

Sinocoelotes gen. n., a new genus of the subfamily Coelotinae (Araneae, Agelenidae) from Southeast Asia

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Abstract

A new genus of the spider subfamily Coelotinae, *Sinocoelotes* gen. n., with nine new species, is described from Yunnan and Sichuan Provinces in southern China. The new species are: *Sinocoelotes cangshanensis* sp. n. (♀), *S. hehuaensis* sp. n. (♂♀), *S. luoshuiensis* sp. n. (♀), *S. mangbangensis* sp. n. (♀) from Yunnan; *S. kangdingensis* sp. n. (♀), *S. ludingensis* sp. n. (♂♀), *S. mahuanggouensis* sp. n. (♀), *S. muliensis* sp. n. (♀), and *S. yanyuanensis* sp. n. (♂) from Sichuan. In addition, six *Coelotes* species are transferred to the new genus: *Sinocoelotes acicularis* (Wang, Griswold & Ubick, 2009), comb. n. (♂♀), *S. forficatus* (Liu & Li, 2010), comb. n. (♂♀), *S. guangxian* (Zhang, Yang, Zhu & Song, 2003), comb. n. (♂♀), *S. pseudoterrestris* (Schenkel, 1963), comb. n. (♂♀), *S. pseudoyunnanensis* (Wang, Griswold & Ubick, 2009), comb. n. (♂♀) and *S. thailandensis* (Dankittipakul & Wang, 2003), comb. n. (♂♀). DNA barcodes of all the species were documented for future use.

Keywords

Taxonomy, description, diagnosis, morphology, new combination, China

Introduction

Coelotine spiders are common in the Northern Hemisphere. So far, a total of 662 valid species belonging to 25 genera (Wang 2002, Chen et al. 2015a, Chen et al. 2015b, Jiang and Chen 2015, Chen et al. 2016, Zhao and Li 2016) are known in the Holarctic and Southeast Asia. Twenty-two genera of Coelotinae are known from

Asia. Among them, 18 genera including 294 species are reported from China (the most species-rich region) (Li and Lin 2016). Coelotinae from China are partly revised (Ovtchinnikov 1999, Wang 2002, Wang 2003, Chen et al. 2015a, Chen et al. 2015b, Chen et al. 2016); however, some genera and species remain poorly studied. The most species-rich genus remaining *Coelotes* Blackwall, 1841, seems to be polyphyletic.

The genus *Coelotes* was described by Blackwall (1841) for *Clubiona saxatilis* Blackwall, 1833, which was later synonymized with *Drassus atropos* Walckenaer, 1830. In the recent years, the genus was mainly revised by Ovtchinnikov (1999, 2000) and Wang (2002). They described 12 new genera and subgenera: *Asiacoelotes* Wang, 2002 (now considered to be a junior synonym of *Iwogumoa*), *Bifidocoelotes* Wang, 2002, *Brignoliolus* (subgenus) Ovtchinnikov, 1999, *Eurocoelotes* Wang, 2002 (now considered to be a junior synonym of *Inermocoelotes*), *Femoracoelotes* Wang, 2002, *Himalcoelotes* Wang, 2002, *Inermocoelotes* Ovtchinnikov, 1999, *Leptocoelotes* Wang, 2002, *Platocoelotes* Wang, 2002, *Spiricoelotes* Wang, 2002, *Tegeocoelotes* Ovtchinnikov, 1999, and *Urocoras* Ovtchinnikov, 1999. Currently, 184 species are included in *Coelotes* (World Spider Catalog 2016), but the genus still remains polymorphic; for example, the epigynal teeth are present in *C. atropos* (Walckenaer, 1830), but absent in *C. ningmingensis* Peng, Yan, Liu & Kim 1998; the epigynal hoods are present in *C. septus* Wang, Yin, Peng & Xie 1990, but absent in *C. terrestris* (Wider, 1834). In general, *Coelotes* is an extremely heterogeneous genus. To improve the systematic composition of *Coelotes*, further work needs to be done.

In this paper, a new genus of coelotine spiders, *Sinocoelotes* gen. n. and nine new species from China are described, and six new combinations are suggested.

Material and methods

Specimens were examined with a LEICA M205C stereomicroscope. Images were captured with an Olympus C7070 wide zoom digital camera (7.1 megapixels) mounted on an Olympus SZX12 dissecting microscope. Epigynes and male palps were examined after dissection from the spiders' bodies. Epigyne was cleared by boiling it in 10% KOH solution before take photos of the vulva.

All measurements were obtained using a LEICA M205C stereomicroscope and are given in millimeters. Leg measurements are shown as: Total length (femur, patella + tibia, metatarsus, tarsus). Only structures (palp and legs) of the left body side were described and measured. The terminology used in the text and the figure legends follows Wang (2002). Abbreviations used in this paper and in the figure legends: A = epigynal atrium; ALE = anterior lateral eye; AME = anterior median eye; AME-ALE = distance between AME and ALE; AME-AME = distance between AME and AME; ALE-PLE = distance between ALE and PLE; C = conductor; CD = copulatory duct; CDA = dorsal conductor apophysis; CF = cymbial furrow; E = embolus; EB = embolic base; ET = epigynal teeth; FD = fertilization duct; LTA = retrolateral tibial apophysis; MA = median apophysis; PA = patellar apophysis; PLE = posterior lateral eye; PME = posterior median eye; PME-PLE = distance between PME and PLE; PME-PME = distance between PME and PME; RTA = retro-ventral tibial apophysis; S = spermatheca;

Table 1. Voucher specimen information.

Species	GenBank accession number	Sequence length	Collection localities
<i>S. acicularis</i> (Wang et al., 2009)	KX555516	630bp	Lushui County, Yunnan Province, China
<i>S. cangshanensis</i> sp. n.	KX555514	630bp	Hehua Village, Xiaguan Town, Yunnan Province, China
<i>S. forficatus</i> (Liu & Li, 2010)	KX555512	630bp	Menglung Town, Mengla County, Yunnan Province, China
<i>S. guangxian</i> (Zhang et al., 2003)	KX555515	630bp	Xiaguan Town, Yunnan Province, China
<i>S. hehuaensis</i> sp. n.	KX555513	630bp	Hehua Village, Xiaguan Town, Yunnan Province, China
<i>S. kangdingensis</i> sp. n.	KX555510	630bp	Kangding County, Sichuan Province, China
<i>S. ludingensis</i> sp. n.	KX555509	627bp	Luding County, Sichuan Province, China
<i>S. luoshuiensis</i> sp. n.	KX555517	630bp	Jiangdong Village, Gudong Town, Yunnan Province, China
<i>S. mahuanggouensis</i> sp. n.	KX555508	630bp	Baoxing County, Sichuan Province, China
<i>S. mangbangensis</i> sp. n.	KX555511	630bp	Changlinggan Village, Tengchong County, Yunnan Province, China
<i>S. muliensis</i> sp. n.	KX555520	630bp	Muli County, Sichuan Province, China
<i>S. pseudoterrestris</i> (Schenkel, 1963)	KX555518	627bp	Xishan Forest Park, Yunnan Province, China
<i>S. pseudoyunnanensis</i> (Wang et al., 2009)	KX555519	630bp	Pianma Town, Lushui County, Yunnan Province, China
<i>S. thailandensis</i> (Dankittipakul & Wang, 2003)	KX555507	630bp	Jeep tract, Mae Cham District, Chiangmai Province, Thailand
<i>S. yanyuanensis</i> sp. n.	KX555506	630bp	Yanyuan County, Sichuan Province, China

SA = anterior part of spermatheca; SH = spermathecal head; SP = posterior part of spermatheca; ST = subtegulum; T = tegulum.

Abbreviations used for museums and other institutions: CAS = California Academy of Sciences, San Francisco, USA; HNU = Hunan Normal University, Changsha, China; IZCAS = Institute of Zoology, Chinese Academy of Sciences, Beijing, China; MHBUS = Museum of Hebei University, Baoding, China; MHNG = Muséum d'Histoire Naturelle, Geneva, Switzerland; MNHP = Muséum National d'Histoire Naturelle, Paris, France.

DNA barcodes were obtained for future use. A partial fragment of the mitochondrial cytochrome oxidase subunit I (COI) gene was amplified and sequenced for 15 species (all nine new species and six species, for which we introduced new combinations) using Primers: LCO1490-oono (5'-CWACAAAAYCATARRGATATTGG-3') (Folmer et al. 1994) and HCO2198-zz (5'-TAAACTTCCAGGTGACCAAAAAATCA-3') (Zhao and Li 2016). For additional information on extraction, amplification and sequencing procedures, see Zhao et al. (2013). All sequences were analyzed using BLAST and are deposited in GenBank. The accession numbers are provided in Table 1.

All of the specimens (including molecular vouchers) are deposited in the Institute of Zoology, Chinese Academy of Sciences (IZCAS) in Beijing, China.

Systematics

Family Agelenidae C.L. Koch, 1837

Subfamily Coelotinae F.O.P.-Cambridge, 1893

Genus *Sinocoelotes* Zhao & Li, gen. n.

<http://zoobank.org/1AD20278-53C5-40CE-90A8-A888588CE81D>

Type species. *Sinocoelotes hebuaensis* sp. n.

Etymology. The generic name is derived from its similarity to *Coelotes* and the Latin adjective Sino- for “Chinese” referring to the main distribution region of the genus. The gender is masculine.

Diagnosis. *Sinocoelotes* gen. n. is similar to *Coelotes*. Males of new genus can be distinguished from those of *Coelotes* by the longer and slenderer conductor (about 1/2 length of cymbium, while in *Coelotes* the conductor is broad, less than 1/4 length of cymbium in length, and with blunt tip, see Fig. 1), the shorter and truncated patellar apophysis with a blackened apex, while in *Coelotes* the patellar apophysis is longer than patella, and usually with a ventral part extending longer than dorsal part (see Fig. 1), the short LTA (less than 1/6 length of RTA) (cf. Figs 7A–C and 1A–C). Females of *Sinocoelotes* gen. n. can be distinguished from those of *Coelotes* by the longer copulatory ducts, about 1/2 length of vulva (while in *Coelotes* they are very short or even absent, Fig. 2A–B), the shorter spermathecae (about 1/2 length of epigyne), which can be divided into two parts: anterior part and posterior part (while *Coelotes* has spermathecae subequal to the length of epigyne, and usually S-shaped), and by the oval or finger-like spermathecal heads (while in *Coelotes* spermathecal heads are short, rounded and situated at the anterior part of epigyne) (cf. Figs 8A–B and 2A–B).

Description. Small to medium-sized, with a total length of 5–14 mm, the body brown to dark brown. Carapace narrowed in ocular area, sparsely covered with black setae, and thoracic region with longitudinal fovea and radial groove; sternum usually heart-shaped. Abdomen brown to dark brown, heavily covered with short setae; dorsum with many black irregular patches and five grey chevron-like markings, the antero-median part with one cardiac pattern, and posterior part with dark maculation. Chelicerae with 3 promarginal and 3 or 4 retromarginal teeth. Male palp with one patellar apophysis and two tibial apophyses (RTA and LTA), the patellar apophysis broad and long, its apex blackened and truncated; RTA long and broad, extending beyond distal margin of tibia, subequal to the length of tibia, and with blunt tip; LTA short; cymbium crescent-shaped, the tip long, about 1/3 length of cymbium; cymbial furrow short, less than 1/4 of the cymbium; tegulum slender, and visible part very small; conductor slender, tapered, and its apex not close to the tegulum; median apophysis present, spoon-like; dorsal conductor apophysis well developed. Epigyne with large atrium (occupying about 1/4 of epigynal plate square); epigynal teeth pre-

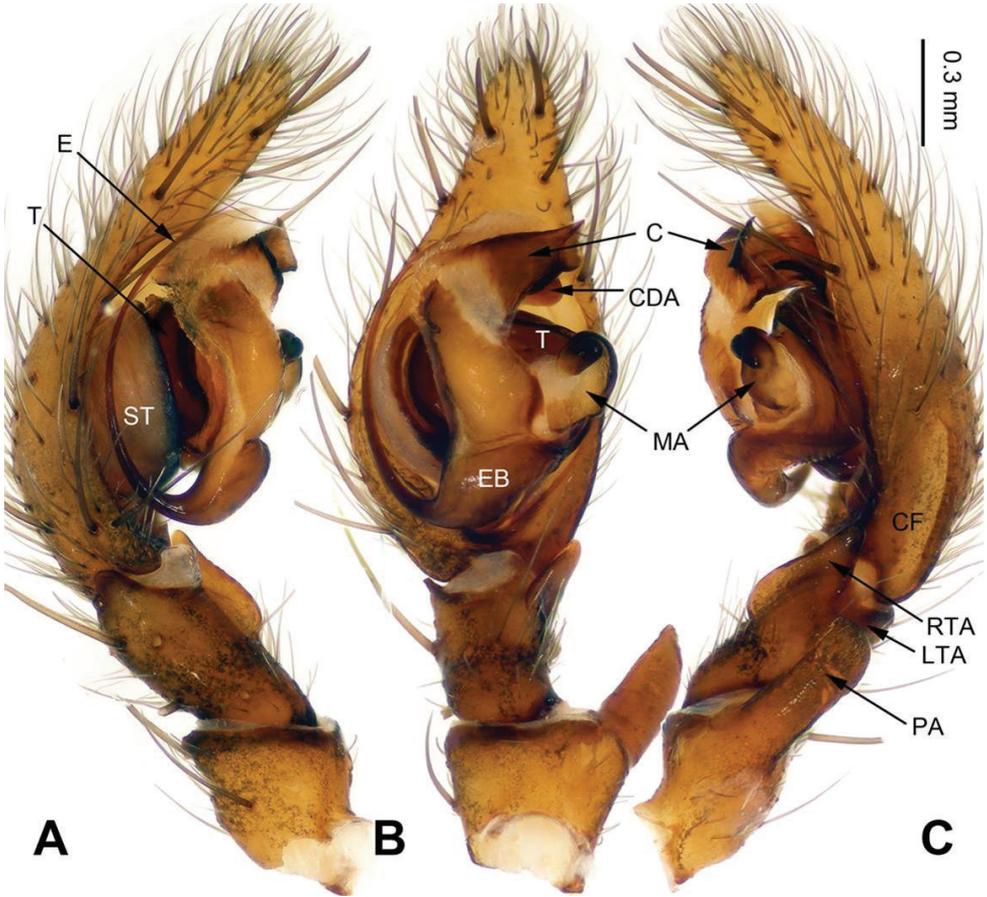


Figure 1. Male palp of *Coelotes pickardi tirolensis*, from Italy. **A** Prolateral **B** Ventral **C** Retrolateral. Scale bar: equal for **A**, **B** and **C**.

sent, long or short, located medially in comparison to epigynal plate height or antero-medially; spermathecae usually long and convoluted, subdivided in 2 parts: anterior and posterior; anterior part of spermathecae broad, posterior part thinner and strongly convoluted, anterior part usually larger than posterior part; spermathecal heads located at the border between anterior part of spermathecae and copulatory ducts; copulatory ducts broad, arc-shaped, situated anteriorly, connected to each other at basal part, and separated about its length at terminal part.

