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A new species of the genus *Prethopalpus* from Hainan Island, China (Araneae: Oonopidae)

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Oonopidae are very small (1–3 mm), haplogyne spiders that occur throughout the temperate and tropical regions of the world (Ubick 2005). Recently, a series of papers on the Oonopidae of Hainan Island was published (Tong & Li 2008, 2009, 2010, 2011, 2012). Endowed with a wealth of natural resources that include tropical forests, mountains, mangroves, and beaches, Hainan is recognized as one of the most biologically diverse regions in the world (Ouyang *et al.* 2001). At present, a total of six genera and 28 species of oonopids have been recorded from Hainan (Platnick 2012).

In 2011, while sorting leaf litter samples from Hainan, we found nine females of a new species of oonopid spider. A recent expedition to Hainan (March–April 2012) yielded some additional specimens of this species, including males. The new species is unusual in having a deeply incised labium and peculiarly modified male endites and chelicerae. However, the genitalia resemble those of the genus *Prethopalpus* Baehr *et al.* (2012). Hence, we tentatively place the species in *Prethopalpus*.

Our methods follow Tong & Li (2012). Measurements are in millimeters. The specimens have been deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing (IZCAS) and in the collection of the Chemistry and Life Science College, Shenyang Normal University (SYNU). The following abbreviations are used: ALE = anterior lateral eyes; apo = apodemes; bc = book lung covers; dis = dark internal structure; fs = flattened setae; PLE = posterior lateral eyes; PME = posterior median eyes; psr = postepigastric scutum ridge; sd = shallow depression; sp = spermatheca; spp = sharply pointed projection; tsc = T-shaped sclerite.

Genus *Prethopalpus* Baehr *et al.*, 2012

Prethopalpus hainanensis sp. nov.

Figures 1A–J, 2A–H, 3A–D

Type material: Holotype: male (IZCAS AR 19377), sifting leaf litter, China: Hainan, Diaoluoshan, 18.72773°N, 109.86532°E, 1008 m, 5 April 2012, leg. Z. Chen, J. Bian & Y. Tong. **Paratypes:** 1 male, 10 females (IZCAS AR 19377), same data as holotype.

Other material studied: CHINA: Hainan: 4 females (IZCAS AR 19378), sifting leaf litter, Diaoluoshan, 18.72935°N, 109.86470°E, 1000 m, 3 April 2012, leg. Z. Chen, J. Bian & Y. Tong; 1 male, 1 female (SYNU 1), sifting leaf litter, Diaoluoshan, 18.72962°N, 109.86234°E, 939 m, 3 April 2012, same collectors; 2 males, 5 females (SYNU 2), sifting leaf litter, Diaoluoshan, 18.72591°N, 109.87121°E, 937 m, 4 April 2012, same collectors; 3 females (SYNU 3), sifting leaf litter, Diaoluoshan, 18.72751°N, 109.87634°E, 940 m, 4 April 2012, same collectors; 1 female (IZCAS AR 19366), sifting leaf litter, Lingshui, Diaoluoshan, 3 kilometers on the road to the Waterfall, 920 m, 18°43.505'N, 108°52.104'E, 21 April 2011, leg. Y. Zhou; 1 female (IZCAS AR 19367), sifting leaf litter, Lingshui, Diaoluoshan, 3 kilometers on the road to the Waterfall, 920 m, 18°43.505'N, 108°52.104'E, 21 April 2011, leg. Y. Zhou; 2 females (IZCAS AR 19368), sifting leaf litter, Lingshui, Diaoluoshan, God Tree direction, 18 April 2011, leg. Y. Zhou; 1 female (IZCAS AR 19368), sifting leaf litter, Lingshui, Diaoluoshan, South of Holiday Village, 20 April 2011, leg. Y. Zhou; 1 female (IZCAS AR 19369), sifting leaf litter, Lingshui, Diaoluoshan, East of Holiday Village, 22 April 2011, leg. Y. Zhou; 2 males, 7 females (SYNU 4), sifting leaf litter, Wuzhishan, 18.90217°N, 109.68725°E, 920 m, 2 April 2012, leg. Z. Chen, J. Bian & Y. Tong; 2 males, 7 females (IZCAS AR 19376), sifting leaf litter, Wuzhishan, 18.90186°N, 109.68314°E, 748 m, 31 March 2012, same collectors; 2 females (IZCAS AR 19383), sifting leaf litter, Wuzhishan,

