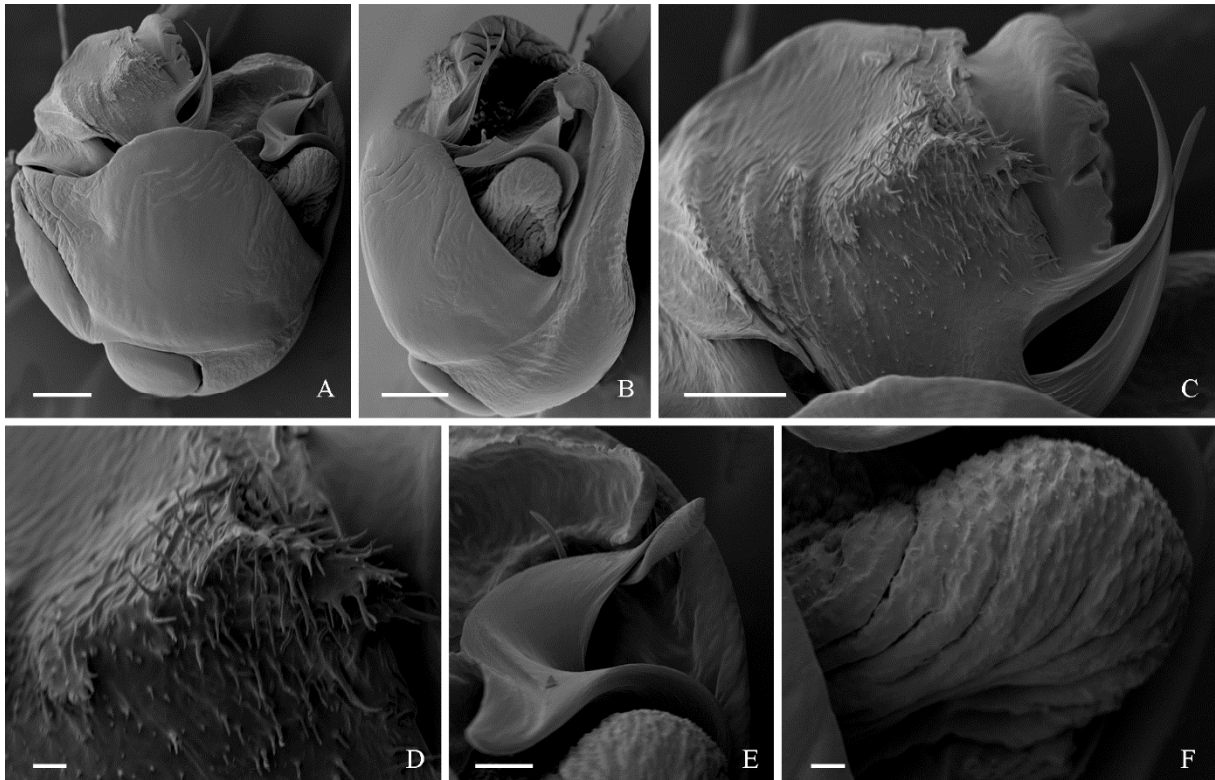


Figure 34. *Ocyale qionghongensis* Yin & Peng, 1997, male from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Terminal apophysis, ventral view; D. The base of terminal apophysis, ventral view; E. Median apophysis, ventral view; F. Base of median apophysis, ventral view. Scale bars: A–B=0.2 mm; C=0.1 mm; D, F=0.02 mm; E=0.06 mm.

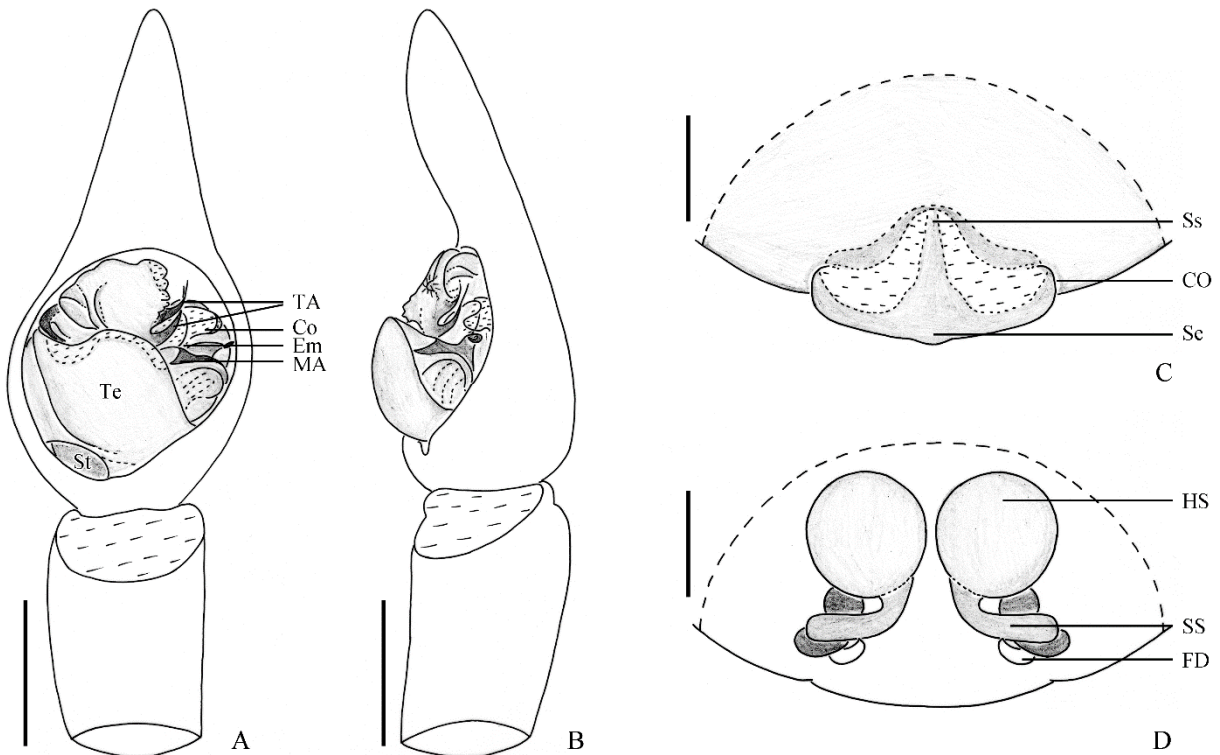


Figure 35. *Ocyale qionghongensis* Yin & Peng, 1997, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Abbreviations: Co—conductor; CO—copulatory opening; FD—fertilization duct; HS—head of spermatheca; MA—median apophysis; Se—septum; Ss—stem of septum; SS—stalk of spermatheca; St—subtegulum; TA—terminal apophysis; Te—tegulum. Scale bars: A–B=1.0 mm; C–D=0.5 mm.

and short spermathecal stalks (Figs 33G–H, 35C–D).

Description. Male (Fig. 33A) total length 18.83. Carapace 9.60 long, 7.39 wide; opisthosoma 9.04 long, 6.62 wide. Carapace yellow-brown, radial furrows distinct. Eye sizes and interdistances: AME 0.42, ALE 0.27, PME 0.71, PLE 0.76; AME–AME 0.31, AME–ALE 0.16, PME–PME 0.60, PME–PLE 0.64. Clypeus height 0.74. Chelicerae elongate, brown, with two promarginal teeth and three retromarginal teeth. Labium yellow-brown. Endites yellow-brown. Sternum yellow-brown, with sparse brown setae. Legs yellow-brown, with black pigmentation. Leg measurements: I 27.20 (7.34, 9.37, 6.04, 4.45); II 28.04 (7.73, 9.01, 6.72, 4.58); III 28.83 (7.79, 9.32, 6.78, 4.94); IV 34.17 (8.62, 11.29, 8.76, 5.50). Dorsum yellow-brown, with black mark, cardiac mark brown. Ventrum yellow-brown.



Figure 36. *Ovia alboannulata* (Yin, Peng, Xie, Bao & Wang, 1997), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, ventral view; D. Same, retrolateral view; E. Right male palp, bulbus, ventral view; F. Same, retrolateral view. Scale bars: A–B=1.0mm; C–F=0.2mm.

Palp (Figs 33C–F, 34A–F, 35A–B). Terminal apophysis with two spinelike branches. Median apophysis sinuous, with two arms: anterior arm beak-like, retrolateral arm hooklike, helical and with a twisted tip. Conductor wide, membranous. Embolus arc-shaped, thin and long.

Female (Fig. 33B) total length 21.51. Carapace 11.20 long, 7.78 wide; opisthosoma 9.89 long, 7.57 wide. Eye sizes and interdistances: AME 0.22, ALE 0.23, PME 0.74, PLE 0.79; AME–AME 0.39, AME–ALE 0.18, PME–PME 0.54, PME–

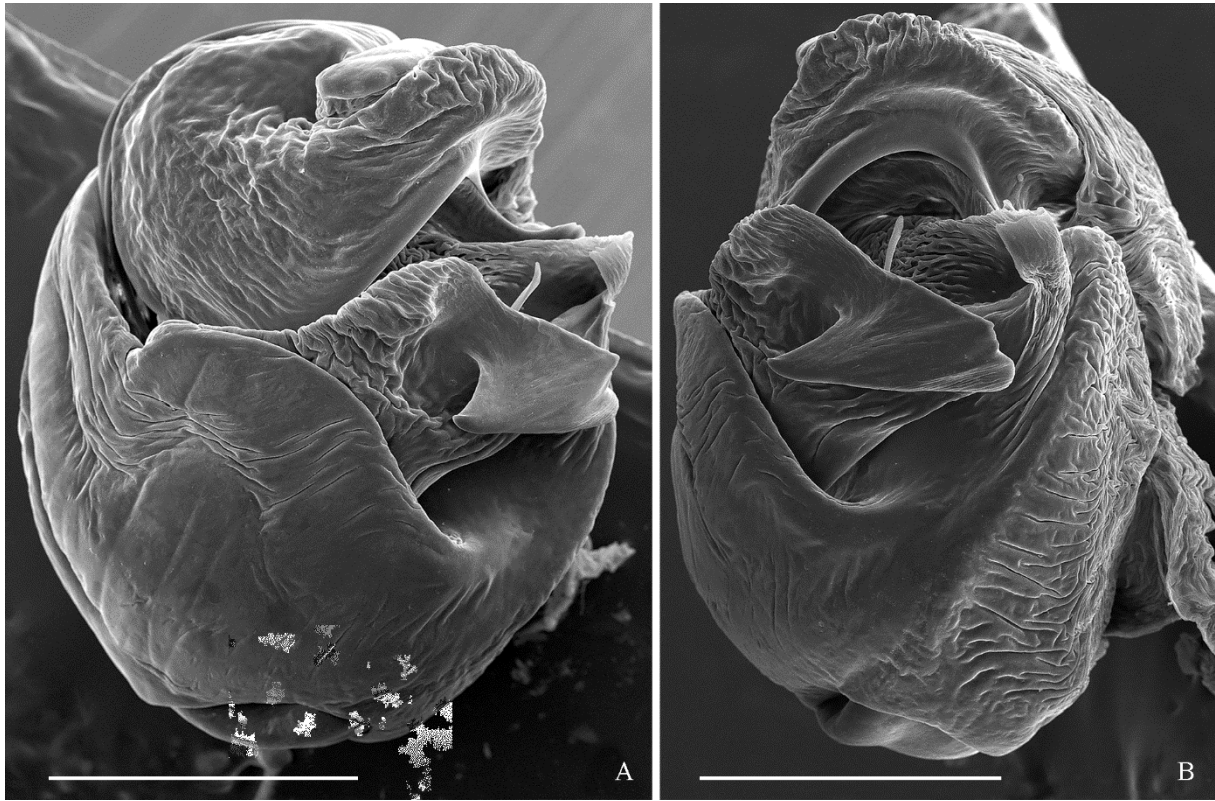


Figure 37. *Ovia alboannulata* (Yin, Peng, Xie, Bao & Wang, 1997), male from Hainan. A. Left male palp, bulb, ventral view; B. Same, retrolateral view. Scale bars=0.2 mm.

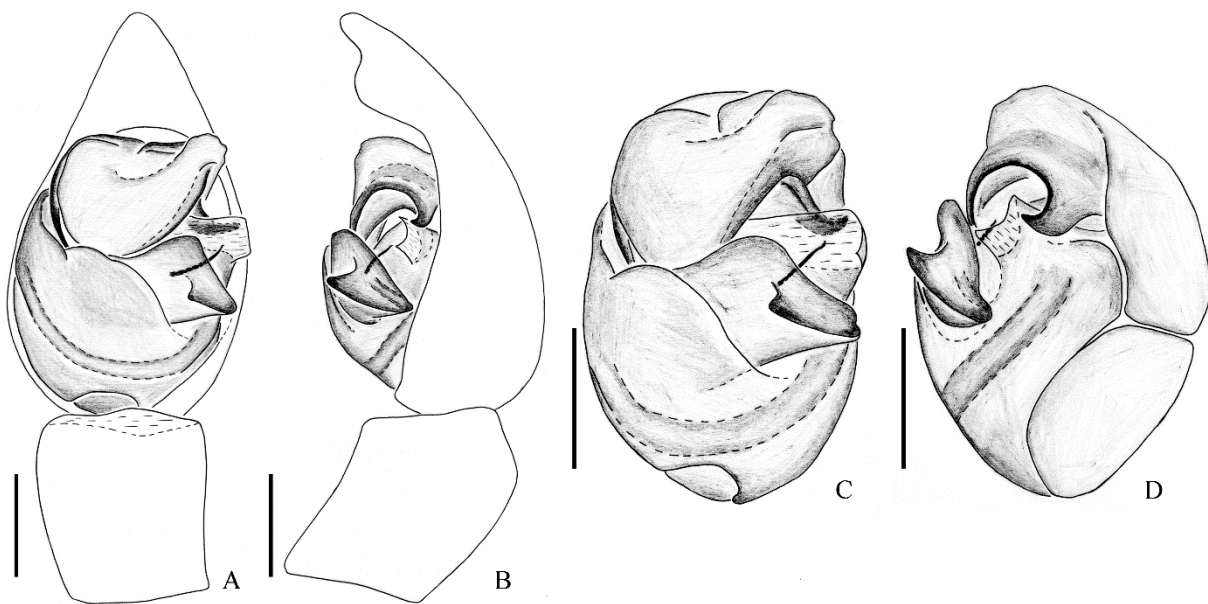


Figure 38. *Ovia alboannulata* (Yin, Peng, Xie, Bao & Wang, 1997). A. Left male palp, ventral view; B. Same, retrolateral view; C. Left male palp, bulb, ventral view; D. Same, retrolateral view. Scale bars=0.2 mm.

PLE 0.54. Clypeus height 1.41. Leg measurements: I 27.54 (7.67, 9.38, 5.95, 4.54); II 28.80 (7.75, 9.89, 6.50, 4.66); III 29.33 (7.92, 9.55, 7.32, 4.54); IV 34.87 (9.58, 11.12, 9.02, 5.15). Leg formula: 4321. Dorsum yellow-brown, with black mark. Ventrums yellow-brown.

Epigyne (Figs 33G–H, 35C–D). Anterior wall margin wavy. Septum longer than wide, inverse T-shaped. Spermathecal heads large, round, spermathecal stalks short. Fertilization ducts short.

Distribution. China (Hainan).

Remarks. The types of *O. qiongzongensis* were not examined, but the material examined here was collected from the type locality.

Genus *Ovia* Sankaran, Malamel & Sebastian, 2017

Ovia Sankaran, Malamel & Sebastian, 2017: 367. Type species: *Pardosa procurva* Yu & Song, 1988, from China.

Remarks. Currently, 3 species are known worldwide, of which 2 species are reported from China (WSC, 2020).

