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First record of genus *Eratigena* (Araneae: Agelenidae) from China, with description of a new species

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Abstract. The genus *Eratigena* is reported for the first time from China including a new species *E. bowoensis* n. sp. (male and female) is described. Detailed description of new species genitalic characters, somatic features by means of photographs and line drawings, as well as comparisons with closely related species and locality map are provided.

Key words. description, morphology, photo, Tibet, taxonomy

Based on the following features, Bolzern *et al.* (2013) established the genus *Eratigena* from Europe; the retrolateral tibial apophysis (RTA) of male palp with two branches and lateroventral ridge absent; vulva irregularly scleroid. This genus comprises of 37 species mainly distributed in Europe (17) and the American continent (16), with 3 species commonly reported in both of these continents (WSC 2021). *E. laksao* Bolzern & Jäger, 2015 is the only species of this genus that has been described from Asia (Laos). In this paper, we proposed the first record of the genus *Eratigena* from Tibet, China and described *E. bowoensis* n. sp. as the second species found in Asia. At the same time, in order to facilitate the follow-up study, we provided the barcode of COI gene to assist the identification in addition to the morphological identification.

Specimens were 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) and were stacked by Helicon Focus software (3.10. Free). Male palp and epigynum were examined and illustrated after dissected from the body. Female genitalia were cleared in 90% lactic acid. Eye sizes were measured as the maximum dorsal diameter. Leg measurements are shown as total length (femur, patella + tibia, metatarsus, tarsus). The map was downloaded from standard map service site (<http://bzdt.ch.mnr.gov.cn/index.html>), and then modified using Adobe Photoshop CS5 (Figs 3). All measurements are in millimeters. Specimens are deposited at the School of Life Sciences, Southwest University, Chongqing (SWUC). Morphological terminology follows Bolzern & Jäger (2015).

Abbreviations used in the text and figures legend are as follows: **ALE**–anterior lateral eyes; **AME**–anterior median eyes; **C**–conductor; **CD**–copulatory duct; **CO**–copulatory opening; **dRTA**–dorsal branch of RTA; **E**–embolus; **FD**–fertilization duct; **MA**–median apophysis; **MOA**–median ocular area; **PLE**–posterior lateral eyes; **PME**–posterior median eyes; **RTA**–retrolateral tibial apophysis; **S**–spermathecae; **vRTA**–ventral branch of RTA.

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Taxonomy

Family Agelenidae C. L. Koch, 1837

Genus *Eratigena* Bolzern, Burckhardt & Hänggi, 2013

Eratigena bowoensis n. sp. (波密淑隅蛛)

Figure 1A–D, 2A–G, 3

Material examined. Holotype: Male, CHINA, Tibet, Bowo County near the Bomi Tongmai Bridge, 30°5.856'N, 95°4.156'E, elev. 2025m, 8.VIII.2020, L.Y. Wang, P. Liu, T. Yuan, Y.M. Hou leg. (SWUC-T-AG-46-01). **Paratypes:** 1 male and 4 females, same data as holotype (SWUC-T-AG-46-02~06).

Diagnosis. The male of the new species resembles *E. laksao* (Bolzern & Jäger 2015, figs 14–21), in having similar embolus, but can be differentiated by; the anterior margin of membranous ridge (R) round, protruding outward (invaginated, arc-shaped in *E. laksao*); the ventro-lateral margin of tegulum straight (round, covering most of subtegulum in *E. laksao*); conductor large, protruding above the lateral margin of cymbium (narrow, restrained inside the cymbium in *E. laksao*). The female of this new species can be distinguished from all other species of genus *Eratigena* by the epigynal teeth absent and spermathecae (S) pear-shaped.

Description. Male holotype (Figs 2A) total length 10.50. Prosoma 5.45 long, 4.27 wide; opisthosoma 5.39 long, 2.85 wide. Carapace and legs brownish yellow with pattern: sides of cephalic part and thoracic striae blackish. Abdomen reddish-brown with black stripes. Eye sizes and interdistances: AME 0.28, ALE 0.34, PME 0.29, PLE 0.30; AME–AME 0.08, AME–ALE 0.06, PME–PME 0.21, PME–PLE 0.12, ALE–PLE 0.09. MOA 0.72 long, front width 0.59, back width 0.73. Clypeus height 0.38. Chelicerae with four promarginal and seven retromarginal teeth. Leg measurements: I 35.00 (9.15, 10.74, 9.88, 5.23); II 25.71 (7.01, 7.79, 7.23, 3.68); III 22.38 (6.10, 6.28, 6.81, 3.19); IV 31.15 (8.21, 8.93, 9.98, 4.03). Leg formula: 1423. Opisthosoma oval, dorsum and venter reddish brown, with black spots and stripes.

