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## Monograph

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# Review of the pseudoscorpion genus *Stenohya* Beier, 1967 from China (Pseudoscorpiones, Neobisiidae)

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**Abstract.** *Stenohya* Beier, 1967 is an Asian pseudoscorpion genus, with more than half of the species reported from China. In this study, eight new *Stenohya* species from China are described: *S. biverticis* Zhao, Guo & Zhang sp. nov., *S. cordata* Zhao, Guo & Zhang sp. nov., *S. margarita* Zhao, Guo & Zhang sp. nov., *S. polygonia* Zhao, Guo & Zhang sp. nov. and *S. ungulata* Zhao, Guo & Zhang sp. nov. from Guangxi, *S. jiaxiani* Zhao, Guo & Zhang sp. nov. from Fujian, *S. harveyi* Zhao, Guo & Zhang sp. nov. from Yunnan, and *S. qianlei* Zhao, Guo & Zhang sp. nov. from Chongqing. The females of *S. jiahensis* Li & Shi, 2023 and *S. dongtianensis* Li & Shi, 2023 are described for the first time, and *S. bomica* Zhao & Zhang, 2011 and *S. hainanensis* Guo & Zhang 2016 are redescribed based on the reexamination of the type specimens. A key and a distribution map to the Chinese species are provided.

**Keywords.** New species, taxonomy, sexual dimorphism, identification key.

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## Introduction

*Stenohya* Beier, 1967 is a medium- to large-sized pseudoscorpion, and its members can be found in leaf litter, soil, under rocks and the tree bark and canopy of low plants. There are currently 26 species that have been described from Asia including Afghanistan, Central Asia, China, India, Nepal, Pakistan, Thailand and Vietnam. Sexual dimorphism is pronounced in some species of *Stenohya*, a feature first

noted by Leclerc & Mahnert (1988) and subsequently documented in various species. Male secondary sexual characters are primarily manifested in two aspects: (1) modifications of pedipalp, including elongated pedipalps, assorted projections on the femur, patella or chelal hand of the pedipalps; (2) modifications of leg I, including enlarged femur and patella, or fused basitarsus and telotarsus. These sexually dimorphic characters are consistently absent in females (Leclerc & Mahnert 1988; Hu & Zhang 2012; Guo *et al.* 2019; Zhan *et al.* 2023; Zhao *et al.* 2024).

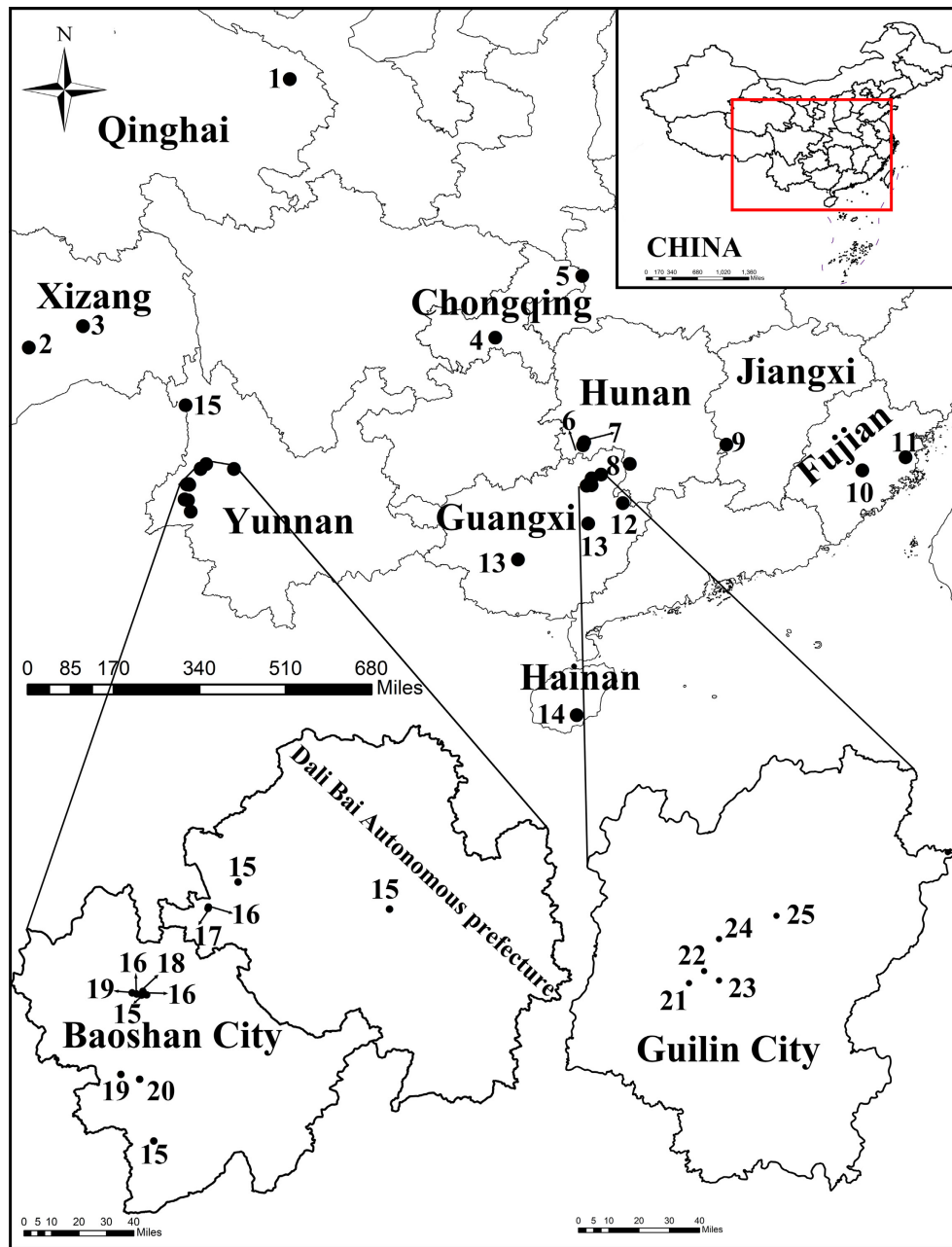
The genus *Stenohya* was originally based on the type species, *S. vietnamensis* Beier, 1967 from Vietnam, and referred to the family Hyidae Chamberlin, 1930 (Beier 1967). In a review of some Asian species that had previously been assigned to the neobisiid genus *Microcreagris* Balzan, 1892, Čurčić (1983) proposed the new genus *Levigatocreagris* for *L. gruberi* Čurčić, 1983 and transferred *Microcreagris lindbergi* Beier, 1959 from Afghanistan to this genus. Subsequently, several species of *Levigatocreagris* were described from Nepal, Thailand and India (Callaini 1990; Schawaller 1987; Leclerc & Mahnert 1988), and *M. heros* Beier, 1943 was also transferred to *Levigatocreagris* (Leclerc & Mahnert 1988). However, Harvey (1991b) transferred *Stenohya* to the family Neobisiidae Chamberlin, 1930 based on the presence of the venom apparatus only in the fixed chelal finger and a non-lanceolate trichobothrium *t*. Harvey (1991b) also treated *Stenohya* as a senior synonym of *Levigatocreagris* due to their similar trichobothrial pattern, even though *S. vietnamensis* was based on a juvenile holotype. The diagnosis of the genus *Stenohya* was restricted as follows: trichobothrium *ist* situated midway between *ib* and *it*, and far removed from *et*, *est* and *it* (which are grouped together distally) and *eb*, *esb*, *isb* and *ib* (which are grouped together basally) (Harvey 1991b).

Progress in the study of taxonomy of pseudoscorpions from China remained slow in the 20<sup>th</sup> century. Schawaller (1995) reviewed the pseudoscorpion fauna of China and listed 47 species, including a new species collected from a cave, *Stenohya chinacavernicola* Schawaller, 1995, which was transferred to the genus *Bisetocreagris* Čurčić, 1983 by Mahnert & Li (2016) because its trichobothrial pattern is the same as those in other species of *Bisetocreagris* rather than in species of *Stenohya*. Since 2011, there have been 17 new species of *Stenohya* described from China (Zhao & Zhang 2011; Zhao *et al.* 2011; Hu & Zhang 2012; Yang & Zhang 2013; Guo & Zhang 2016; Guo *et al.* 2019; Zhan *et al.* 2023; Li & Shi 2023; Zhao *et al.* 2024), with most of them from the southern region of China, except for *S. xiningensis* which was from the northern region.

In this study, all species of *Stenohya* from China are reviewed and the diagnosis of this genus is revised. Eight new species with sexually dimorphic pedipalp and/or leg I are described from China. The females of *S. jiahensis* Li & Shi, 2023 and *S. dongtianensis* Li & Shi, 2023 are described for the first time. Based on the reexamination of the type material, the holotype and paratype of *S. bomica* Zhao & Zhang, 2011, originally claimed to be females, are revealed to be tritonymphs, and the female genital area of *S. hainanensis* Guo & Zhang, 2016 is redescribed. Two keys (for males and females, respectively, considering distinctly sexual dimorphism in some *Stenohya* species) and a distribution map (Fig. 1) of the Chinese species of *Stenohya* are provided.

## Material and methods

All specimens were preserved in 75% alcohol. Temporary slide mounts were prepared in glycerol. Detailed examinations were carried out with an Olympus BX53 general optical microscope. Photographs and measurements were taken using a Leica M205A stereo microscope equipped with a Leica DFC550 camera. Drawings were made using Inkscape ver. 1.0.2.0. Figures were edited and formatted using Adobe Photoshop 2022. All specimens were deposited in the Museum of Hebei University (MHBHU), Baoding, China.



**Fig. 1.** Distribution map of species of *Stenohya* Beier, 1967 from China. 1. *Stenohya xiningensis* Zhao, Zhang & Jia, 2011. 2. *Stenohya setulosa* Guo & Zhang, 2016. 3. *Stenohya bomica* Zhao & Zhang, 2011. 4. *Stenohya spinata* Zhan, Feng & Zhang, 2023. 5. *Stenohya qianlei* Zhao, Guo & Zhang sp. nov. 6. *Stenohya gibba* Zhao, Guo & Zhang, 2024. 7. *Stenohya papillata* Zhao, Guo & Zhang, 2024. 8. *Stenohya margarita* Zhao, Guo & Zhang sp. nov. 9. *Stenohya guangmingensis* Zhao, Guo & Zhang, 2024. 10. *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov. 11. *Stenohya huangi* Hu & Zhang, 2012. 12. *Stenohya biverticis* Zhao, Guo & Zhang sp. nov. 13. *Stenohya pengae* Hu & Zhang, 2012. 14. *Stenohya hainanensis* Guo & Zhang, 2016. 15. *Stenohya curvata* Zhao, Zhang & Jia, 2011. 16. *Stenohya bicornuta* Guo, Zang & Zhang, 2019. 17. *Stenohya harveyi* Zhao, Guo & Zhang sp. nov. 18. *Stenohya arcuata* Guo, Zang & Zhang, 2019. 19. *Stenohya tengchongensis* Yang & Zhang, 2013. 20. *Stenohya meiacantha* Yang & Zhang, 2013. 21. *Stenohya jiahensis* Li & Shi, 2023. 22. *Stenohya cordata* Zhao, Guo & Zhang sp. nov. 23. *Stenohya ungulata* Zhao, Guo & Zhang sp. nov. 24. *Stenohya polygonia* Zhao, Guo & Zhang sp. nov. 25. *Stenohya dongtianensis* Li & Shi, 2023.