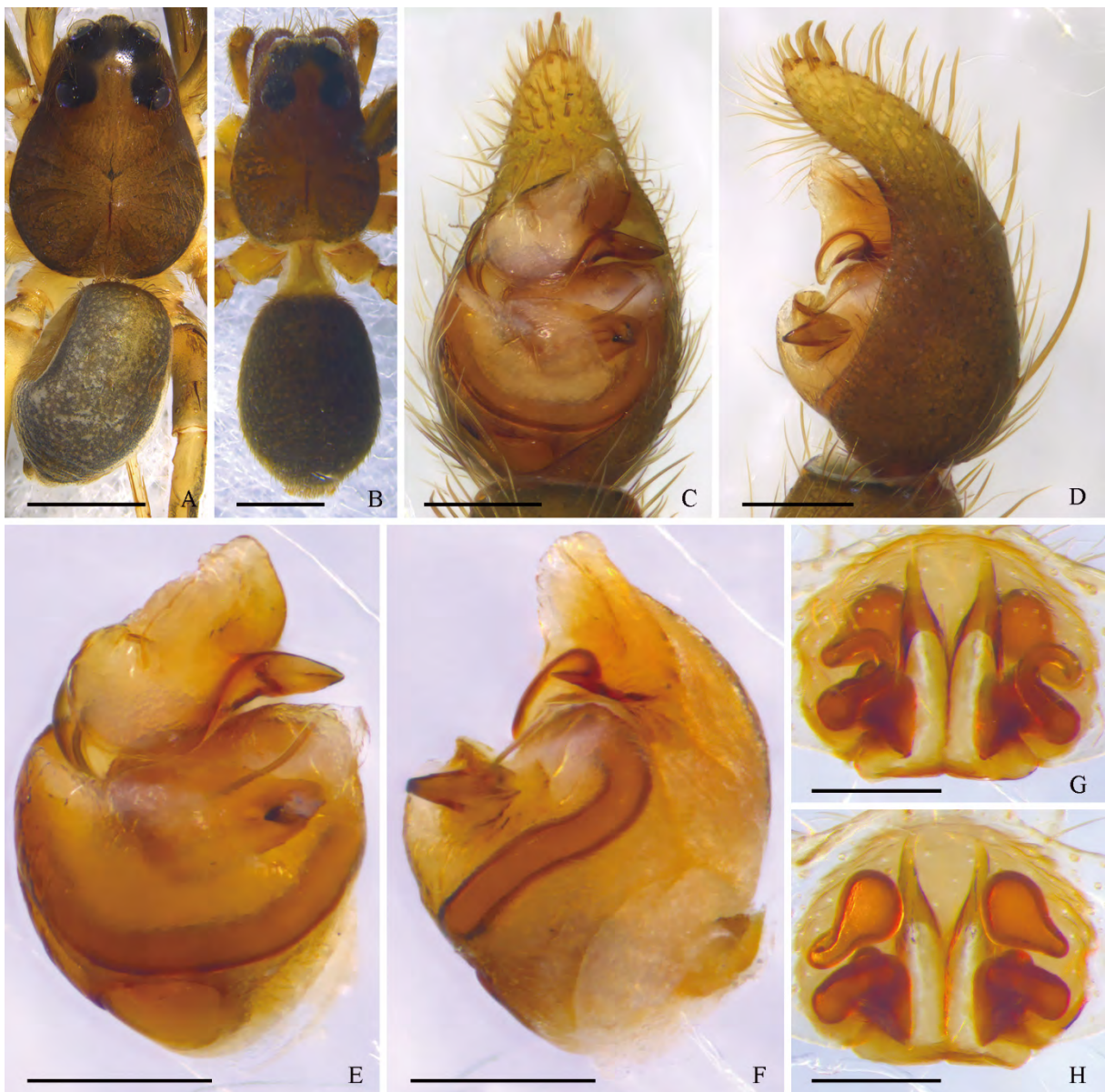


Figure 39. *Ovia macritchie* Lu, Koh, Zhang & Li, 2018, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, ventral view; D. Same, retrolateral view; E. Left male palp, bulbus, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–H=0.2 mm.

***Ovia alboannulata* (Yin, Peng, Xie, Bao & Wang, 1997)** (Figs 2C, 36A–F, 37A–B, 38A–D)

Pardosa alboannulata Yin *et al.*, 1997: 273, figs 129a–d (♂). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Yin *et al.* (1997) for male. Habitus and male palp as in Figs 2C, 36A–F, 37A–B, 38A–D.

Material examined. 1♂, Changjiang County, Bawangling Nature Reserve, Dongyi, 25.V.2009, G.X. Han leg. (SWUC); 2♂, Qiongzong County, Limu Mountain Administrative Station, 8.V.2011, C. Zhang leg. (SWUC); 1♂, Wuzhishan City, Shuiman Town, Shuiman Village, 17.V.2011, C. Zhang leg. (SWUC).

Distribution. China (Hainan, Zhejiang).



Figure 40. *Ovia macritchie* Lu, Koh, Zhang & Li, 2018, male and female from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.2 mm.

***Ovia macritchie* Lu, Koh, Zhang & Li, 2018** (Figs 39A–H, 40A–D, 41A–F)*Ovia macritchie* Lu *et al.*, 2018: 347, figs 2A–G, 5A–G, 8A–F, 11A–D, 13A–B (♂♀).Description. See Lu *et al.* (2018) for both sexes. Habitus, male palp and epigyne as in Figs 39A–H, 40A–D, 41A–F.

Material examined. 1♂, Changjiang County, Bawangling Nature Reserve, Dong'er Administrative Station, 30.V.2011, C. Zhang leg. (SWUC); 1♀, Sanya City, Liudao Seashore, 18°10.645'N, 109°33.989'E, elev. 5 m, 23.VII.2007, C.X. Wang leg. (IZCAS).

Distribution. China (Hainan), Singapore.

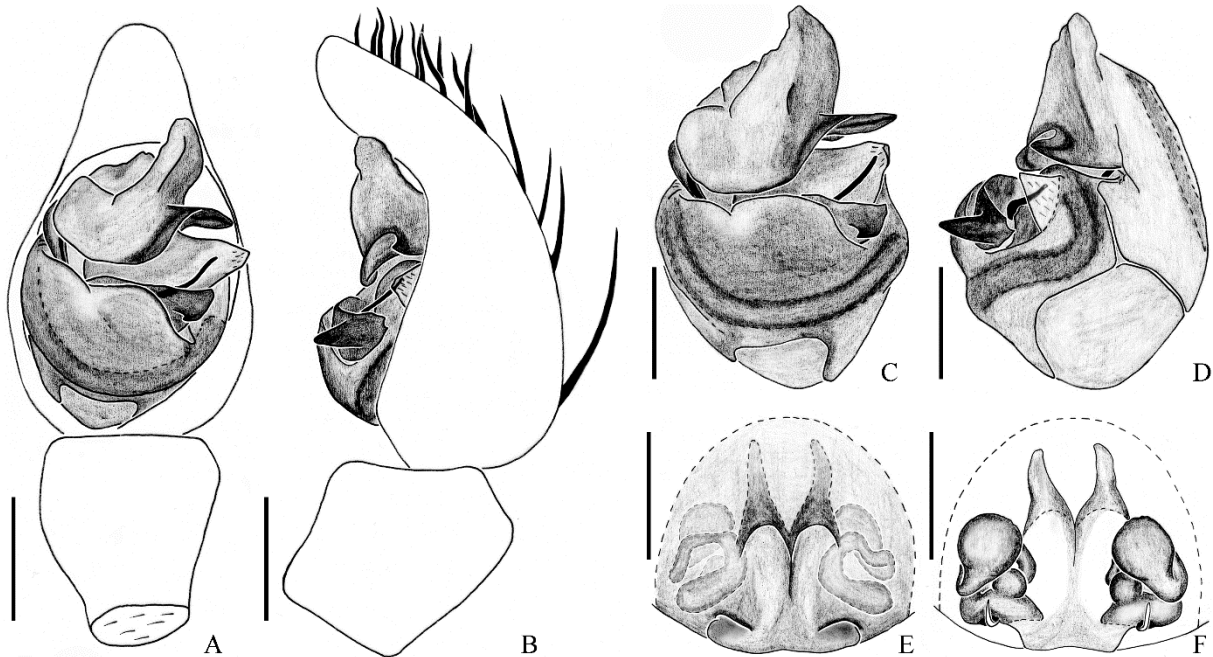


Figure 41. *Ovia macritchie* Lu, Koh, Zhang & Li, 2018. A. Left male palp, ventral view; B. Same, retrolateral view; C. Left male palp, bulbous view, ventral view; D. Same, retrolateral view; E. Epigyne, ventral view; F. Vulva, dorsal view. Scale bars=0.2 mm.

Genus *Pardosa* C. L. Koch, 1847*Pardosa* C.L. Koch, 1847. Type species: *Lycosa alacris* C.L. Koch, 1833, from Europe.

Remarks. Currently, 539 species are known worldwide, of which 121 species are reported from China (WSC, 2020).

***Pardosa aciculifera* Chen, Song & Li, 2001** (Figs 42A–H)*Pardosa aciculifera* Chen, Song & Li, 2001: 476, figs 1–7 (♂♀).

Description. See Chen, Song & Li (2001) for both sexes. Habitus, male palp and epigyne as in Figs 42A–H.

Material examined. 1♂1♀ (paratypes), Jianfengling Nature Reserve, 20.V.1990 (IZCAS); 6♂6♀ Amphoe Hot, Chiang Mai, Thailand, 18°09.244'N, 98°25.851'E, elev. 782 m.

Distribution. China (Hainan), Thailand.

Remarks. This is the first record of the species from Thailand.

***Pardosa pseudoannulata* (Bösenberg & Strand, 1906)** (Figs 43A–I, 44A–F)*Tarentula pseudoannulata* Bösenberg & Strand, 1906: 319, pl. 8, figs 106, pl. 13, figs 323, 326, 334, 338 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).Description. See Yin *et al.* (1997) for both sexes. Habitus, male palp and epigyne as in Figs 43A–I, 44A–F.

Material examined. 1♂, Baisha County, 30.VII.2007, F. Zhang & G.X. Han leg. (SWUC); 1♀, Baisha County, Da'an Town, 19°17.112'N, 109°21.205'E, elev. 124 m, 24.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC); 1♀, Baisha County, Hongba Reservoir, 4.V.2009, T.Y. Hu leg. (IZCAS).

Distribution. China (north to Shandong and Henan, south to Taiwan and Hainan), Pakistan to Japan, Philippines, Indonesia (Java).

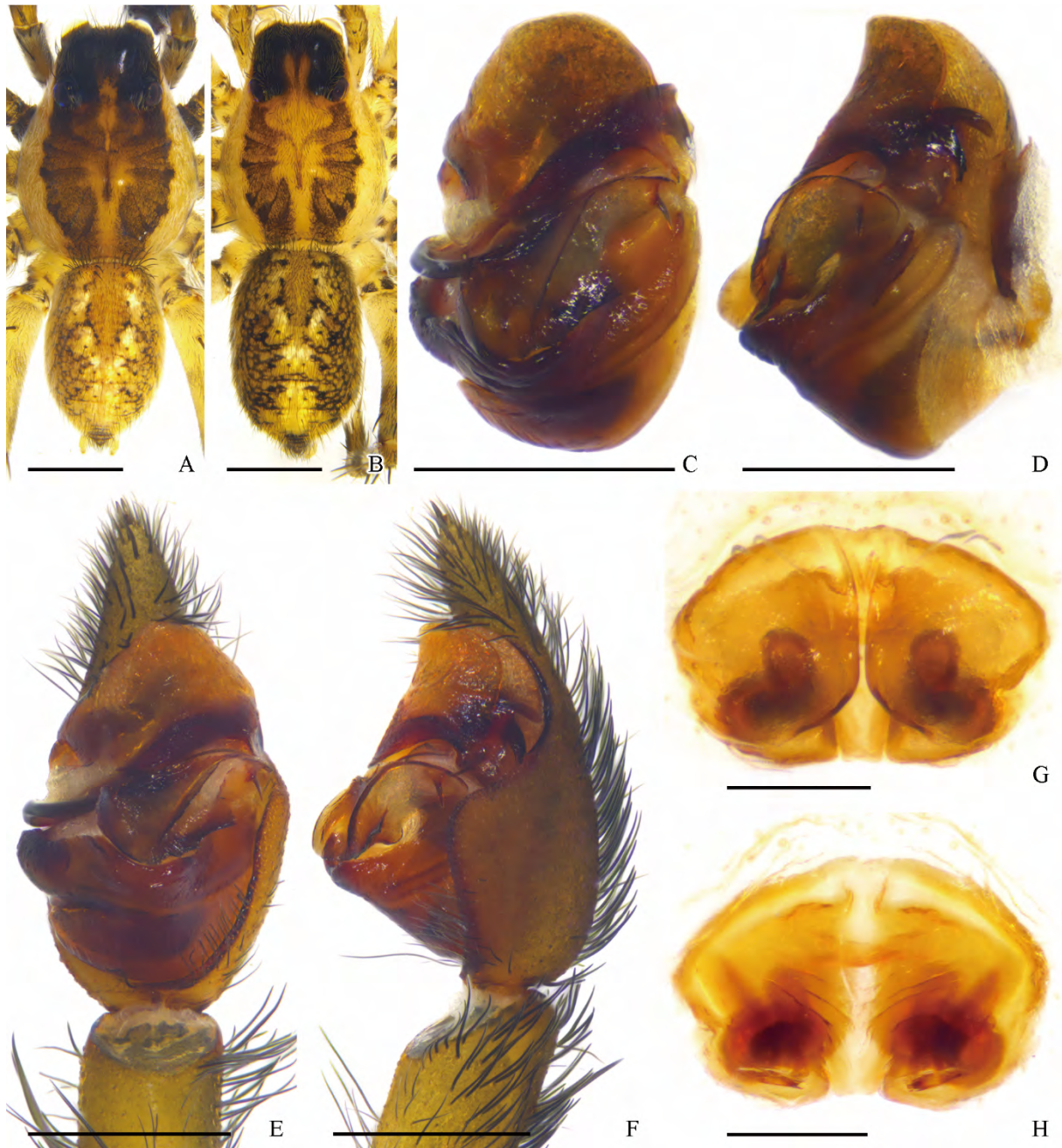


Figure 42. *Pardosa aciculifera* Chen, Song & Li, 2001, male and female from Chiang Mai. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–F=0.5 mm; G–H=0.2 mm.

***Pardosa pusiola* (Thorell, 1891)** (Figs 45A–F, 46A–I)

Lycosa pusiola Thorell, 1891: 65 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Pardosa daxiansongi Barrion, Barrion-Dupo & Heong, 2012: 15, figs 16A–D (♀). **syn. nov.**

Description. See Wang & Zhang (2014) for both sexes. Habitus, male palp and epigyne as in Figs 45A–F, 46A–I.

Material examined. 1♀ (holotype of *P. daxiansongi*), Dapo, Dapo Village, 25.III–9.IV. 2011, A.T. Barrion *et al.* leg. (HANU); 1♂1♀, Danzhou City, near Tropical Plants Garden, 19°30.597'N, 109°30.217'E, elev. 131 m, 23.III.2015, L.Y.

Wang & G.Q. Huang leg. (SWUC).

Distribution. South China, Bangladesh, Bhutan, India, Indonesia, Myanmar, Nepal, Sri Lanka.

Remarks. We examined the holotype of *P. daxiangi* as well as several specimens from other provinces in South China and Southeast Asia, confirming this is a widely distributed species.

***Pardosa sumatrana* (Thorell, 1890)** (Figs 47A–I, 48A–F)

Lycosa sumatrana Thorell, 1890b: 136 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Pardosa tieshinglii Barrion, Barrion-Dupo & Heong, 2012: 16, figs 17A–G (♂♀). **syn. nov.**

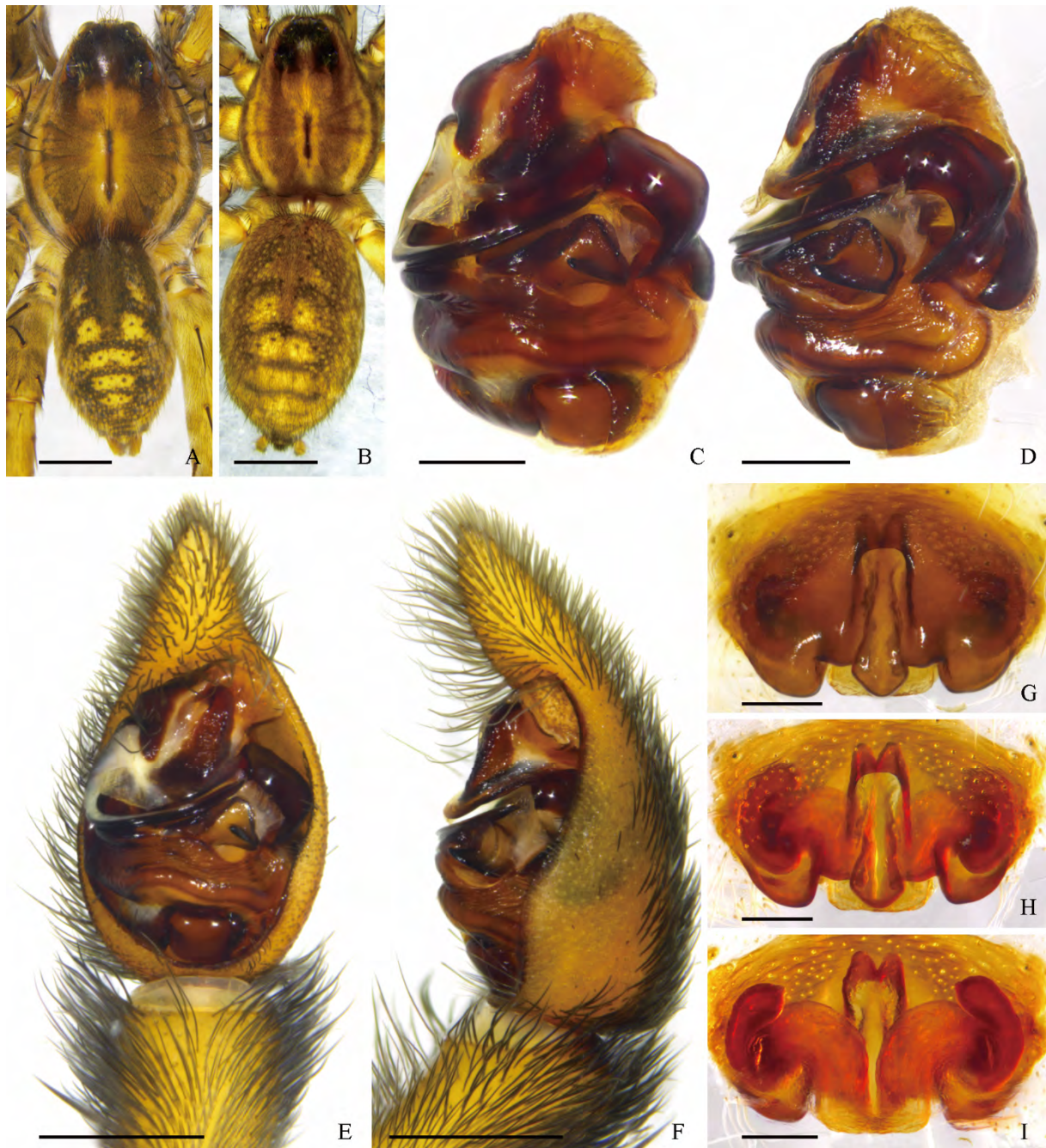


Figure 43. *Pardosa pseudoannulata* (Bösenberg & Strand, 1906), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Same, cleaned the dorsal tissue; I. Vulva, dorsal view. Scale bars: A=1.0 mm; B=2.0 mm; C–D, G–I=0.2 mm; E–F=0.5 mm.