Comments. In addition to morphological study, we analyzed the relationships of coelotine spiders based on molecular data (8 genes, ~ 6.5 kb) on 18 genera and 286 coelotine species. The molecular analyses (in progress) support *Sinocoelotes* gen. n. as monophyletic.

Distribution. So far the genus is known only from China and Thailand (Fig. 21).

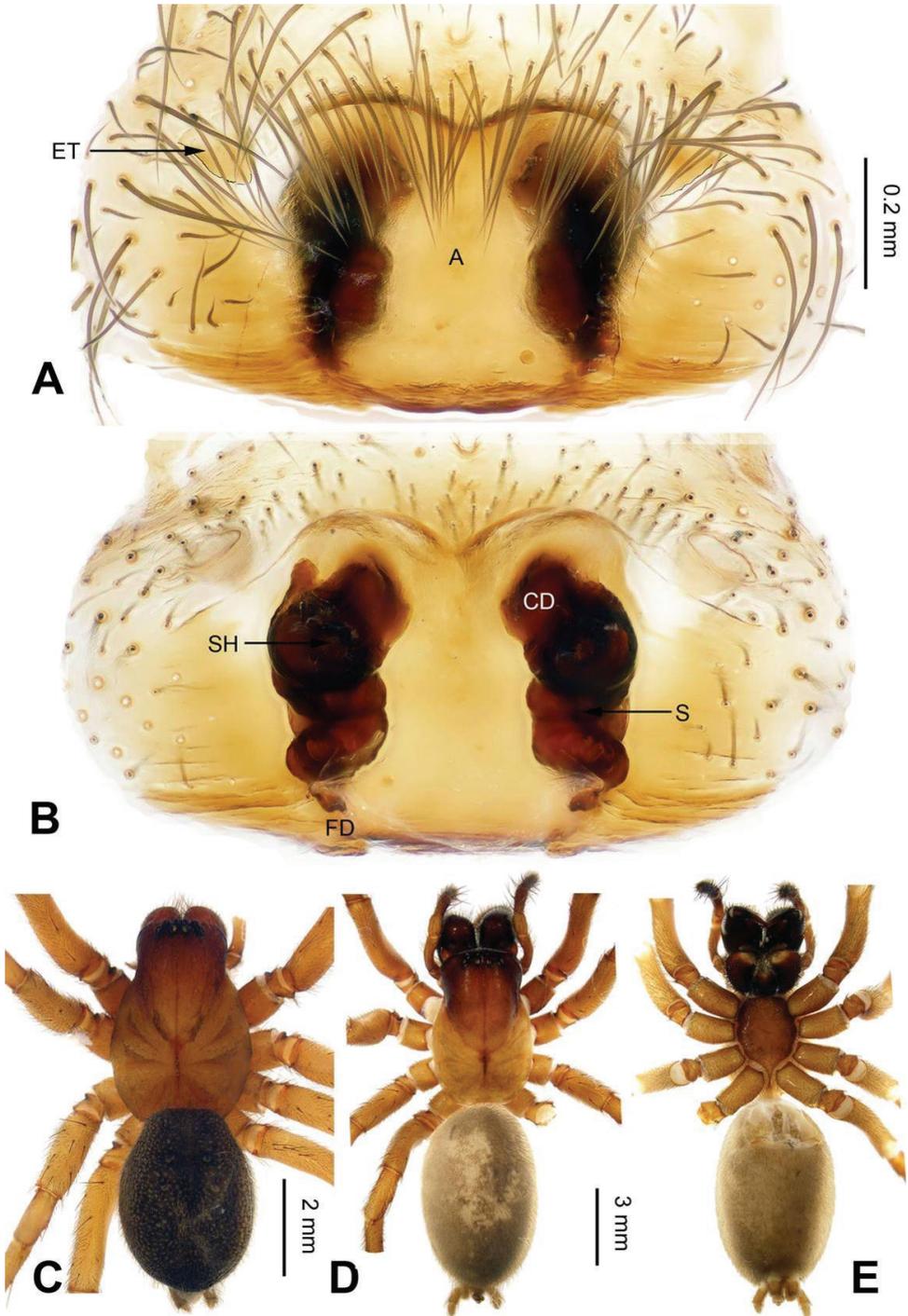


Figure 2. Epigyne and habitus of *Coelotes pickardi tirolensis*, from Italy. **A** Epigyne, ventral **B** Vulva, dorsal **C** Male habitus, dorsal **D** Female habitus, dorsal **E** Female habitus, ventral. Scale bars: equal for **A** and **B**; equal for **D** and **E**.

***Sinocoelotes acicularis* (Wang, Griswold & Ubick, 2009), comb. n.**

Figs 3, 21

Coelotes acicularis Wang et al. 2009: 4, figs 1–9 (♂♀, from Baoshan, Yunnan, China, in HNU and CAS, not examined).

Material examined. 1♀: China: Yunnan Province: Nujiang Lisu Autonomous Prefecture: Lushui County, road from Liuku to Pianma Town, N26°00'09", E98°39'33", 2422 m, 7.XII.2013, Y. Li and J. Liu.

Diagnosis. The female is similar to *S. behuaensis* sp. n., but can be easily distinguished from it by the longer epigynal teeth (three times longer than in *S. behuaensis* sp. n.), the different shape of atrium (anterior part much broader than posterior part in this species, but inverted U-shaped in *S. behuaensis* sp. n.), and the broader and membranous copulatory ducts (which are slender and sclerotized in *S. behuaensis* sp. n.) (cf. Figs 3A–B and 8A–B).

Description. Described by Wang et al. (2009).

Comments. The species shares a combination of somatic morphology characters with *S. behuaensis* sp. n., and therefore we transfer it to *Sinocoelotes* gen. n. The molecular analysis supports this transfer.

Distribution. China (Yunnan) (Fig. 21).

***Sinocoelotes cangshanensis* Zhao & Li, sp. n.**

<http://zoobank.org/0E3AEB72-937A-4AF6-8238-2AFF88E18C3F>

Figs 4, 21

Type material. Holotype ♀: China: Yunnan Province: Dali Bai Autonomous Prefecture: Xiaguan Town, Hehua Village, Cangshan Mountain, Baolinjing valley, N25°36'27", E100°11'18", 2307 m, 20.XI.2013, Y. Li and J. Liu.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The female can be easily distinguished from other *Sinocoelotes* gen. n. species by the long and broad epigynal teeth (subequal to the atrial length), the broad anterior part of spermathecae (occupying 1/4 of epigyne plate square, and about five times of the posterior part of spermathecae in this species, but occupying less than 1/5 epigyne plate square in other species), anterior part of spermathecae touching each other (only part of SA touching each other in *S. behuaensis* sp. n. and *S. mangbangensis* sp. n.; part of SP touching each other in *S. luoshuiensis* sp. n. and *S. pseudoterrestris* comb. n.; separated from each other in other species), and the short, laterally located spermathecal heads (laterally located but long in *S. acicularis* comb. n., *S. kangdingensis* sp. n. and *S. mahuanggouensis* sp. n.; medially located in other species) (Fig. 4A–B).

Description. Female. Total length 9.82. Carapace 4.50 long, 3.04 wide. Abdomen 5.32 long, 3.76 wide. Eye sizes and interdistances: AME 0.16, ALE 0.22, PME 0.18, PLE 0.21; AME-AME 0.08, AME-ALE 0.04, PME-PME 0.13, PME-PLE

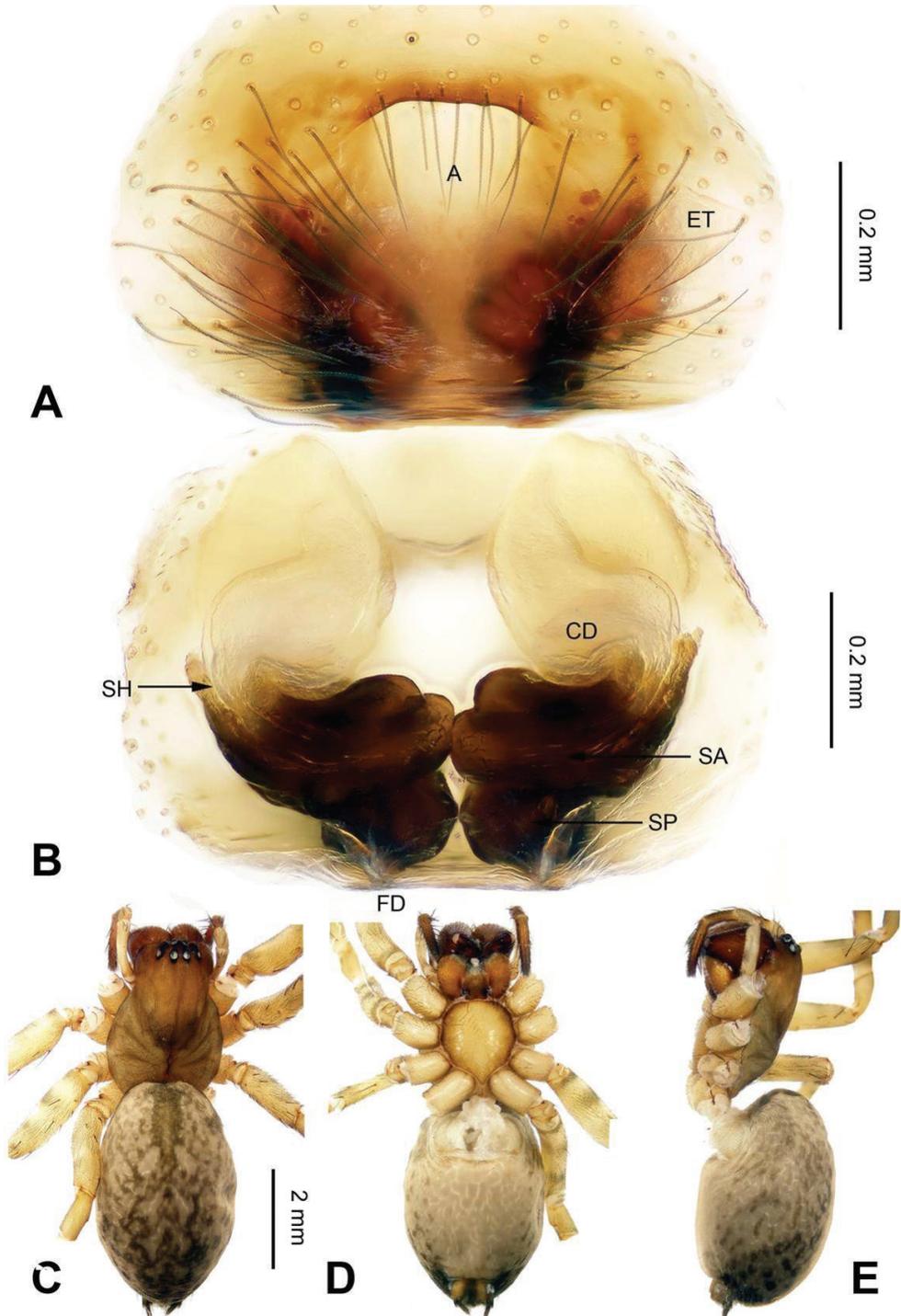


Figure 3. Epigyne and habitus of *Sinocolotes acicularis*. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **C**, **D** and **E**.

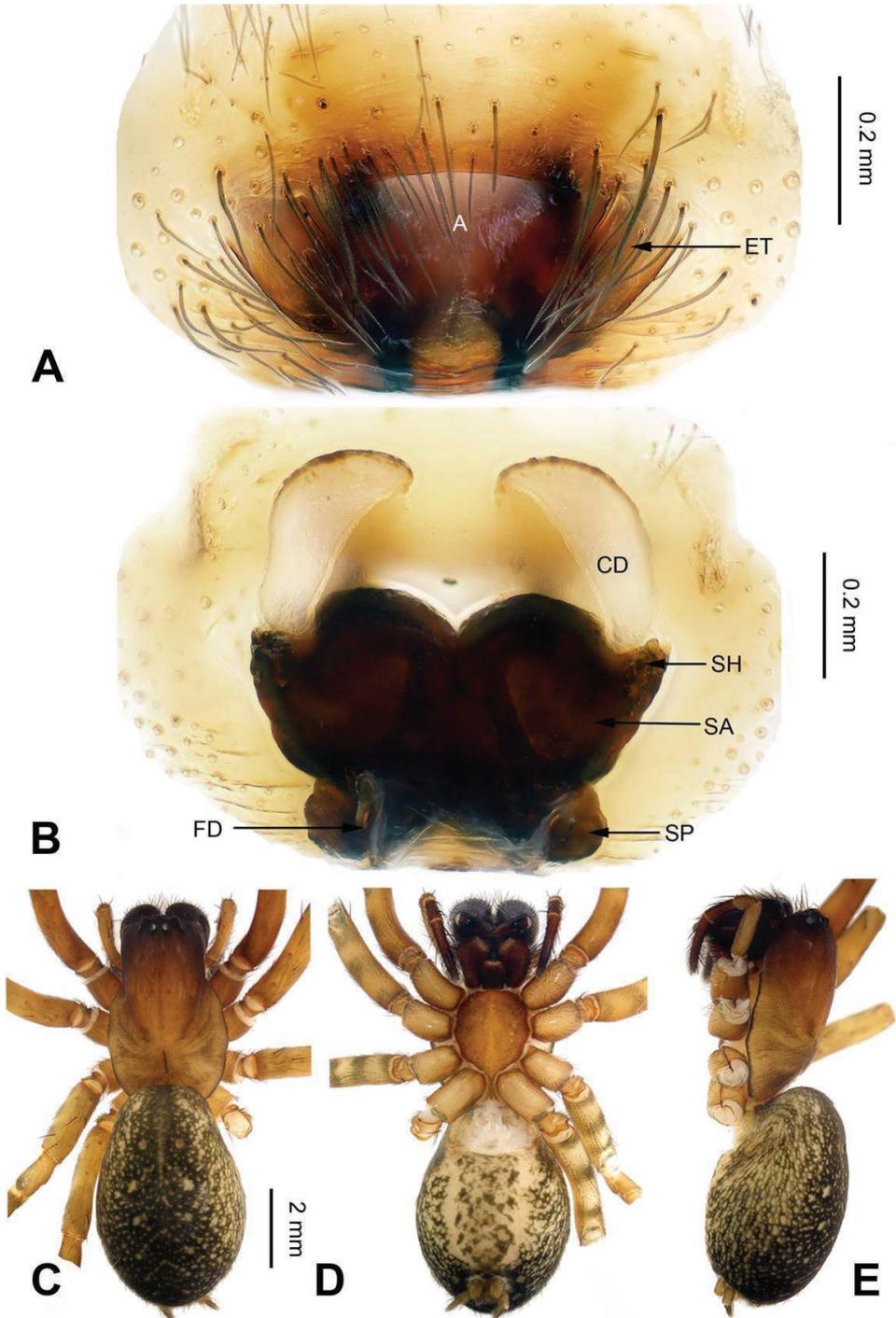


Figure 4. Epigyne and habitus of *Sinocoelotes cangshanensis* sp. n., holotype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **C**, **D** and **E**.