18.90324°N, 109.68221°E, 739 m, 31 March 2012, same collectors; 3 females (IZCAS AR 19385), sifting leaf litter, Wuzhishan, 18.90579°N, 109.68172°E, 798 m, 29 March 2012, same collectors; 1 female (IZCAS AR 19370), sifting leaf litter, Wuzhishan, Shanye Tavern, 941 m, 18°54.418'N, 109°40.647'E, 26 April 2011, leg. Y. Zhou; 1 female (IZCAS AR 19371), sifting leaf litter, Wuzhishan, tropical forest, 28 April 2011, leg. Y. Zhou; 1 male, 1 female (SYNU 5), sifting leaf litter, Yinggeling, Hongxin Village, 19.07185°N, 109.52920°E, 571 m, 27 March 2012, leg. Z. Chen, J. Bian & Y. Tong; 2 males (SYNU 6), sifting leaf litter, Yinggeling, Hongxin Village, 19.07090°N, 109.52408°E, 511 m, 26 March 2012, same collectors; 1 female (IZCAS AR 19384), sifting leaf litter, Yinggeling, Hongxin Village, 19.06971°N, 109.52215°E, 598 m, 27 March 2012, same collectors; 1 female (IZCAS AR 19372), sifting leaf litter, Limushan, 940 m, 19°10.874'N, 109°45.322'E, 4 May 2011, leg. Y. Zhou; 1 female (IZCAS AR 19386), sifting leaf litter, Jianfengling, 18.74203°N, 109.86884°E, 816 m, 6 April 2012, leg. Z. Chen, J. Bian & Y. Tong.

Etymology. The specific name is taken from the type locality.

Diagnosis. The new species can be distinguished from all other *Prethopalpus* species by the deeply incised labium, the strong, flattened setae on the male endites (Figs. 2C, F) and the finger shaped protrusion on the distal region of the male chelicerae (Fig. 2A).

Description. Male (holotype). Total length 1.45, carapace length 0.66, carapace width 0.51, abdomen length 0.78. Habitus as in Figs. 1A, B. Cephalothorax: carapace yellow, oval in dorsal view, anteriorly narrowed to 0.49 times its maximum width (Fig. 1A); pars cephalica flat in lateral view (Figs. 1B, C). Lateral surfaces finely reticulate. Lateral margin of carapace straight, rebordered. Posterolateral corners rounded, posterolateral edge without pits, posterior margin not bulging below posterior rim, posterolateral surface without spikes; pars thoracica without depressions or radiating rows of pits. Fovea absent. Clypeus sinuous in front view, vertical in lateral view, without median projection, distance ALE to clypeus margin about equal to ALE diameter (Figs. 1C, D). 6 eyes, PLE and PME distinctly smaller than ALE, PLE smallest; from dorsal view, posterior eye row nearly straight (Fig. 1A). Sternum yellow, longer than wide, fused to carapace, median concavity absent; radial furrows absent; surface of sternum finely reticulate, sickle-shaped structures absent, posterior margin not extending posteriorly of coxae IV, posterior hump absent, pits absent (Fig. 1E). Mouthparts: chelicerae, endites and labium yellow. Chelicerae (Fig. 1D) slightly divergent, anterior face slightly swelling, with a cone shaped prominence in lateral view (Fig. 2B), distal region of chelicerae with a finger shaped protrusion (Fig. 2A); fang without prominent basal process, tip not distally widened. Labium not fused to sternum, anterior margin deeply incised at middle, at least two setae on subdistal part. Endites with a sharply pointed projection on anterior end (spp in Fig. 2F), and two strong flattened setae on anterior margin (fs in Figs. 2C, F), serrula absent. Abdomen: elongated ovoid, rounded posteriorly, without long posterior extension; interscutal membrane without rows of small sclerotized platelets. Pedicel tube short, without dorsolateral triangular extensions; scutum not extending far dorsal of pedicel, scutopedicel region unmodified; matted setae on anterior ventral abdomen in pedicel area absent. Book lung covers small, ovoid, antero-lateral edge without tubercle. Dorsal scutum strongly sclerotized, yellow, covering most of dorsum; not fused to epigastric scutum; anterior half without projecting denticles. Epigastric scutum strongly sclerotized, yellow, surrounding pedicel, not protruding. Small lateral sclerites absent. Postepigastric scutum strongly sclerotized, yellow; covering most of ventrum, fused to epigastric scutum. The posterior spiracles connected by groove. Epigastric region with sperm pore situated between anterior and posterior spiracles. Spinneret scutum present, incomplete ring with fringe of needle-like setae. Supra-anal scutum absent. Dense patch of setae anterior to spinnerets absent. Legs: yellow; patella plus tibia I shorter than carapace; femur IV not thickened, same size as femora I-III; spines absent. Palp yellow (Figs. 2D, E, G, H); embolus dark; femur about as long as patella, connected to patella subbasally; patella not enlarged, bulb well separated from cymbium, pyriform, with thin, medially bent embolus.