Pardosa villarealae Barrion, Barrion-Dupo & Heong, 2012: 17, figs 18A–E (♂). **syn. nov.**

Description. See Yin *et al.* (1997) for both sexes. Habitus, male palp and epigyne as in Figs 47A–I, 48A–F.

Material examined. 1♂ (holotype of *P. tieshinglii*), Panja Town, Songtao Reservoir area, 9.IV.2011, A.T. Barrion, J.L.A. Catindig & S.C. Villareal leg. (HANU); 1♂ (holotype of *P. villarealae*), Dapo Town, Dapo Village, 25.III.–9.IV.2011, A.T.

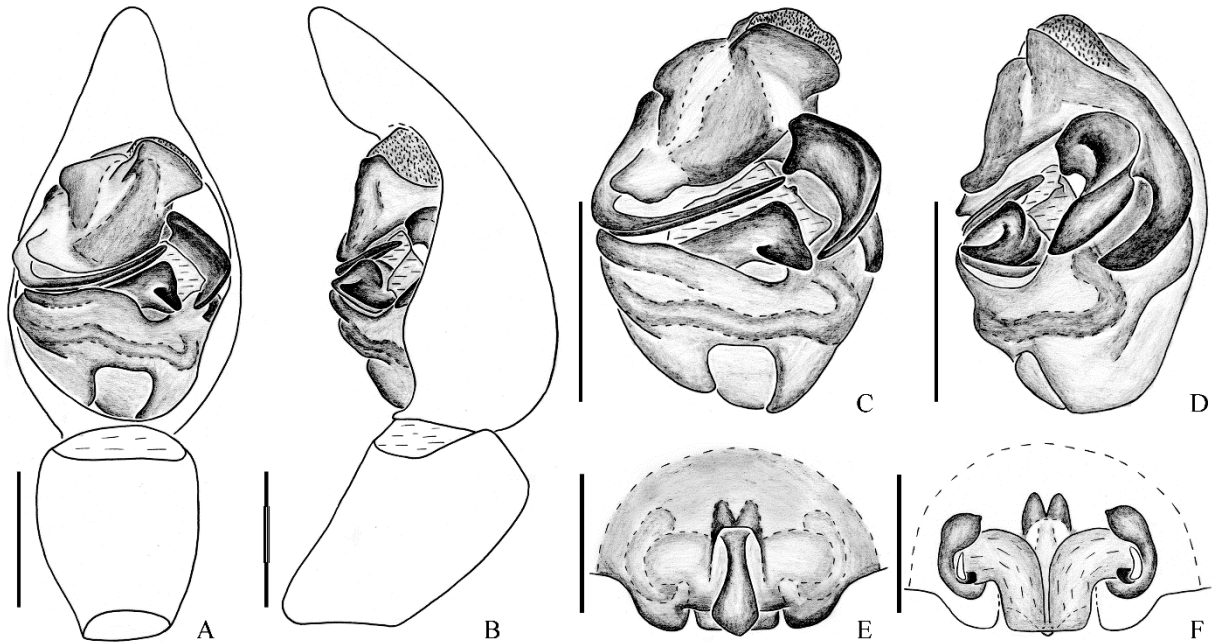


Figure 44. *Pardosa pseudoannulata* (Bösenberg & Strand, 1906), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Epigyne, ventral view; F. Vulva, dorsal view. Scale bars = 0.5 mm.

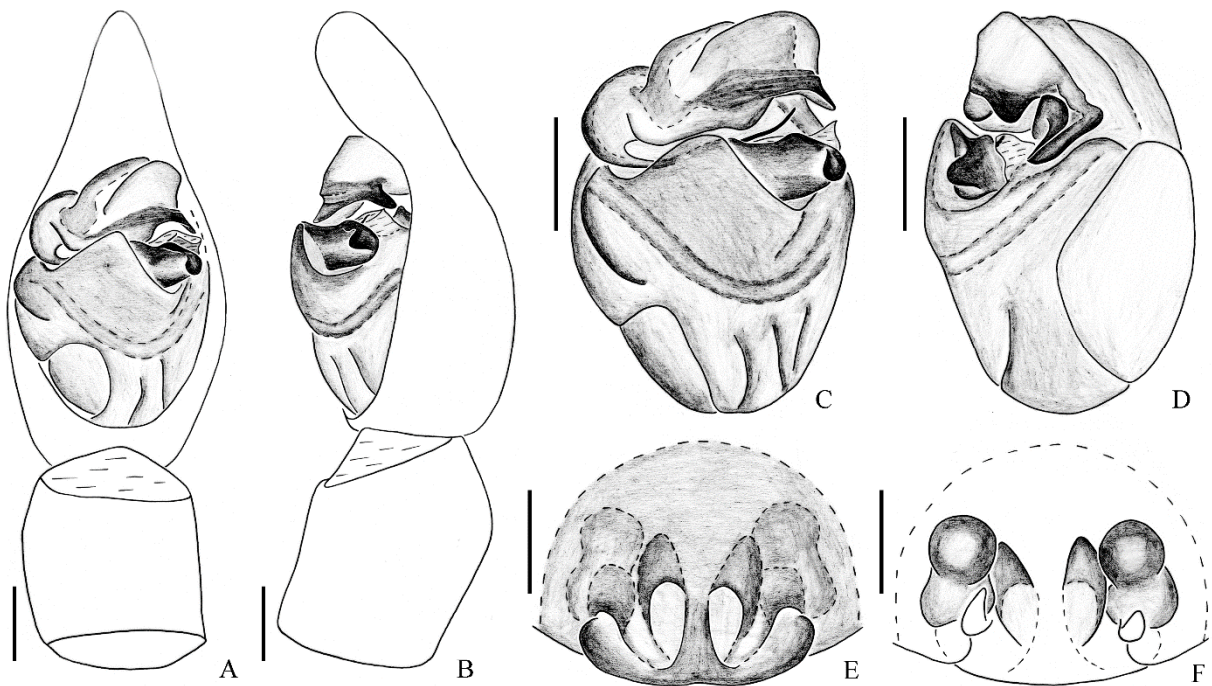


Figure 45. *Pardosa pusiola* (Thorell, 1891), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Epigyne, ventral view; F. Vulva, dorsal view. Scale bars = 0.2 mm.

Barrion, J.L.A Catindig & S.C. Villareal leg. (HANU); 1♂, Baisha County, Hongxin Village, 13.V.2011, C. Zhang leg. (SWUC); 1♂2♀, Baisha County, Yacha Farm, Ten Team, 19°16.481'N, 109°27.727'E, elev. 146 m, 24.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. South China, Bhutan, Bangladesh, India, Indonesia, Myanmar, Nepal, Philippines, Sri Lanka.

Remarks. The palp structure and epigyne morphology leave no doubt that *P. tieshinglii* and *P. villarealae* are junior synonyms of *P. sumatrana*.



Figure 46. *Pardosa pusiola* (Thorell, 1891), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Same, cleaned the dorsal tissue; I. Vulva, dorsal view. Scale bars: A=1.0mm; B=2.0mm; C–I=0.2mm.

Genus *Pirata* Sundevall, 1833

Pirata Sundevall, 1833: 24. Type species: *Araneus piraticus* Clerck, 1757, from Sweden.

Remarks. Currently, 52 species are known worldwide, of which 7 species are reported from China (WSC, 2020).

***Pirata subpiraticus* (Bösenberg & Strand, 1906)** (Figs 49A–D, 50A–H, 51A–D)

Tarentula subpiratica Bösenberg & Strand, 1906: 317, pl. 13, fig. 339 (♀). For full list of publications and synonyms concerning this species, see WSC (2020).

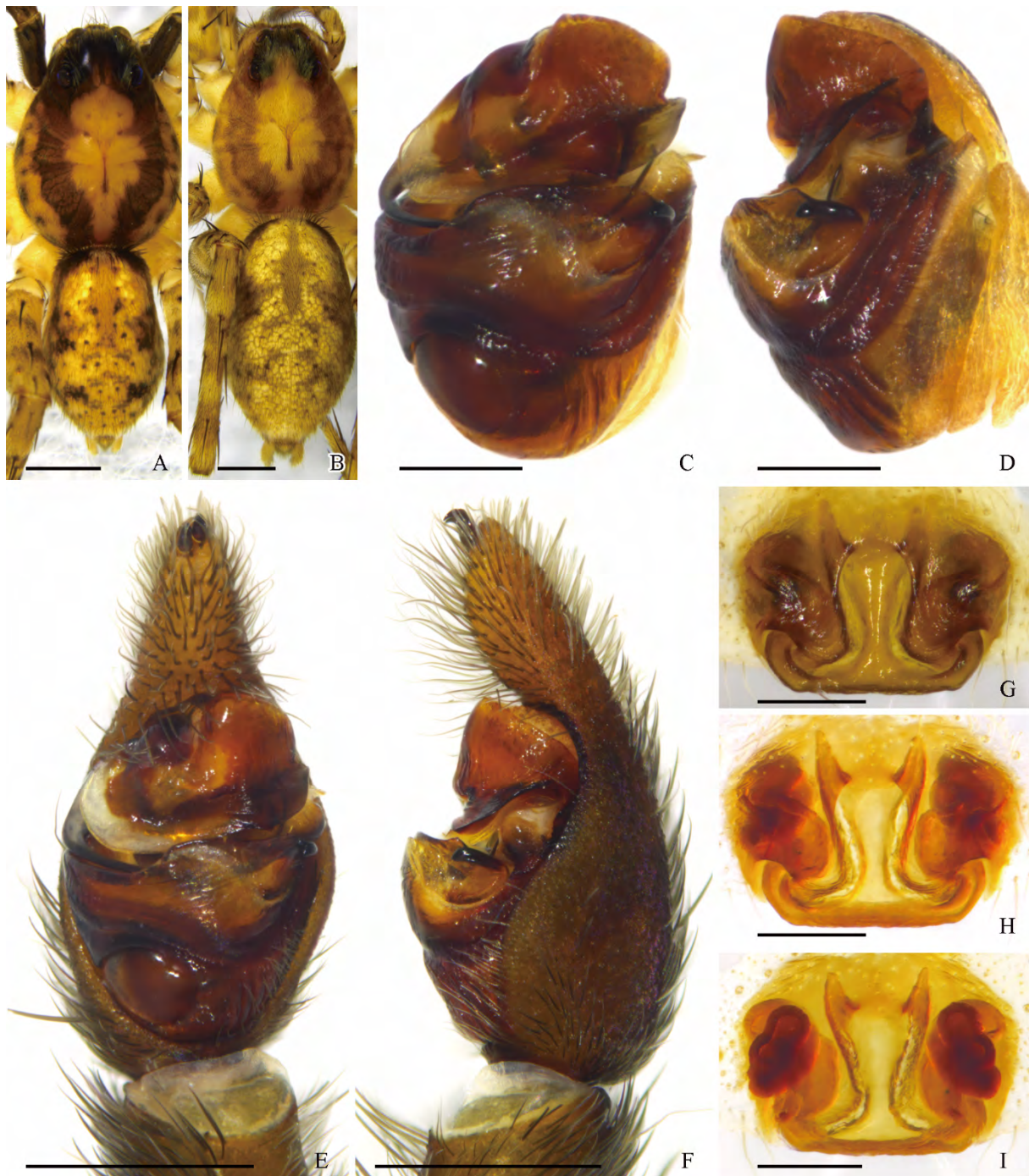


Figure 47. *Pardosa sumatrana* (Thorell, 1890), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Same, cleaned the dorsal tissue; I. Vulva, dorsal view. Scale bars: A–B = 1.0 mm; C–D, G–I = 0.2 mm; E–F = 0.5 mm.

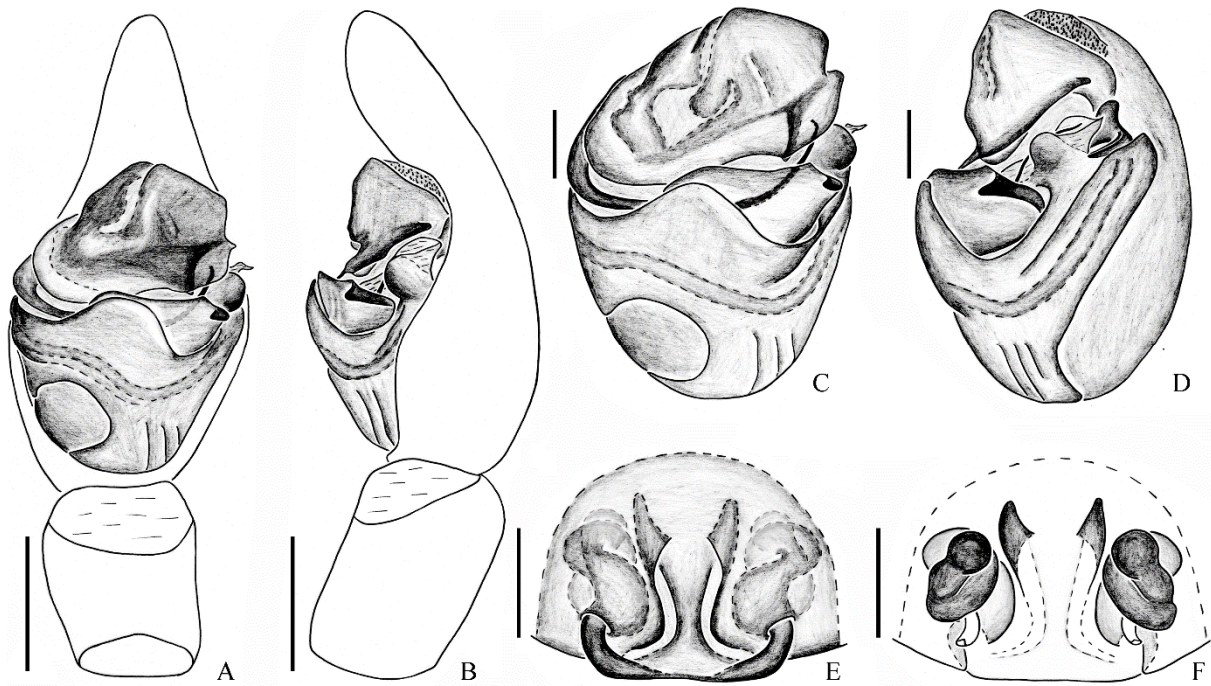


Figure 48. *Pardosa sumatrana* (Thorell, 1890), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Left male palp, bulb, ventral view; D. Same, retrolateral view; E. Epigyne, ventral view; F. Vulva, dorsal view. Scale bars: A–B=0.5 mm; C–F=0.2 mm.