0.22. Leg measurements: I 11.50 (3.35, 3.45, 2.75, 1.95); II 12.24 (3.20, 4.16, 3.12, 1.76); III 10.84 (2.88, 3.28, 2.88, 1.80); IV 14.57 (3.92, 4.10, 4.23, 2.32). Chelicerae with four retromarginal teeth. Epigyne: atrium small, occupying 1/6 of epigynal plate square, narrowing at the middle part; teeth long, broad, located anteriorly, close to atrial anterior margin, and their length subequal to atrial length, width subequal to atrium width; spermathecae contiguous with each other, anterior part of spermathecae broad; posterior part of spermathecae about four times thinner than the anterior part; spermathecal heads small, located laterally; copulatory openings hidden in anterior part of atrium; copulatory ducts membranous, anterior parts separated from each other by 0.3 length, posterior part separated by approximately 1.5 times length, copulatory duct first goes anteriorly, and then posteriorly (Fig. 4A–B).

Male. Unknown.

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes forficatus* (Liu & Li, 2010), comb. n.**

Figs 5, 21

Coelotes forficatus Liu and Li 2010: 2, figs 1A–B, 2A–C, 3A–B, 4A–B, 5A–C (♂ holotype and ♂♀ paratypes from Xishuangbanna, Yunnan, China, in IZCAS, not examined).

Material examined. 1♀: China: Yunnan Province: Xishuangbanna Dai Autonomous Prefecture: Mengla County, Menglun Town, Xishuangbanna Nature Reserve, N21°37'55", E101°12'25", 665 m, 3.VII.2013, Q. Zhao and Z. Chen.

Diagnosis. The female is similar to *S. behuaensis* sp. n., but can be easily distinguished from it by the longer and slenderer epigynal teeth (twice as long as in *S. behuaensis* sp. n.), the broader, shorter and laterally originating spermathecal heads (twice as long as *S. forficatus* and medially originating in *S. behuaensis* sp. n.), and the slenderer, longer and inverted U-shaped copulatory ducts (cf. Figs 5A–B and 8A–B).

Comments. The species shares a combination of somatic morphology characters with *S. behuaensis* sp. n., and therefore we assigned it to *Sinocoelotes* gen. n. The molecular analysis supports this transfer.

Description. Described by Liu and Li (2010).

Distribution. China (Yunnan) (Fig. 21).

***Sinocoelotes guangxian* (Zhang, Yang, Zhu & Song, 2003), comb. n.**

Figs 6, 21

Coelotes guangxian Zhang et al. 2003: 79, figs 1–5 (♂ holotype and ♂♀ paratypes from Dali, Yunnan, China, in MHBU, not examined).

Material examined. 1♀: China: Yunnan Province: Dali Bai Autonomous Prefecture: Xiaguan Town, the south shore of Erhai Lake, Tuanshan Park, N25°36'27", E100°14'39", 1992 m, 19.XI.2013, Y. Li and J. Liu.

Diagnosis. The female can be easily distinguished from all other *Sinocoelotes* gen. n. species by the broad atrium, the long, with blunt tip and anteriorly situated epigynal teeth (long, anteriorly situated, but with pointed tip in *S. kangdingensis* sp. n., *S. ludingensis* sp. n. and *S. luoshuiensis* sp. n.; long, with blunt tip, but not anteriorly located in *S. acicularis* comb. n. and *S. cangshanensis* sp. n.; short, less than 1/2 length of *S. guangxian* comb. n. in other species), the short spermathecae (anterior part is smaller than posterior part), and the broad copulatory ducts (occupying 1/2 of epigynal plate) (Fig. 6A–B).

Description. See Zhang et al. (2003).

Comments. The species shares a combination of somatic morphology characters with *S. hehuaensis* sp. n., and therefore was assigned to *Sinocoelotes* gen. n. The molecular analysis supports the transfer.

Distribution. China (Yunnan) (Fig. 21).

***Sinocoelotes hehuaensis* Zhao & Li, sp. n.**

<http://zoobank.org/D6B4F7D0-1DF0-4944-B82F-1FE872142A38>

Figs 7–8, 21

Type material. Holotype ♂: China: Yunnan Province: Dali Bai Autonomous Prefecture: Xiaguan Town, Hehua Village, Cangshan Mountain, Baolinjing Valley, N25°36'27", E100°11'18", 2307 m, 20.XI.2013, Y. Li and J. Liu. **Paratype:** 1♀, same data as holotype.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The male can be easily distinguished from other *Sinocoelotes* gen. n. species by the longer peg-shaped conductor (about 1/2 length of cymbium; less than 1/3 length of cymbium in *S. ludingensis* sp. n., *S. thailandensis*; bended in *S. yanyuanensis* sp. n.), the longer patellar apophysis (subequal to the length of patella in *S. hehuaensis* sp. n., shorter than the length of patella in other species), the larger and subtriangular dorsal conductor apophysis (large, but with blunt tip in *S. thailandensis*; less than 1/3 length and 1/2 width of *S. hehuaensis* in other species) (cf. Figs 7A–C, 10A–C, 18A–C and 20A–C). The female is similar to *S. cangshanensis* sp. n. but can be distinguished from it by the shorter epigynal teeth (less than 1/3 length of the teeth in *S. cangshanensis* sp. n.), the broader copulatory ducts (two times wider than in *S. cangshanensis* sp. n.), and the longer spermathecal heads (twice as long as in *S. cangshanensis* sp. n.) (cf. Figs 8A–B; and 4A–B).

Description. Male. Total length 7.04. Carapace 3.60 long, 2.76 wide. Abdomen 3.44 long, 2.00 wide. Eye sizes and interdistances: AME 0.16, ALE 0.20, PME 0.19, PLE 0.17; AME-AME 0.09, AME-ALE 0.03, PME-PME 0.10, PME-PLE 0.13. Leg

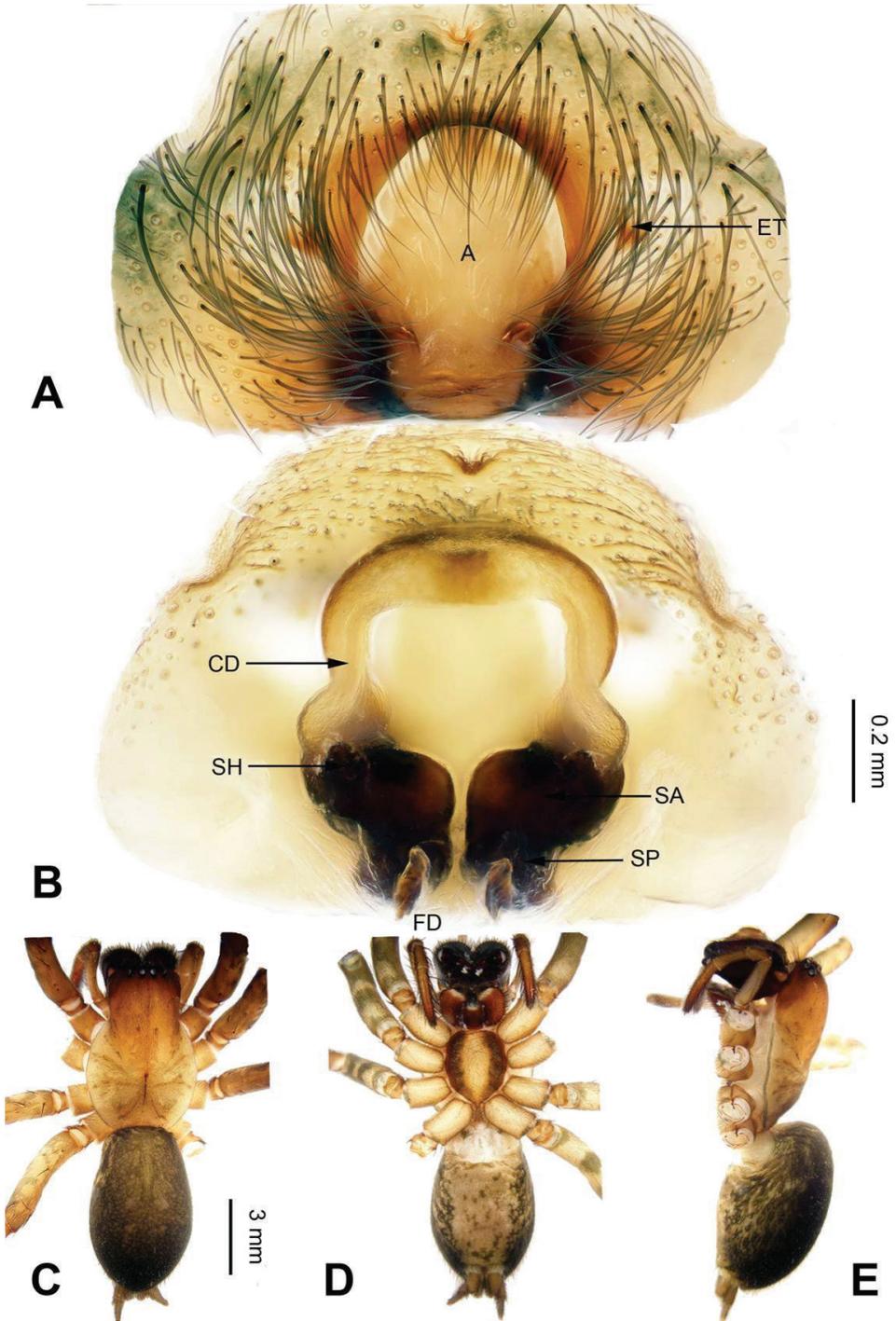


Figure 5. Epigyne and habitus of *Sinocoelotes forficatus*. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **A** and **B**; equal for **C**, **D** and **E**.

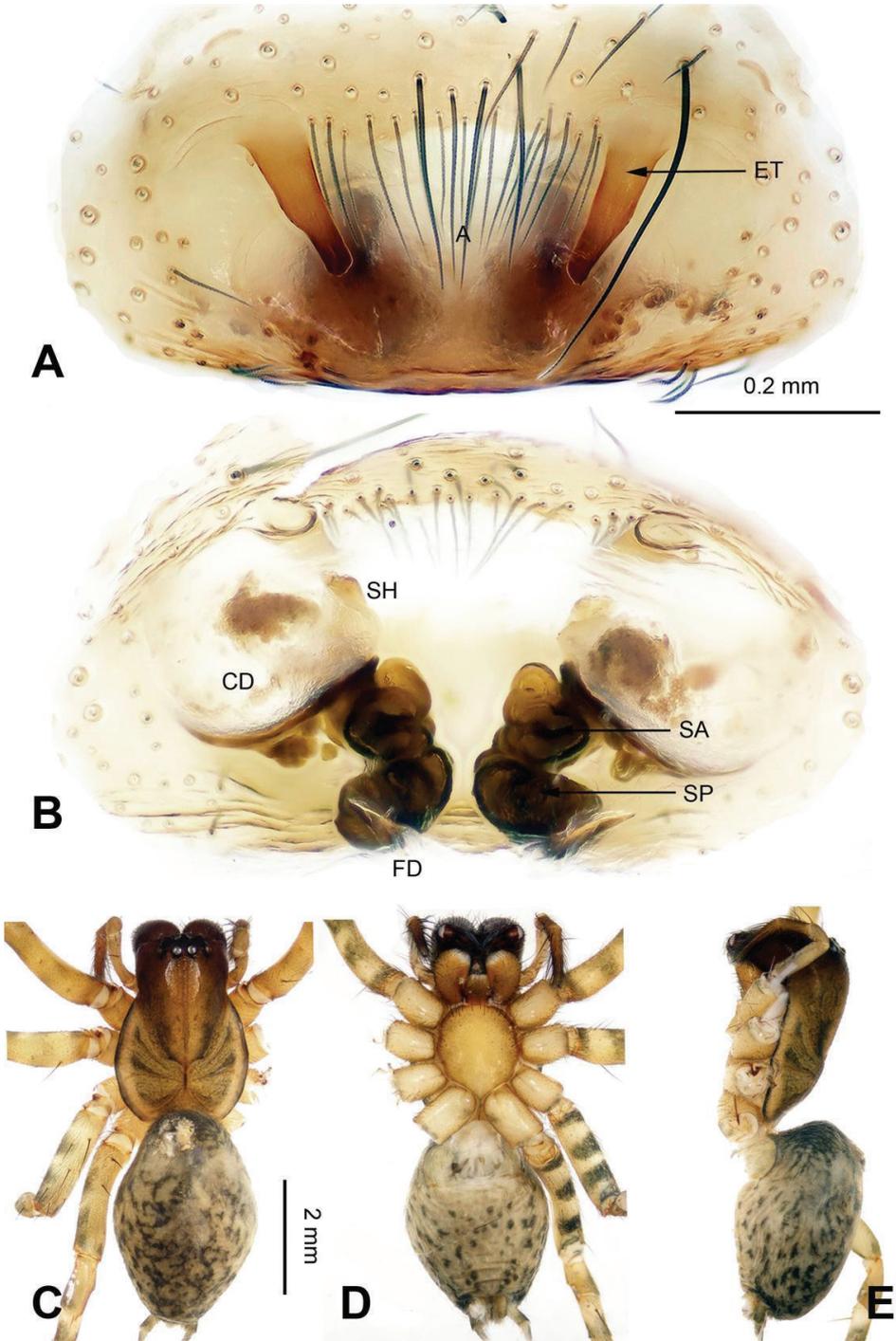


Figure 6. Epigyne and habitus of *Sinocoelotes guangxian*. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **A** and **B**; equal for **C**, **D** and **E**.

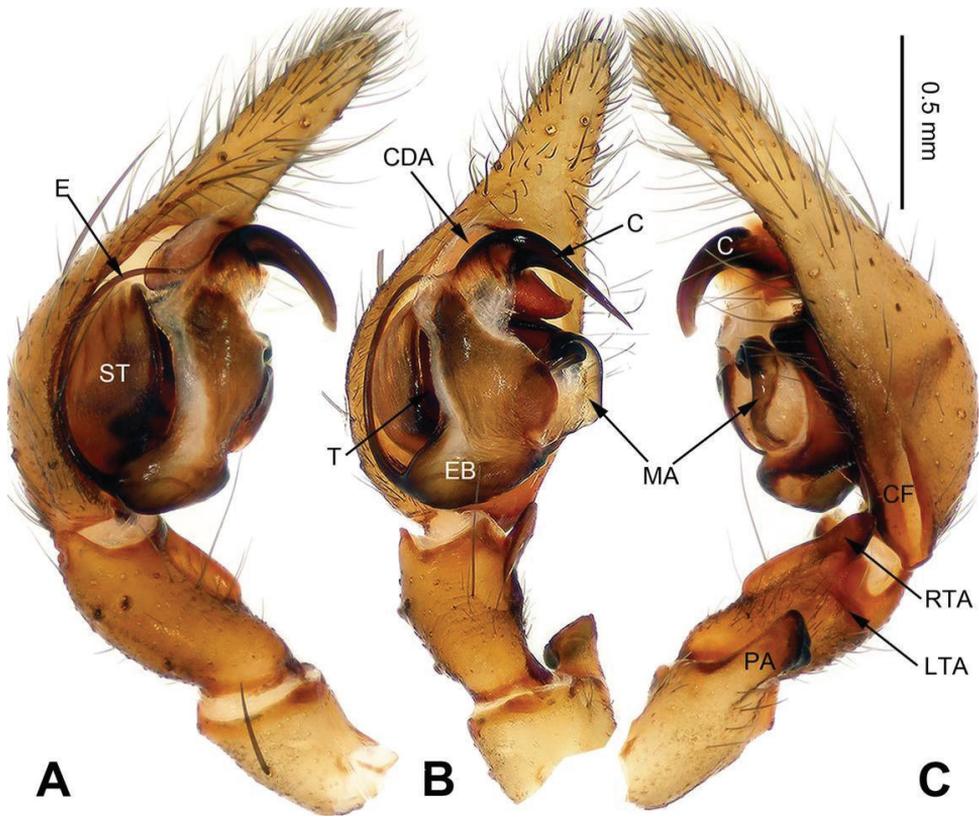


Figure 7. Male palp of *Sinocoelotes behuaensis* sp. n., holotype. **A** Prolateral **B** Ventral **C** Retrolateral. Scale bar: equal for **A**, **B** and **C**.

measurements: I 14.40 (3.92, 4.48, 3.64, 2.36); II 12.60 (3.48, 4.00, 3.20, 1.92); III 11.33 (3.28, 3.40, 3.02, 1.63); IV 15.23 (4.10, 4.50, 4.48, 2.15). Chelicerae with four retromarginal teeth. Palp: patellar apophysis long, subequal to the length of patella; RTA broad, extending beyond the tibia; LTA short, less than 1/5 length of RTA; cymbial furrow short, about 1/6 length of cymbium; conductor long, slender, peg-shaped in ventral view, subequal to 1/2 length of cymbium; dorsal conductor apophysis broad, the visible part (between conductor and tegulum) subtriangular; embolus beginning at seven o'clock position (Fig. 7A–C).