Female. As in male except as noted. Total length 1.42, carapace length 0.63, carapace width 0.45, abdomen length 0.79. Habitus as in Figs. 1F, G. Chelicerae (Fig. 1H) unmodified; anterior margin of labium deeply incised at middle; endites unmodified (Fig. 1J). Abdomen (Fig. 1I): Postepigastric scutum not fused to epigastric scutum. The posterior spiracles connected by groove. Genitalia: ventral view (Figs. 3A, C) with distinct apodemes. Anterior margin of postepigastric scutum thickened medially (psr in Fig. 3C); immediately behind thickened margin with a shallow depression (sd in Fig. 3C). A small dark internal structure in the middle of epigastric furrow visible through the integument (dis in Fig. 3C). Dorsal view (Figs. 3B, D) with a short, T-shaped sclerite and a small spermatheca.

Distribution. Known only from Hainan.

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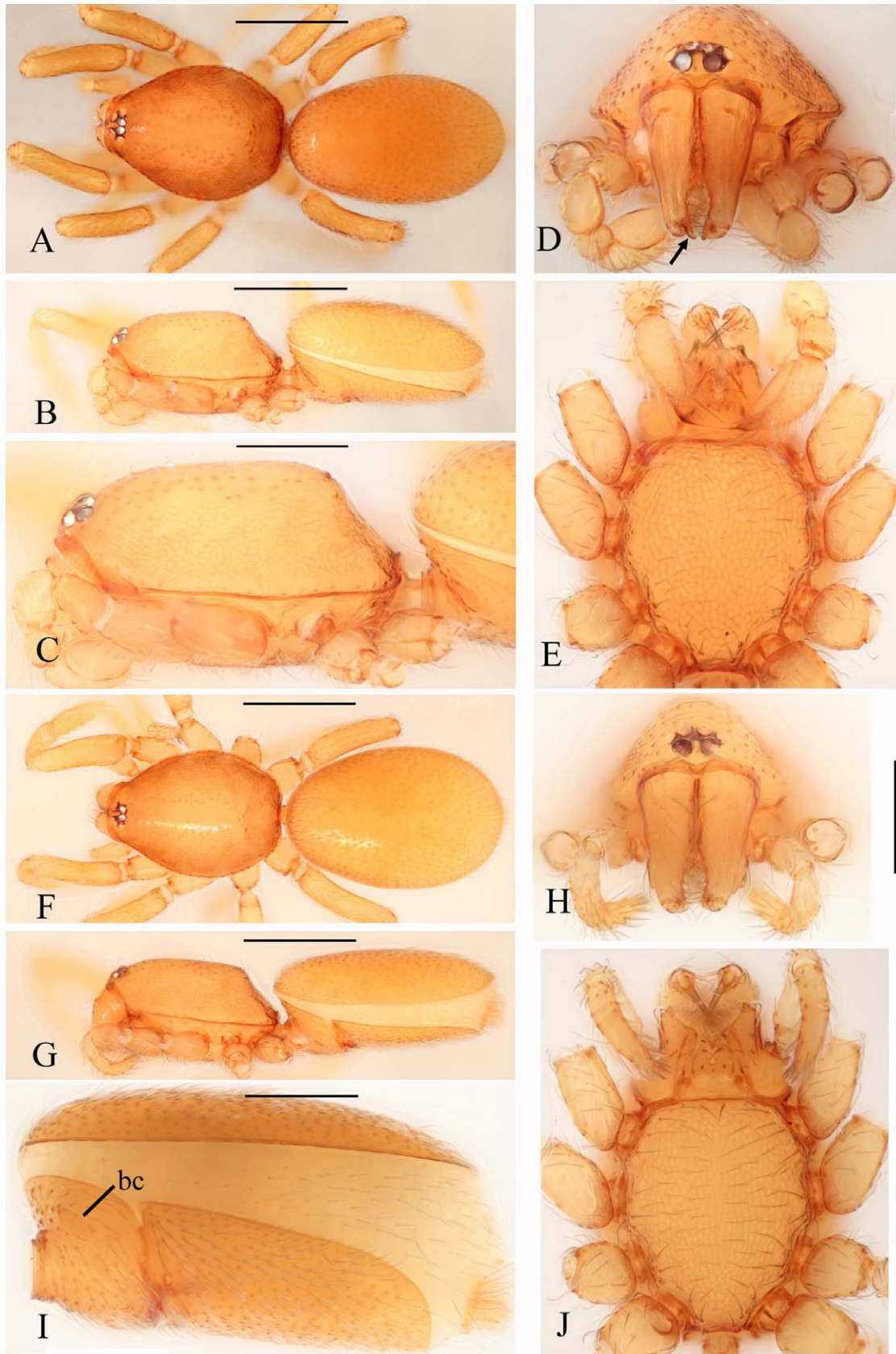


