



First record of the tetrablemmid armoured spiders (Araneae, Tetrablemmidae) from Xizang, China, with description of a new species

Yang Zhou[‡], Xiaoqing Zhang[‡], Yanfeng Tong[‡]

[‡] College of Life Science, Shenyang Normal University, Shenyang 110034, China

Corresponding author: Xiaoqing Zhang (zhangxq@synu.edu.cn), Yanfeng Tong (tyf68@hotmail.com)

Academic editor: Alireza Zamani

Received: 04 Dec 2024 | Accepted: 08 Dec 2024 | Published: 12 Dec 2024

Citation: Zhou Y, Zhang X, Tong Y (2024) First record of the tetrablemmid armoured spiders (Araneae, Tetrablemmidae) from Xizang, China, with description of a new species. Biodiversity Data Journal 12: e143503. <https://doi.org/10.3897/BDJ.12.e143503>

ZooBank: [urn:lsid:zoobank.org:pub:75128B14-757F-41DC-B81F-855CA518332C](https://www.zoobank.org/urn:lsid:zoobank.org:pub:75128B14-757F-41DC-B81F-855CA518332C)

Abstract

Background

The spider genus *Choiroblemma* Bourne, 1980 of the family Tetrablemmidae currently contains two species, *C. bengalense* Bourne, 1980 and *C. rhinoxunum* Bourne, 1980. Both species are known from West Bengal, India.

New information

A new species of *Choiroblemma* is described from Xizang, China, *Choiroblemma metok* sp. nov. (♂♀). Morphological descriptions, photomicroscopy images of the new species and a distribution map of *Choiroblemma* species are given.

Keywords

Distribution, morphology, new record, taxonomy

Introduction

The family Tetrablemmidae O. Pickard-Cambridge, 1873, commonly known as tetrablemmid armoured spiders, currently comprises 152 species in 27 genera (WSC 2024). Tetrablemmids are very small to medium-sized, cryptic, haplogyne spiders (Jocqué and Dippenaar-Schoeman 2006). They are mainly distributed in the tropical and subtropical regions where they are found in leaf litter, soil and in caves (Burger et al. 2010). In China, 23 species in eight genera have been recorded. Of these, seven species are from Hainan, five from Guangdong, four from Guangxi, four from Yunnan, one from Chongqing, one from both Chongqing and Guizhou and one from Taiwan. (Tong and Li 2008, Lin and Li 2010, Lin and Li 2014, Ballarin et al. 2021, He and Lin 2021, Cheng et al. 2022, Fu et al. 2022, Lin et al. 2022, He et al. 2024).

The genus *Choiroblemma* was established by Bourne, based on two species from West Bengal, India. It is diagnosed by the fine embolus and robust conductor sclerite of male palp and the sclerotised ridges on the pre-anal plate of the female (Bourne 1980). Examination of tetrablemmid specimens preserved in Hebei University (Baoding, China) led to the finding of one new species of *Choiroblemma*. It is the third species of the genus and the first discovery of the tetrablemmid armoured spiders in Xizang, China. In this paper, a new species of *Choiroblemma*, collected from Xizang, is described.

Materials and methods

Specimens were examined using a Leica M205 C stereomicroscope. Fine details were studied under an Olympus BX51 compound microscope. The endogyne was cleared in lactic acid. Photomicroscope images were taken with a Canon EOS 750D zoom digital camera (24.2 megapixels) mounted on an Olympus BX51 compound microscope. Raw photos were first stacked with Helicon Focus v. 8.2.0 to obtain the composite images, which were then processed in Adobe Photoshop CC 2020. All measurements were taken using an Olympus BX51 compound microscope and are in millimetres. Terms and abbreviations used in the text and figures follow Cheng et al. (2022). Type material is deposited in the Shenyang Normal University (SYNU) in Shenyang, Liaoning Province, China (curator: Yanfeng Tong).

Taxon treatment

Choiroblemma metok sp. nov.