Female. Total length 13.20. Carapace 6.02 long, 4.49 wide. Abdomen 7.18 long, 5.26 wide. Eye sizes and interdistances: AME 0.17, ALE 0.29, PME 0.23, PLE 0.27; AME-AME 0.15, AME-ALE 0.04, PME-PME 0.24, PME-PLE 0.29. Leg measurements: I 16.83 (4.49, 5.76, 4.04, 2.54); II 15.13 (4.36, 5.06, 3.53, 2.18); III 13.99 (3.92, 4.49, 3.52, 2.06); IV 17.69 (4.95, 5.78, 4.68, 2.28). Chelicerae as in male. Epigyne: teeth short, subtriangular, located at posterior 1/2 of epigyne; copulatory ducts broad, long, sclerotized, anterior part connected to each other, and it about half

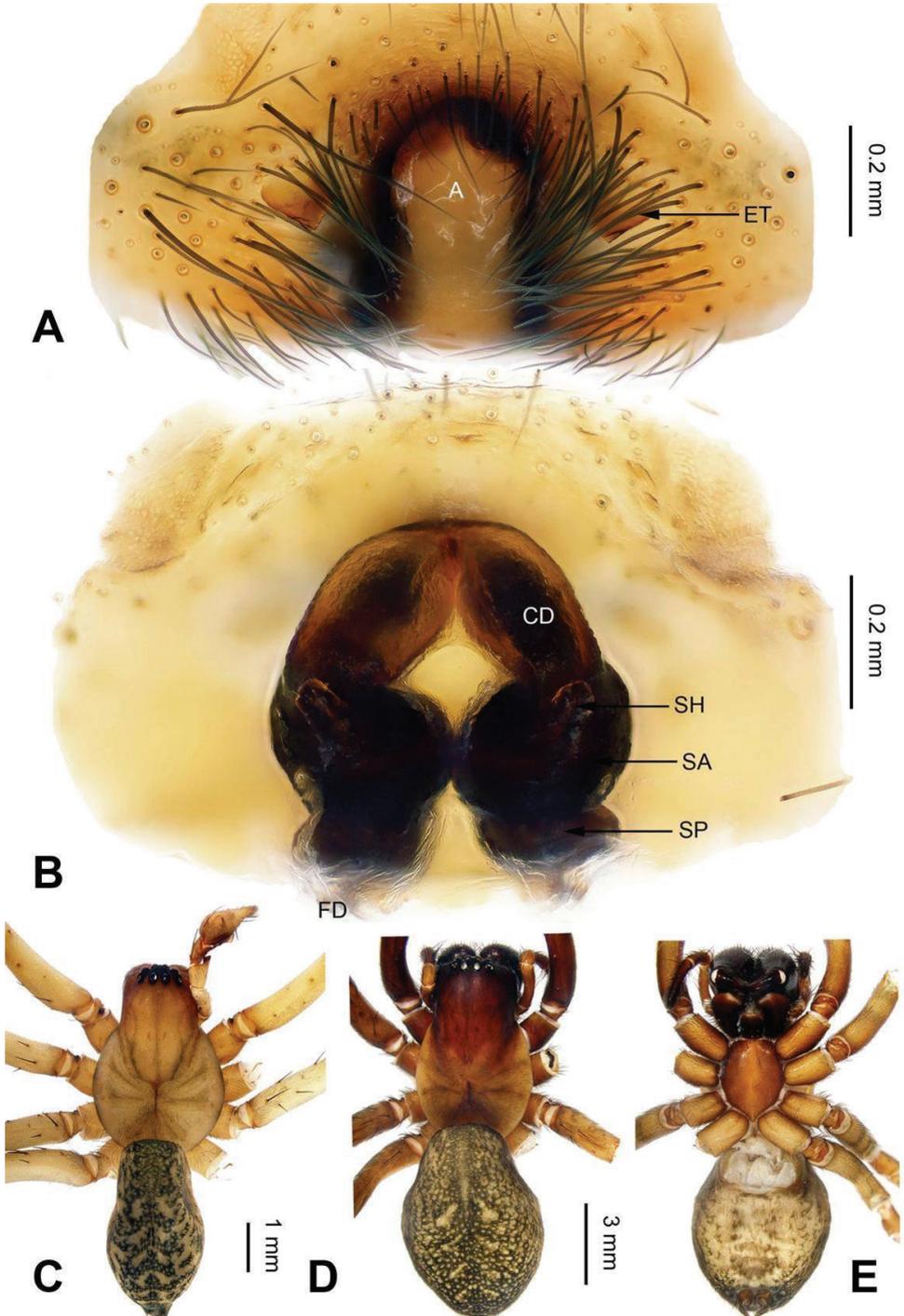


Figure 8. Epigyne and habitus of *Sinocoelotes behuaensis* sp. n., holotype and paratype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Male habitus, dorsal **D** Female habitus, dorsal **E** Female habitus, ventral. Scale bars: equal for **D** and **E**.

of vulval length, almost as wide as spermathecae; spermathecae short and convoluted; anterior part touching each other, posterior part about 1/3 length of anterior part; spermathecal heads long, stick-shaped, twice longer than their width, originating from middle of anterior spermathecae (Fig. 8A–B).

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes kangdingensis* Zhao & Li, sp. n.**

<http://zoobank.org/289D50FA-40AD-469B-B3E8-EEFCE4BBE2F1>

Figs 9, 21

Type material. Holotype ♀: China: Sichuan Province: Garzê Tibetan Autonomous Prefecture: Kangding County, foothills of Paoma Mountain, N30°02'50", E101°58'08", 2900 m, 12.X.2005, X. Zhang and X. Xu.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The female is similar to that of *S. cangshanensis* sp. n., but can be distinguished from it by the slenderer epigynal teeth (about 1/2 width of *S. cangshanensis* sp. n.), the broader SA, the thinner PA, the ratio between two parts of spermathecae (the PA subequal to the SA in *S. kangdingensis* sp. n., but PA just about 1/4 of the SA in *S. cangshanensis* sp. n.) (cf. Figs 9A–B and 2A–B), the well sclerotized copulatory ducts (Fig. 9A–B).

Description. Female. Total length 8.20. Carapace 3.80 long, 2.65 wide. Abdomen 4.40 long, 2.95 wide. Eye sizes and interdistances: AME 0.14, ALE 0.20, PME 0.15, PLE 0.19; AME-AME 0.10, AME-ALE 0.05, PME-PME 0.11, PME-PL 0.17. Leg measurements: I 9.72 (2.72, 3.28, 2.28, 1.44); II 8.69 (2.50, 2.81, 2.13, 1.25); III 8.06 (2.25, 2.59, 2.07, 1.15); IV 10.76 (2.96, 3.52, 2.96, 1.32). Chelicerae with three retromarginal teeth. Epigyne: atrium small, almost rectangular, posterior part slightly wider than anterior part, about 1/3 width and 1/2 length of epigyne, and it occupying about 1/5 of epigyne plate square; teeth broad, long, subequal to the length of atrium, located anteriorly; spermathecae separated from each other, anterior part by spermathecal width, and posterior part by 1/4 spermathecal width, posterior part subequal to the anterior part; spermathecal heads broad, short, located laterally; copulatory ducts short, slightly sclerotized, semitransparent, terminal parts leading to copulatory opening almost reduced (Fig. 9A–B).

Male. Unknown.

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes ludingensis* Zhao & Li, sp. n.**

<http://zoobank.org/A7E9C92C-652C-46B6-B92D-A1054355BB2C>

Figs 10–11, 21

Type material. Holotype ♂: China: Sichuan Province: Garzê Tibetan Autonomous Prefecture: Luding County, the road from Moxi Town to Yajiageng, N29°46'31",

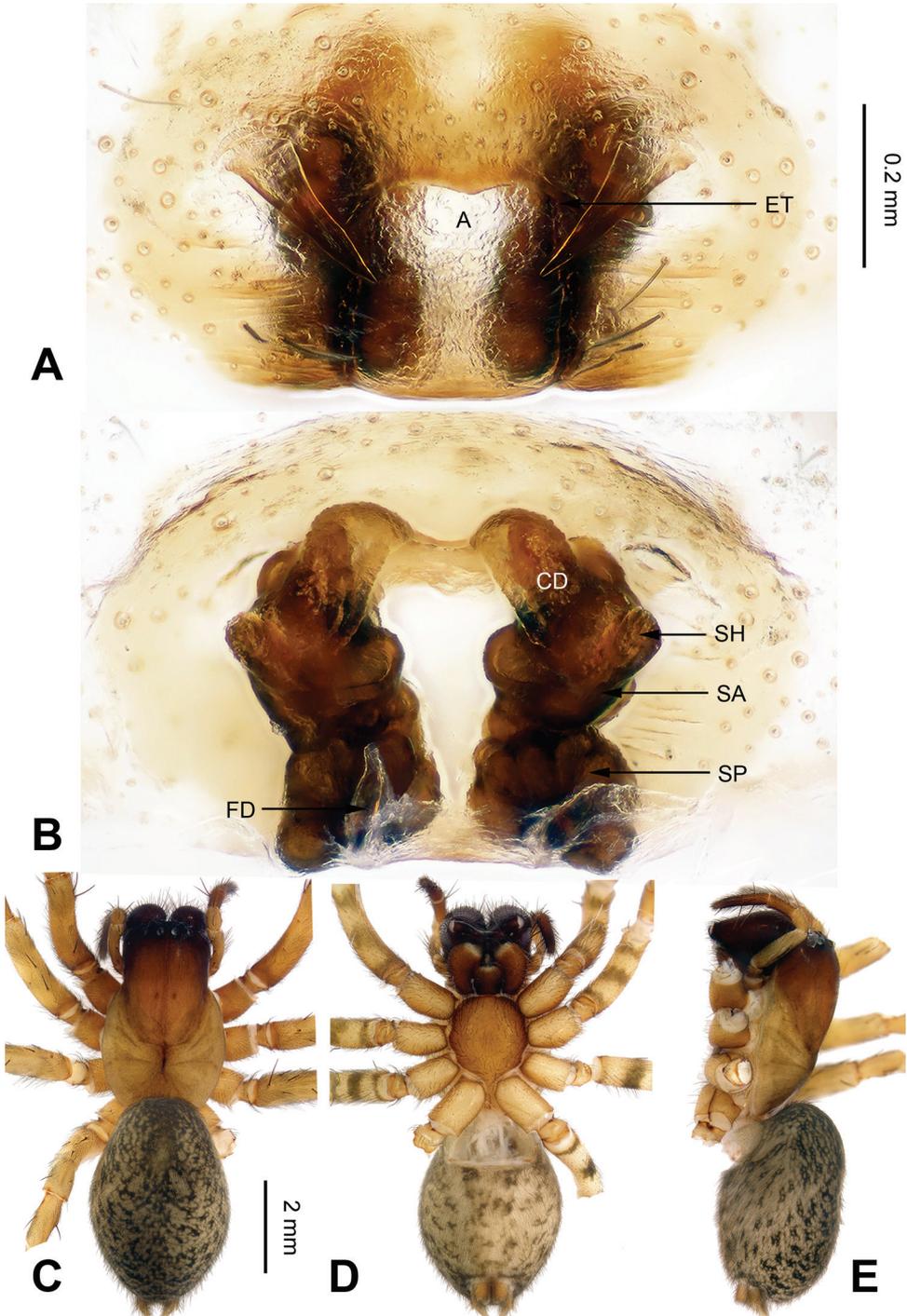


Figure 9. Epigyne and habitus of *Sinocoelotes kangdingensis* sp. n., holotype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **A, B**; equal for **C, D** and **E**.

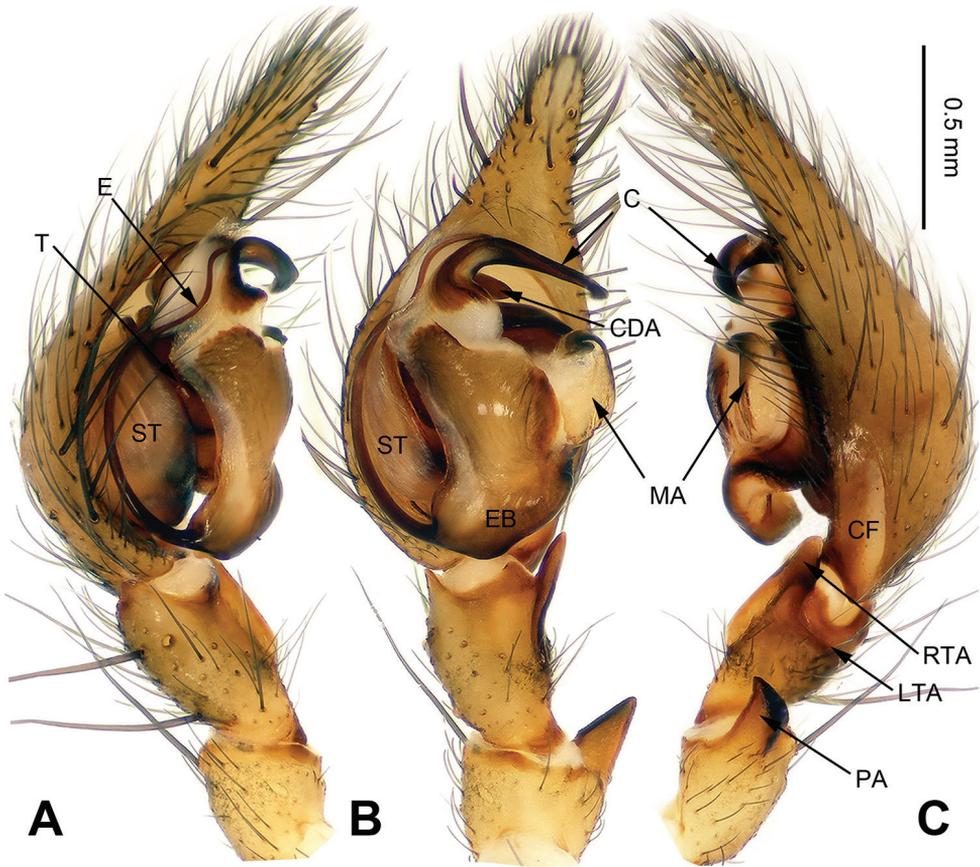


Figure 10. Male palp of *Sinocoelotes ludingensis* sp. n., holotype. **A** Prolateral **B** Ventral **C** Retrolateral. Scale bar: equal for **A**, **B** and **C**.