FIGURE 1. *Prethopalpus hainanensis* sp. nov., A–E, male holotype; F–J, female, paratype. A, F. Dorsal view; B, G. Lateral view; C. Prosoma, lateral view; D, H. Prosoma, frontal view (arrow shows the protrusions on male chelicerae); E, J. Sternum, ventral view; I. Abdomen, lateral view. Abbreviation: bc = book lung covers. Scales: A, B, F, G, 0.4 mm; C–E, H–J, 0.2 mm.

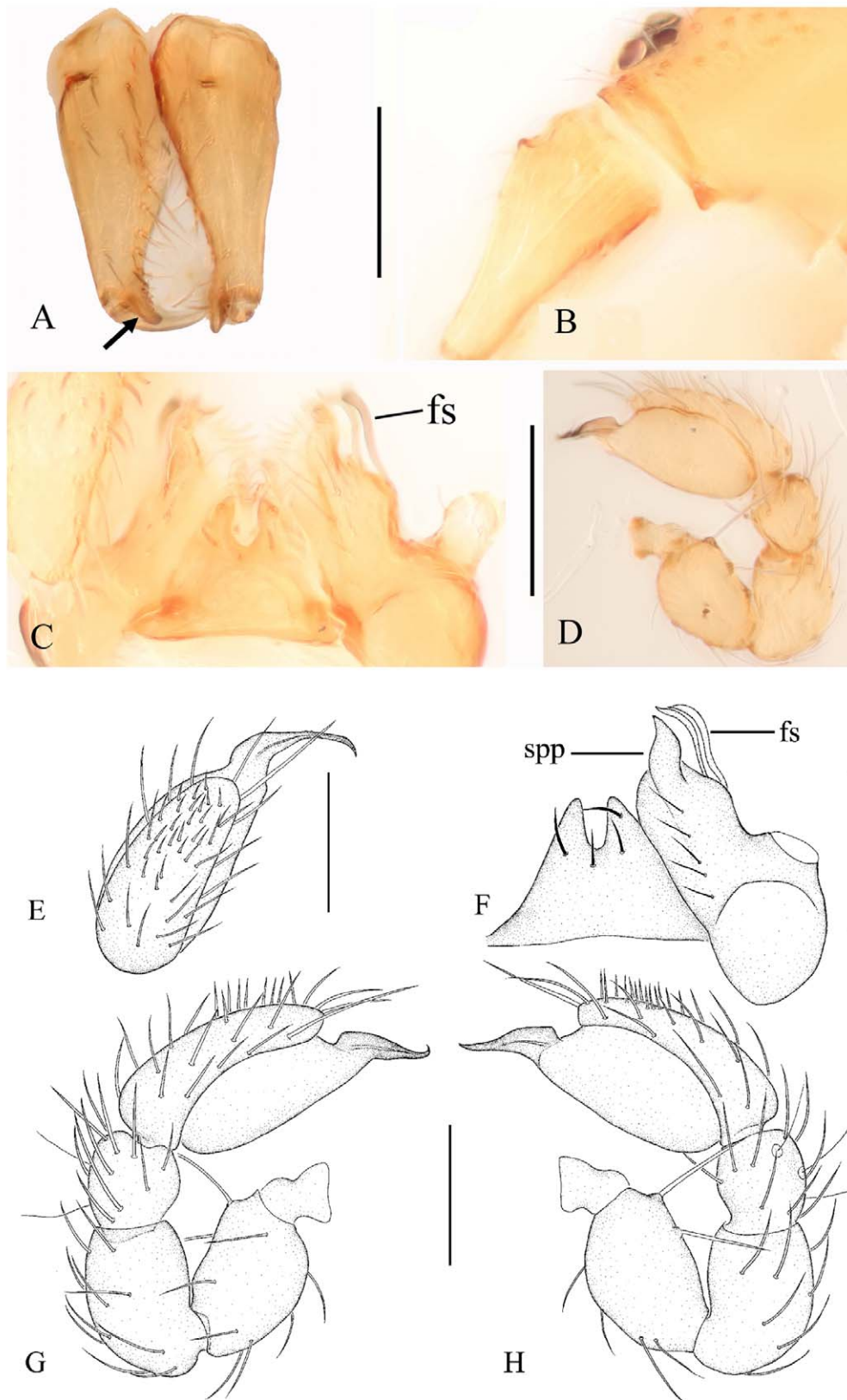


FIGURE 2. *Prethopalpus hainanensis* sp. nov., male holotype. A, B. Chelicerae, frontal and lateral views (arrow shows the protrusions); C, F. Labium and endites, ventral views; D, E, G, H. Left palp, prolateral (G), retrolateral (D, H) and dorsal (E) views. Abbreviations: fs = flattened setae; spp = sharply pointed projection. Scales: 0.2 mm.