- ZooBank [F9CD3EBD-625F-41EF-8558-C444AD948032](https://doi.org/10.21203/rs.3.rs-1234567/v1)

Materials

Holotype:

- order: Araneae; family: Tetrablemmidae; genus: *Choiroblemma*; specificEpithet: *metok*; country: China; stateProvince: Xizang; county: Nyingchi City, Metok County; verbatimCoordinates: 29°19'30"N, 95°19'59"E; eventDate: 21 September 2013; individualCount: 1; sex: male; lifeStage: adult; recordedBy: Panlong Wu; identifiedBy: Yanfeng Tong; institutionCode: SYNU-1379; occurrenceID: DC568B4F-4B5F-5C52-B2B8-6E19CAB09EB5

Paratypes:

- order: Araneae; family: Tetrablemmidae; genus: *Choiroblemma*; specificEpithet: *metok*; country: China; stateProvince: Xizang; county: Nyingchi City, Metok County; verbatimCoordinates: 29°19'30"N, 95°19'59"E; eventDate: 21 September 2013; individualCount: 1; sex: female; lifeStage: adult; recordedBy: Panlong Wu; identifiedBy: Yanfeng Tong; institutionCode: SYNU-1380; occurrenceID: C59EA94F-9374-5001-A7B0-3902049CDCE1
- order: Araneae; family: Tetrablemmidae; genus: *Choiroblemma*; specificEpithet: *metok*; country: China; stateProvince: Xizang; county: Nyingchi City, Metok County; locality: hills behind the Petrochina Motuo gas station; verbatimCoordinates: 29°19'46"N, 95°20'32"E; eventDate: 22 September 2013; individualCount: 5; sex: 1 male, 4 females; lifeStage: adult; recordedBy: Zhizhong Gao; identifiedBy: Yanfeng Tong; institutionID: SYNU-1374-1378; occurrenceID: 7572C843-6313-5D55-93A0-100E837D9D38
- order: Araneae; family: Tetrablemmidae; genus: *Choiroblemma*; specificEpithet: *metok*; country: China; stateProvince: Xizang; county: Nyingchi City, Metok County; locality: Yadang Village; verbatimCoordinates: 29°20'36"N, 95°20'48"E; eventDate: 6 August 2013; individualCount: 2; sex: male; lifeStage: adult; recordedBy: Yeje Lin; identifiedBy: Yanfeng Tong; institutionID: SYNU-F-091-092; occurrenceID: C376BB62-898E-50BC-88A1-44B89FC39352

Description

Male (holotype). Colouration: body orange brown, legs yellowish. Habitus as in Fig. 1 A, C and E.

Measurements: total length 1.13; carapace 0.55 long, 0.47 wide, 0.29 high; abdomen 0.73 long, 0.52 wide, 0.47 high; clypeus 0.16 high; sternum 0.32 long, 0.35 wide. Length of legs: I 1.30 (0.42, 0.14, 0.32, 0.21, 0.21); II 1.16 (0.38, 0.14, 0.26, 0.19, 0.19); III 0.99 (0.28, 0.13, 0.22, 0.20, 0.16); IV 1.37 (0.42, 0.14, 0.36, 0.24, 0.21).

Carapace reticulated, margin with small denticles; cephalic region slightly sloped in lateral view; eyes in three distinct pairs; clypeus very high, with distinct snout-like protrusion (Fig. 1B and F); chelicerae frontally with basally wide, conical horn, distally with well-developed prong (Fig. 3E); sternum with sparse setae, reticulated (Fig. 1D).

Opisthosoma oval; dorsal scutum large, oval, glossy, densely pitted, covered with fine setae; pulmonary plate glossy, with pits for setae; pre-anal plate much wider than postgenital plate. Legs unmodified.