Male palp (Figs 1A–B, 2E–G). Patellar apophysis absent. Retrolateral tibial apophysis with two branches, ventral branch of retrolateral tibial apophysis (vRTA) globular, with blunt end; the dorsal branch of retrolateral tibial apophysis (dRTA) protruding, strongly sclerotized (black), thorn-like with a pointed tip. Embolus filiform originated from the posterior of the tegulum. Conductor with transparent pocket, distal part elongated with blunt end, protruding above the lateral margin of cymbium. Membranous ridge (R) massive, with sclerotized pointed end. Median apophysis membranous, protruding, originated from the anterior end of tegulum,

connection of median apophysis to tegulum partly sclerotized.

Female (on of paratypes, Figs 2B) total length 12.80. Prosoma 5.73 long, 4.11 wide; opisthosoma 7.18 long, 5.58 wide. Eye sizes and interdistances: AME 0.29, ALE 0.31, PME 0.25, PLE 0.31; AME–AME 0.11, AME–ALE 0.10, PME–PME 0.27, PME–PLE 0.16, ALE–PLE 0.14. MOA 0.60 long, front width 0.76, back width 0.71. Clypeus height 0.43. Leg measurements: I 27.39 (7.43, 8.77, 7.00, 4.19); II 21.39 (6.35, 6.52, 5.23, 3.29); III 18.96 (5.45, 5.40, 5.45, 2.66); IV 26.17(7.36, 7.67, 7.88, 3.26). Leg formula: 1423

Epigyne (Figs 1C–D, 2C–D) with a conspicuous atrium posteriorly, copulatory opening present anteriorly. Vulva consists of distinguishable copulatory ducts (CD), spermathecae (S) and fertilization duct (FD). Copulatory ducts transverse. Spermathecae pear-shaped. Fertilization ducts crescent-shaped, originated at the base of spermathecae.

Etymology. The species name refers to the type locality; noun in apposition.

Distribution. Known only from the type locality, Bowo, Tibet, China.

GenBank accession number: MW808984.

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Figures Legends

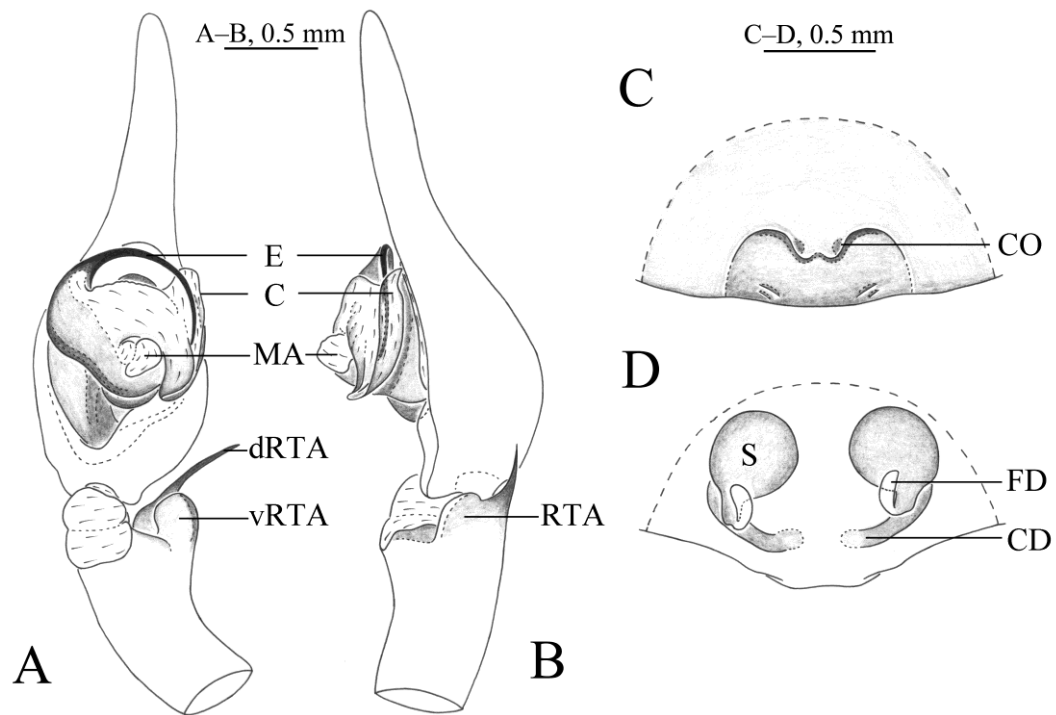


FIGURE 1 *Eratigena bowoensis* n. sp. male holotype Left male pedipalp (A–B) and female paratype epigyne (C–D). A. Ventral view; B. Retrolateral view; C. Ventral view; D. Vulva, dorsal view. Abbreviations: C, conductor; CD, copulatory ducts; CO, copulatory opening; dRTA, dorsal branch of RTA; E, embolus; FD, fertilization duct; MA, median apophysis of male bulb; RTA, retrolateral tibial apophysis; S, spermathecae; vRTA, ventral branch of RTA.