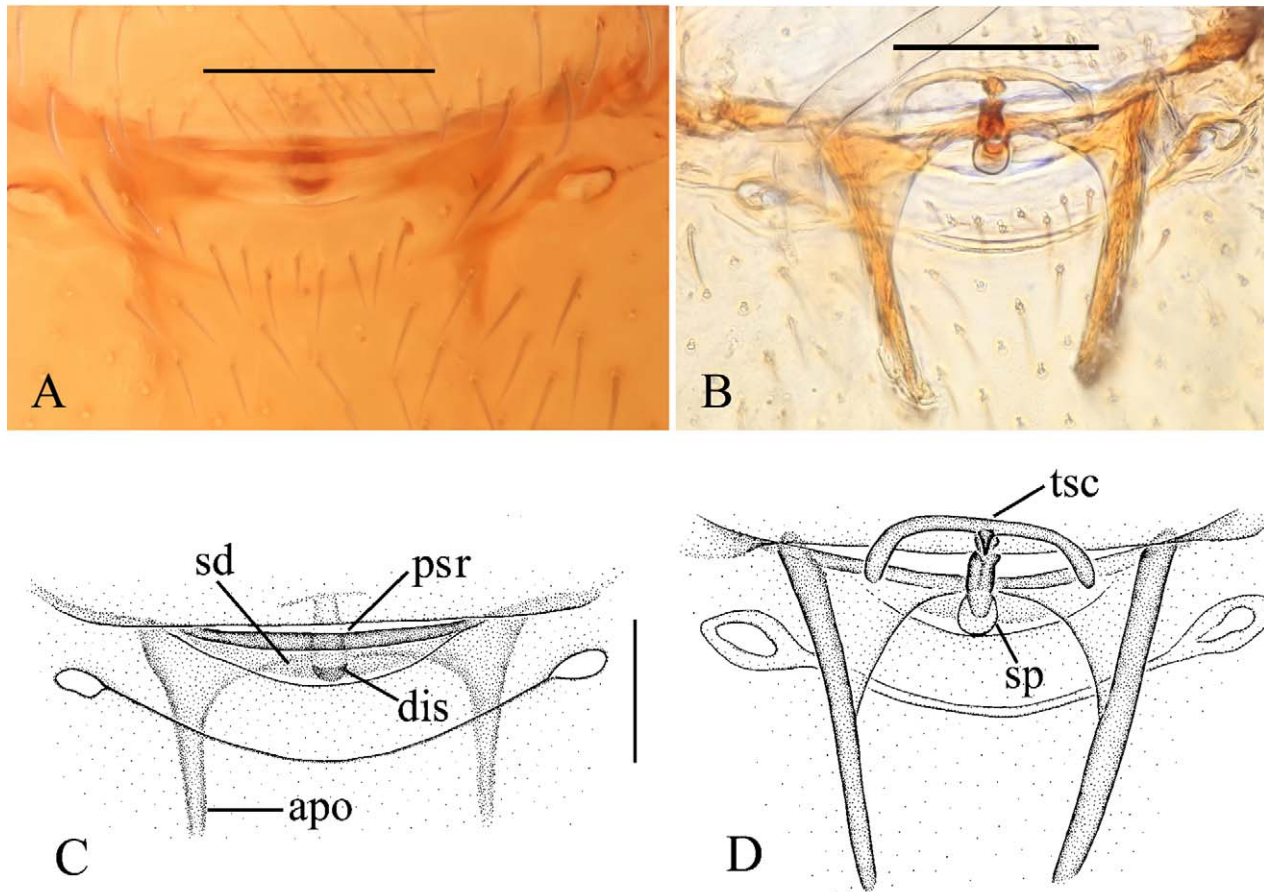


FIGURE 3. *Prethopalpus hainanensis* sp. nov., female paratype. A, C. Genitalia, ventral views; B, D. Genitalia, dorsal views. Abbreviations: apo = apodemes; dis = dark internal structure; psr = postepigastric scutum ridge; sd = shallow depression; sp = spermatheca; tsc = T-shaped sclerite. Scales: 0.1 mm.

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