Terminology and measurements largely follow Chamberlin (1931), except for the nomenclature of the pedipalps and legs, and the terminology of trichobothria (Harvey 1992); the term “rallum” (for flagellum) is adopted from Judson (2007). All measurements in text and captions are in millimeter.

The following abbreviations are used in the text for the trichobothria:

*b* = basal  
*eb* = exterior basal  
*esb* = exterior sub-basal  
*est* = exterior sub-terminal  
*et* = exterior terminal  
*ib* = interior basal  
*isb* = interior sub-basal  
*ist* = interior sub-terminal  
*it* = interior terminal  
*sb* = sub-basal  
*st* = sub-terminal  
*t* = terminal

## Results

### *Taxonomy*

Class Arachnida Cuvier, 1812  
Order Pseudoscorpiones de Geer, 1778  
Family Neobisiidae Chamberlin, 1930  
Subfamily Microcreagrinae Balzan, 1892

Genus *Stenohya* Beier, 1967

*Stenohya* Beier, 1967: 343–344.

*Levigatocreagris* Ćurčić, 1983: 34–35.

*Stenohya* – Beier 1967: 343–344. — Harvey 1991a: 315; 1991b: 290–291.

*Levigatocreagris* – Harvey 1991a: 336.

### Type species

*Stenohya vietnamensis* Beier, 1967 by original designation.

### Diagnosis

Trichobothria *et*, *est* and *it* are grouped together distally, *eb*, *esb*, *isb* and *ib* are grouped together basally, *ist* situated medially between *et-est-it* and *eb-esb-isb-ib*, or closer to *et-est-it* than to *eb-esb-isb-ib*; *t* and *st* grouped together distally, *b* and *sb* grouped together basally.

### Remarks

The original diagnosis of *Stenohya* provided by Harvey (1991b) was: trichobothrium *ist* situated midway between *ib* and *it*, and far removed from *et*, *est* and *it* (which are grouped together distally) and *eb*, *esb*, *isb* and *ib* (which are grouped together basally). At that time, all species of *Stenohya* except *S. hamata* (Leclerc & Mahnert, 1988) fitted this diagnosis. The species *S. hamata* has an *ist* situated sub-distally, closer to *et-est-it* than to *eb-esb-isb-ib*, which was noticed by Harvey (1991b). As more and more species of *Stenohya* have been described and reported with *ist* situated sub-distally (Guo *et al.* 2019; Li & Shi 2023; Zhan *et al.* 2023; Zhao *et al.* 2024), the original diagnosis is redefined in this study.

### Distribution

Afghanistan; Central Asia; China; India; Nepal; Pakistan; Thailand; Vietnam.

*Stenohya arcuata* Guo, Zang & Zhang, 2019 (弓形狭伪蝎)  
Figs 1.18, 69X, 70U

*Stenohya arcuata* Guo *et al.*, 2019: 96–100, figs 1–3.

### Diagnosis

Male pedipalpal femur and patella incurved; pedipalpal patella 3.38–3.49 times as long as broad; the presence of 137–141 teeth on pedipalpal fixed chelal finger. Female apex of pedipalpal coxa with four long setae; pedipalpal femur 4.23–4.45 times as long as broad; pedipalpal patella 2.81–2.86 times as long as broad; the presence of 124–129 pointed teeth on pedipalpal fixed chelal finger.

### Material examined

#### Holotype

CHINA • ♂; Yunnan Province, Baoshan City, Gaoligong Mountains; 25°18' N, 98°47' E; 2345 m a.s.l.; 13 Apr. 2014; Xuankong Jiang leg.; Ps.-MHBU-YN14041301.

#### Paratypes

CHINA • 1 ♂, 3 ♀♀; same collection data as for holotype; Ps.-MHBU-YN14041302–05.

#### Other material

CHINA – Yunnan Province, Baoshan City, Gaoligong Mountains • 4 ♂♂, 1 ♀; 25°17'22" N, 98°43'37" E; 2818 m a.s.l.; 23 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 3 ♂♂, 1 ♀; 25°17'14" N, 98°43'21" E; 2720 m a.s.l.; 24 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 6 ♂♂, 3 ♀♀; 25°17'28" N, 98°43'58" E; 2924 m a.s.l.; 26 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 4 ♂♂, 1 ♀; 25°17'30" N, 98°43'53" E; 3013 m a.s.l.; 27 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 3 ♂♂, 1 ♀; 25°17'28" N, 98°44'19" E; 3149 m a.s.l.; 31 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 3 ♀♀; 25°17'30" N, 98°44'24" E; 3009 m a.s.l.; 1 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 3 ♀♀; 25°17'27" N, 98°44'44" E; 2740 m a.s.l.; 2 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 7 ♂♂, 2 ♀♀; 25°17'37" N, 98°43'44" E; 3116 m a.s.l.; 3 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 2 ♀♀; 25°17'29" N, 98°44'39" E; 2802 m a.s.l.; 5 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 6 ♂♂, 2 ♀♀; 25°17'43" N, 98°43'58" E; 3228 m a.s.l.; 7 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 3 ♀♀; 25°17'32" N, 98°44'29" E; 2942 m a.s.l.; 8 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 1 ♀; 25°18'16" N, 98°45'46" E; 2656 m a.s.l.; 11 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♀; 25°17'58" N, 98°45'56" E; 2431 m a.s.l.; 12 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 1 ♀; 25°17'41" N, 98°44'50" E; 2689 m a.s.l.; 15 Apr. 2014; Xuankong Jiang and Tian Lu leg.

### Distribution

China: Yunnan Province.

### Remarks

The sexual dimorphism of this species is seen in the pedipalp, male pedipalpal femur and patella incurved, female pedipalpal femur straight and patella curved at base.

*Stenohya bicornuta* Guo, Zang & Zhang, 2019 (双角狭伪蝎)  
Figs 1.16, 69C, 70L

*Stenohya bicornuta* Guo et al., 2019: 100–104, figs 4–6.

**Diagnosis**

Male pedipalpal chela hand with a bifid horn-like projection on the prolateral face near base of finger; movable chelal finger enlarged at the base; the presence of 91–94 teeth on pedipalpal fixed chelal finger and the presence of 72 teeth on pedipalpal movable chelal finger. Female pedipalpal femur 5.37 times as long as broad; pedipalpal patella 3.48 times as long as broad; the presence of 105 teeth on pedipalpal fixed chelal finger and the presence of 88 teeth on pedipalpal movable chelal finger.

**Material examined**

**Holotype**

CHINA • ♂; Yunnan Province, Baoshan City, Gaoligong Mountains; 25°17' N, 98°45' E; 2681 m a.s.l.; 2 Apr. 2014; Tian Lu leg.; Ps.-MHBU-YN14040201.

**Paratypes**

CHINA • 1 ♂, 1 ♀; same collection data as for holotype; Ps.-MHBU-YN14040202–03.

**Other material**

CHINA–Yunnan Province, Baoshan City, Gaoligong Mountains • 1 ♂, 1 ♀; 25°17'22" N, 98°43'37" E; 2818 m a.s.l.; 23 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 3 ♂♂, 1 ♀; 25°17'28" N, 98°43'58" E; 2924 m a.s.l.; 26 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 5 ♂♂, 1 ♀; 25°17'30" N, 98°43'53" E; 3013 m a.s.l.; 27 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 1 ♀; 25°17'30" N, 98°44'24" E; 3009 m a.s.l.; 1 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 1 ♀; 25°17'27" N, 98°44'44" E; 2740 m a.s.l.; 2 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♀; 25°17'37" N, 98°43'44" E; 3116 m a.s.l.; 3 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 2 ♀♀; 25°17'29" N, 98°44'39" E; 2802 m a.s.l.; 5 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 2 ♀♀; 25°17'32" N, 98°44'29" E; 2942 m a.s.l.; 8 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂, 1 ♀; 25°17'14" N, 98°44'56" E; 2689 m a.s.l.; 15 Apr. 2014; Xuankong Jiang and Tian Lu leg. • 1 ♂; 2 Mar. 2011; Zongxu Li and Luyu Wang leg. – Yunnan Province, Yunlong County, Caojian town • 1 ♂; 17 Feb. 2012; Zizhong Yang leg.

**Distribution**

China: Yunnan Province.

**Remarks**

The most obvious sexual dimorphism of this species is found on the pedipalpal chela; the male pedipalpal chela hand has a bifid horn-like projection on the prolateral face and a movable chelal finger enlarged at the base, but the female has no projection and the movable finger is not enlarged at the base.

*Stenohya biverticis* Zhao, Guo & Zhang sp. nov. (双峰狭伪蝎)  
[urn:lsid:zoobank.org:act:29484BAF-E833-4B3C-8B59-6BF6D2261771](https://zoobank.org/act:29484BAF-E833-4B3C-8B59-6BF6D2261771)  
Figs 1.12, 2–8, 69U, 70F

**Diagnosis**

Male pedipalpal femur with a bimodal projection in the subterminal prolateral position, a unimodal protuberance in the median prolateral position, as well as two intumescences in the  $\frac{1}{3}$  and  $\frac{2}{3}$  position on the dorsal side (Figs 5H, 6D–E). Apex of female pedipalpal coxa with six long setae; pedipalpal femur 4.44–4.79 times as long as broad; pedipalpal chela (with pedicel) 4.04–4.30 times as long as broad; movable finger length 2.05–2.13 mm.

### Etymology

The specific epithet is derived from the Latin word ‘*biverticis*’, meaning ‘bimodal’, which refers to the male pedipalpal femur with a bimodal projection on the subterminal prolateral surface; adjective.



**Fig. 2.** Habitats of some species of *Stenohya* Beier, 1967. **A.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov. **B.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov. **C.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov. **D.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov. **E.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov. **F.** *Stenohya jiahensis* Li & Shi, 2023. **G.** *Stenohya dongtianensis* Li & Shi, 2023.