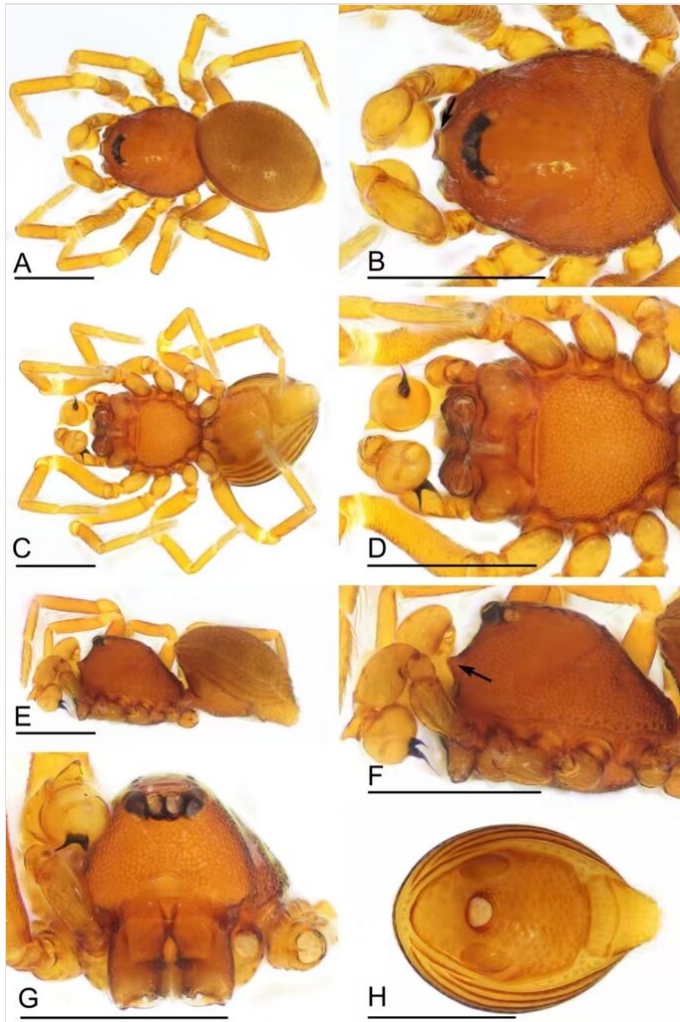


Figure 1. [doi](#)

Choiroblemma metok sp. nov., male holotype. **A** habitus, dorsal view; **B** prosoma, dorsal view; **C** habitus, ventral view; **D** prosoma, ventral view; **E** habitus, lateral view; **F** prosoma, lateral view; **G** prosoma, anterior view; **H** abdomen, ventral view. Arrows show the snout-like protuberance in Figs. B and F. Scale bars: 0.4 mm.

Palp (Fig. 3A–D): femur and tibia slightly swollen; cymbium with a conical apophysis; bulb subglobular; the embolus very thin and needle-like, conductor sclerite short, nearly half length of the embolus.

Female (SYNU-1380). As in male, except as noted. Habitus as in Fig. 2A, C and E.

Measurements: total length 1.23; carapace 0.50 long, 0.47 wide, 0.27 high; abdomen 0.83 long, 0.65 wide, 0.48 high; clypeus 0.13 high; sternum 0.34 long, 0.36 wide. Length of legs: I 1.25 (0.41, 0.15, 0.29, 0.20, 0.20); II 1.12 (0.41, 0.14, 0.21, 0.18, 0.18); III 1.00 (0.30, 0.13, 0.22, 0.18, 0.17); IV 1.42 (0.45, 0.16, 0.35, 0.25, 0.21).

Cephalic region slightly elevated in lateral view; clypeus without the snout-like protuberance; chelicerae horn absent (Fig. 2E and G).

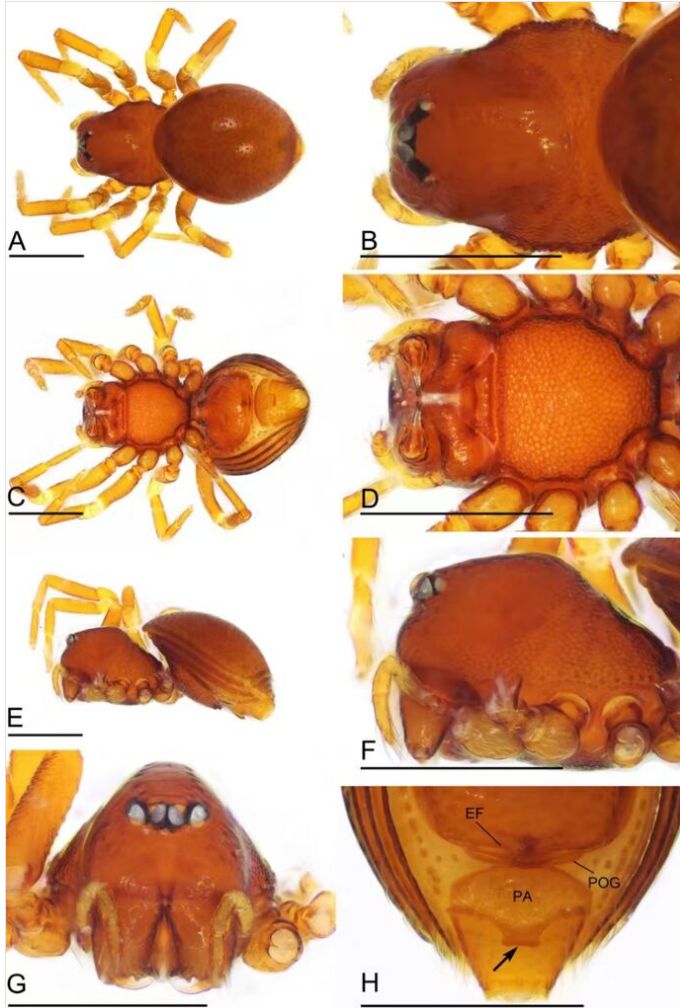


Figure 2. [doi](#)