E102°03'34", 2412 m, 10.X.2005, X. Zhang and X. Xu. **Paratype:** 1♀, same data as holotype.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The male is similar to that of *S. behuaensis* sp. n., but can be distinguished from it by the slenderer conductor, with the hook-like apex (conductor peg-shaped in *S. behuaensis* sp. n.), the smaller dorsal conductor apophysis (about 1/2 width and 1/3 length of *S. behuaensis* sp. n.) (cf. Figs 10A–C and 7A–C). The female is similar to that of *S. kangdingensis* sp. n., but can be distinguished from it by the shape of atrium, anterior part wider than posterior part in *S. ludingensis* sp. n. (anterior part narrower than posterior part in *S. kangdingensis* sp. n.), the broader copulatory ducts, the longer (twice as long as *S. kangdingensis* sp. n.) and medially originating spermathecal heads (laterally originating in *S. kangdingensis* sp. n.) (cf. Figs 11A–B and 9A–B).

Description. Male. Total length 7.12. Carapace 3.40 long, 2.40 wide. Abdomen 3.72 long, 2.20 wide. Eye sizes and interdistances: AME 0.14, ALE 0.20, PME 0.19, PLE

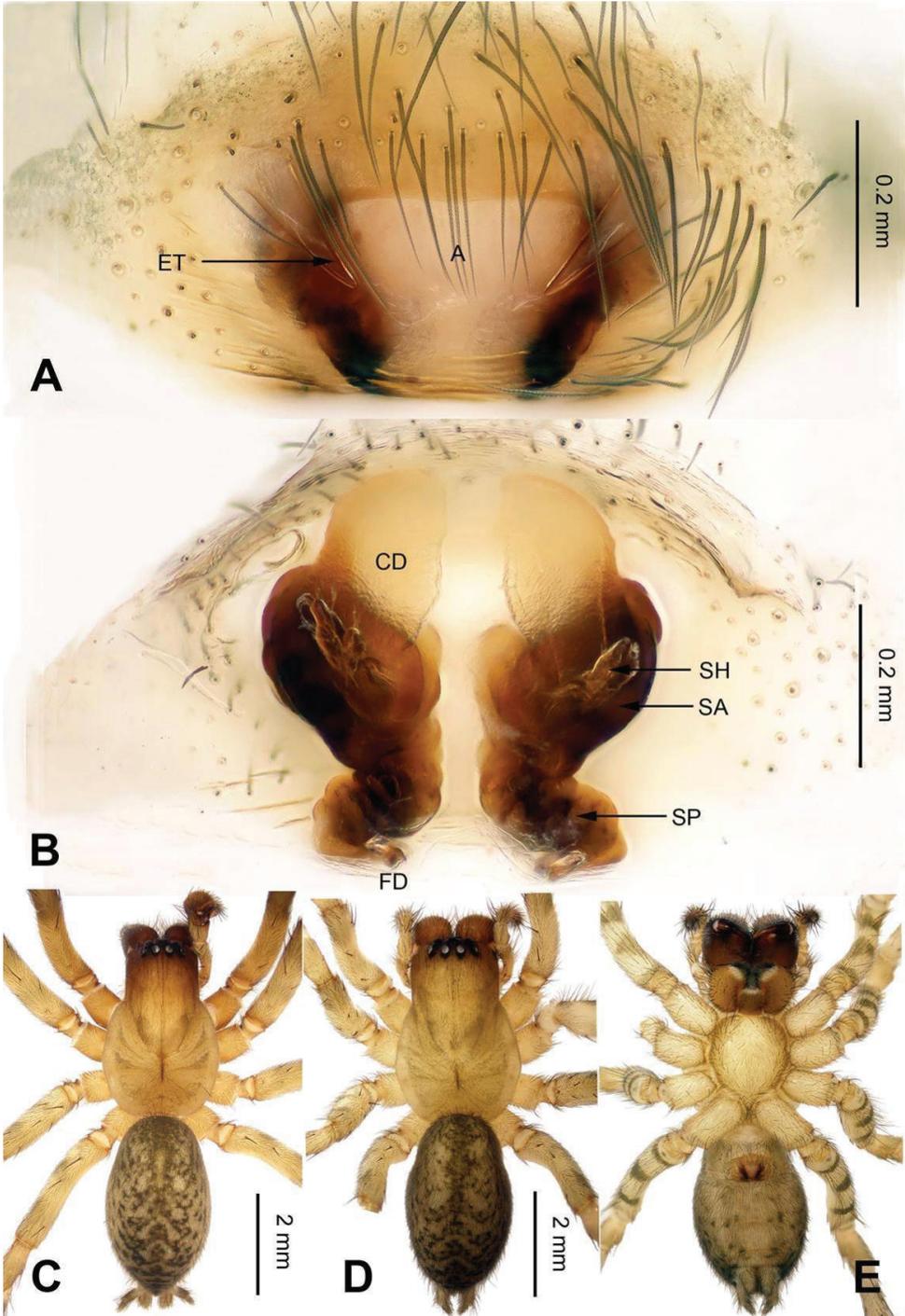


Figure 11. Epigyne and habitus of *Sinocoelotes ludingensis* sp. n., holotype and paratype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Male habitus, dorsal **D** Female habitus, dorsal **E** Female habitus, ventral. Scale bars: equal for **D** and **E**.

0.16; AME-AME 0.09, AME-ALE 0.03, PME-PME 0.09, PME-PLE 0.12. Leg measurements: I 11.04 (3.08, 3.48, 2.80, 1.68); II 9.66 (2.82, 3.13, 2.23, 1.48); III 8.82 (2.60, 2.50, 2.47, 1.25); IV 12.19 (3.36, 3.76, 3.48, 1.59). Chelicerae with four retromarginal teeth. Palp: patellar apophysis short, about 1/2 of patella; RTA broad and long, subequal to the length of tibia; LTA short, less than 1/6 length of RTA; cymbial furrow short, about 1/5 length of cymbium; conductor long, slender, and apex hook-like; median apophysis spoon-like; dorsal conductor apophysis broad, the visible part (between conductor and tegulum) finger-like; embolus beginning at seven o'clock position (Fig. 10A–C).

Female. Total length 6.76. Carapace 3.44 long, 2.36 wide. Abdomen 3.32 long, 2.00 wide. Eye sizes and interdistances: AME 0.14, ALE 0.21, PME 0.14, PLE 0.16; AME-AME 0.09, AME-ALE 0.04, PME-PME 0.13, PME-PLE 0.16. Leg measurements: I 8.90 (2.52, 2.95, 2.08, 1.35); II 7.81 (2.28, 2.50, 1.81, 1.22); III 7.16 (2.03, 2.31, 1.84, 0.98); IV 9.66 (2.69, 3.06, 2.66, 1.25). Chelicerae as in male. Epigyne: atrium, trapezoidal, occupying 1/4 of epigynal plate square, narrowing at the posterior part; teeth long, located anterior-laterally, subequal to the atrial length; copulatory ducts membranous, semitransparent, parallel to each other, wider than basal part of spermathecae; spermathecae separated from each other by spermathecal heads' width, basal part of spermathecae about 1/2 thinner than anterior part; spermathecal heads long, located at mid-anterior of spermathecae (Fig. 11A–B).

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes luoshuiensis* Zhao & Li, sp. n.**

<http://zoobank.org/61671F60-C3D0-4A18-A2EC-3CCFB44B7B06>

Figs 12, 21

Type material. Holotype ♀: China: Yunnan Province: Tengchong County, Gudong Town, Jiangdong Village, Jiangdong Mountain, Luoshui Cave, N24°58'06", E98°52'06", 1881 m, 26.XI.2013, Y. Li and J. Liu.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The female of the new species has uniquely shaped epigyne and can be easily distinguished from all other *Sinocoelotes* gen. n. species by the broad atrium lacking distinct margins (with distinct anterior and lateral margins in other species), the long and sickle-shaped copulatory ducts, and copulatory ducts span wider than spermathecae, the spermathecal heads short and close to each other (close to each other but five times as long as in *S. luoshuiensis* sp. n. in *S. muliensis* sp. n., and laterally originating in other species) (Fig. 12A–B).

Description. Female. Total length 6.48. Carapace 3.28 long, 2.24 wide. Abdomen 3.20 long, 2.21 wide. Eye sizes and interdistances: AME 0.13, ALE 0.19, PME 0.16, PLE 0.17; AME-AME 0.06, AME-ALE 0.04, PME-PME 0.08, PME-PLE 0.11. Leg measurements: I 9.59 (2.66, 3.15, 2.22, 1.56); II 8.56 (2.47, 2.78, 2.01, 1.30); III 7.72 (2.15, 2.42, 1.98, 1.17); IV 10.37 (2.81, 3.28, 3.82, 1.46). Chelicerae with four retromarginal teeth. Epigyne: atrium large, about 1/3 of epigynal plate square,

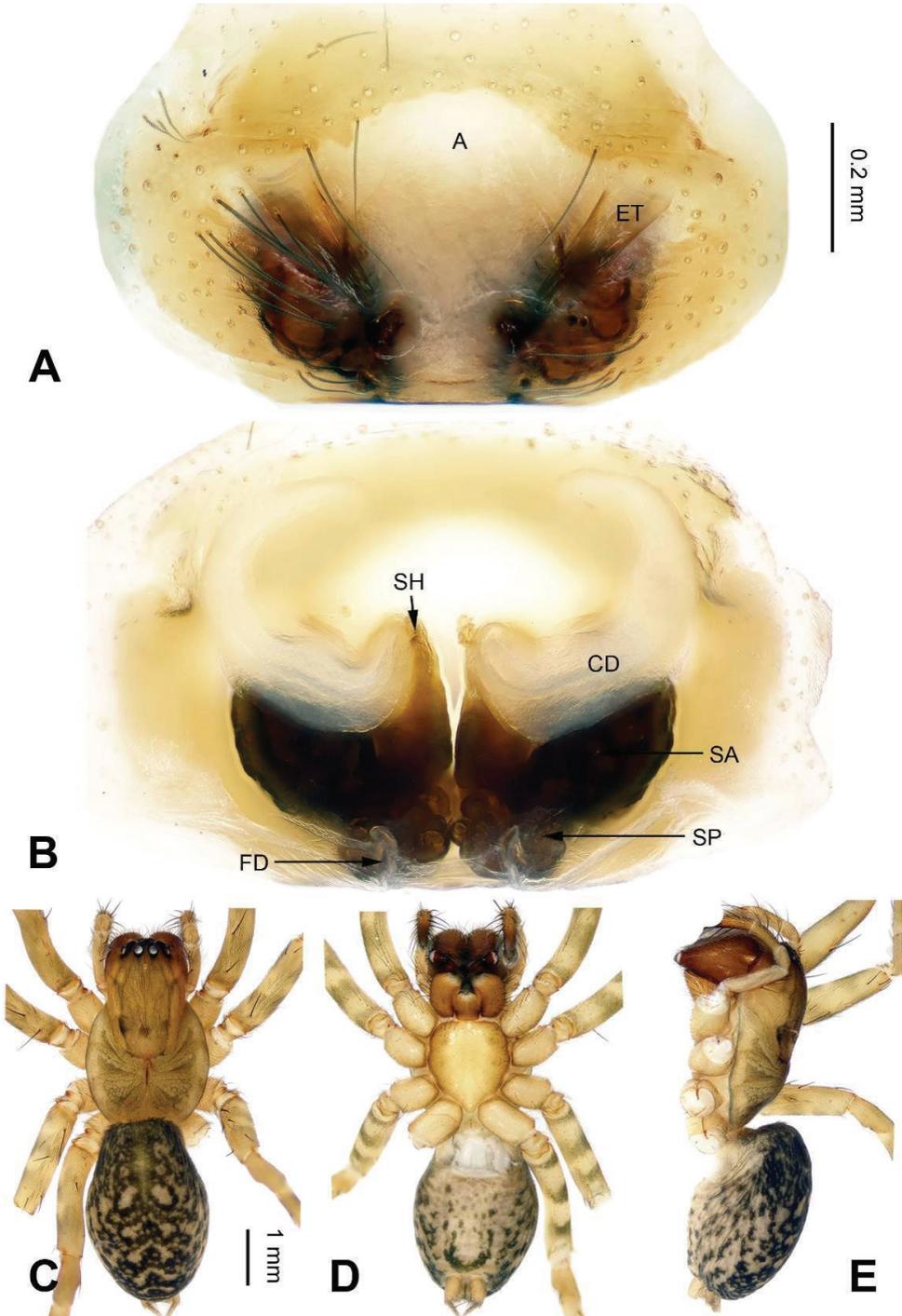


Figure 12. Epigyne and habitus of *Sinocoelotes luoshuiensis* sp. n., holotype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **A** and **B**; equal for **C**, **D** and **E**.

without sharp boundary, narrowing at posterior part; teeth long, about 1/2 length of atrium; spermathecae close to each other, posterior part about 1/5 of posterior part; spermathecal heads long, located mesally, close to each other; copulatory ducts long, hook-like (Fig. 12A–B).

Male. Unknown.

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes mahuanggouensis* Zhao & Li, sp. n.**

<http://zoobank.org/5EC7587F-22FA-46E9-85D2-70EDBBFAAEF1>

Figs 13, 21

Type material. Holotype ♀: China: Sichuan Province: Baoxing County, Fengtongzhai Nature Reserve, Mahuang valley, under stones, N30°49'27", E102°44'16", 2440 m, 27.IX.2005, X. Zhang and X. Xu.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The female can be easily distinguished from other *Sinocoelotes* gen. n. species by the short, wider than long, triangular epigynal teeth, the pear-shaped atrium, the sickle-shaped copulatory ducts, the long and clavate spermathecal heads (Fig. 13A–B).

Description. Female. Total length 11.80. Carapace 5.77 long, 3.97 wide. Abdomen 6.03 long, 3.85 wide. Eye sizes and interdistances: AME 0.26, ALE 0.25, PME 0.21, PLE 0.24; AME-AME 0.11, AME-ALE 0.09, PME-PME 0.23, PME-PLE 0.34. Leg measurements: I 17.56 (4.74, 5.96, 4.17, 2.69); II 15.75 (4.35, 5.19, 3.85, 2.36); III 14.69 (4.05, 4.55, 3.91, 2.18); IV 19.15 (5.13, 6.03, 5.45, 2.54). Chelicerae with three retromarginal teeth. Epigyne: atrium large, occupying 1/3 of epigynal plate square, narrowing posteriorly, pear-shaped; teeth short, wider than long, triangular in shape, located anterio-laterally, widely spaced from atrium; spermathecae close to each other, posterior (basal) part subequal to the anterior part; spermathecal heads long, clavate; copulatory ducts long, broad, crescent-shaped (Fig. 13A–B).