## Type material

### Holotype

CHINA • ♂; Guangxi Zhuang Autonomous Region, Fuchuan Yao Autonomous County, Xiling National Park; 24°45'03" N, 111°14'19" E; 267 m a.s.l.; 3 Dec. 2023; in leaf litter (Fig. 2C); Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBG-GX2023120301.

### Paratypes

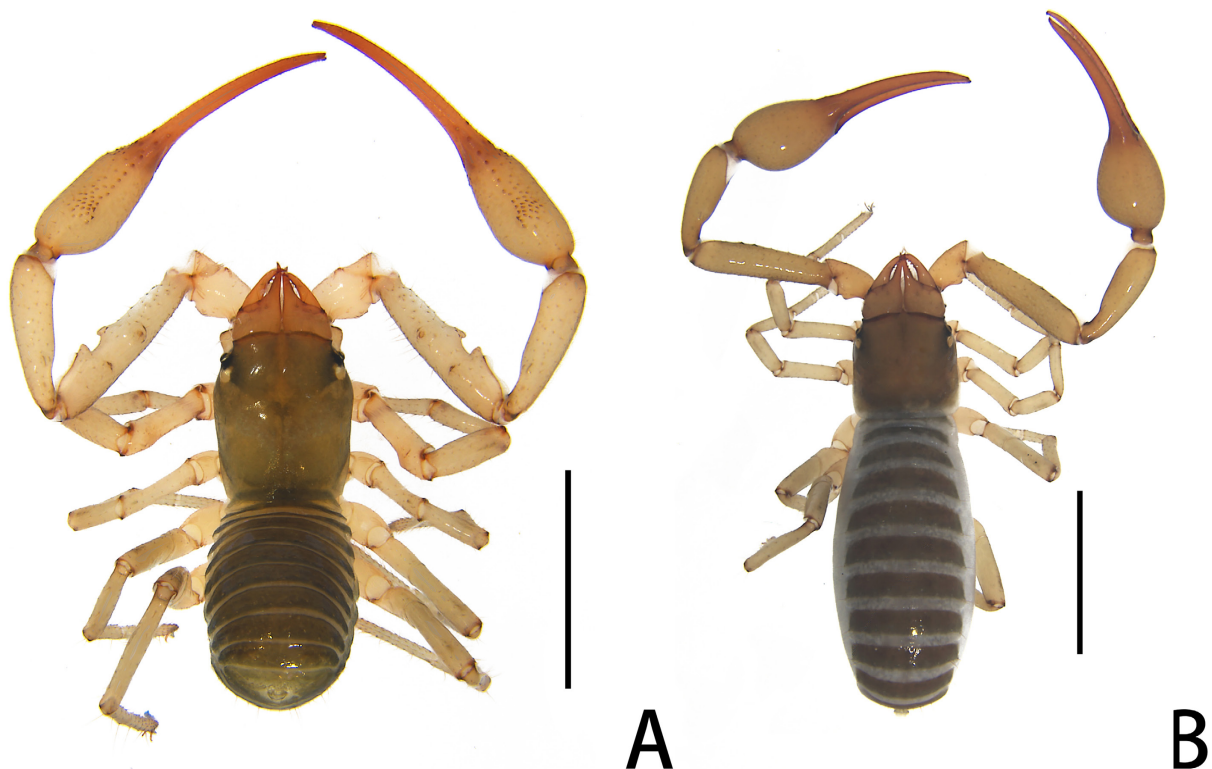
CHINA • 2 ♀♀; same collection data as for holotype; Ps.-MHBG-GX2023120302–03 • 1 ♂, 4 ♀♀; same locality as for holotype; 24°44'53" N, 111°14'38" E; 283 m a.s.l.; 17 Jan. 2024; in leaf litter; Jiaqi Zhao, Jianzhou Sun and Yiting Xu leg.; Ps.-MHBG-GX2024011701–05.

## Description

### Adult males (holotype and male paratype) (Figs 3A, 4A)

CARAPACE (Figs 5A, 6A, 69U). Carapace 1.20–1.24 times as long as broad, with a total of 36–39 setae, including six near anterior margin and 5–7 near posterior margin; five lyrifissures near the eyes, three lyrifissures near posterior margin; with four corneate eyes, epistome large and triangular, with rounded apex. Carapace with slight elevations in the middle of the eye area and the posterior half of carapace in lateral view.

CHELICERA (Figs 5B, 6B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 10–11 teeth; movable finger with 5–6 teeth; serrula exterior with 42–45 lamellae; serrula interior with 33–36 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami (Fig. 5E);



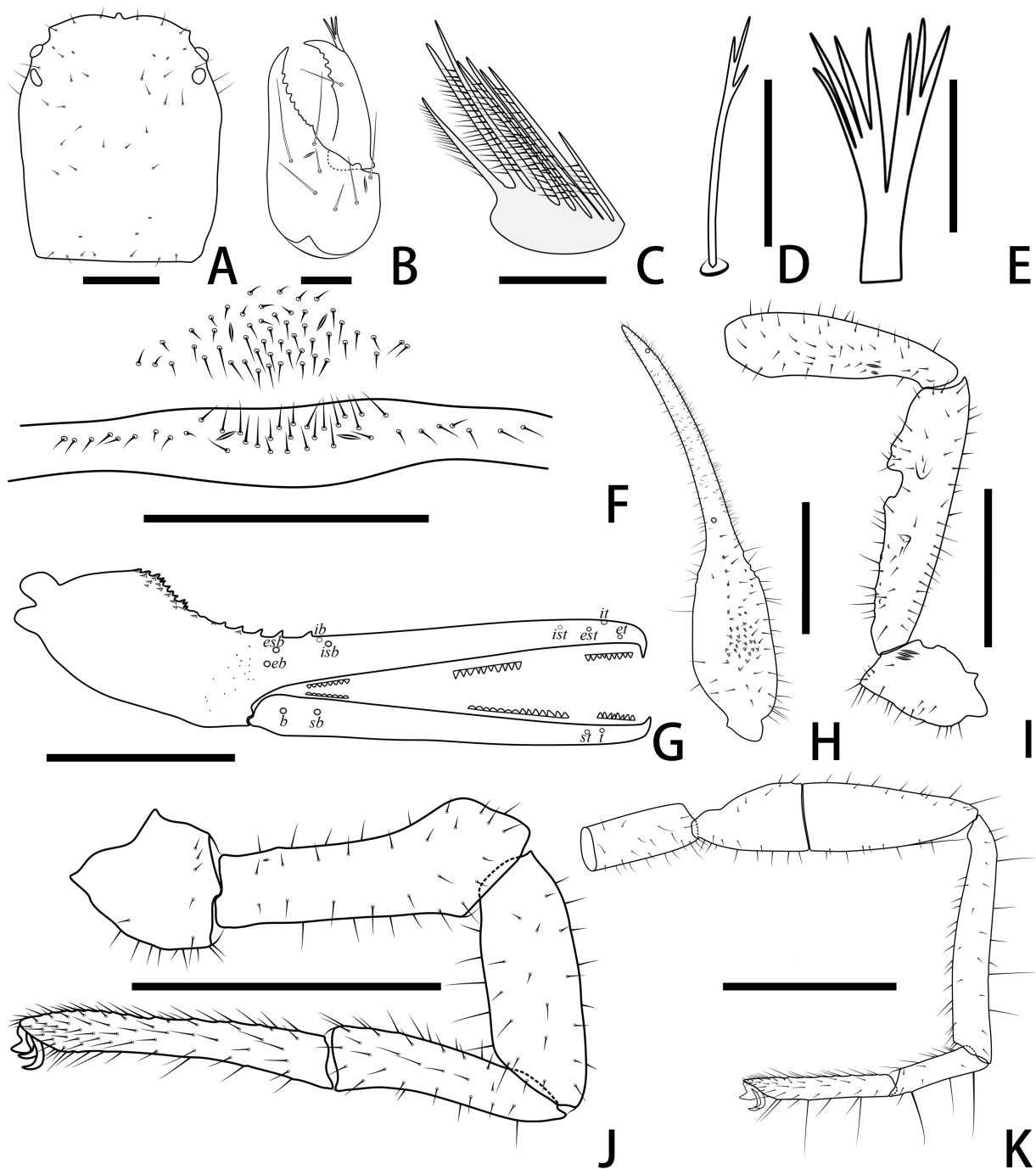
**Fig. 3.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBG-GX2023120301). **B.** Paratype, female (dorsal view) (Ps.-MHBG-GX2023120302). Scale bars: 2 mm.

rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 5C).

**PEDIPALPS** (Figs 5G–I, 6C–E). Apex of pedipalpal coxa rounded, with six long setae. Trochanter with some small granulations, femur with some small tubercles in the prolateral position, and a bimodal projection in the subterminal prolateral position, a unimodal protuberance in the median prolateral position, as well as two intumescences in the  $\frac{1}{3}$  and  $\frac{2}{3}$  position on the dorsal side (Figs 5I, 6D–E); patella smooth; chelal hand concave on the dorsal side of distal half in lateral view, and with 37–42 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base, a few spinous apophyses extended to the subbase of fixed finger. Several small granular processes located distally on the hand on retrolateral side (Figs 5G–H, 6C–D). Trochanter 1.42–1.48, femur 4.14–4.24, patella 3.81–4.52, chela (with pedicel) 5.13–5.30, chela (without pedicel) 4.87–5.02 times as long as broad, movable finger 1.61–1.73 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 99–102 pointed teeth, movable finger with 87–88 teeth: 40–45 rounded teeth at base and 43–48 pointed teeth in distal position.