Choiroblemma metok sp. nov., female paratype (SYNU-1380). **A** habitus, dorsal view; **B** prosoma, dorsal view; **C** habitus, ventral view; **D** prosoma, ventral view; **E** habitus, lateral view; **F** prosoma, lateral view; **G** prosoma, anterior view; **H** genital area, ventral view, arrow shows the extension. Abbreviations: EF = epigynal fold; PA = pre-anal plate; POG = postgenital plate. Scale bars: 0.4 mm.

Abdomen: epigynal fold wide; pre-anal plate with a rectangular extension on posterior margin (Fig. 2H).

Genitalia: a very thin duct running into a small vestibule; vulval stem wide, strongly sclerotised; lateral horns long, slightly sclerotised, supporting the base of vulval ducts of seminal receptaculum (Fig. 3H).



Figure 3. [doi](#)

Choiroblemma metok sp. nov. **A** male left palp, prolateral view; **B** male left palp, distal view; **C** male left palp, retrolateral view; **D** left palp tibia and cymbium, dorsal view; **E** male chelicerae, anterior view; **F** male chelicerae, lateral view; **G** female genital area, ventral view; **H** female genital area, dorsal view. Abbreviations: CA = conical apophysis; CH = cheliceral horn; CO = conductor; EM = embolus; LH = lateral horn; PR = prong; PA = pre-anal plate; POG = postgenital plate; SR = seminal receptaculum; VD = vulval duct; VE = vestibule; VS = vulval stem. Scale bars: 0.1 mm (A–F); 0.2 mm (G, H).

Diagnosis

This new species is similar to *Choiroblemma bengalense* and *Choiroblemma rhinoxunum* (Bourne 1980: figs. 31–44) in the snout-like protrusion of clypeus of male

and the thin embolus, but can be distinguished by the thin and short conductor (Fig. 3 A–C), vs. wide and robust, the conical apophysis of male palpal cymbium (Fig. 3C and D) vs. lacking, the distally prong of male chelicerae (Fig. 3E) vs. lacking and the extension of female pre-anal plate on posterior margin (Fig. 2H) vs. on the middle area.

Etymology

The specific name is a noun in apposition taken from the type locality.

Distribution

Known only from the type locality (Fig. 4).

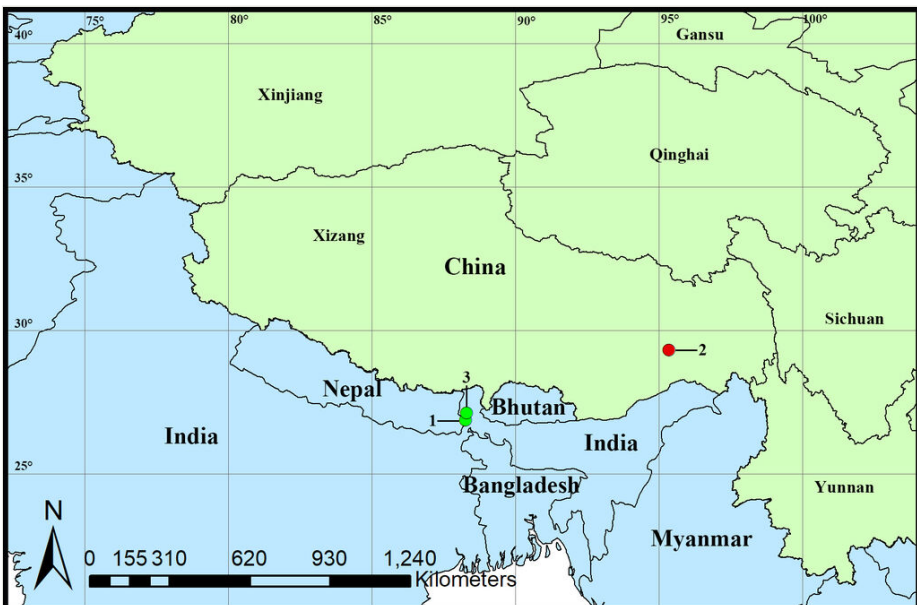


Figure 4. [doi](#)