Male. Unknown.

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes mangbangensis* Zhao & Li, sp. n.**

<http://zoobank.org/44304816-98E9-4CE4-A51E-5AB9D8F1DF37>

Figs 14, 21

Type material. Holotype ♀: China: Yunnan Province: Tengchong County, Mangbang Village, N24°58'07", E98°36'48", 2032 m, 23.VI.2013, Z. Zhao and J. Liu.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The female is similar to that of *S. hehuaensis* sp. n., but can be distinguished from it by longer epigynal teeth (twice as long as in *S. hehuaensis* sp. n.), the

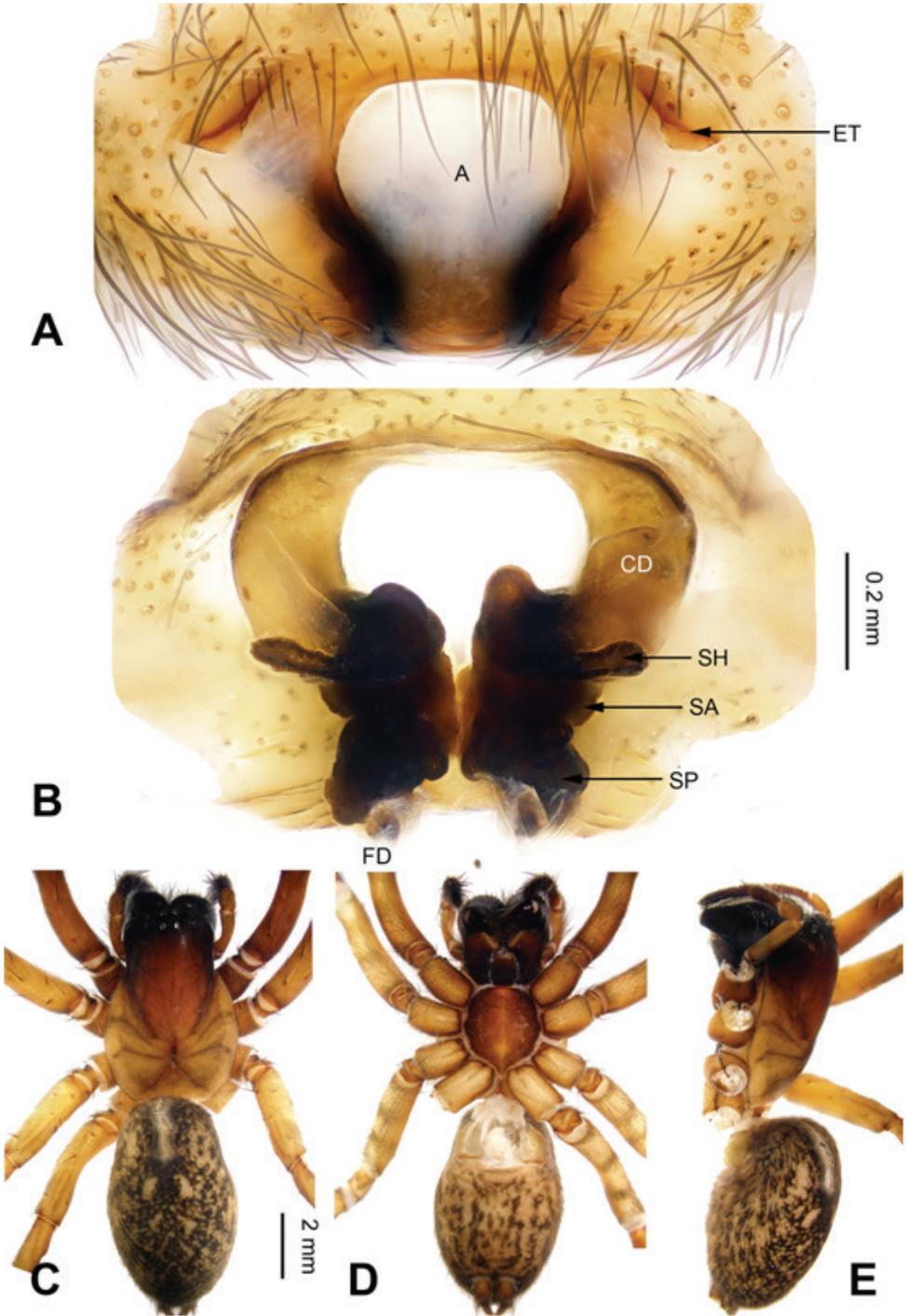


Figure 13. Epigyne and habitus of *Sinocoelotes mabuanggouensis* sp. n., holotype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **A** and **B**; equal for **C**, **D** and **E**.

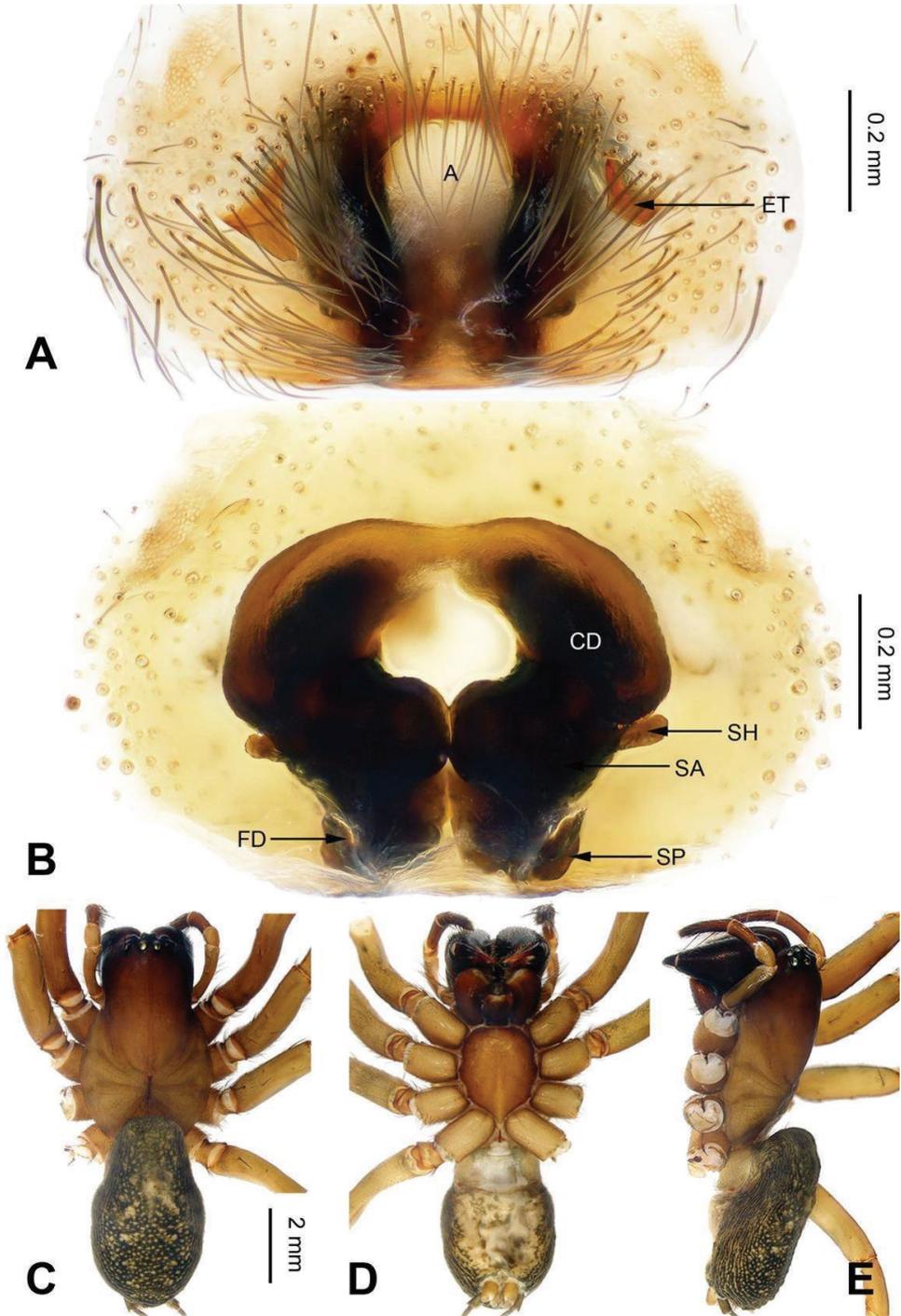


Figure 14. Epigyne and habitus of *Sinocolotes mangbangensis* sp. n., holotype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **C**, **D** and **E**.

broader copulatory ducts, which the posterior part separated from each other further, the slender, laterally and ventrally located spermathecal heads (dorsally situated in *S. hehuaensis* sp. n.) (cf. Figs 14A–B and 8A–B).

Description. Female. Total length 10.12. Carapace 4.94 long, 3.66 wide. Abdomen 5.18 long, 3.10 wide. Eye sizes and interdistances: AME 0.21, ALE 0.29, PME 0.20, PLE 0.24; AME-AME 0.11, AME-ALE 0.05, PME-PME 0.16, PME-PLE 0.28. Leg measurements: I 14.58 (3.96, 4.95, 3.52, 2.15); II 12.81 (3.68, 4.28, 2.97, 1.88); III 11.67 (3.40, 3.72, 2.95, 1.60); IV 13.34 (4.25, 4.98, 4.22, 1.89). Sternum brown (in comparison to previous species) with light median stripe. Chelicerae with four retro-marginal teeth. Epigyne: atrium small, about 1/5 of epigynal plate square, narrowing at posteriorly; teeth subtriangular, as wide as long, located laterally, near to atrial anterior margin, subequal to atrial width (narrowest part); spermathecae not spaced, posterior part thinner than posterior one; spermathecal heads long, finger-like, located laterally; copulatory ducts broad, well sclerotized, and anterior part contiguous (Fig. 14A–B).

Male. Unknown.

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes muliensis* Zhao & Li, sp. n.**

<http://zoobank.org/8812B14A-E2BC-4054-B9D4-77BEAA37659C>

Figs 15, 21

Type material. Holotype ♀: China: Sichuan Province: Muli County, N27°54'57", E101°16'20", 2229 m, 13.XI.2013, Y. Li and J. Liu.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The female of the new species has uniquely shaped epigyne and can be easily distinguished from all other *Sinocoelotes* gen. n. species by the anteriorly situated atrium (atrium with distinct anterior margin, but lacking distinct posterior margin, and the posterior part broader than anterior part), the teeth broad and located between two atrial lateral margins, the long and strongly twisted spermathecae, closely spaced, the slender, mesally originating spermathecal heads (which are also mesally originating in *S. luoshuiensis* sp. n, but are 1/4 length shorter than those in *S. muliensis* sp. n.; laterally originating in all other species) (Fig. 15A–B).

Description. Female. Total length 5.76. Carapace 2.56 long, 1.72 wide. Abdomen 3.20 long, 1.87 wide. Eye sizes and interdistances: AME 0.09, ALE 0.16, PME 0.12, PLE 0.13; AME-AME 0.07, AME-ALE 0.02, PME-PME 0.08, PME-PLE 0.10. Leg measurements: I: 5.97 (1.73, 2.08, 1.38, 0.78); II: 5.40 (1.62, 1.80, 1.24, 0.74); III: 5.12 (1.50, 1.60, 1.30, 0.72); IV: 7.03 (1.94, 2.31, 1.83, 0.95). Chelicerae with 3 retromarginal teeth. Epigyne: atrium located anteriorly, occupying 1/4 of epigynal plate square, with distinct anterior margin, but lacking distinct posterior margin; teeth broad and long, located on the lateral margins of the atrium; spermathecae narrowly separated from each other, posterior part of spermathecae about 1/4 the anterior part; spermathecal heads slender and long, close to each other; copulatory ducts much thin-

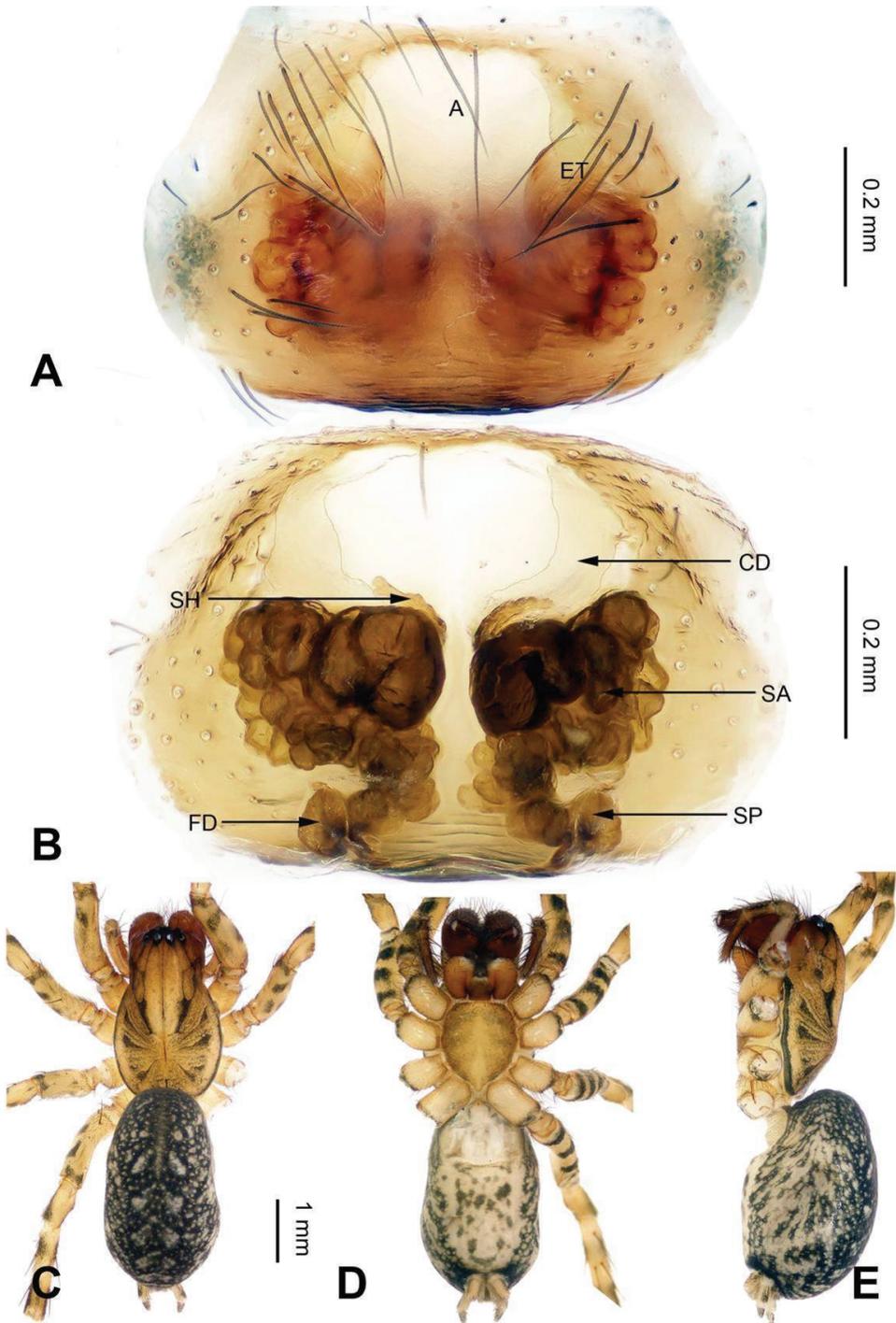


Figure 15. Epigyne and habitus of *Sinocoelotes muliensis* sp. n., holotype. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **C**, **D** and **E**.

ner than anterior part of spermathecae (wider in some species), short (about 1/3 length of epigyne), membranous (Fig. 15A–B).