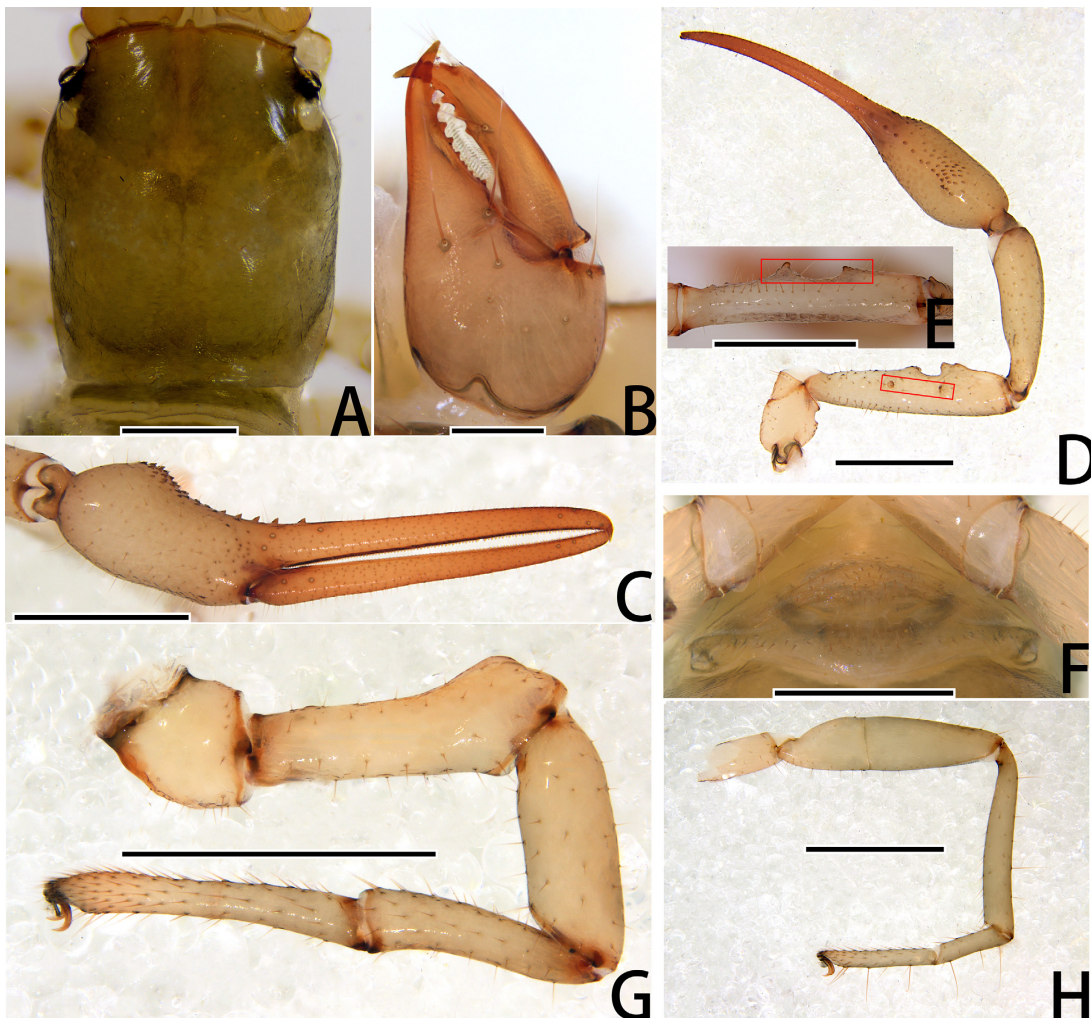
**Fig. 4.** Live specimens of *Stenohya biverticis* Zhao, Guo & Zhang sp. nov. **A.** Male. **B.** Female.



**Fig. 5.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBU-GX2023120301). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K= 1 mm.

ABDOMEN. Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 6:7–8:8:10:10–11:11:10–11:12:10–12:11–13:8–14, sternal chaetotaxy (IV–XI): 22–27:23–24:18–21:18–20:17–18:15–17:11–15:4, sternites VI–VIII with 6–11 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 5F, 6F): anterior genital sternite with 51–52 setae and two lyrifissures; posterior genital sternite with 37–44 setae and two lyrifissures.

LEGS (Figs 5J–K, 6G–H). In leg I, femur with marked enlargement distally, patella enlarged, tibia bent, basitarsus and telotarsus fused, the dividing line between the two segments inconspicuous (Figs 5J, 6G). Leg I: trochanter 1.18–1.38, femur 2.71–3.03, patella 2.30–2.75, tibia 3.70–3.83, basitarsus + telotarsus 6.06–6.27 times as long as deep. Leg IV: trochanter 2.29–2.48, femur + patella 4.32–4.53, tibia 4.13–5.64, basitarsus 3.53–4.29, telotarsus 6.67–6.83 times as long as deep; tibia with three submedial tactile setae (TS=0.22–0.29, 0.67–0.88, 0.95–1.02), basitarsus with two tactile setae (TS=0.13–0.20, 0.8–0.87), telotarsus with two tactile setae (TS=0.56–0.60, 0.80–0.81); subterminal tarsal seta distally branched (Fig. 5D). Arolium not divided, shorter than the slender and simple claws.



**Fig. 6.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBU-GX2023120301). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Right pedipalpal chela, lateral view. **D.** Right pedipalp, dorsal view (two intumescences on femur in red box). **E.** Right pedipalpal femur, retrolateral view (two intumescences on femur in red box). **F.** Genital area, ventral view. **G.** Right leg I, lateral view right. **H.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E, G–H=1 mm.

**Adult females** (paratypes) (Figs 3B, 4B)

Mostly same as in males, except where noted.

**CARAPACE** (Figs 7A, 8A, 70F). Carapace 1.00–1.02 times as long as broad, with a total of 31–36 setae, including six near anterior margin and 5–6 near posterior margin; five lyrifissures near the eyes, epistome large and triangular. Carapace smooth and nearly rectangular.

**CHELICERA** (Figs 7B, 8B). Fixed finger with 12–13 teeth; movable finger with 5–7 teeth; serrula exterior with 43–44 lamellae; serrula interior with 30–38 lamellae.

**PEDIPALPS** (Figs 7G–I, 8D–E). Apex of pedipalpal coxa with six long setae. Femur with a few tubercles prolaterally (Figs 7I, 8D). Trochanter 1.55–1.81, femur 4.44–4.79, patella 3.18–3.40, chela (with pedicel) 4.04–4.30, chela (without pedicel) 3.87–4.10 times as long as broad, movable finger 1.66–1.77 times as long as hand (without pedicel). Fixed chelal finger with 89–103 pointed teeth, movable finger with 89–93 teeth: 39–44 rounded teeth at base and 45–54 pointed ones in distal position.

**ABDOMEN**. Tergal chaetotaxy (I–XI): 5–6:7–8:8:10:10:10:10:9–10:12:10–12:12–13, sternal chaetotaxy (IV–XI): 25–28:21–23:20–21:17:16–18:16–17:14–15:2–5, sternites VI–VIII with two medial glandular setae; genital area (Figs 7F, 8C): sternite II with a total of 15–23 setae and two lyrifissures; sternite III with a row of 29–31 setae and two lyrifissures.

**LEGS** (Figs 7J–K, 8F–G). Leg I: trochanter 1.21–1.41, femur 3.44–4.38, patella 2.91–3.00, tibia 4.25–5.14, basitarsus 3.08–3.73, telotarsus 4.18–4.67 times as long as deep. Leg IV: trochanter 2.45–2.79, femur+patella 4.05–4.18, tibia 5.91–6.71, basitarsus 3.13–3.93, telotarsus 6.36–6.62 times as long as deep; tibia with two submedial tactile setae (TS=0.66–0.71, 0.97–1.02), basitarsus with two tactile setae (TS=0.17–0.20, 0.83–0.98), telotarsus with two tactile setae (TS=0.24–0.34, 0.58–0.59).

**Measurements** (in mm; length/breadth or, for legs, length/depth)

**Males** (holotype and paratypes)

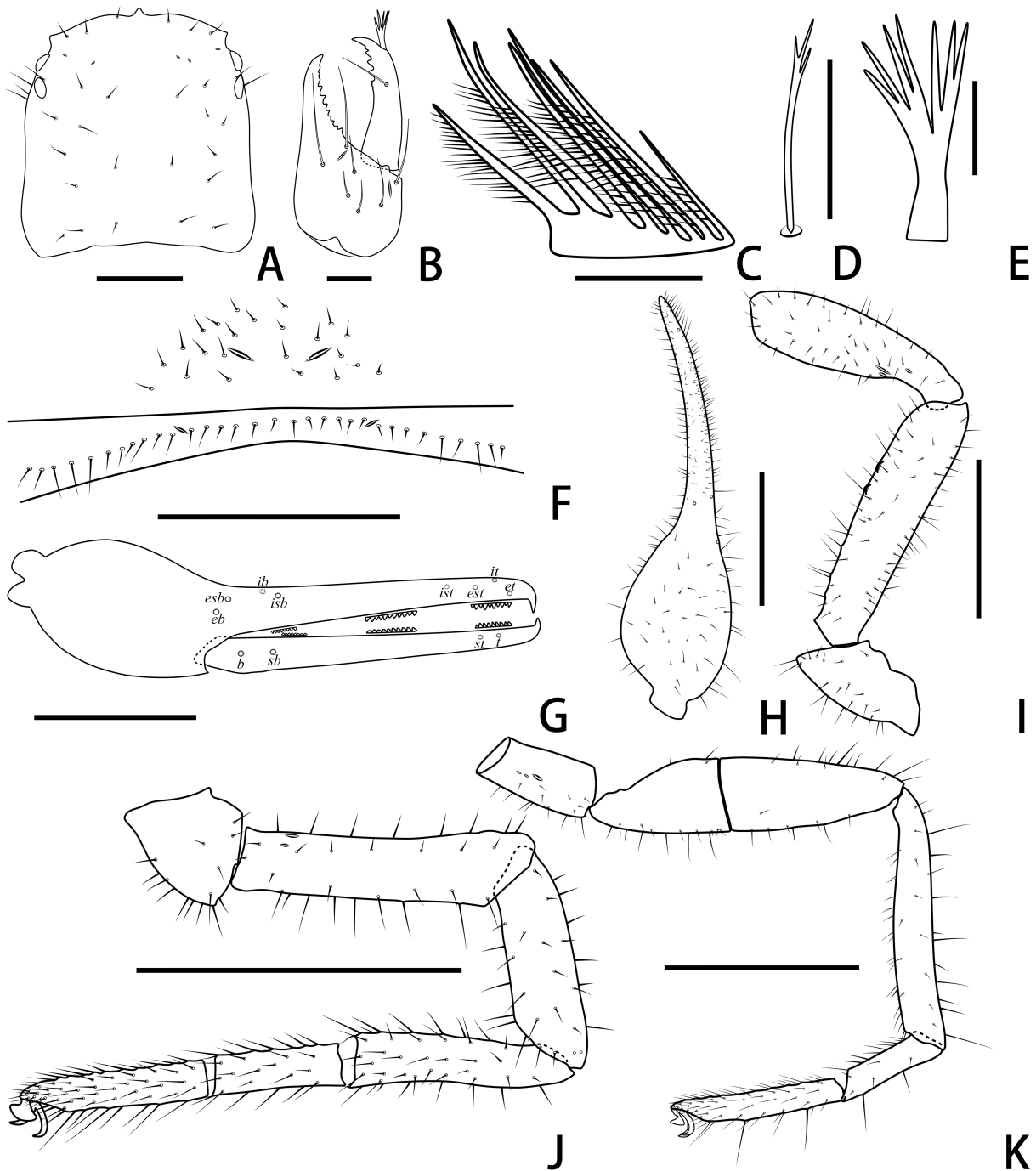
Body length 4.02–4.17. Carapace 1.51–1.52/1.22–1.27. Pedipalpal trochanter 0.68–0.71/0.48, femur 1.74–1.82/0.41–0.44, patella 1.37–1.49/0.33–0.36, chela (with pedicel) 3.08–3.23/0.60–0.61, chela (without pedicel) 2.92–3.06/0.60–0.61, hand (without pedicel) length 1.11–1.18, movable finger length 1.90–1.92. Leg I: trochanter 0.45–0.51/0.37–0.38, femur 0.95–1.00/0.33–0.35, patella 0.69–0.77/0.28–0.30, tibia 0.69–0.74/0.18–0.20, basitarsus+telotarsus 0.94–0.97/0.15–0.16. Leg IV: trochanter 0.64–0.72/0.28–0.29, femur+patella 1.54–1.64/0.34–0.38, tibia 1.28–1.31/0.21–0.22, basitarsus 0.53–0.60/0.14–0.15, telotarsus 0.80–0.82/0.12.