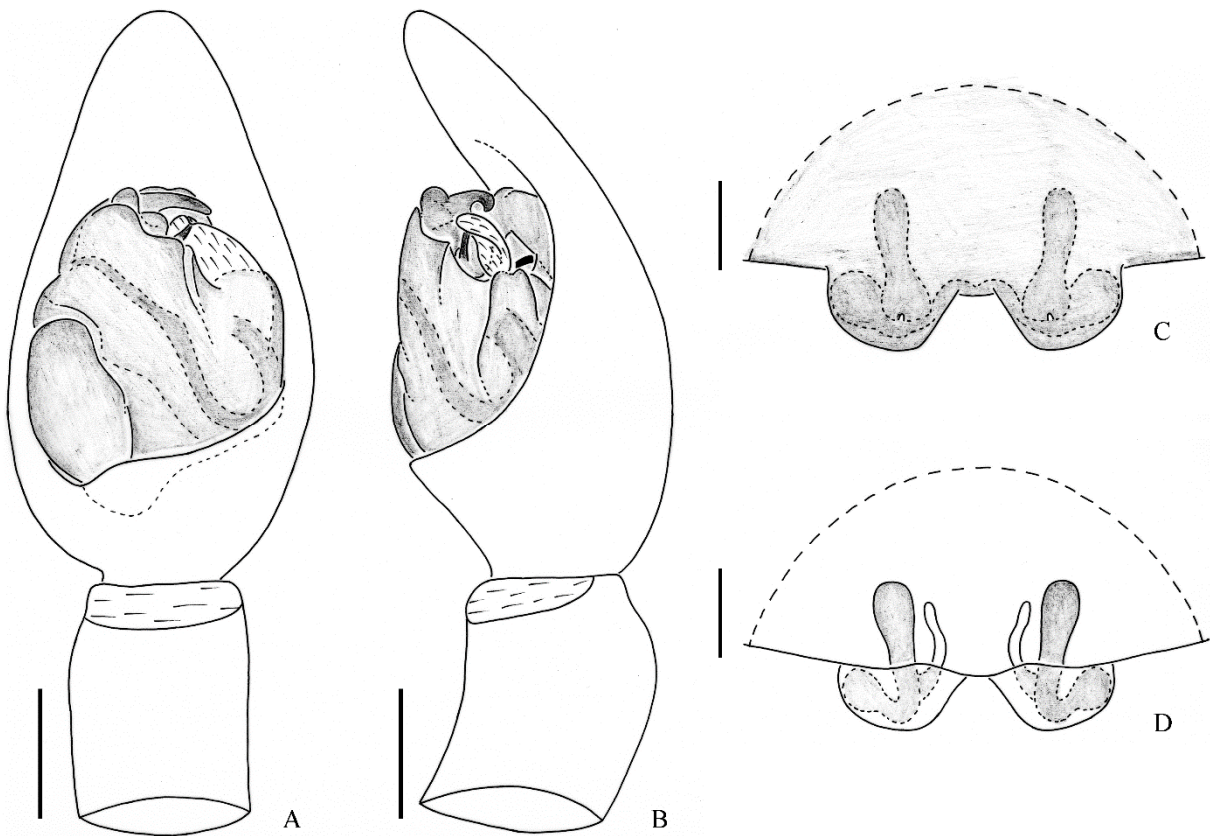


Figure 49. *Pirata subpiratica* (Bösenberg & Strand, 1906), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars: A–B=0.2 mm; C–D=0.1 mm.

Pirata catindigae Barrion, Barrion-Dupo & Heong, 2012: 18, figs 19A–D (♀). **syn. nov.**

Description. See Omelko, Marusik & Koponen (2011) for both sexes. Habitus, male palp and epigyne as in Figs 49A–D, 50A–H, 51A–D.

Material examined. 1 ♀ (holotype of *P. catindigae*), Danzhou, 9–13.VIII.2010, A.T. Barrion & S.C. Villareal leg. (HANU); 1 ♀, Danzhou City, near Tropical Plants Garden, 19°30.597'N, 109°30.217'E, elev. 131 m, 23.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC); 1 ♂, Baisha County, Da'an Town, 19°17.112'N, 109°21.205'E, elev. 124 m, 24.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. China (north to Beijing, south to Yunnan), Russia, Korea, Japan, Java, Philippines.

Remarks. This is a widely distributed species, occurring from Southeast Asia to Far East Russia, collected from farmlands along the Pacific Ocean.

Genus *Piratula* Roewer, 1960

Piratula Roewer, 1960: 677. Type species: *Pirata hygrophilus* Thorell, 1872, from Europe.

Remarks. Currently, 27 species are known worldwide, of which 11 species are reported from China (WSC, 2020).

Piratula meridionalis (Tanaka, 1974) (Figs 52A–H, 53A–E, 54A–D)

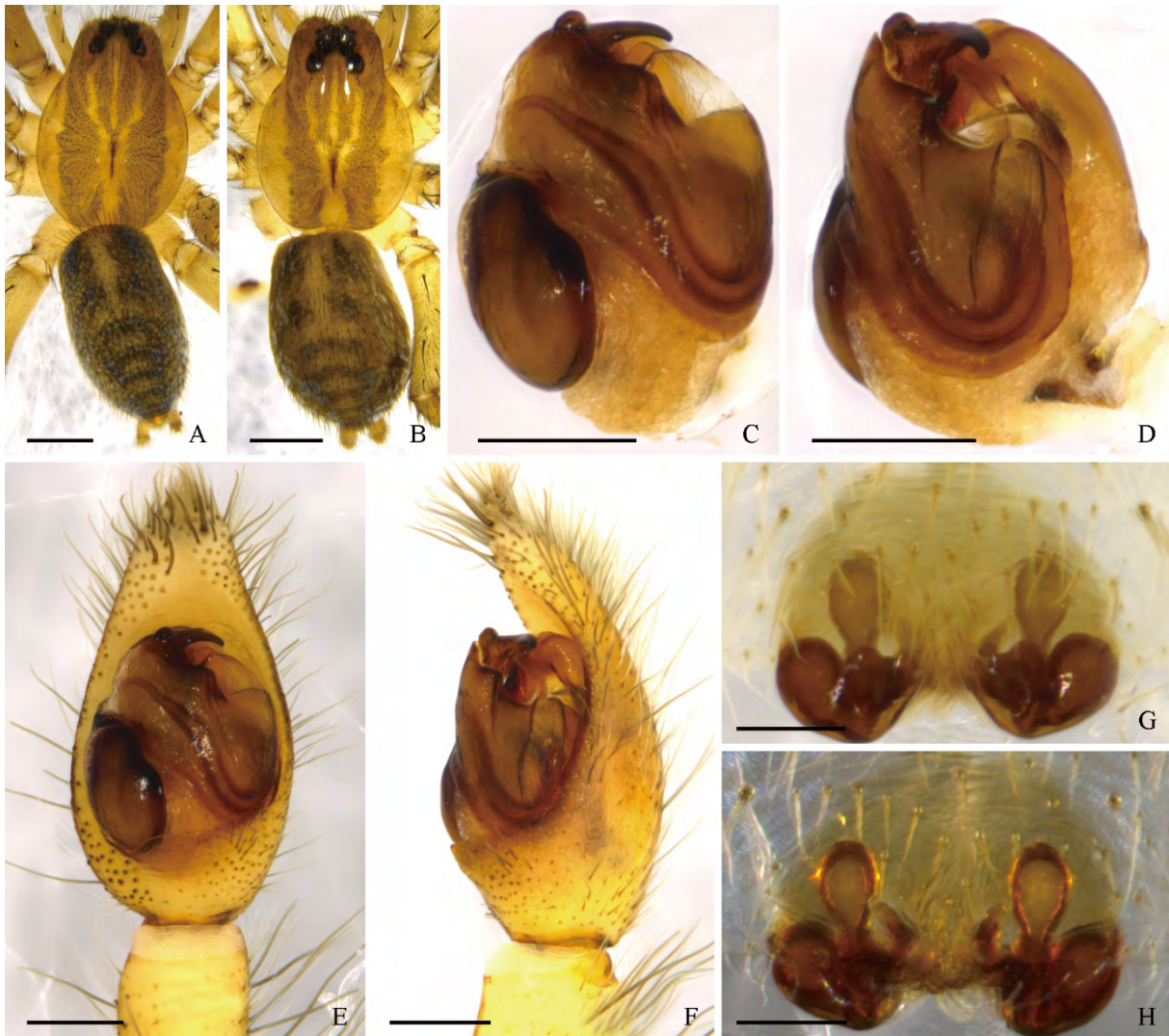


Figure 50. *Pirata subpiratica* (Bösenberg & Strand, 1906), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–F=0.2 mm; G–H=0.1 mm.

Pirata meridionalis Tanaka, 1974: 31, figs 15–17 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Yin *et al.* (2012) for both sexes. Habitus, male palp and epigyne as in Figs 52A–H, 53A–E, 54A–D. Material examined. 1♂4♀, Wuzhishan City, Shuiman Town, 18°53.339'N, 109°39.899'E, elev. 582 m, 25.III.2015, L.Y.

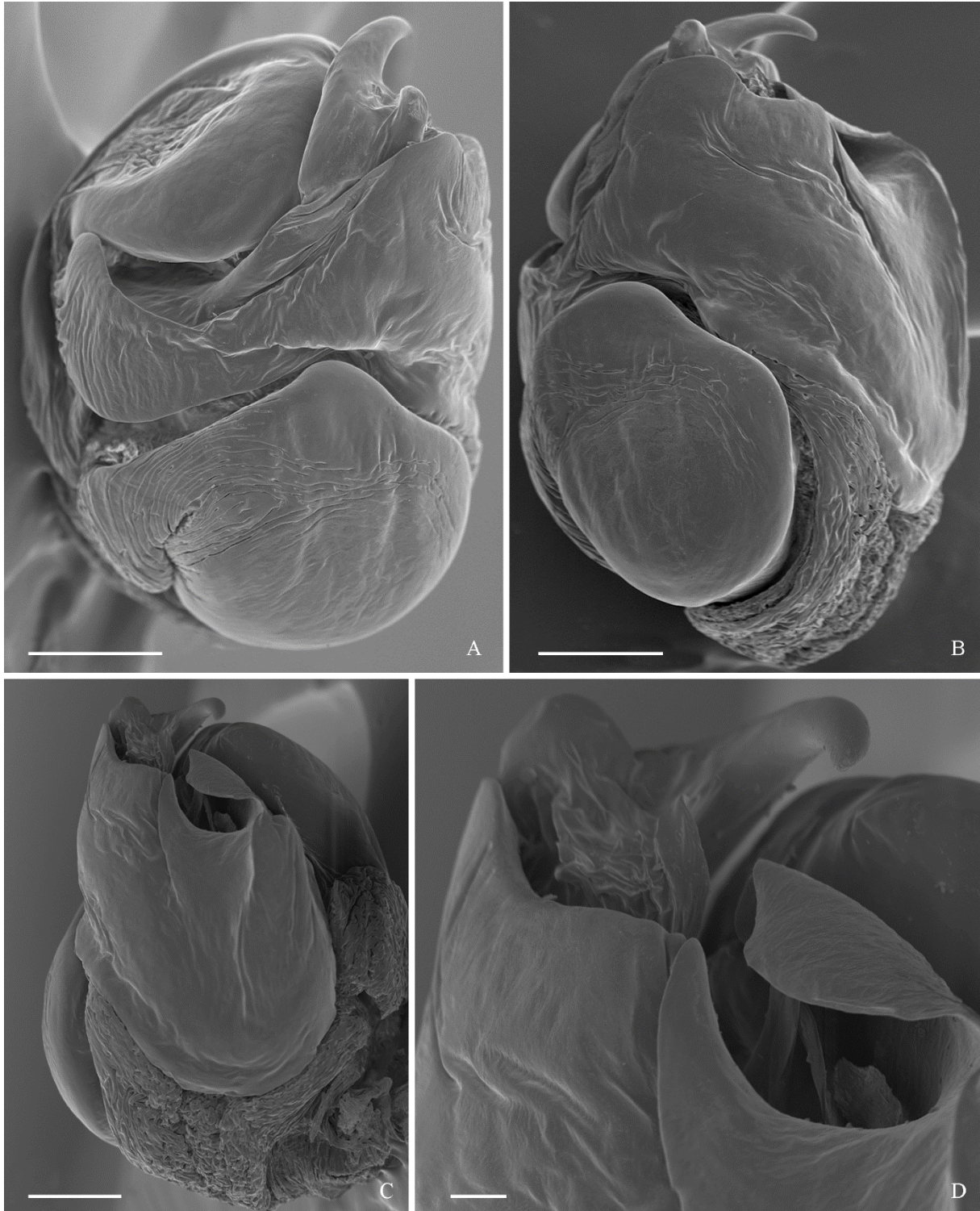


Figure 51. *Pirata subpiratica* (Bösenberg & Strand, 1906), male from Hainan. A. Left male palp, bulbus, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Median apophysis, conductor and terminal apophysis, retrolateral view. Scale bars: A–C = 0.1 mm; D = 0.02 mm.

Wang & G.Q. Huang leg. (SWUC); 1♀, Ledong County, Jianfengling Nature Reserve, Tianchi, 18°44.541'N, 108°51.586'E, elev. 814m, 27.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. China (Guangxi, Hainan, Hunan, Hongkong), Korea, Japan.

***Piratula piratoides* (Bösenberg & Strand, 1906)** (Figs 55A–H, 56A–D, 57A–D)

Tarentula piratoides Bösenberg & Strand, 1906: 318, pl. 13, fig. 336 (♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Yin *et al.* (2012) for both sexes. Habitus, male palp and epigyne as in Figs 55A–H, 56A–D, 57A–D.

Material examined. 1♂5♀, Dongfang City, Datian Town, Jubian Bridge, 19°08.451'N, 108°50.641'E, elev. 59 m, 28.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. China (north to Heilongjiang, south to Yunnan), Russia, Korea, Japan.

Genus *Trochosa* C.L. Koch, 1847

Trochosa C.L. Koch, 1847: 95. Type species: *Aranea lupus ruricola* De Geer, 1778, from Europe.

Remarks. Currently, 92 species are known worldwide, of which 15 species are reported from China (WSC, 2020).

***Trochosa bannaensis* Yin & Chen, 1995** (Figs 58A–H, 59A–C, 60A–D)



Figure 52. *Piratula meridionalis* (Tanaka, 1974), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A=0.5 mm; B=1.0 mm; C–H=0.1 mm.

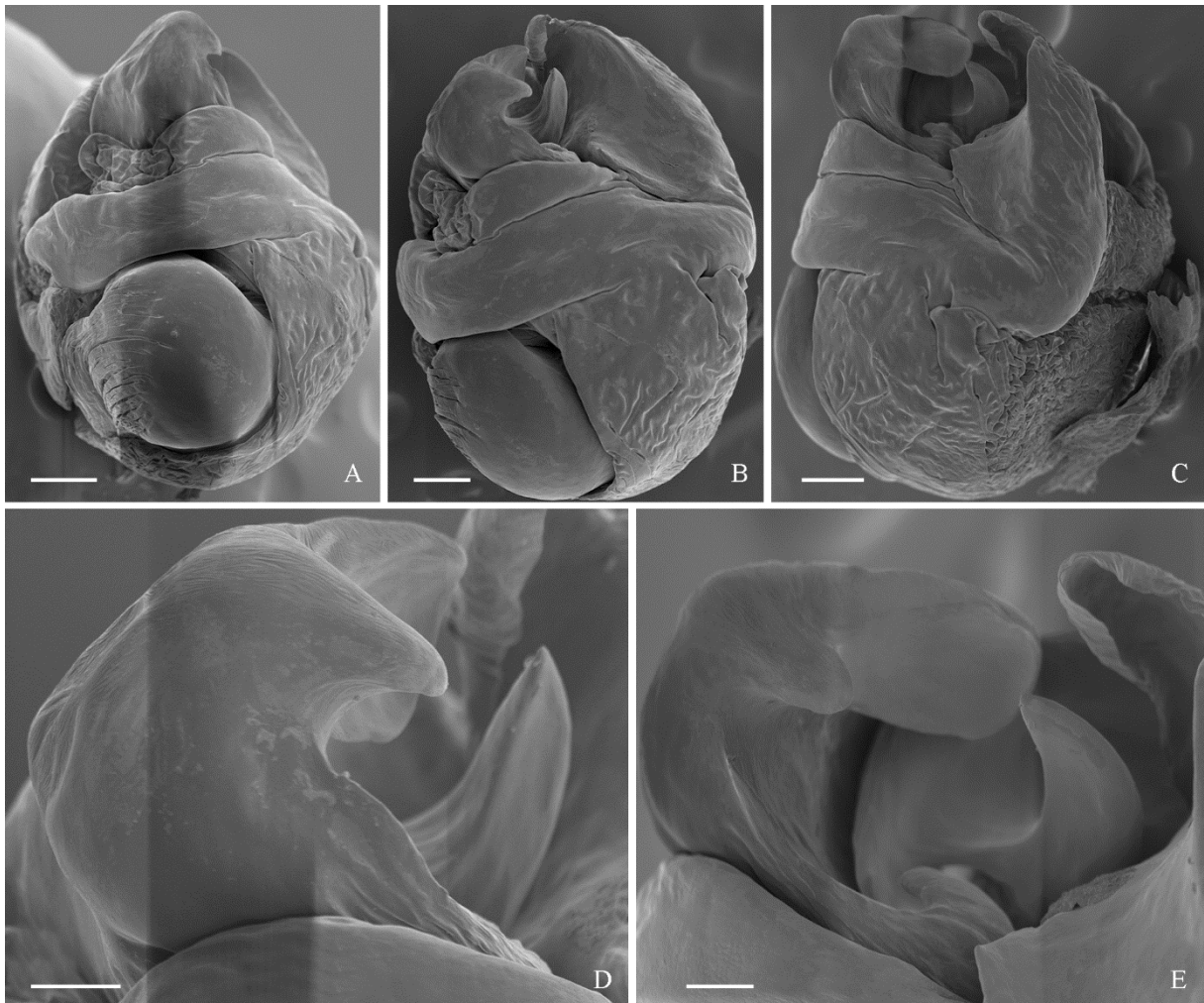


Figure 53. *Piratula meridionalis* (Tanaka, 1974), male from Hainan. A. Left male palp, bulbus, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Median apophysis and terminal apophysis, ventral view; E. Same, retrolateral view. Scale bars: A–C= 0.05 mm; D–E=0.02 mm.