Male. Unknown.

Distribution. Known only from the type locality (Fig. 21).

***Sinocoelotes pseudoterrestris* (Schenkel, 1963), comb. n.**

Figs 16, 21

Coelotes pseudoterrestris Schenkel 1963: 286, fig. 161 (♀ holotype from Lo Thoei Tong, Yunnan, China, in MNHP, not examined); Song et al. 1999: 378, figs 224N, 224O, 226T, 228B (♂♀, as *C. sacratus*); Wang 2002: 52, figs 127–131 (♂♀); Wang and Jäger 2008: 2279, figs 1–2 (♂).

Material examined. ♀: China: Yunnan Province: Kunming City; Xishan Forest Park, the way to Longmen, in crevices on crags, N24°57'04", E102°38'18", 2437 m, 22.XII.2013, Y. Li and J. Liu.

Diagnosis. The female is similar to that of *S. mangbangensis* sp. n., but can be easily distinguished from it by the longer epigynal teeth (twice as long as in *S. mangbangensis* sp. n.), the smaller posterior part of spermathecae which is about 1/4 of the anterior part (the posterior part is subequal to the anterior part in *S. mangbangensis* sp. n.), the laterally situated spermathecal heads (ventrally situated in *S. mangbangensis* sp. n.), and the membranous copulatory ducts (strongly sclerotized in *S. mangbangensis* sp. n.) (cf. Figs 16A–B and 14 A–B).

Comments. The species shares a combination of somatic morphology characters with *S. hehuaensis* sp. n., and therefore was assigned to *Sinocoelotes* gen. n. The molecular analysis supports the transfer.

Description. Described by Wang (2002).

Distribution. China (Yunnan) (Fig. 21).

***Sinocoelotes pseudoyunnanensis* (Wang, Griswold & Ubick, 2009), comb. n.**

Figs 17, 21

Coelotes pseudoyunnanensis Wang et al. 2009: 19, figs 88–96 (♂ holotype and ♂♀ paratypes from Nujiang, Yunnan, China, in HNU and CAS, not examined).

Material examined. ♂: China: Yunnan Province: Nujiang Lisu Autonomous Prefecture: Lushui County, Pianma Town, Gaoligong Mountain, N25°58'22", E98°41'02", 3133 m, 8.XII.2013, Y. Li and J. Liu.

Diagnosis. The male has uniquely shaped palps, and can be easily distinguished from all other *Sinocoelotes* gen. n. by the shape of conductor (wave-shaped, broad, and with

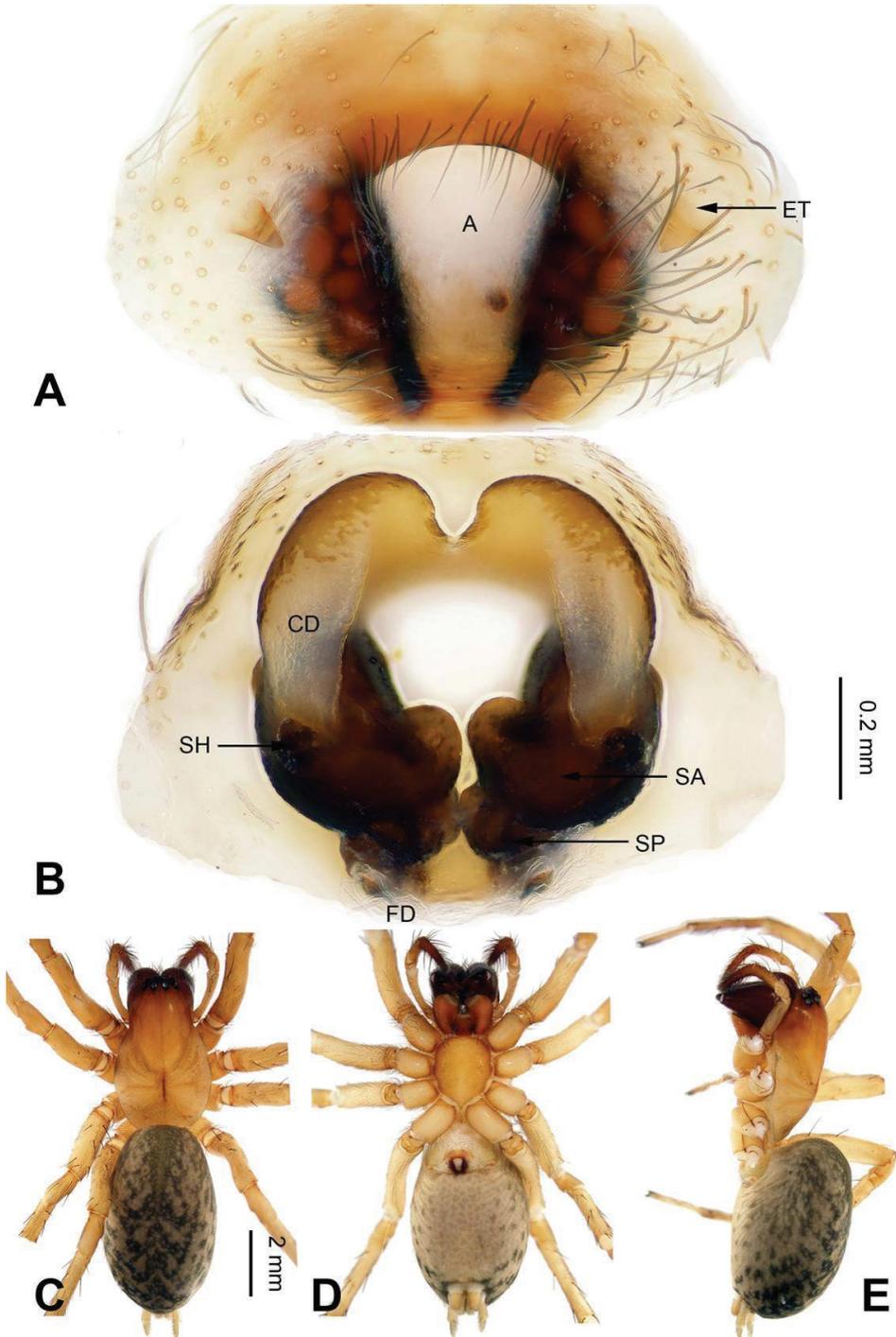


Figure 16. Epigyne and habitus of *Sinocoelotes pseudoterrestris*. **A** Epigyne, ventral **B** Vulva, dorsal **C** Female habitus, dorsal **D** Female habitus, ventral **E** Female habitus, lateral. Scale bars: equal for **A** and **B**; equal for **C**, **D** and **E**.

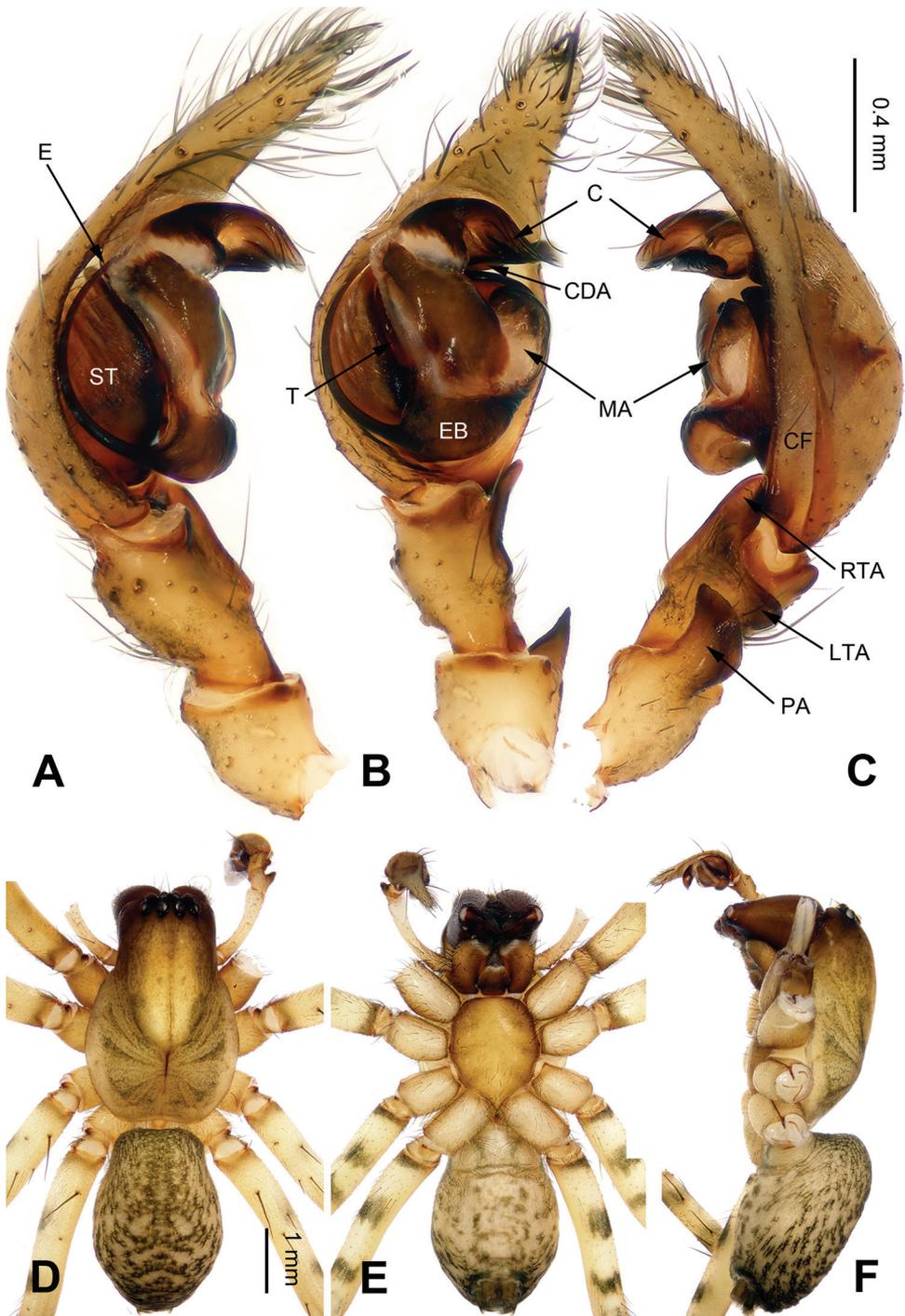


Figure 17. Male palp and habitus of *Sinocoelotes pseudoyunnanensis*. **A** Prolateral **B** Ventral **C** Retrolateral. **D** Habitus, dorsal **E** Habitus, ventral **F** Habitus, lateral. Scale bars: equal for **A**, **B** and **C**; equal for **D**, **E** and **F**.

round-blunt tip in *S. pseudoyunnanensis*, but slenderer and with pointed tip in other species), the longer LTA (about 1/3 length of RTA in *S. pseudoyunnanensis*, less than 1/6 length of RTA in other species), the broader patellar apophysis (the terminal part wider than basal part, and the apex subequal to the width of tibia, the terminal part wider than basal part, but the apex about 1/2 width of tibia in *S. hehuaensis*, the terminal part subequal to, or even slenderer than basal part in other species) (cf. Figs 17A–C and 7A–C, 10A–C, 20A–C).

Description. Described by Wang et al. (2009).

Comments. The species shares a combination of somatic morphology characters with *S. hehuaensis* sp. n. and therefore was assigned to *Sinocoelotes* gen. n. The molecular analysis supports this transfer.

Distribution. China (Yunnan) (Fig. 21).

***Sinocoelotes thailandensis* (Dankittipakul & Wang, 2003), comb. n.**

Figs 18–19, 21

Coelotes thailandensis Dankittipakul and Wang 2003: 735, figs 24–25 (♂ holotype from Thailand, in MHNG, not examined); Dankittipakul et al. 2005: 7, figs 9–10 (♂♀); Wang et al. 2009: 26, f. 128–142 (♂♀).

Material examined. 1♂2♀: Thailand: Chiangmai Province: Mae Cham District, Jeep tract, N18°31'41", E98°29'58", 1649 m, 14.X.2014, H. Zhao, Y. Li and Z. Chen.

Diagnosis. The species is similar to *S. hehuaensis* sp. n., but male can be easily distinguished by a shorter and broader conductor (about 1/3 length of the conductor in *S. hehuaensis* sp. n.), the broad and wedge-shaped dorsal conductor apophysis (cf. Figs 18A–C and 7A–C). The female can be distinguished from that of *S. hehuaensis* sp. n. by the broad (almost round) atrium, the broader and shorter copulatory ducts, the shorter spermathecal heads (about 1/3 length of the spermathecal heads *S. hehuaensis* sp. n.) (cf. Figs 19A–B and 8A–B).

Description. Described by Wang et al. (2009).

Comments. The species shares a combination of somatic morphology characters with *S. hehuaensis* sp. n., and therefore was assigned to *Sinocoelotes* gen. n. The molecular analysis supports this transfer.

Distribution. China (Yunnan) (Fig. 21).

***Sinocoelotes yanyuanensis* Zhao & Li, sp. n.**

<http://zoobank.org/B8448C52-A2F2-4E93-8F74-7D6A86A41DD2>

Figs 20, 21

Type material. Holotype ♂: China: Sichuan Province: Yanyuan County, foot of Bailong Mountain, in the apple garden, N27°24'03", E101°31'47", 2620 m, 15.XI.2013, Y. Li and J. Liu. **Paratype:** 1 ♂, same data as holotype.