**Females** (paratypes)

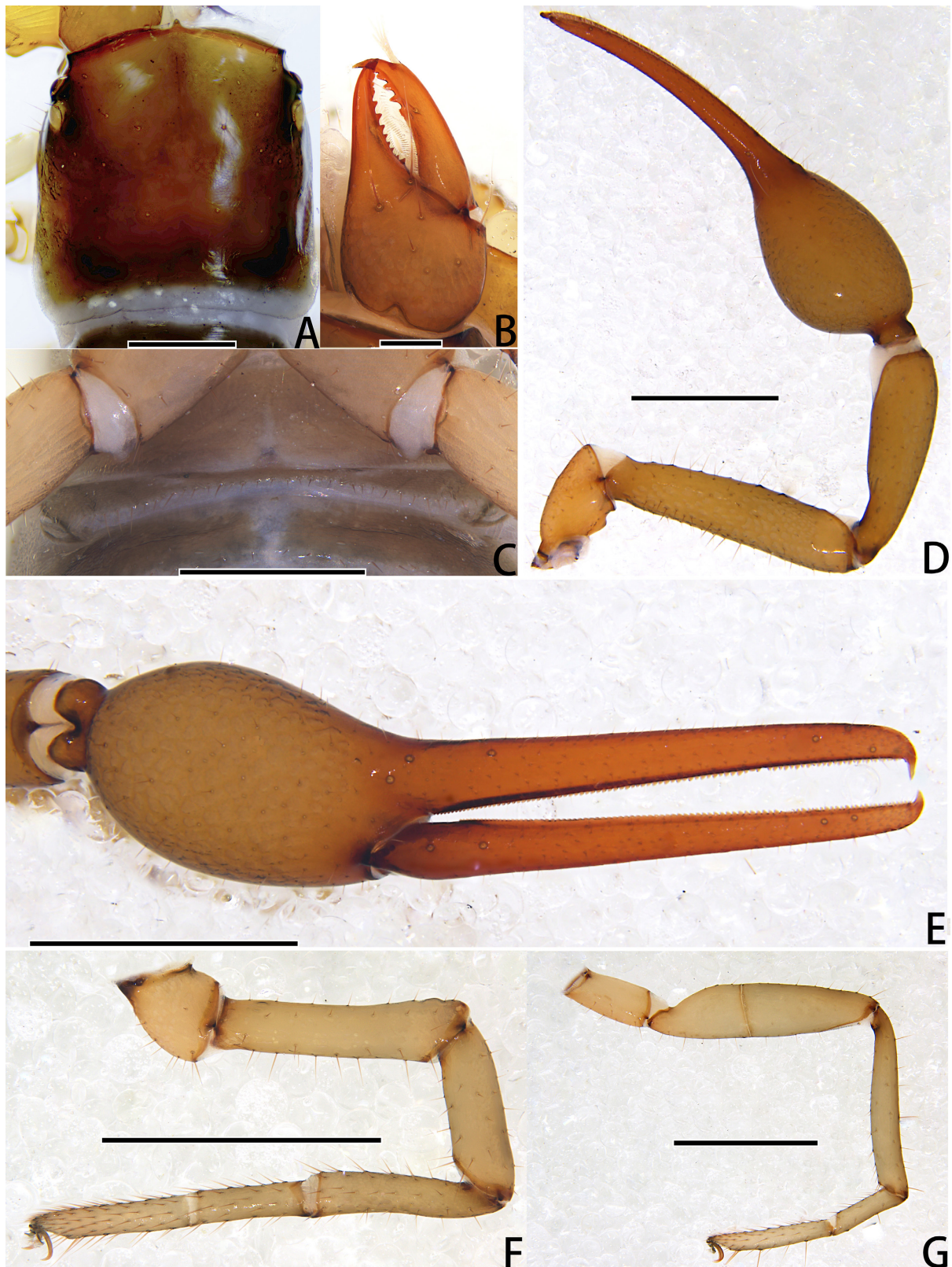
Body length 4.64–5.18. Carapace 1.33–1.35/1.32–1.33. Pedipalpal trochanter 0.68–0.78/0.43–0.44, femur 1.78–1.87/0.39–0.41, patella 1.43–1.53/0.43–0.47, chela (with pedicel) 3.19–3.44/0.79–0.81, chela (without pedicel) 3.06–3.26/0.79–0.81, hand (without pedicel) length 1.16–1.28, movable finger length 2.05–2.13. Leg I: trochanter 0.40–0.42/0.29–0.33, femur 0.86–0.95/0.21–0.25, patella 0.63–0.67/0.21–0.23, tibia 0.68–0.72/0.14–0.16, basitarsus 0.40–0.41/0.11–0.13, telotarsus 0.46–0.56/0.11–0.12. Leg IV: trochanter 0.76–0.78/0.28–0.31, femur+patella 1.61–1.67/0.39–0.41, tibia 1.30–1.41/0.21–0.22, basitarsus 0.50–0.59/0.15–0.16, telotarsus 0.84–0.89/0.13–0.14.

**Distribution**

China: Guangxi Zhuang Autonomous Region.



**Fig. 7.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBG-GX2023120302). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 8.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-GX2023120302). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalp, dorsal view. **E.** Right chela, lateral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.

**Remarks**

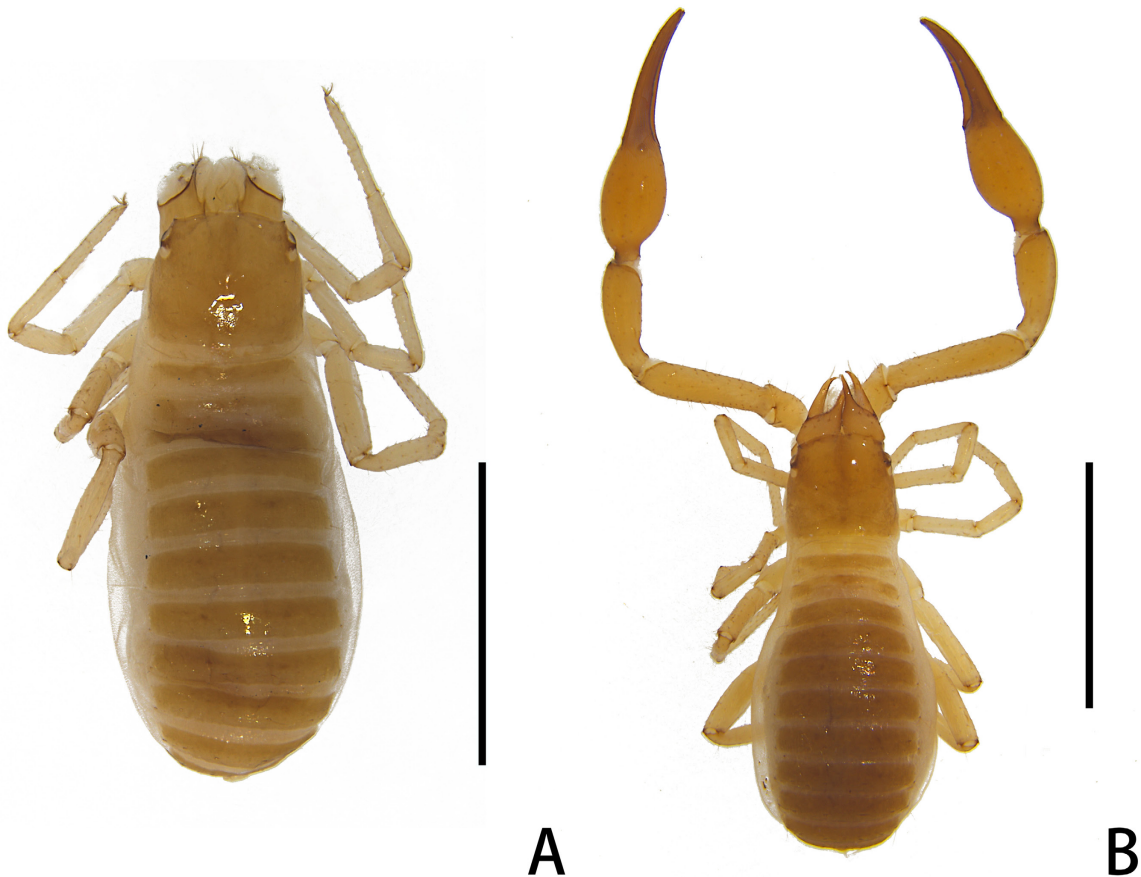
The enlarged leg I observed in the male of this new species also occurs in the males of *S. gibba* Zhao, Guo & Zhang, 2024, *S. papillata* Zhao, Guo & Zhang, 2024 and *S. guangmingensis* Zhao, Guo & Zhang, 2024. This new species can be distinguished by the differences in the pedipalpal femur: in *S. biverticis* Zhao, Guo & Zhang sp. nov., the pedipalpal femur has two intumescences in the  $\frac{1}{3}$  and  $\frac{2}{3}$  position on the dorsal side (smooth femur in *S. gibba*, *S. papillata* and *S. guangmingensis*) (Zhao *et al.* 2024). Females of this new species are similar to those of *S. bicornuta*, *S. gibba*, *S. hamata*, *S. gruberi* (Ćurčić, 1983), *S. papillata* and *S. guangmingensis*, but can be distinguished as follows: the presence of six long setae on the apex of the pedipalpal coxa (eight in *S. bicornuta* and *S. papillata*); pedipalpal femur 4.44–4.79 times as long as broad (5.37 in *S. bicornuta*; 4.90–5.39 in *S. guangmingensis*); pedipalpal chela (with pedicel) 4.04–4.30 times as long as wide (4.67–4.98 in *S. gibba*); and movable finger length 2.05–2.13 (1.53–1.67 in *S. hamata*; 1.89 in *S. gruberi*) (Ćurčić 1983; Leclerc & Mahnert 1988; Guo *et al.* 2019; Zhao *et al.* 2024).