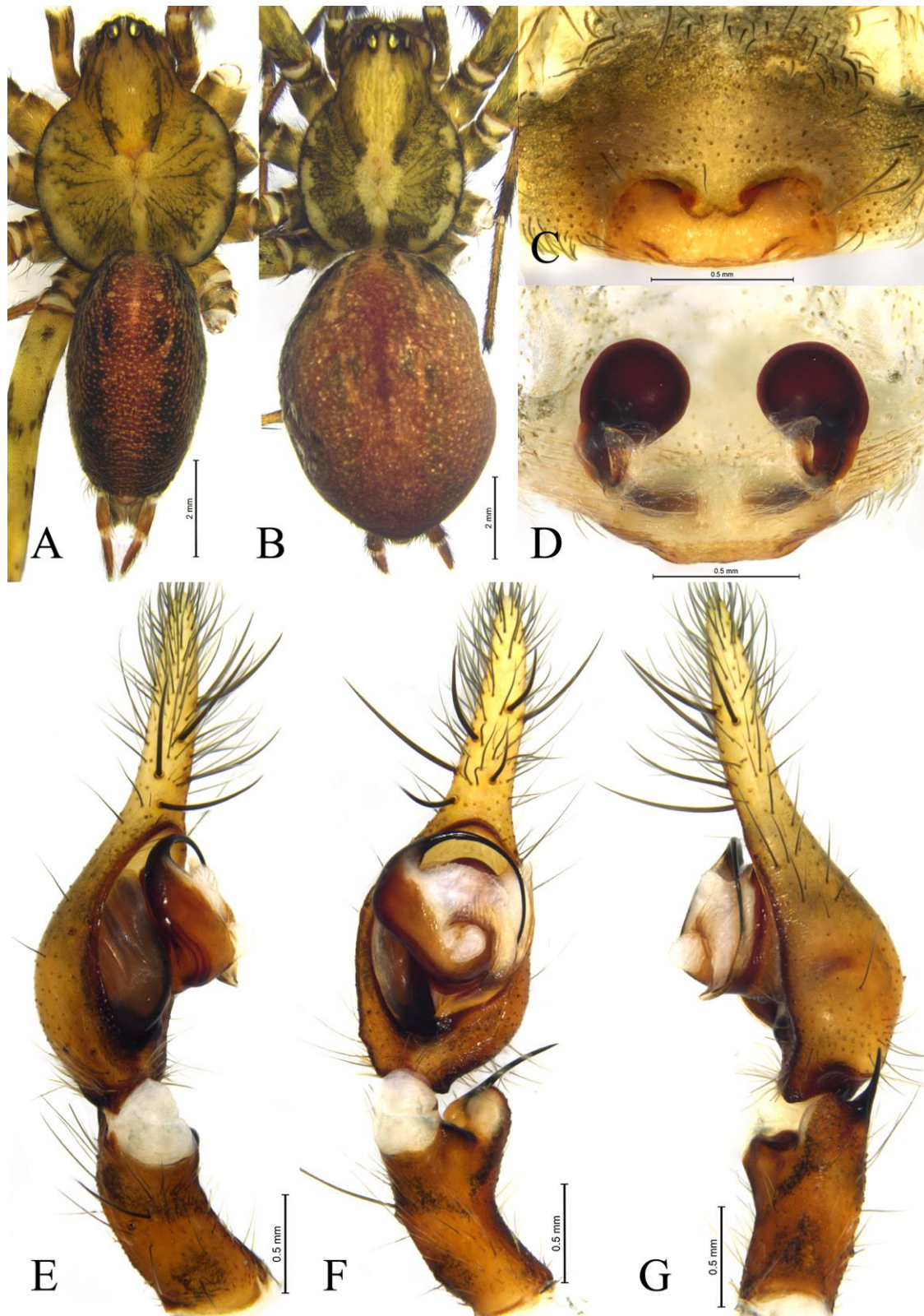


FIGURE 2 *Eratigena bowoensis* n. sp. holotype male (A, E–G) and paratype female (B–D) from Maliugou. A. Male habitus, dorsal view; B. Female habitus, dorsal view; C. Epigyne, ventral view; D. Same, dorsal view; E. Left male pedipalp, prolateral view; F. Same, ventral view; G. Same, retrolateral view.



FIGURE 3 Distribution map of *Eratigena bowoensis* n. sp.