Distribution records of *Choiroblemma* species from China and India, green circles represent two known species, red circle indicates the new species. 1. *Choiroblemma bengalense* Bourne, 1980; 2. *Choiroblemma metok* sp. nov.; 3. *Choiroblemma rhinoxunum* Bourne, 1980.

Acknowledgements

The manuscript benefitted greatly from comments by Alireza Zamani (Turku, Finland), Cheng Wang (Tongren, China) and Zhiyuan Yao (Shenyang, China). We are grateful to Feng Zhang (Hebei University, Baoding, China) for providing the specimens. This study is supported by the Basic Scientific Research Support Project of Liaoning Province (LJ232410166067).

References

- Ballarin F, Yamasaki T, Su Y (2021) A survey on poorly known rainforest litter-dwelling spiders of Orchid Island (Lanyu, Taiwan) with the description of a new species (Araneae: Linyphiidae, Tetrablemmidae, and Theridiosomatidae). *Zootaxa* 4927 (2): 197-208. <https://doi.org/10.11646/zootaxa.4927.2.2>
- Bourne JD (1980) New armored spiders of the family Tetrablemmidae from New Ireland and northern India (Araneae). *Revue Suisse de Zoologie* 87: 301-317. <https://doi.org/10.5962/bhl.part.85520>
- Burger M, Harvey MS, Stevens N (2010) A new species of blind subterranean *Tetrablemma* (Araneae: Tetrablemmidae) from Australia. *Journal of Arachnology* 38: 146-149. <https://doi.org/10.1636/A09-73.1>
- Cheng W, Ren L, Tong Y, Bian D, Li S (2022) Two new species of the spider genus *Sinamma* Lin & Li, 2014 (Araneae, Tetrablemmidae) from Guangdong Province, China. *Zootaxa* 5091 (3): 443-454. <https://doi.org/10.11646/zootaxa.5091.3.4>
- Fu H, Wang Y, Tong Y (2022) A newly-recorded species of the genus *Ablemma* Roewer, 1963 (Araneae, Tetrablemmidae) from China. *Biodiversity Data Journal* 10 (e85365): 1-6. <https://doi.org/10.3897/BDJ.10.e85365>
- He A, Zhu J, Chen F, Guo J (2024) The fourth species of *Sinamma* Lin & Li, 2014 (Araneae, Tetrablemmidae) from China. *Biodiversity Data Journal* 12 (e134334): 1-8. <https://doi.org/10.3897/BDJ.12.e134334>
- He Y, Lin Y (2021) Two new armored spiders (Araneae, Tetrablemmidae) from Yunnan, China. *Acta Arachnologica Sinica* 30 (2): 106-112. <https://doi.org/10.3969/j.issn.1005-9628.2021.02.05>
- Jocqué R, Dippenaar-Schoeman AS (2006) Spider families of the World. Musée Royal del'Afrique Central, Tervuren, 336 pp.
- Lin Y, Li S (2010) New armored spiders of the family Tetrablemmidae from China. *Zootaxa* 2440: 18-32. <https://doi.org/10.11646/zootaxa.2440.1.2>
- Lin Y, Li S (2014) New cave-dwelling armored spiders (Araneae, Tetrablemmidae) from Southwest China. *ZooKeys* 388: 35-67. <https://doi.org/10.3897/zookeys.388.5735>
- Lin Y, Zhao H, Koh JKH, Li S (2022) Taxonomy notes on twenty-eight spider species (Arachnida: Araneae) from Asia. *Zoological Systematics* 47 (3): 198-270. <https://doi.org/10.11865/zs.2022303>
- Tong Y, Li S (2008) Tetrablemmidae (Arachnida, Araneae), a spider family newly recorded from China. *Organisms Diversity & Evolution* 8 (2): 84-98. <https://doi.org/10.1016/j.ode.2007.01.002>
- WSC (2024) World Spider Catalog. Version 25.5. Natural History Museum Bern. <http://wsc.nmbe.ch>. Accessed on: 2024-11-19.