*Stenohya bomica* Zhao & Zhang, 2011 (波密狭伪蝎)  
Figs 1.3, 9–11, 71A

*Stenohya bomica* Zhao & Zhang, 2011: 299–302, fig. 1a–j.

**Revised diagnosis**

Tritonymph pedipalpal femur 3.97 times as long as broad; pedipalpal patella 2.67 times as long as broad; trichobothrium of *ist* situated medially between *et-est-it* and *eb-esb-ib*.



**Fig. 9.** *Stenohya bomica* Zhao & Zhang, 2011. **A.** Holotype, tritonymph (dorsal view) (chelicerae, pedipalp, left leg I and right leg IV removed) (Ar.-MHBU-XZ860426). **B.** Paratype, tritonymph (dorsal view). Scale bars: 2mm.

## Material examined

### Holotype

CHINA • tritonymph; Xizang Autonomous Region, Bomi County; 29°50' N, 95°45' E; 26 Apr. 1986; Fusheng Huang leg.; Ar.-MHBU-XZ860426.

### Paratype

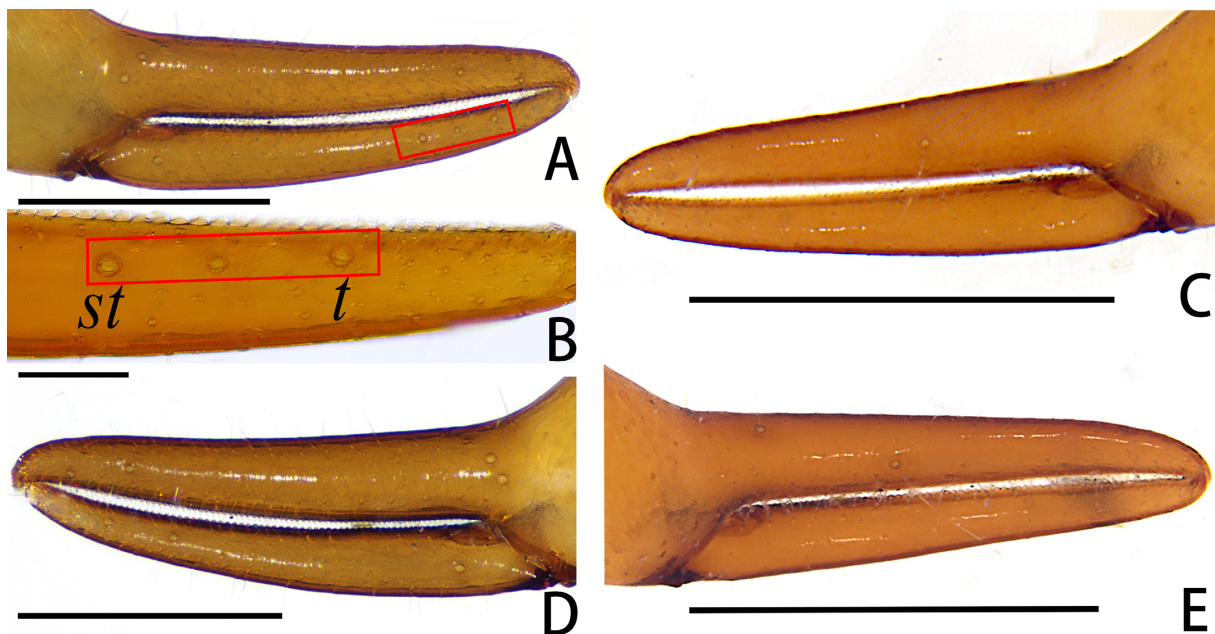
CHINA • one tritonymph, same collection data as for holotype.

## Distribution

China: Xizang Autonomous Region.

## Remarks

The holotype and paratype of *S. bomica* were considered as two adult females by Zhao & Zhang (2011) originally. However, after inspection of the type material, we believe these two specimens are tritonymphs. The number of trichobothria is an important feature to judge the maturity of the pseudoscorpiones: protonymph with four trichobothria, deutonymph with eight trichobothria, tritonymph with 10 trichobothria, adult with 12 trichobothria (Harvey 1992). The holotype of *S. bomica* has 10 trichobothria on the left pedipalpal chela, seven on the fixed finger and three on the movable finger (Fig. 10D–E), while its right pedipalpal chela has 11 trichobothria, seven on the fixed finger and four on the movable finger (Fig. 10A, C). The unusual number of trichobothria on the right pedipalpal chela of the holotype is a result of growth deformity. The extra ‘trichobothrial socket’ between *t* and *st* is significantly smaller than the others (Fig. 10B); it may be a specialization of ordinary seta. The paratype also has 10 trichobothria on both the left and right pedipalpal chela (Fig. 11). As a result, the type material of *S. bomica* are two tritonymphs, both lacking the trichobothria *isb* and *sb*.



**Fig. 10.** *Stenohya bomica* Zhao & Zhang, 2011, holotype, tritonymph (Ar.-MHBU-XZ860426). **A.** Right pedipalpal chela, retrolateral view. **B.** Terminal part of right pedipalpal movable chelal finger, retrolateral view. **C.** Right pedipalpal chela, proteral view. **D.** Left pedipalpal chela, retrolateral view. **E.** Left pedipalpal chela, proteral view. Scale bars: A, C–E = 1 mm; B = 0.1 mm.



**Fig. 11.** *Stenohya bomica* Zhao & Zhang, 2011, paratype tritonymph. **A.** Right pedipalpal chela, retrolateral view. **B.** Right pedipalpal chela, prolateral view. **C.** Left pedipalpal chela, retrolateral view. **D.** Left pedipalpal chela, prolateral view. Scale bars: A–D=1 mm.

*Stenohya cordata* Zhao, Guo & Zhang sp. nov. (爱心狭伪蝎)  
[urn:lsid:zoobank.org:act:F34EDFB7-AFAF-4137-93D6-63A942B88249](https://zoobank.org/urn:lsid:zoobank.org:act:F34EDFB7-AFAF-4137-93D6-63A942B88249)  
Figs 1.22, 12–18, 69S, 70P, 71B

### Diagnosis

Male pedipalpal femur with a heart-shaped protuberance medially and a projection on the subterminal prolateral surface (Figs 14I, 15E); pedipalpal patella with a small, triangular-shaped projection on the prolateral face (Figs 14I, 15E); femur, basitarsus and telotarsus of leg I bent, the dividing line between the basitarsus and telotarsus visible (Figs 14J, 15F). Female pedipalpal femur 4.30–4.54 times as long as broad, pedipalpal patella 2.93–3.23 times as long as broad.

### Etymology

The specific epithet is derived from the Latin word ‘*cordatus*’ meaning ‘cordiform’ and ‘heart-shaped’, which refers to the shape of the projections on the male pedipalpal femur on the subterminal prolateral surface; adjective.

### Type material

#### Holotype

CHINA • ♂; Guangxi Zhuang Autonomous Region, Xiufeng District, Reed Flute Scenic Spot; 25°18'34" N, 110°16'27" E; 203 m a.s.l.; 15 Jan. 2024; in leaf litter and under rocks (Fig. 2D); Jiaqi Zhao, Jianzhou Sun and Yiting Xu leg.; Ps.-MHBU-GX2024011501.

#### Paratypes

CHINA • 3 ♂♂, 2 ♀♀; same collection data as for holotype; Ps.-MHBU-GX2024011502–06 • four tritonymphs; same locality as for holotype; 25°18'24" N, 110°16'43" E; 253 m a.s.l.; 1 Dec. 2023; in leaf litter; Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBU-GX2023120101–04.

## Description

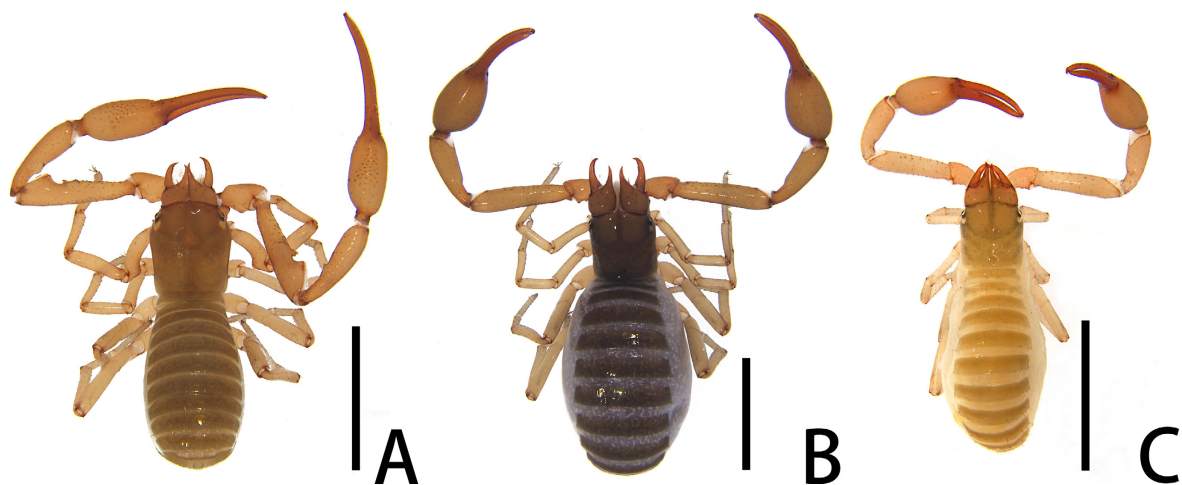
**Adult males** (holotype and male paratypes) (Figs 12A, 13A)

**CARAPACE** (Figs 14A, 15A, 69S). Carapace 1.17–1.22 times as long as broad, with a total of 33 setae, including six near anterior margin and five near posterior margin; eight lyrifissures near the eyes, five lyrifissures near posterior margin; epistome small, triangular, with rounded top; with four corneate eyes. Carapace with slight elevations in the middle of the eye area and the posterior half of carapace in lateral view.

**CHELICERA** (Figs 14B, 15B). Hand with 6–7 setae and two lyrifissures, movable finger with one seta; fixed finger with 14–15 teeth; movable finger with six teeth; serrula exterior with 37–39 lamellae; serrula interior with 35–36 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami (Fig. 14E); rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 14C).