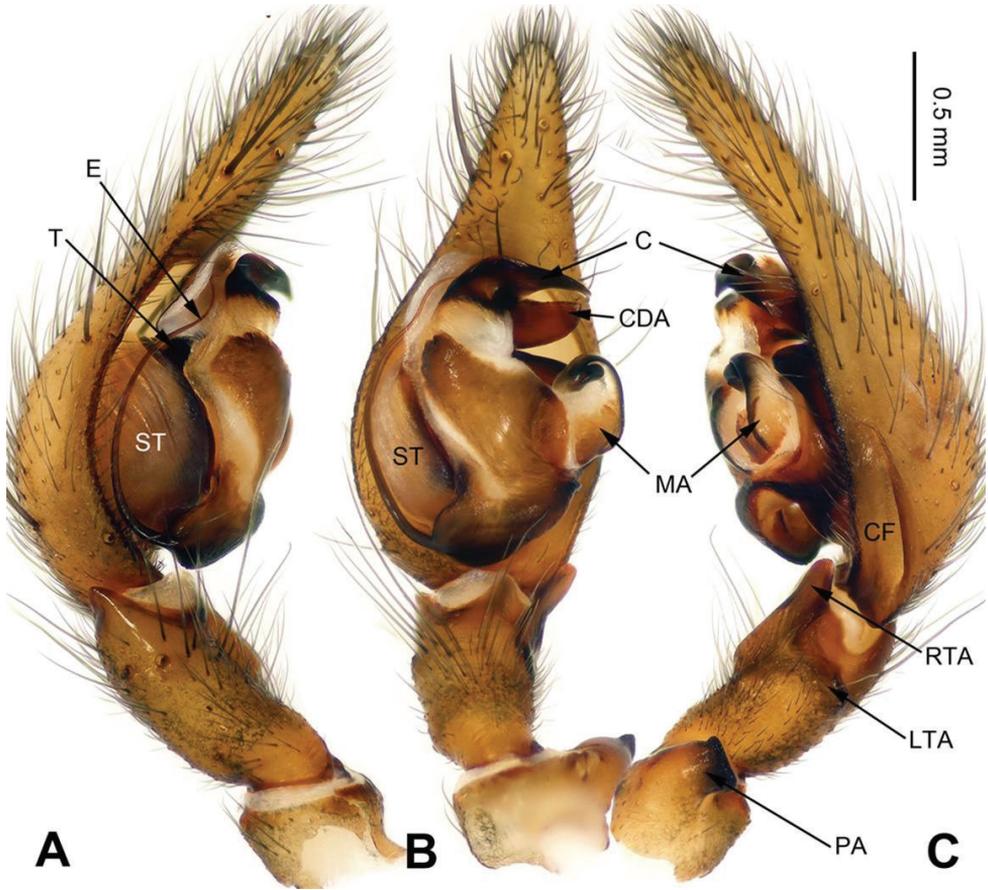


Figure 18. Male palp of *Sinocoelotes thailandensis*. **A** Prolateral **B** Ventral **C** Retrolateral. Scale bar: equal for **A**, **B** and **C**.

Etymology. The specific name refers to the type locality; adjective.

Diagnosis. The male of the new species has uniquely shaped palps, and can be easily recognized from all other *Sinocoelotes* gen. n. by the clavate patellar apophysis, and the basal part broader than terminal part (bended and 1.5 times as width as *S. janyuanensis* sp. n. in *S. thailandensis*, basal part equal to or even slenderer than terminal part in other species), the broader and bended conductor in ventral view (wave-shaped in *S. pseudoyunnanensis*, straight in other species), short cymbial tip about 1/4 length of cymbium (about 1/3 length of cymbium in other species), the smaller visible part of dorsal conductor apophysis (quite distinct in other species) (cf. Figs 20A–C and 7A–C, 10A–C, 17A–C).

Description. Male (holotype): Total length 8.55. Carapace 4.35 long, 2.91 wide. Abdomen 4.20 long, 2.50 wide. Eye sizes and interdistances: AME 0.13, ALE 0.19, PME 0.16, PLE 0.13; AME-AME 0.08, AME-ALE 0.04, PME-PME 0.11, PME-PLE 0.19. Leg measurements: I 12.43 (3.40, 4.00, 3.08, 1.95); II 10.80 (2.95, 3.45, 2.65,

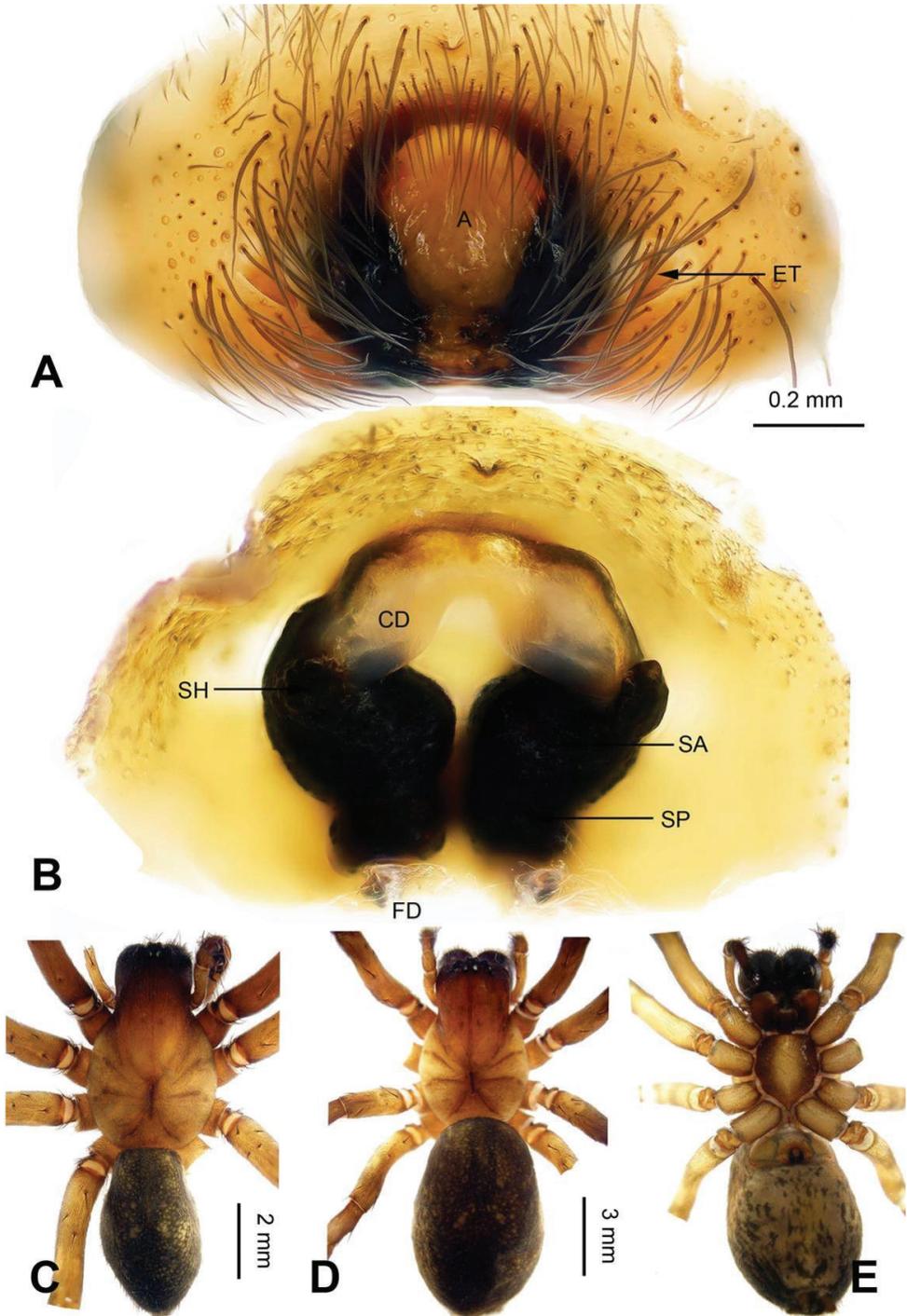


Figure 19. Epigyne and habitus of *Sinocoelotes thailandensis*. **A** Epigyne, ventral **B** Vulva, dorsal **C** Male habitus, dorsal **D** Female habitus, dorsal **E** Female habitus, ventral. Scale bars: equal for **A** and **B**; equal for **C**, **D** and **E**.

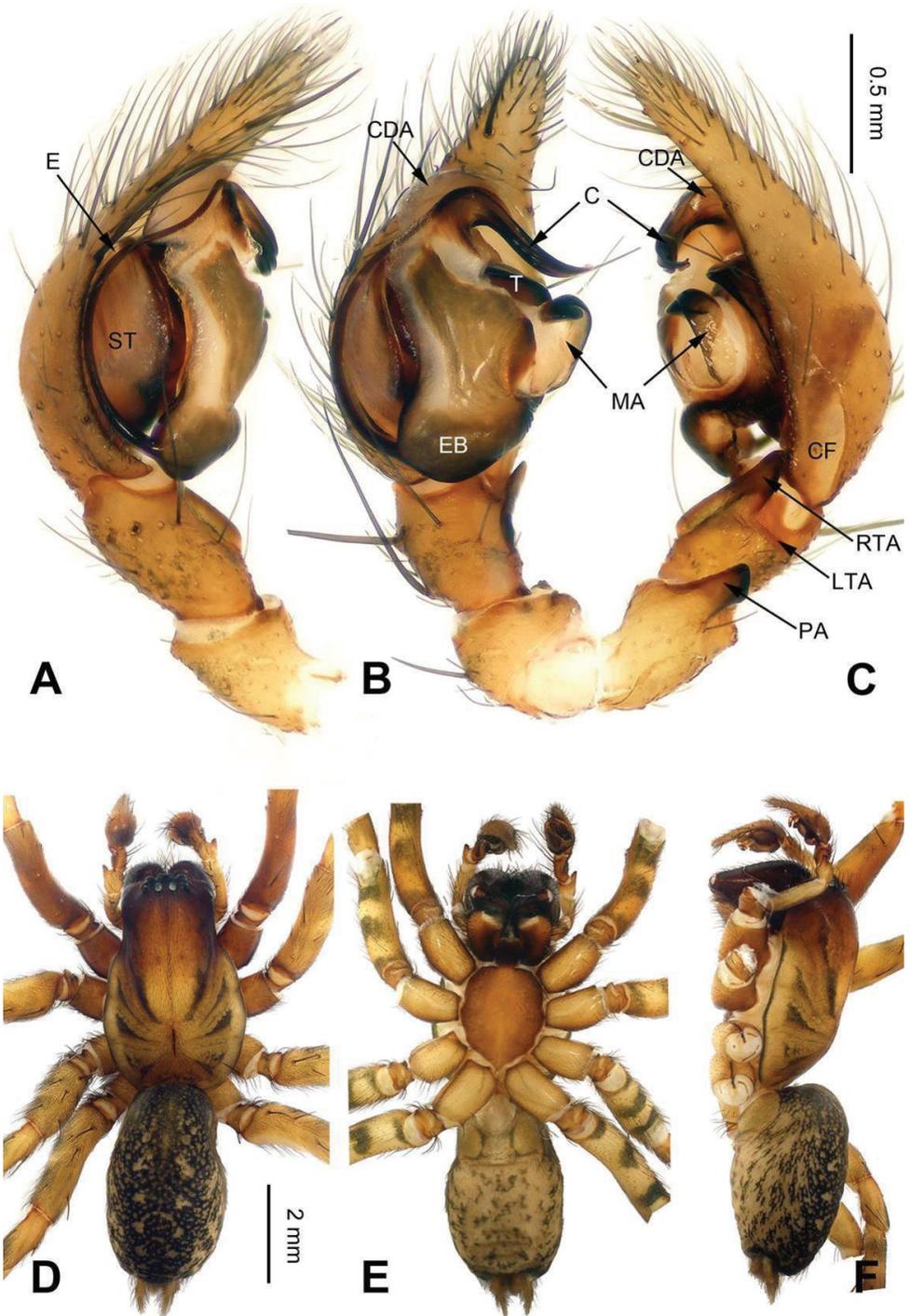


Figure 20. Male palp and habitus of *Sinocoelotes yanyuanensis* sp. n., holotype. **A** Prolateral **B** Ventral **C** Retrolateral. **D** Habitus, dorsal **E** Habitus, ventral **F** Habitus, lateral. Scale bars: equal for **A**, **B** and **C**; equal for **D**, **E** and **F**.

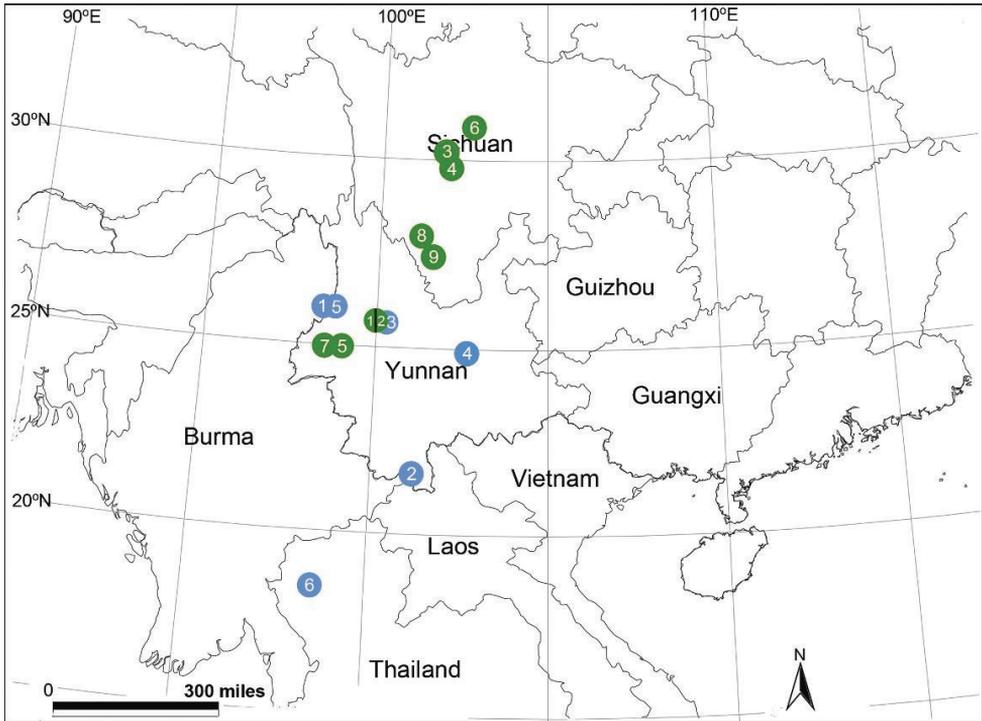


Figure 21. Localities of new (green) and earlier described (blue) species of *Sinocoelotes* gen. n. from China and Thailand. Green: 1 *S. cangshanensis* sp. n. 2 *S. hehuaensis* sp. n. 3 *S. kangdingensis* sp. n. 4 *S. ludingensis* sp. n. 5 *S. luoshuiensis* sp. n. 6 *S. mahuanggouensis* sp. n. 7 *S. mangbangensis* sp. n. 8 *S. muliensis* sp. n. 9 *S. yanyuanensis* sp. n. Blue: 1 *S. acicularis* 2 *S. forficatus* 3 *S. guangxian* 4 *S. pseudoterrestris* 5 *S. pseudoyunnanensis* 6 *S. thailandensis*.

1.75); III 10.04 (2.80, 3.16, 2.68, 1.40); IV 13.35 (3.60, 4.25, 3.80, 1.70). Chelicerae with three promarginal and four retromarginal teeth. Palp: patellar apophysis long, subequal to the length of patella, basal part broader than terminal part; LTA short, about 1/6 length of RTA; cymbial furrow short, about 1/4 length of cymbium; conductor broader and long, about 1/3 length of cymbium; dorsal conductor apophysis broad, covered mostly by the tegulum and the base of conductor; embolus beginning at 7 o'clock position (Fig. 20A–C).

Female. Unknown.

Distribution. Known only from the type locality (Fig. 21).

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