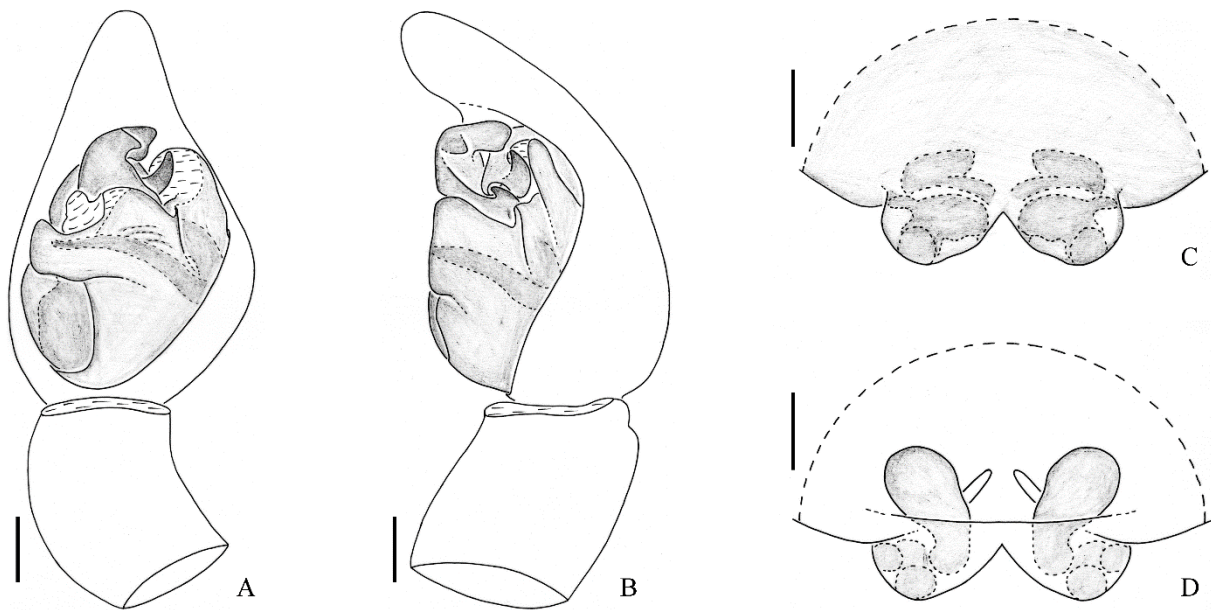


Figure 54. *Piratula meridionalis* (Tanaka, 1974), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.1 mm.

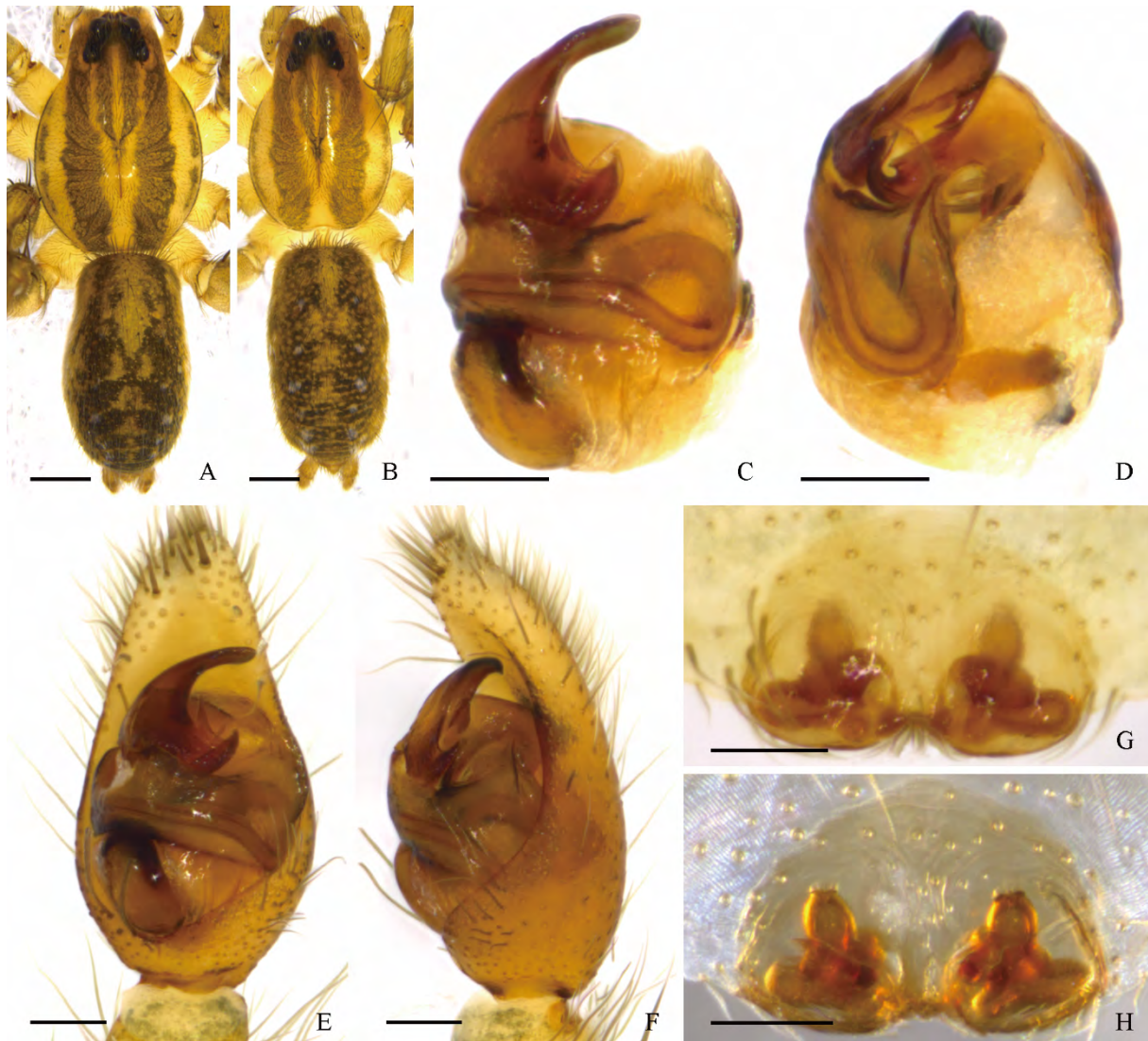


Figure 55. *Piratula piratoides* (Bösenberg & Strand, 1906), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=0.5 mm; C–H=0.1 mm.

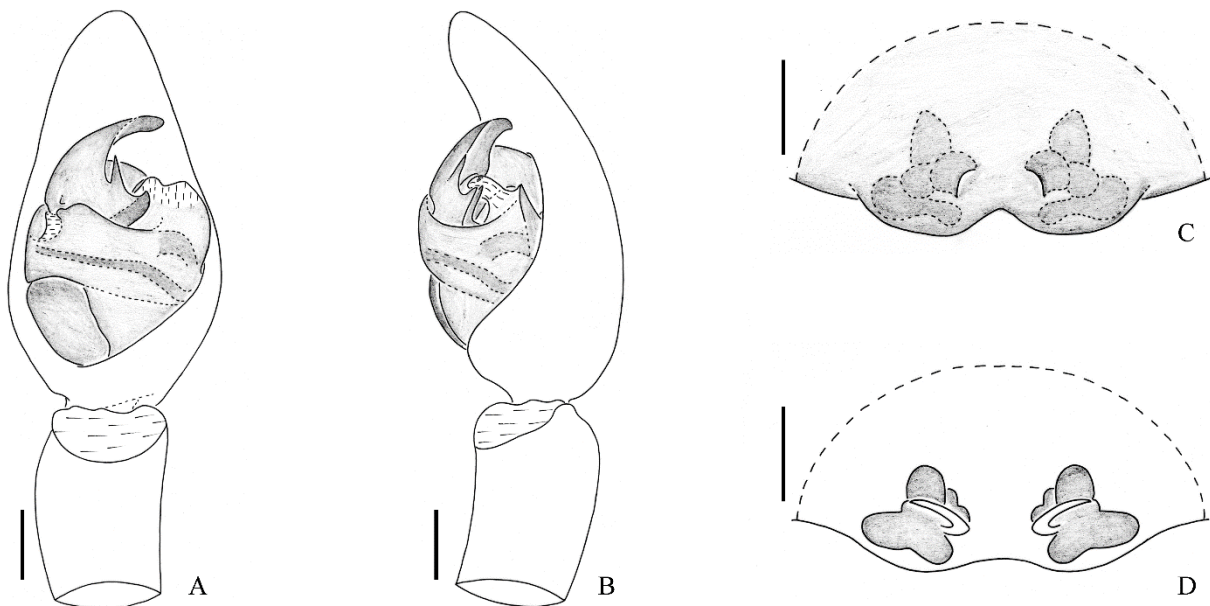


Figure 56. *Piratula piratoides* (Bösenberg & Strand, 1906), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.1 mm.

Trochosa bannaensis Yin & Chen, in Yin, Bao & Wang, 1995: 26, figs 9–13 (♀). For full list of publications and synonyms concerning this species, see WSC (2020).

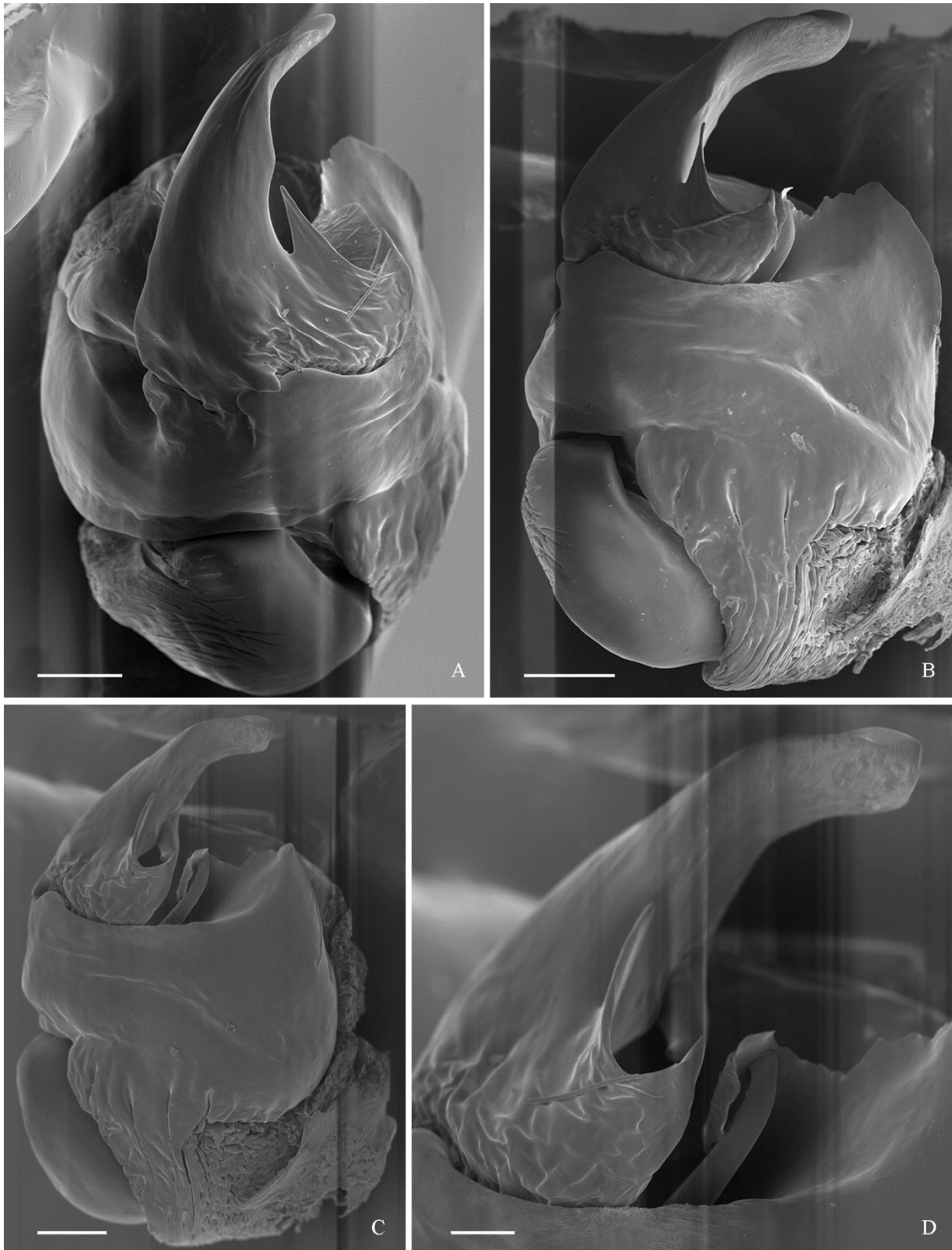


Figure 57. *Piratula piratoides* (Bösenberg & Strand, 1906), male from Hainan. A. Left male palp, bulbus, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Median apophysis and terminal apophysis, retrolateral view. Scale bars: A–C=0.05 mm; D=0.02 mm.

Description. See Pan, Zheng & Li (2016) for both sexes. Habitus, male palp and epigyne as in Figs 58A–H, 59A–C, 60A–D.

Material examined. 15♂, Dongfang City, Datian Town, Eld's deer Nature Reserve, 19°06.609'N, 108°47.362'E, elev. 52 m, 22.VII.2007, S. Li leg. (IZCAS); 1♀, Dongfang City, Datian Town, Eld's deer Nature Reserve, 19°06.609'N, 108°47.362'E, elev. 52 m, 22.VII.2007, C.X. Wang leg. (IZCAS).

Distribution. China (Hainan, Yunnan).

***Trochosa honggiana* Barrion, Barrion-Dupo & Heong, 2012** (Figs 61A–C, 62A–B)

Trochosa honggiana Barrion, Barrion-Dupo & Heong, 2012: 20, figs 21A–B (♀).

Material examined. 1♀ (holotype), Haiko, Honggi Village, 9.IV.2011, A.T. Barrion, J.L.A. Catindig & S.C. Villareal

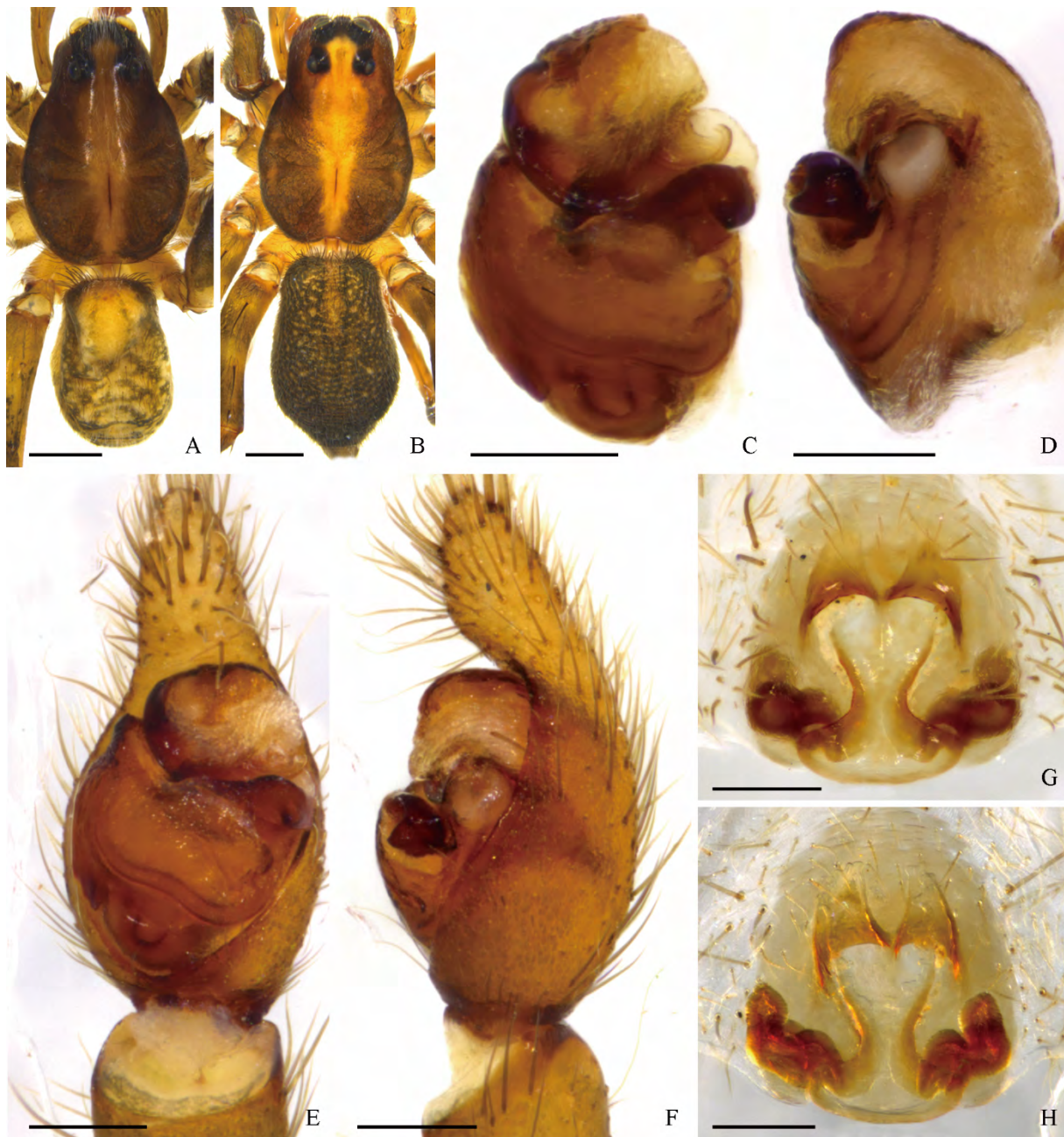


Figure 58. *Trochosa bannaensis* Yin & Chen, 1995, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0 mm; C–H=0.2 mm.

leg. (HANU).