**PEDIPALPS** (Figs 14G–I, 15C, E). Apex of pedipalpal coxa rounded, with five long setae. Trochanter with some small granulations, femur with some small tubercles mainly surrounding the basal to median area in the prolateral position, a heart-shaped protuberance medially and a projection on the subterminal prolateral surface (Figs 14I, 15E); patella with a small, triangular projection in the prolateral position (Figs 14I, 15E); chelal hand with 31–34 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base, a few spinous apophyses extended to the subbase of fixed finger (Figs 14G–H, 15C, E). Trochanter 1.74–1.76, femur 3.83–3.93, patella 3.65–3.84, chela (with pedicel) 5.03–5.16, chela (without pedicel) 4.73–4.95 times as long as broad, movable finger 1.59–1.69 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 93–99 pointed teeth, movable finger with 80–97 teeth: 43–45 rounded teeth at base and 37–52 pointed teeth in distal position.

**ABDOMEN.** Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 4–5 : 7 : 9–10 : 11 : 10 : 10–12 : 10–11 : 10–14 : 12 : 11–12 : 9–13, sternal chaetotaxy (IV–XI): 24–25 : 22–



**Fig. 12.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBU-GX2024011501). **B.** Paratype, female (dorsal view) (Ps.-MHBU-GX2024011502). **C.** Paratype, tritonymph (dorsal view) (Ps.-MHBU-GX2023120101). Scale bars: 2 mm.

23:20–21:18–20:18:14–15:12–14:5–7, sternites VI–VIII with 8–11 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 14F, 15D): anterior genital sternite with 28–31 setae and two lyrifissures; posterior genital sternite with 38–43 setae and two lyrifissures.

LEGS (Figs 14J–K, 15F–G). In leg I, femur bent and with a marked enlargement distally, patella enlarged, basitarsus and telotarsus semi-fused and bent, the dividing line between the two segments visible (Figs 14J, 15F). Leg I: trochanter 1.17–1.23, femur 2.52–2.71, patella 4.19–4.43, tibia 4.31–4.38, basitarsus 3.50–3.92, telotarsus 2.83–3.08 times as long as deep. Leg IV: trochanter 2.18–2.83, femur+patella 4.23–4.29, tibia 3.79–6.83, basitarsus 4.08–4.33, telotarsus 7.00–7.18 times as long as deep; tibia with two submedial tactile setae (TS=0.19, 0.71–0.73), basitarsus with two tactile setae (TS=0.13–0.14, 0.83–0.87), telotarsus with two tactile setae (TS=0.18–0.25, 0.52–0.60); subterminal tarsal seta distally branched (Fig. 14D). Arolium not divided, shorter than the slender and simple claws.

**Adult females** (paratypes) (Figs 12B, 13B)

Mostly same as in males, except where noted.

CARAPACE (Figs 16A, 17A, 70P). Carapace 1.10 times as long as broad, with a total of 27–33 setae, including six near anterior margin and 5–6 near posterior margin; six lyrifissures near the eyes, two lyrifissures near posterior margin. Carapace with an elevation in the middle of the eye area in lateral view.

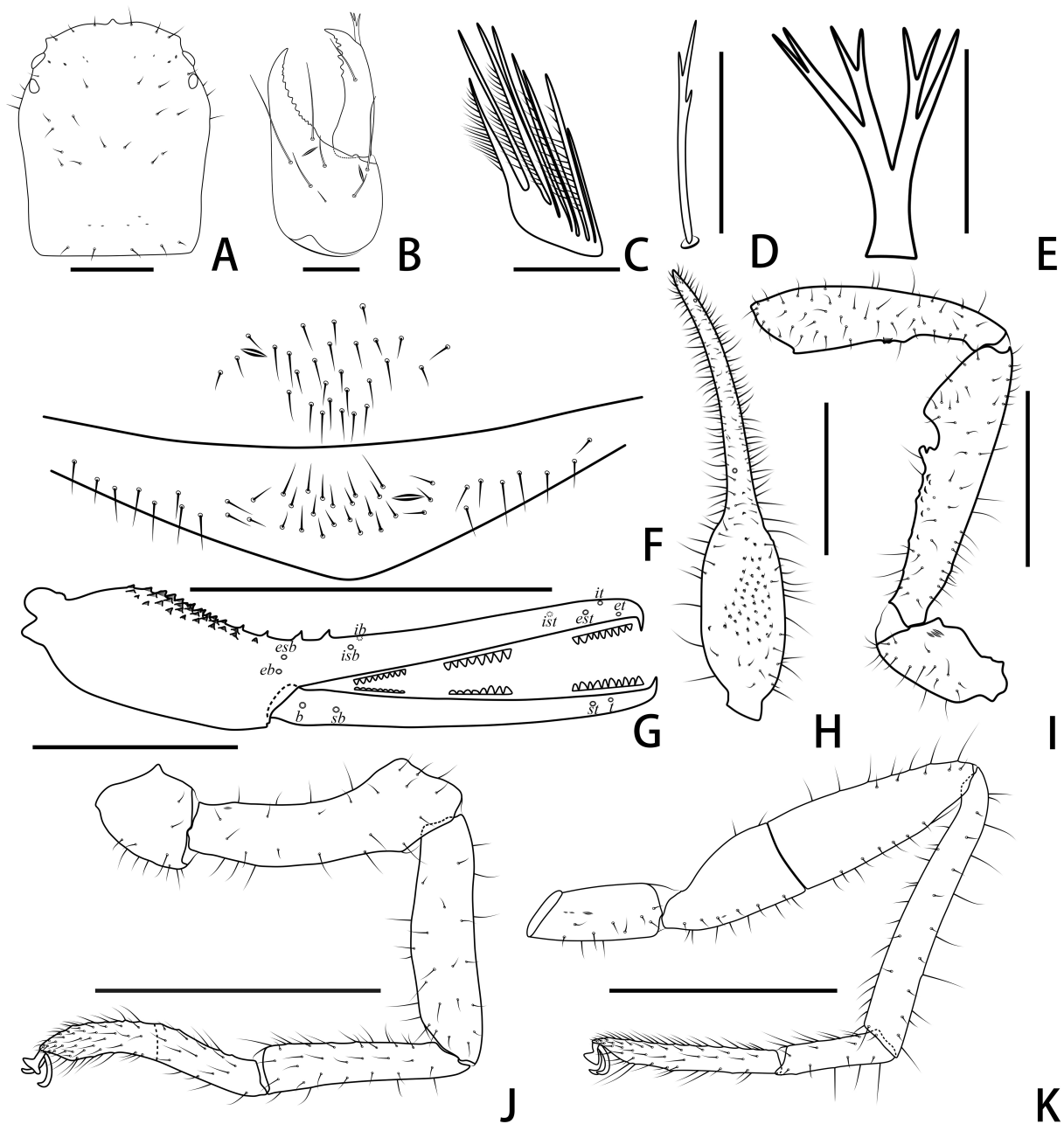
CHELICERA (Figs 16B, 17B). Fixed finger with 12–15 teeth; movable finger with 7–8 teeth; serrula exterior with 40–41 lamellae; serrula interior with 34–36 lamellae; galea divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami (Fig. 16E); rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 16C).

PEDIPALPS (Figs 16G–I, 17D–E). Apex of pedipalpal coxa with five long setae. Femur with a few tubercles prolaterally. Trochanter 1.78–1.85, femur 4.30–4.54, patella 2.93–3.23, chela (with pedicel) 4.00–4.15,



**Fig. 13.** Live specimens of *Stenohya cordata* Zhao, Guo & Zhang sp. nov. **A.** Male. **B.** Female.

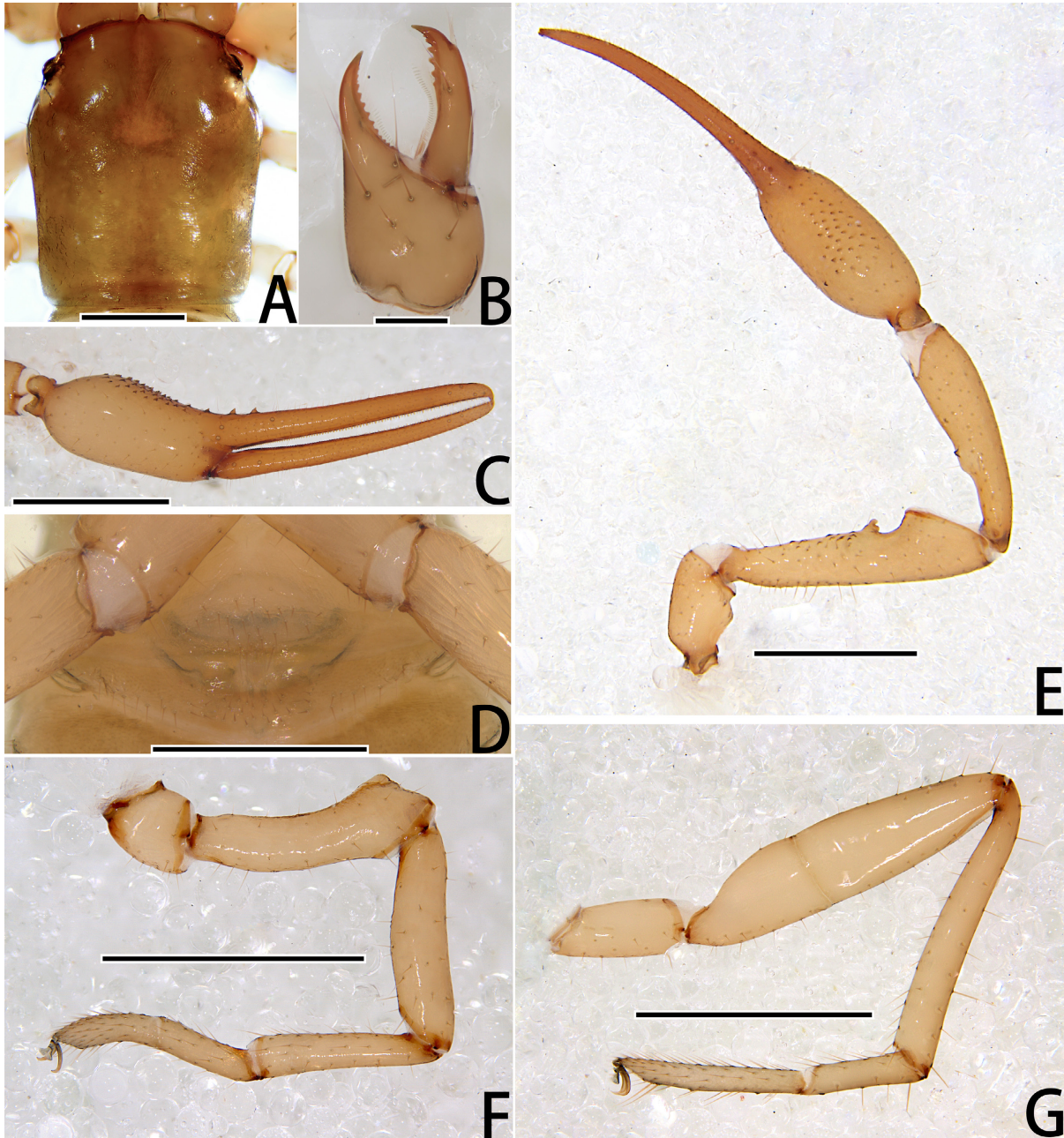
chela (without pedicel) 3.84–3.97 times as long as broad, movable finger 1.44–1.69 times as long as hand (without pedicel). Fixed chelal finger with 88–91 pointed teeth, movable finger with 79–82 teeth: 37–38 rounded teeth at base and 42–44 pointed in distal position.