Diagnosis. The female of this species is similar to *T. ruricoloides* Schenkel, 1963 (Figs 63G–H, 65C–D) but differs by the robust septum and the large spermathecal heads of the epigyne (Figs 61B–C, 62A–B).

Description. Female (Fig. 61A) total length 21.97. Carapace 8.23 long, 6.21 wide; opisthosoma 12.29 long, 7.44 wide. Carapace brown. Eye region black. Cervical groove and radial furrows indistinct. Eye sizes and interdistances: AME 0.30, ALE 0.26, PME 0.75, PLE 0.61; AME–AME 0.21, AME–ALE 0.15, PME–PLE 0.69. Clypeus height 0.71. Chelicerae

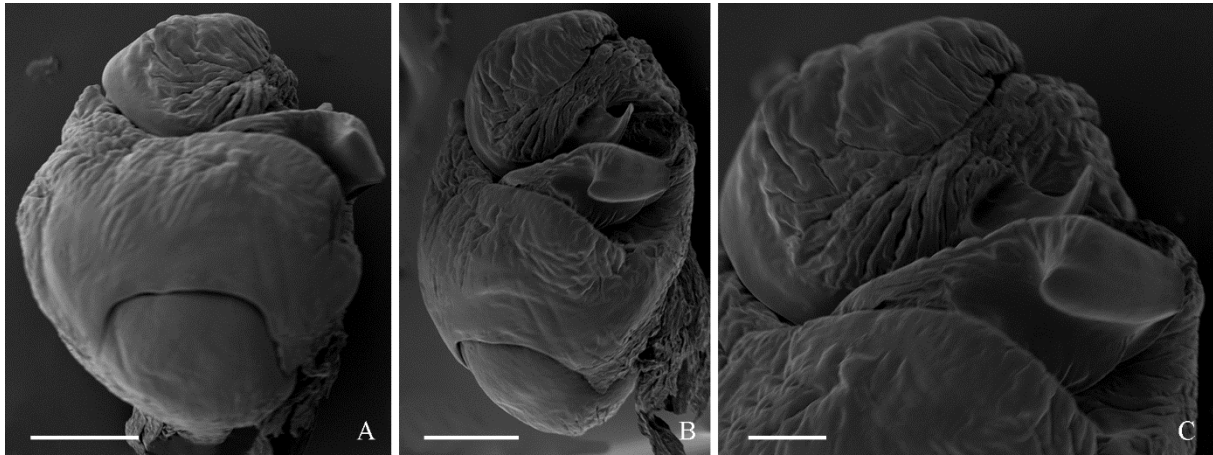


Figure 59. *Trochosa bannaensis* Yin & Chen, 1995, male and female from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Median apophysis and embolus, ventral view. Scale bars: A–B=0.1 mm; C=0.04 mm.

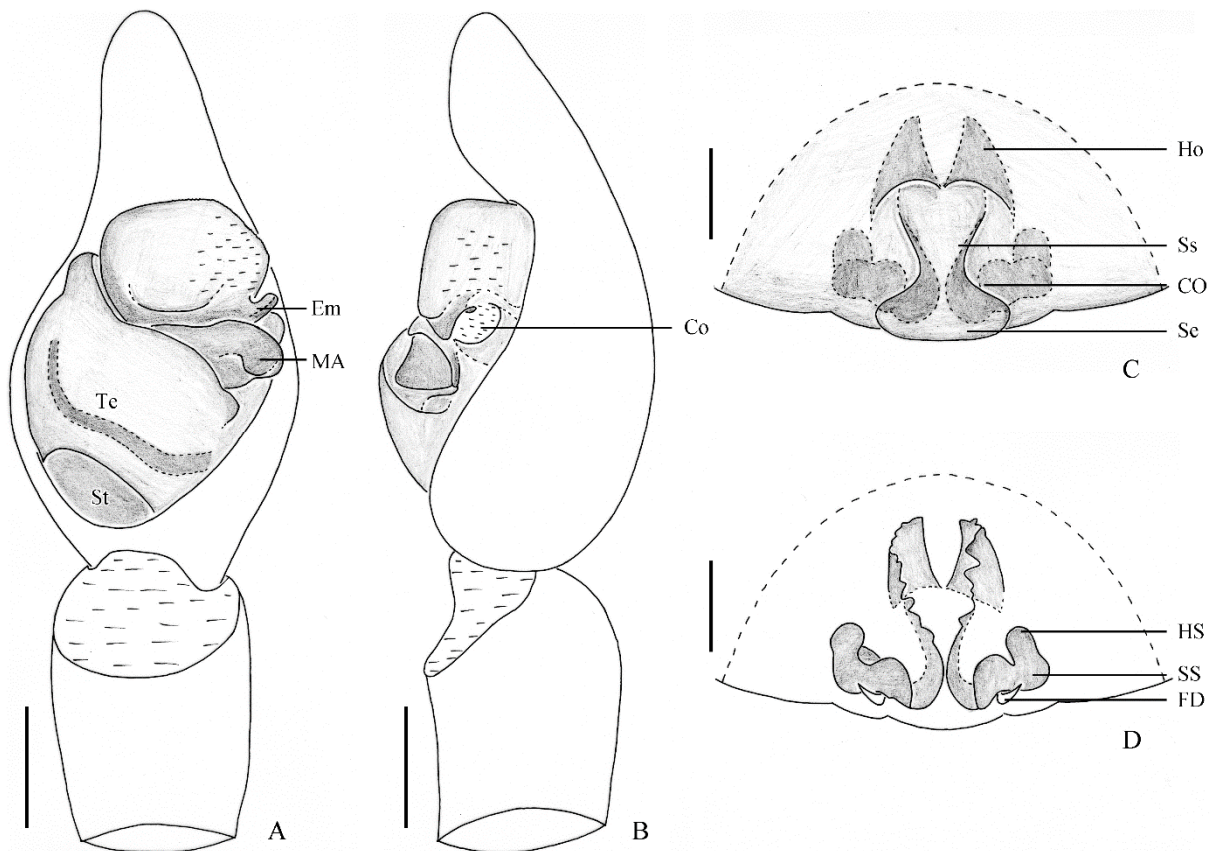


Figure 60. *Trochosa bannaensis* Yin & Chen, 1995, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Abbreviations: Co—conductor; CO—copulatory opening; Em—embolus; FD—fertilization duct; Ho—hood; HS—head of spermatheca; MA—median apophysis; SS—stalk of spermatheca; St—subtegulum; Tc—tegulum. Scale bars=0.2 mm.

elongate, black-brown. Labium black-brown. Endites black-brown, longer than wide. Sternum black-brown and scutellate, with brown setae. Legs brown, with black pigmentation. Leg measurements: I 22.44 (6.58, 8.06, 4.68, 3.12); II 20.52 (5.86, 7.08, 4.31, 3.27); III 19.17 (5.15, 6.32, 4.68, 3.02); IV 27.38 (7.17, 8.94, 7.56, 3.71). Opisthosoma oval. Dorsum of

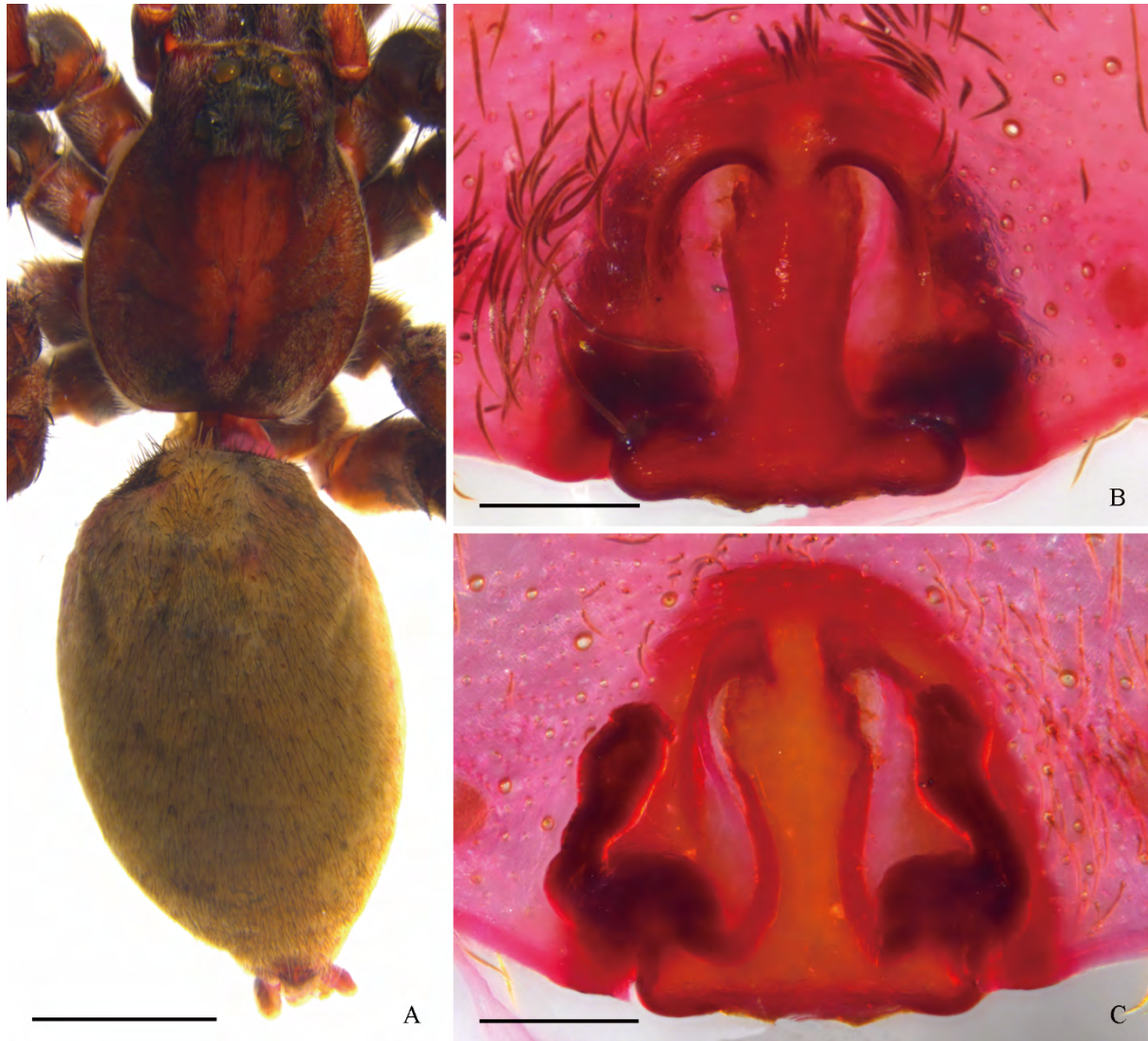


Figure 61. *Trochosa honggiana* Barrion, Barrion-Dupo & Heong, 2012, holotype female. A. Female habitus, dorsal view; B. Epigyne, ventral view; C. Vulva, dorsal view. Scale bars: A=4.0 mm; B–C=0.3 mm.

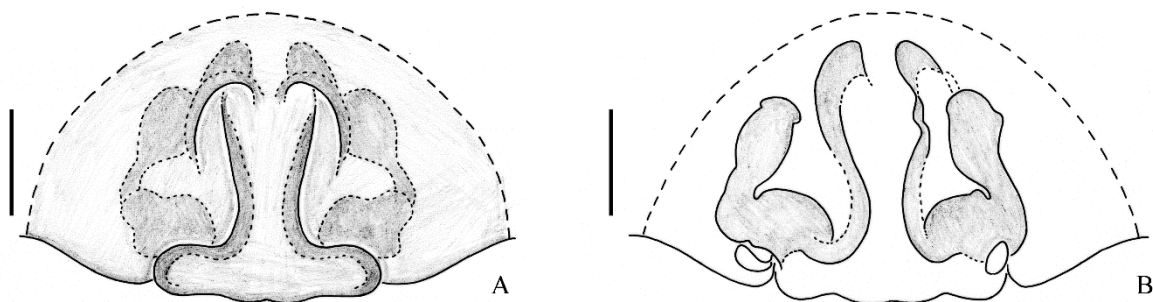


Figure 62. *Trochosa honggiana* Barrion, Barrion-Dupo & Heong, 2012, holotype female. A. Epigyne, ventral view; B. Vulva, dorsal view. Scale bars=0.3 mm.

opisthosoma grey-brown, cardiac mark indistinct. Ventrums black.

Epigyne (Figs 61B–C, 62A–B). Septum broad, inverse T-shaped. Spermathecal heads large and round, spermathecal stalks wide, only constricted near spermathecal heads. Fertilization ducts short.

Male unknown.

Distribution. China (Hainan).

***Trochosa ruricoloides* Schenkel, 1963** (Figs 63A–H, 64A–E, 65A–D)

Trochosa ruricoloides Schenkel, 1963: 350, figs 202a–b (♂). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Yin *et al.* (2012) for both sexes. Habitus, male palp and epigyne as in Figs 63A–H, 64A–E, 65A–D.

Material examined. 1♀, Wuzhishan City, Wuzhishan Nature Reserve, 7.VIII.2007, S. Li leg. (IZCAS); 1♀, Qiongzong County, Limu Mountain Nature Reserve, Binglang Lake, 19°11.982'N, 109°43.756'E, elev. 576 m, 13.VIII.2007, S. Li leg.



Figure 63. *Trochosa ruricoloides* Schenkel, 1963, male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A = 1.0 mm; B = 2.0 mm; C–H = 0.2 mm.

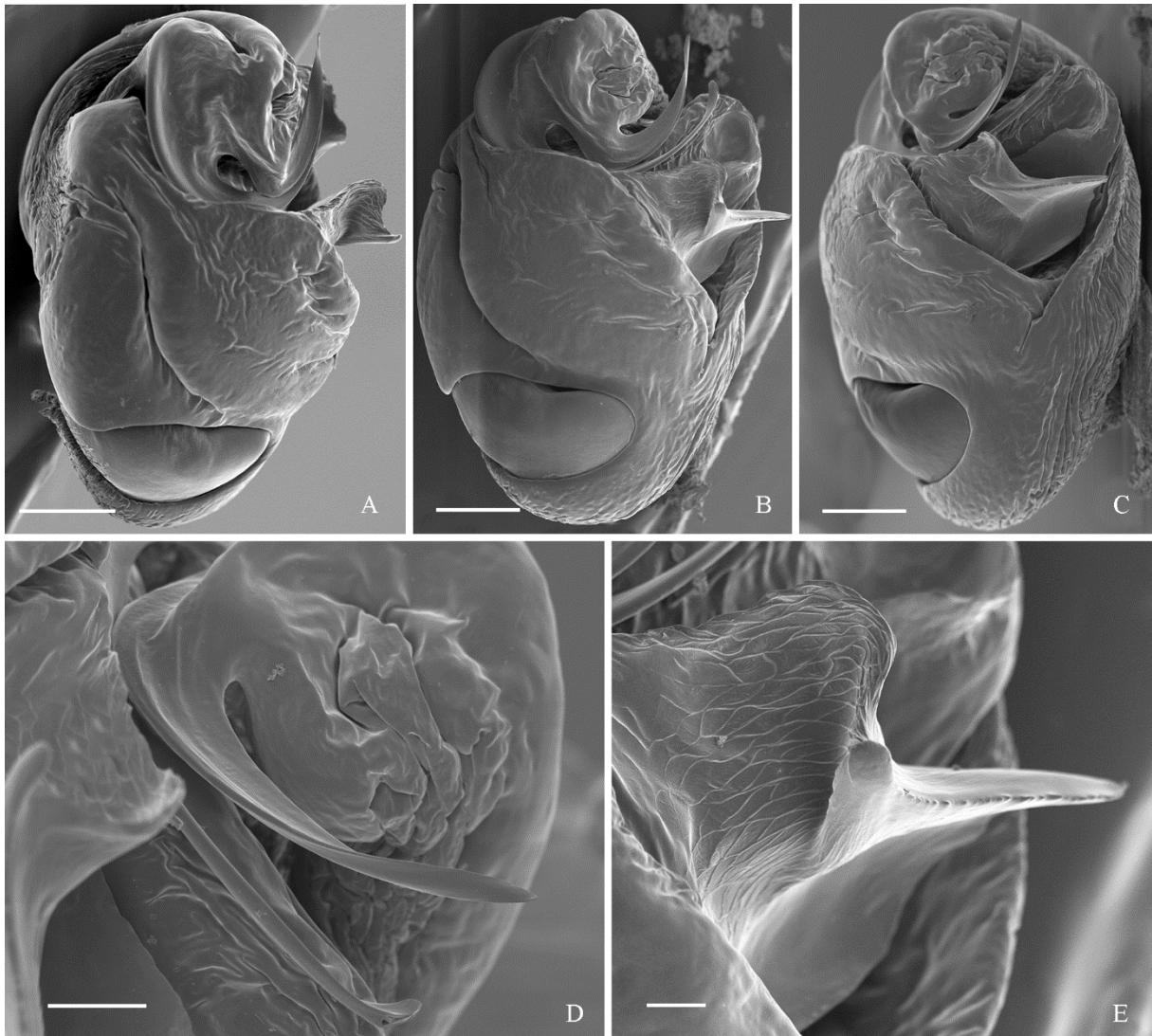


Figure 64. *Trochosa ruricoloides* Schenkel, 1963, male and female from Hainan. A. Left male palp, bulbus, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Terminal apophysis and embolus, ventral view; E. Median apophysis, retrolateral view. Scale bars: A–C=0.1 mm; D=0.04 mm; E=0.02 mm.

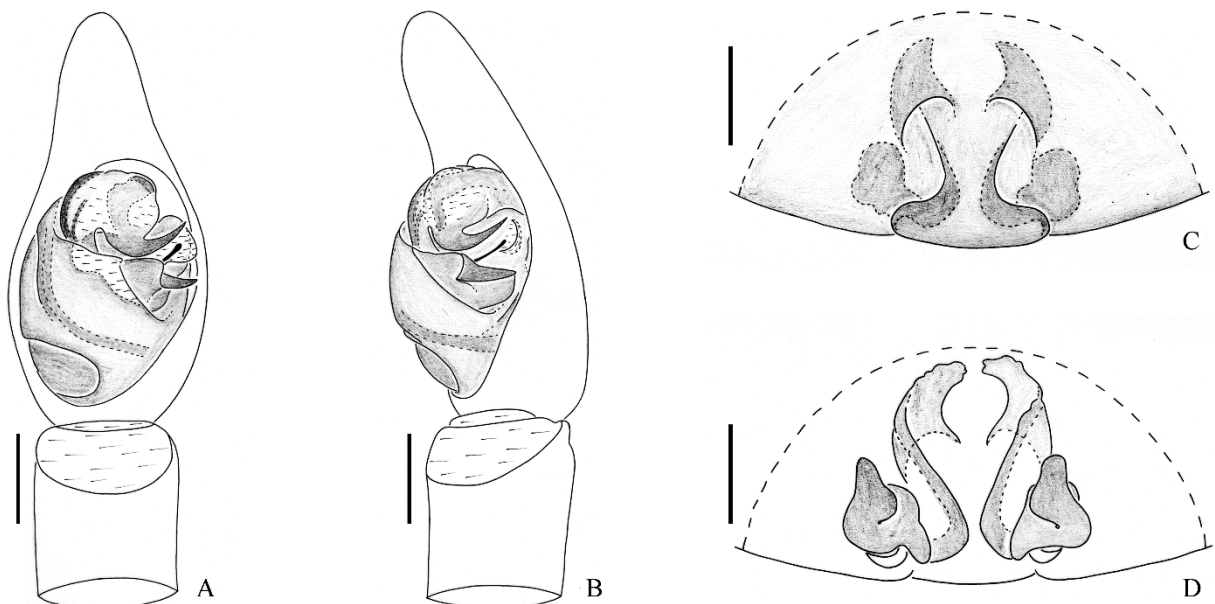


Figure 65. *Trochosa ruricoloides* Schenkel, 1963, male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars=0.2 mm.

(IZCAS); 2♂, Chengmai County, Dawangling, 17.I.2015, C. Jin & L.N. Fu leg. (SWUC).

Distribution. South China, India, Thailand, Malaysia, Indonesia, Papua New Guinea.

Genus *Wadicosa* Zyuzin, 1985

Wadicosinae Zyuzin, 1985: 40. Type species: *Lycosa fidelis* O. Pickard-Cambridge, 1872, from Palestine.

Remarks. Currently, 13 species are known worldwide, of which 2 species are reported from China (WSC, 2020).

***Wadicosa fidelis* (O. Pickard-Cambridge, 1872)** (Figs 66A–H, 67A–D, 68A–D)

Lycosa fidelis O. Pickard-Cambridge, 1872: 319 (♂). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Kronestedt & Zyuzin (2009) for both sexes. Habitus, male palp and epigyne as in Figs 66A–H, 67A–D, 68A–D.

Material examined. 4♂7♀, Dongfang City, Datian Town, Jubian Bridge, 19°08.451'N, 108°50.641'E, elev. 59 m, 28.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).



Figure 66. *Wadicosa fidelis* (O. Pickard-Cambridge, 1872), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A=1.0 mm; B=2.0 mm; C–F=0.3 mm; G–H=0.2 mm.

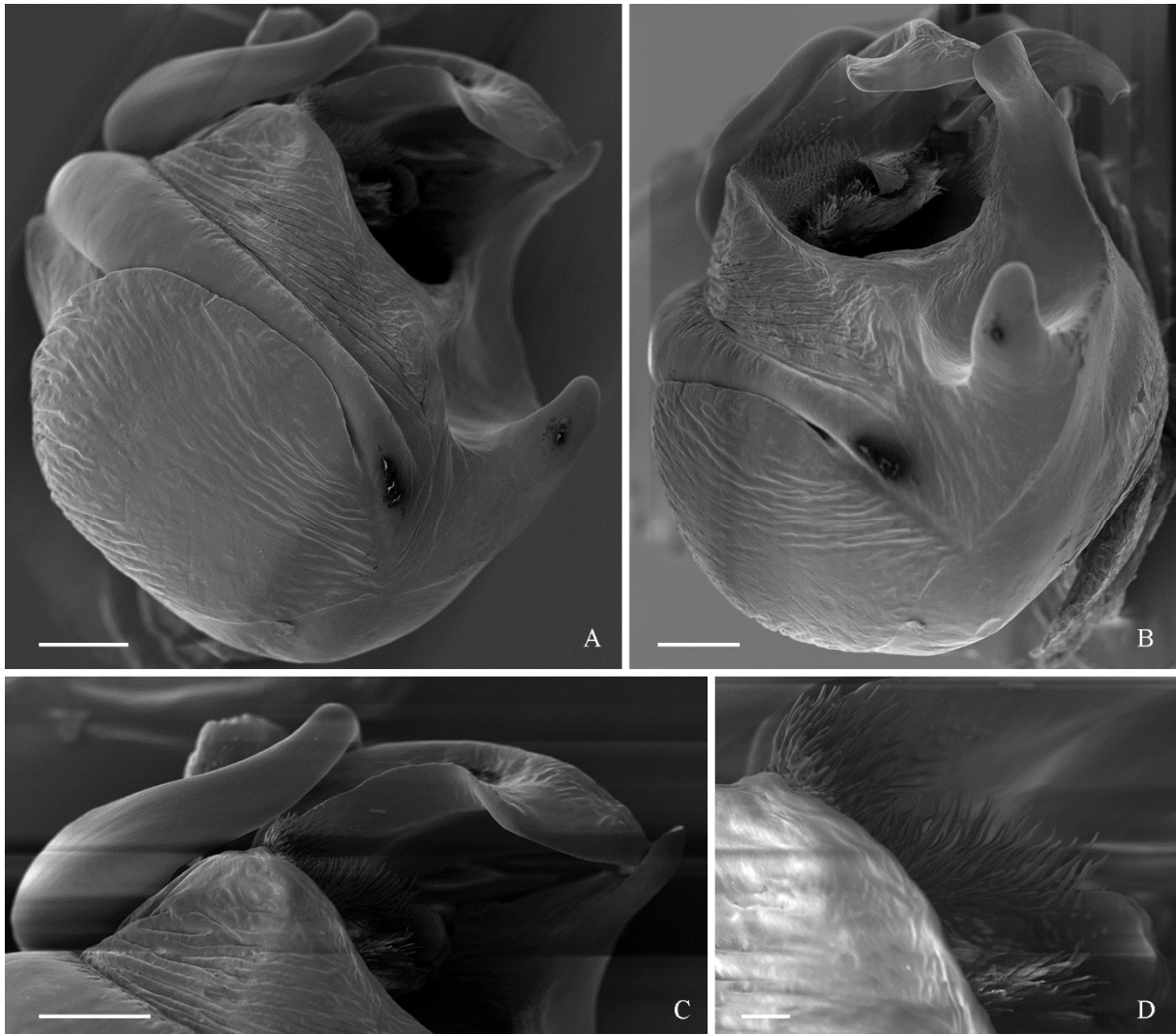


Figure 67. *Wadicosa fidelis* (O. Pickard-Cambridge, 1872), male and female from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Embolus and median apophysis, ventral view; D. Base of median apophysis, ventral view. Scale bars: A–C=0.1 mm; D=0.02 mm.

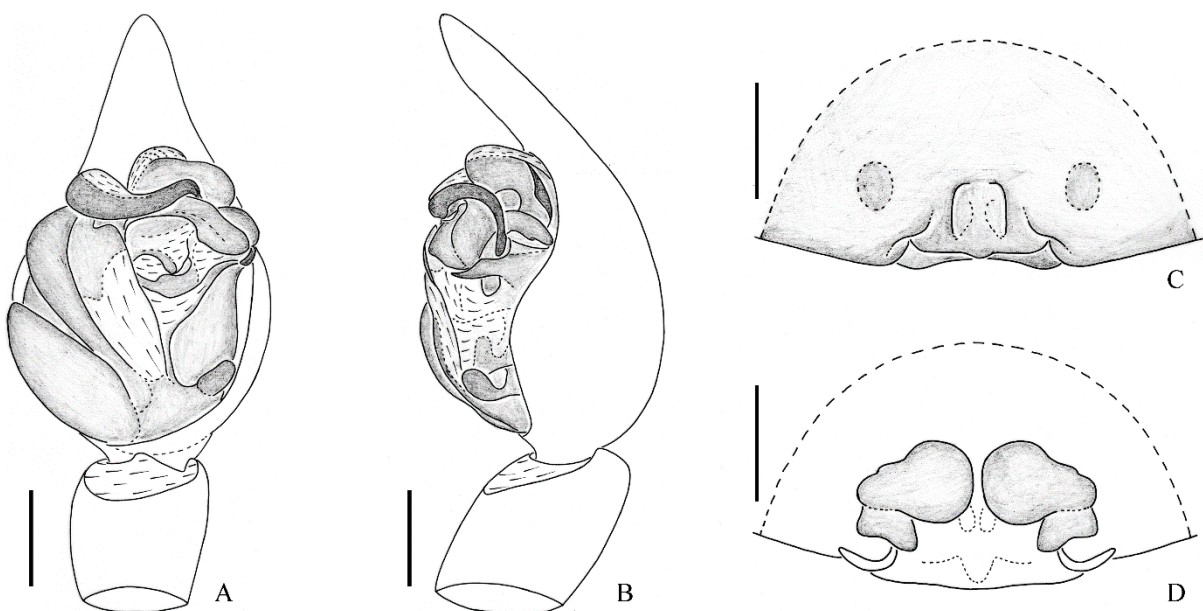


Figure 68. *Wadicosa fidelis* (O. Pickard-Cambridge, 1872), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars: A–B=0.3 mm; C–D=0.2 mm.

Distribution. South China, Mediterranean, West, Central, South, Southeast and East Asia.

***Wadicosa okinawensis* (Tanaka, 1985)** (Figs 2D–F, 69A–H, 70A–E, 71A–D)

Pardosa okinawensis Tanaka, 1985: 78, figs 41–44 (♂♀). For full list of publications and synonyms concerning this species, see WSC (2020).

Description. See Tanaka (1985) for both sexes. Habitus, male palp, and epigyne as in Figs 69A–H, 70A–E, 71A–D.

Material examined. 4♂10♀, Haikou City, Qiongsan District, Shangdao Village, Nandu River, 19°58.208'N, 110°25.116'E, elev. -6m, 20.III.2015, L.Y. Wang & G.Q. Huang leg. (SWUC).

Distribution. China (Hainan), Japan.

Remarks. This is the first record of this species in China.



Figure 69. *Wadicosa okinawensis* (Tanaka, 1985), male and female from Hainan. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B=1.0mm; C–D, G–H=0.2mm; E–F=0.3mm.

Genus *Zoica* Simon, 1898

Zobia Simon, 1898: 248. Type species: *Zobia parvula* Thorell, 1895, from Myanmar.

Remarks. Currently 11 species are known worldwide, of which one species is reported from China (WSC, 2020).

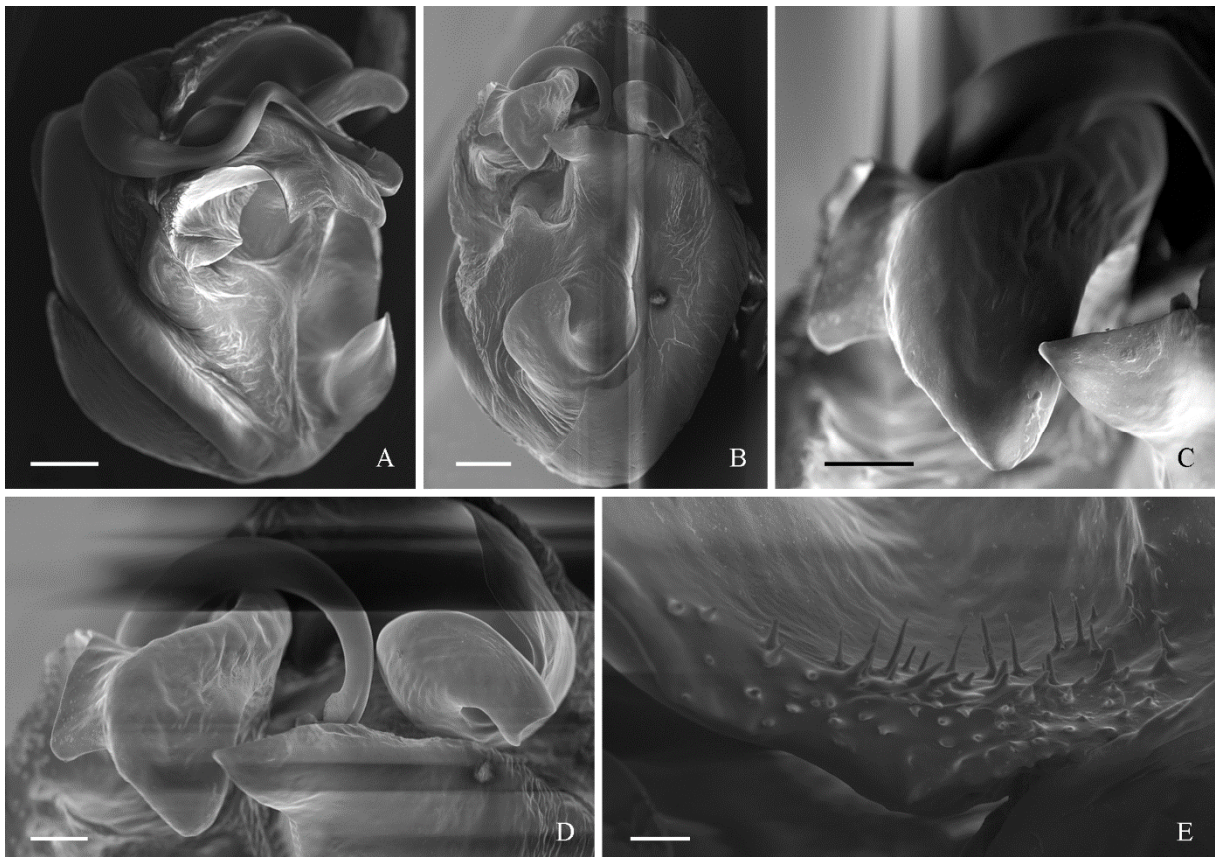


Figure 70. *Wadicosa okinawensis* (Tanaka, 1985), male and female from Hainan. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Median apophysis, retrolateral view; D. Median apophysis, embolus and terminal apophysis, retrolateral view; E. Base of median apophysis, ventral view. Scale bars: A–B=0.1 mm; C–D=0.04 mm; E=0.01 mm.

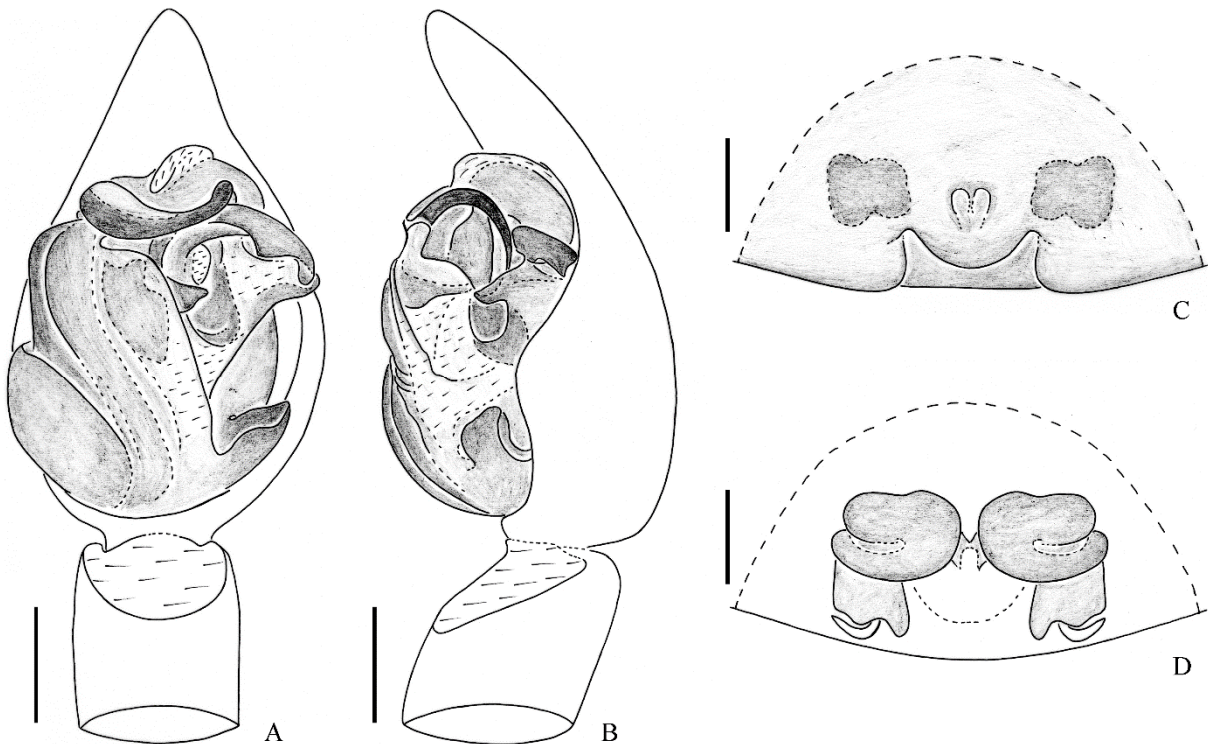


Figure 71. *Wadicosa okinawensis* (Tanaka, 1985), male and female from Hainan. A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Scale bars: A–B=0.3 mm; C–D=0.2 mm.

***Zoica hainan* Wang, Li & Zhang, sp. nov.** (Figs 72A–H, 73A–D, 74A–D)

Type material. Holotype ♂, Haikou City, Dongzhaigang Mangrove Nature Reserve, 19°57.113'N, 110°33.983'E, elev. -2 m, 20.VIII.2007, C.X. Wang leg. (IZCAS); Paratypes (7♂8♀). 4♂4♀, same data as holotype (IZCAS); 1♂3♀, Haikou City, Dongzhaigang Mangrove Nature Reserve, 19°57.113'N, 110°33.983'E, elev. -2 m, 20.VIII.2007, S. Li leg. (IZCAS); 2♂1♀, Ding'an County, Tongren Village, 19°30.953'N, 110°18.904'E, elev. 58 m, 27.VI.2019, L.Y. Wang, T. Yuan, K. Yu & J.X. Zhao leg. (SWUC).

Etymology. The specific epithet refers to the type locality; noun in apposition.

Diagnosis. The new species resembles *Z. unciformis* Li, Wang & Zhang, 2013 (Li, Wang & Zhang, 2013: 30, figs 5A–E, 6A–H) but differs by the lateral apophysis with two small projections, the inner projection spinelike, the outer projection longer than wide with a sharp tip (Figs 72C–F, 73A–D, 74A–B); in *Z. unciformis*, the lateral apophysis is sinuous, slightly curved, with a small outgrowth. Terminal apophysis covers embolus in the new species (Figs 72C–F, 73A–D, 74A–B) but not in *Z. unciformis*. Spermathecae round in the new species (Figs 72G–H, 74C–D) but oval in *Z. unciformis*.

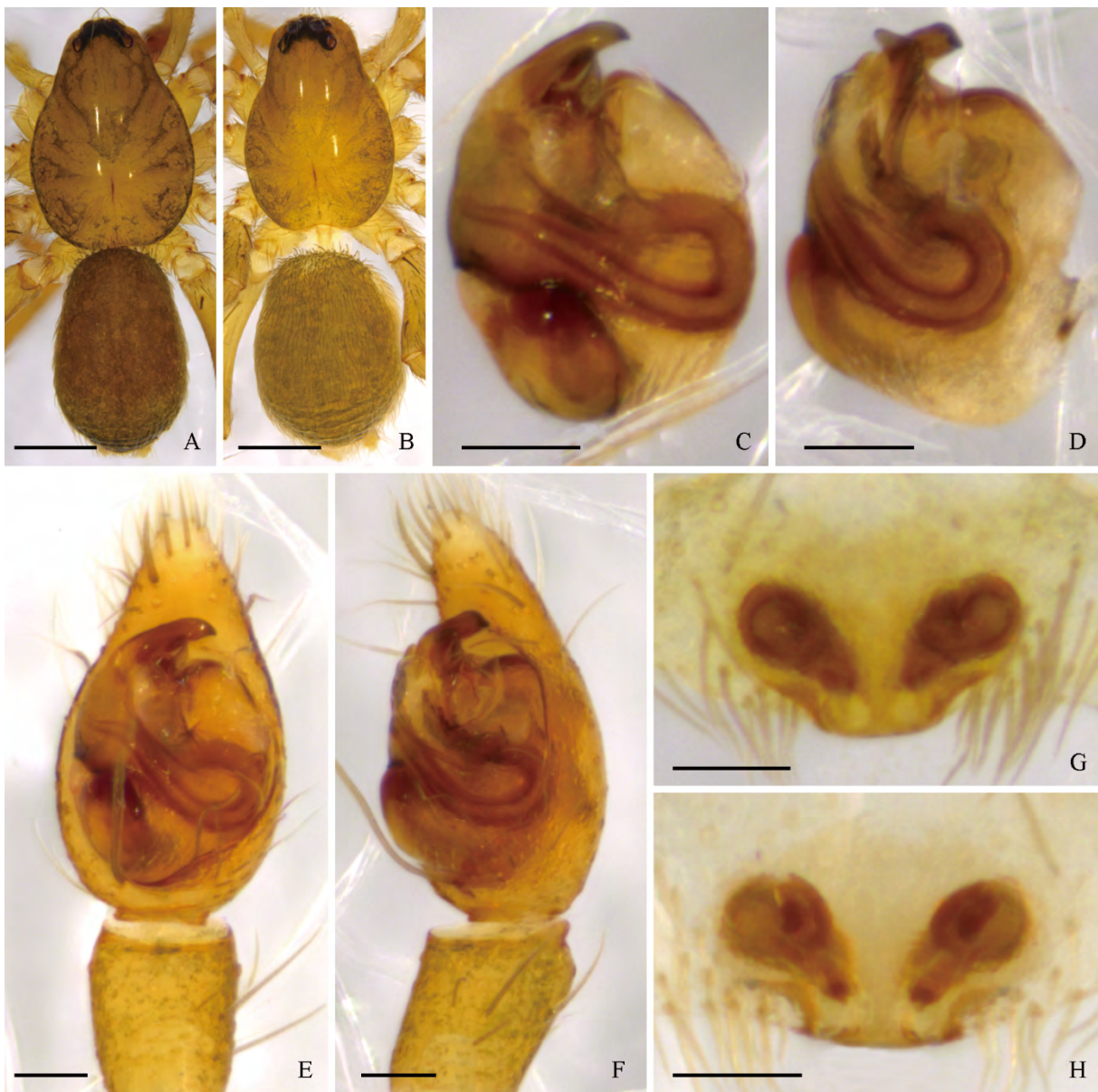


Figure 72. *Zoica hainan* Wang, Li & Zhang, **sp. nov.**, holotype male (A, E–F), paratype male (C–D), paratype female (B, G–H). A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Left male palp, bulbus, ventral view; D. Same, retrolateral view; E. Left male palp, ventral view; F. Same, retrolateral view; G. Epigyne, ventral view; H. Vulva, dorsal view. Scale bars: A–B = 0.2 mm; C–H = 0.1 mm.

Description. Male. Total length 0.99–1.39. Holotype (Fig. 72A) total length 1.05. Carapace 0.56 long, 0.40 wide; opisthosoma 0.50 long, 0.33 wide. Carapace uniformly yellow-brown. Eye region black. Eye sizes and interdistances: AME 0.08, ALE 0.08, PME 0.12, PLE 0.09; AME–AME 0.02, AME–ALE 0.02, PME–PME 0.05, PME–PLE 0.04. Clypeus height 0.07. Chelicerae elongate, yellowish brown, with three promarginal and two retromarginal teeth. Labium yellowish brown.

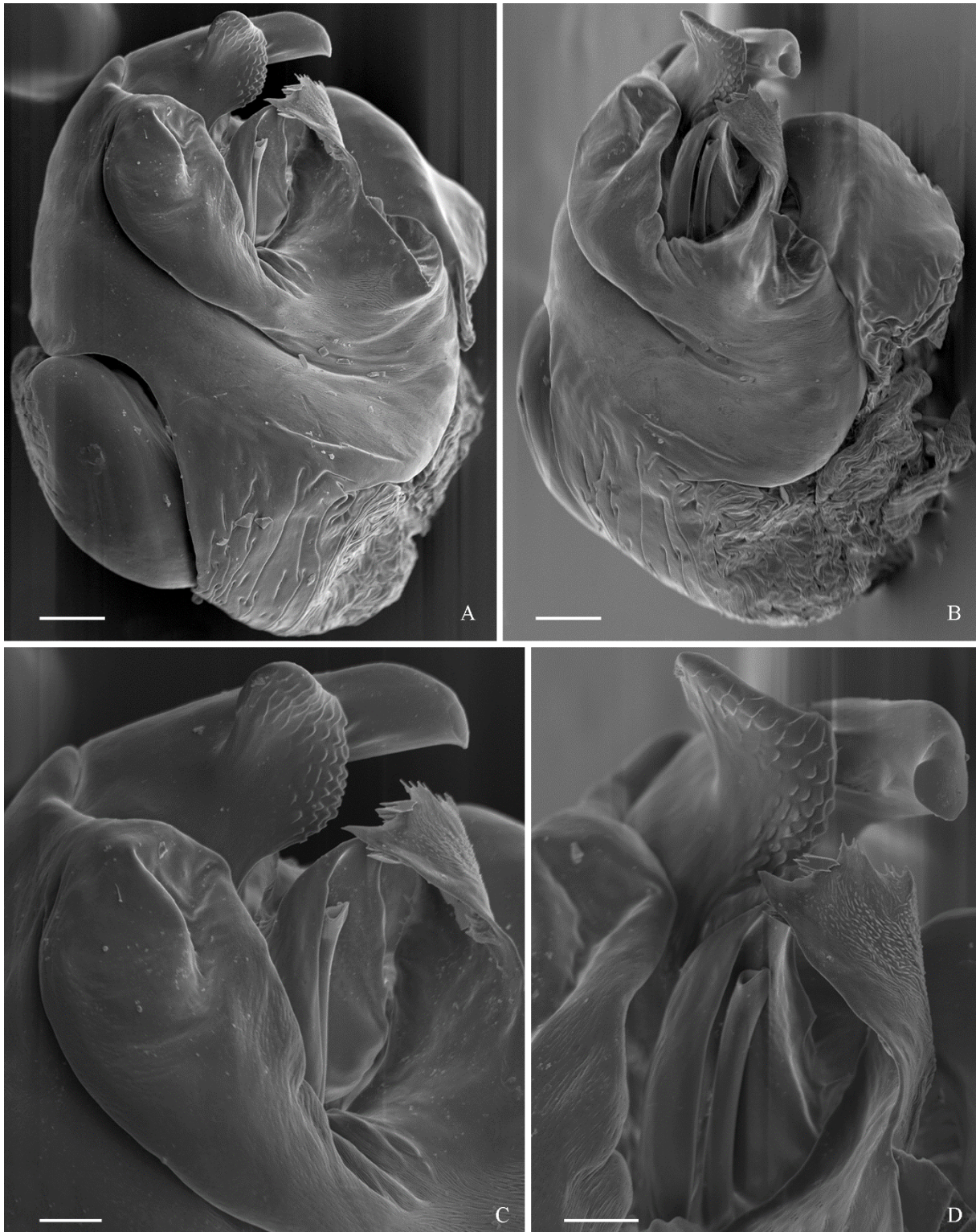


Figure 73. *Zoica hainan* Wang, Li & Zhang, **sp. nov.**, paratype male. A. Left male palp, bulbus, ventral view; B. Same, retrolateral view; C. Lateral apophysis, terminal apophysis, embolus and conductor, ventral view; D. Same, retrolateral view. Scale bars: A–B = 0.02 mm; C–D = 0.01 mm.

Endites yellowish brown. Sternum yellowish brown, with sparse brown setae. Legs yellowish brown. Leg measurements: I 2.57 (0.79, 0.93, 0.39, 0.46); II 2.41 (0.72, 0.82, 0.47, 0.40); III 1.69 (0.50, 0.43, 0.31, 0.45); IV 3.20 (0.91, 1.06, 0.76, 0.47). Opisthosoma brown. Venter yellowish brown.

Palp (Figs 72C–F, 73A–D, 74A–B). Lateral apophysis with two small projections, inner projection spinelike, outer projection longer than wide with sharp tip. Terminal apophysis leaf-shaped with pointed tip. Conductor wide, membranous, with a pointed tip. Embolus stout, covered by terminal apophysis.

Female (paratype, Fig. 72B) total length 1.40. Carapace 0.68 long, 0.49 wide; opisthosoma 0.65 long, 0.49 wide. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.13, PLE 0.09; AME–AME 0.02, AME–ALE 0.02, PME–PME 0.05, PME–PLE 0.06. Clypeus height 0.05. Leg measurements: I 2.75 (0.84, 0.90, 0.55, 0.46); II 2.58 (0.78, 0.85, 0.53, 0.42); III 2.54 (0.79, 0.80, 0.54, 0.41); IV 3.16 (0.89, 1.13, 0.75, 0.39). Opisthosoma yellow-brown.

Epigyne (Figs 72G–H, 74C–D). Copulatory openings located posteriorly, separated by the diameter of the opening. Spermathecal heads round. Spermathecal stalks wide. Fertilization ducts long and hooklike.

Distribution. Known only from the type locality, Hainan Island, China.

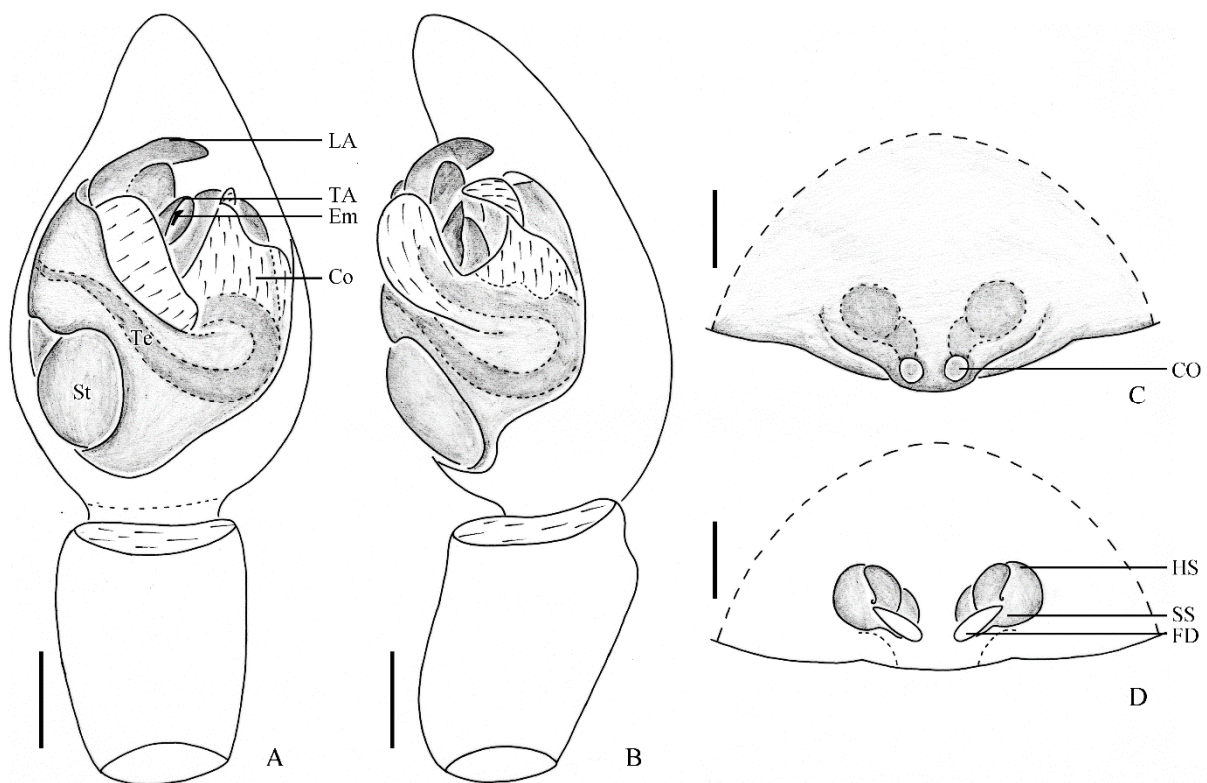


Figure 74. *Zoica hainan* Wang, Li & Zhang, *sp. nov.*, holotype male (A–B), paratype female (C–D). A. Left male palp, ventral view; B. Same, retrolateral view; C. Epigyne, ventral view; D. Vulva, dorsal view. Abbreviations: Co—conductor; CO—copulatory opening; Em—embolus; FD—fertilization duct; HS—head of spermatheca; LA—lateral apophysis; SS—stalk of spermatheca; St—subtegulum; TA—terminal apophysis; Te—tegulum. Scale bars=0.1 mm.

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