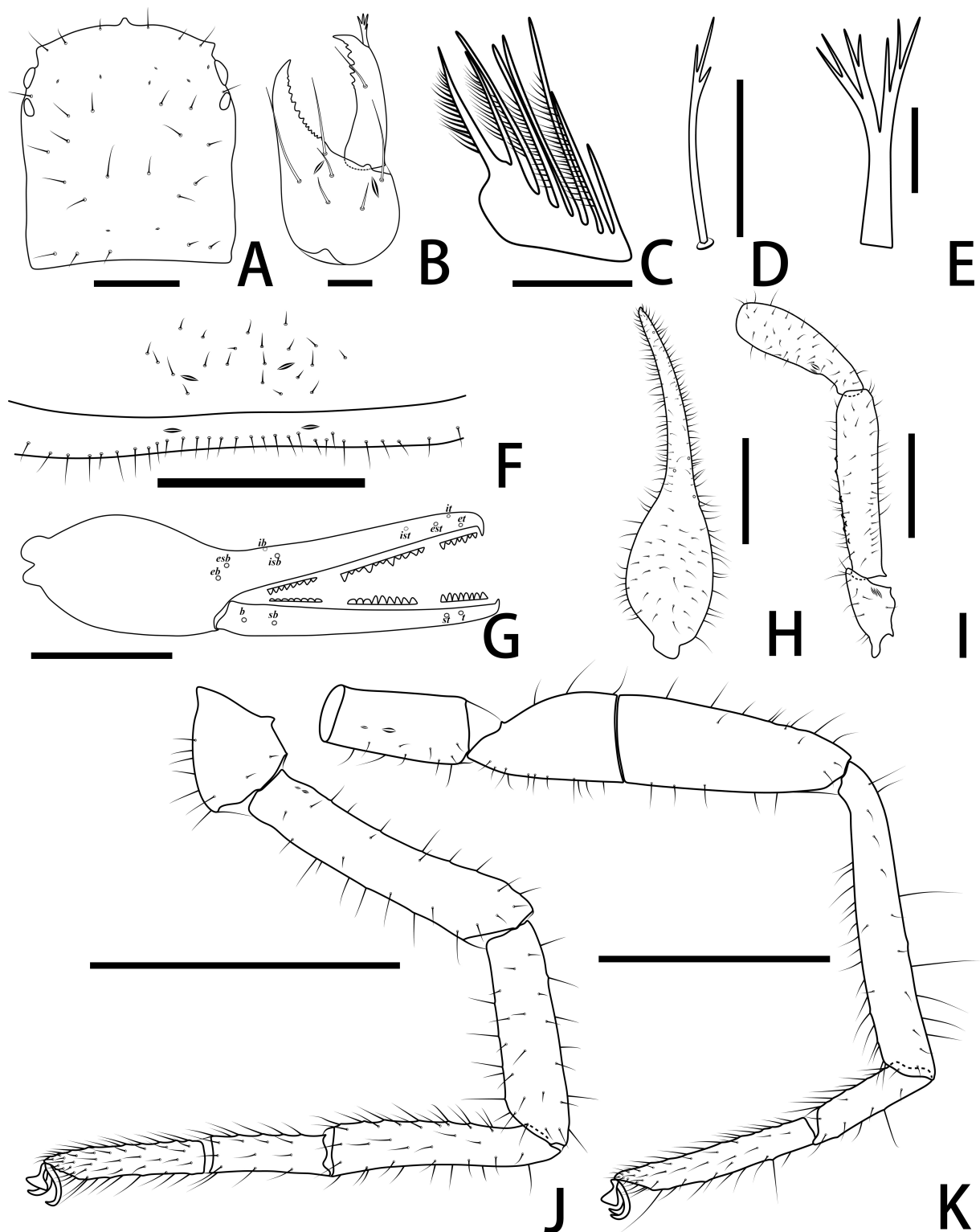
**Fig. 14.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBV-GX2024011501). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.

ABDOMEN. Tergal chaetotaxy (I–XI): 4:7–8:8:10–11:10:10:9–10:11:9–10:9–10:11, sternal chaetotaxy (IV–XI): 20–24:19–21:17–18:18:15–18:13–14:11–12:4–5, sternites VI–VIII with two medial glandular setae; genital area (Figs 16F, 17D): sternite II with a total of 21–23 setae and two lyrifissures; sternite III with a row of 30–33 setae and two lyrifissures.

LEGS (Figs 16J–K, 17F–G). Leg I: trochanter 1.27–1.28, femur 3.95–4.68, patella 3.47–4.19, tibia 2.72–4.79, basitarsus 3.27–3.42, telotarsus 4.80–5.22 times as long as deep. Leg IV: trochanter 2.31–2.69, femur+patella 4.21–4.47, tibia 6.43–6.63, basitarsus 3.40–3.62, telotarsus 5.79–7.27 times as long as



**Fig. 15.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBUCGX2024011501). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Right pedipalpal chela, lateral view. D. Genital area, ventral view. E. Right pedipalp, dorsal view. F. Right leg I, lateral view. G. Right leg IV, lateral view. Scale bars: A, D=0.5 mm; B=0.2 mm; C, E–G=1 mm.

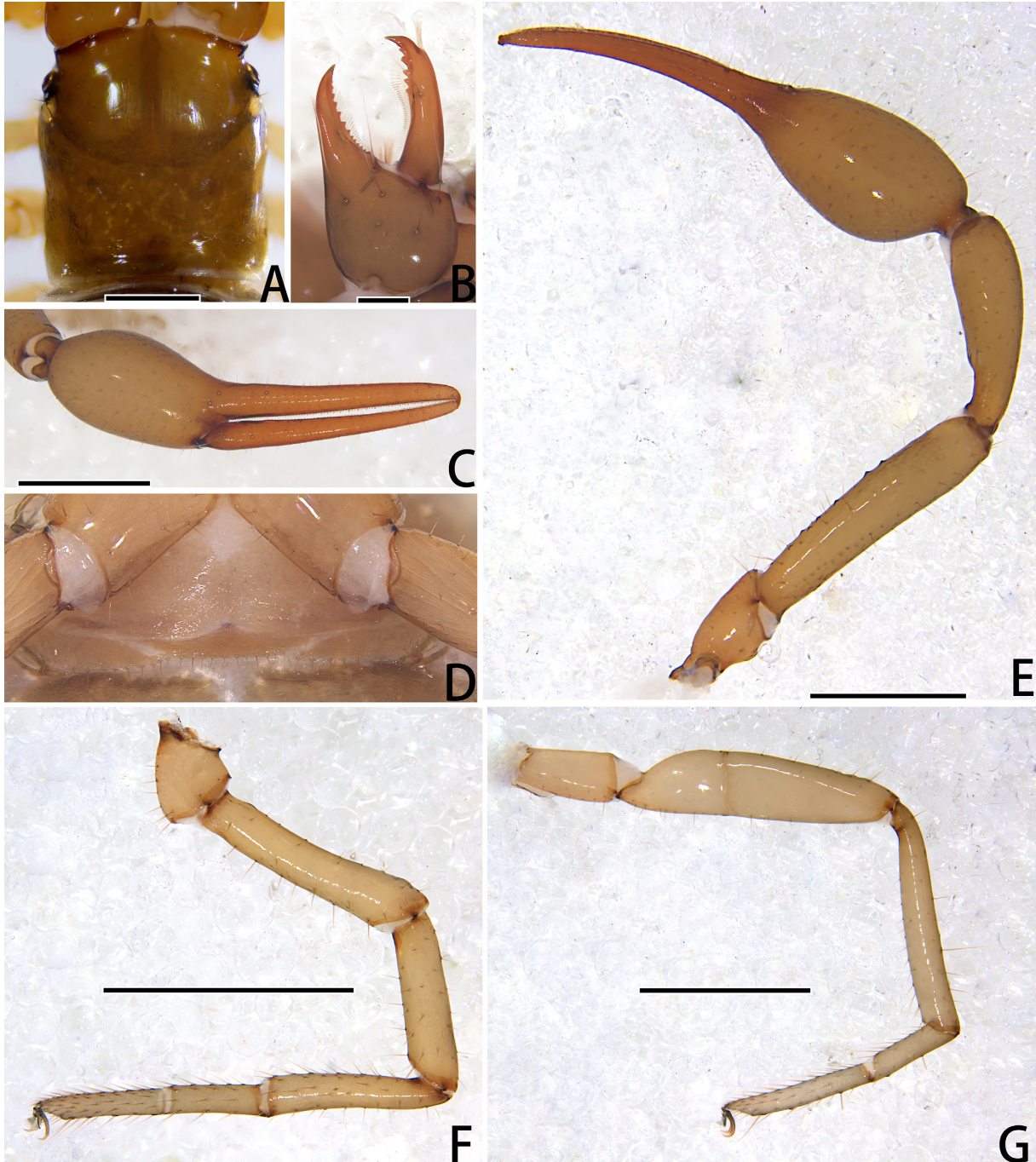


**Fig. 16.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-GX2024011502). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Rallum. D. Subterminal tarsal seta. E. Galea. F. Chaetotaxy of genital area, ventral view. G. Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. H. Right pedipalpal chela, dorsal view. I. Right pedipalp (trochanter, femur and patella), dorsal view. J. Right leg I, lateral view. K. Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.

deep; tibia with two submedial tactile setae (TS=0.44, 0.81–0.84), basitarsus with two tactile setae (TS = 0.43, 0.91–0.94), telotarsus with two tactile setae (TS=0.21, 0.59–0.62).

**Tritonymphs** (paratypes) (Fig. 12C)

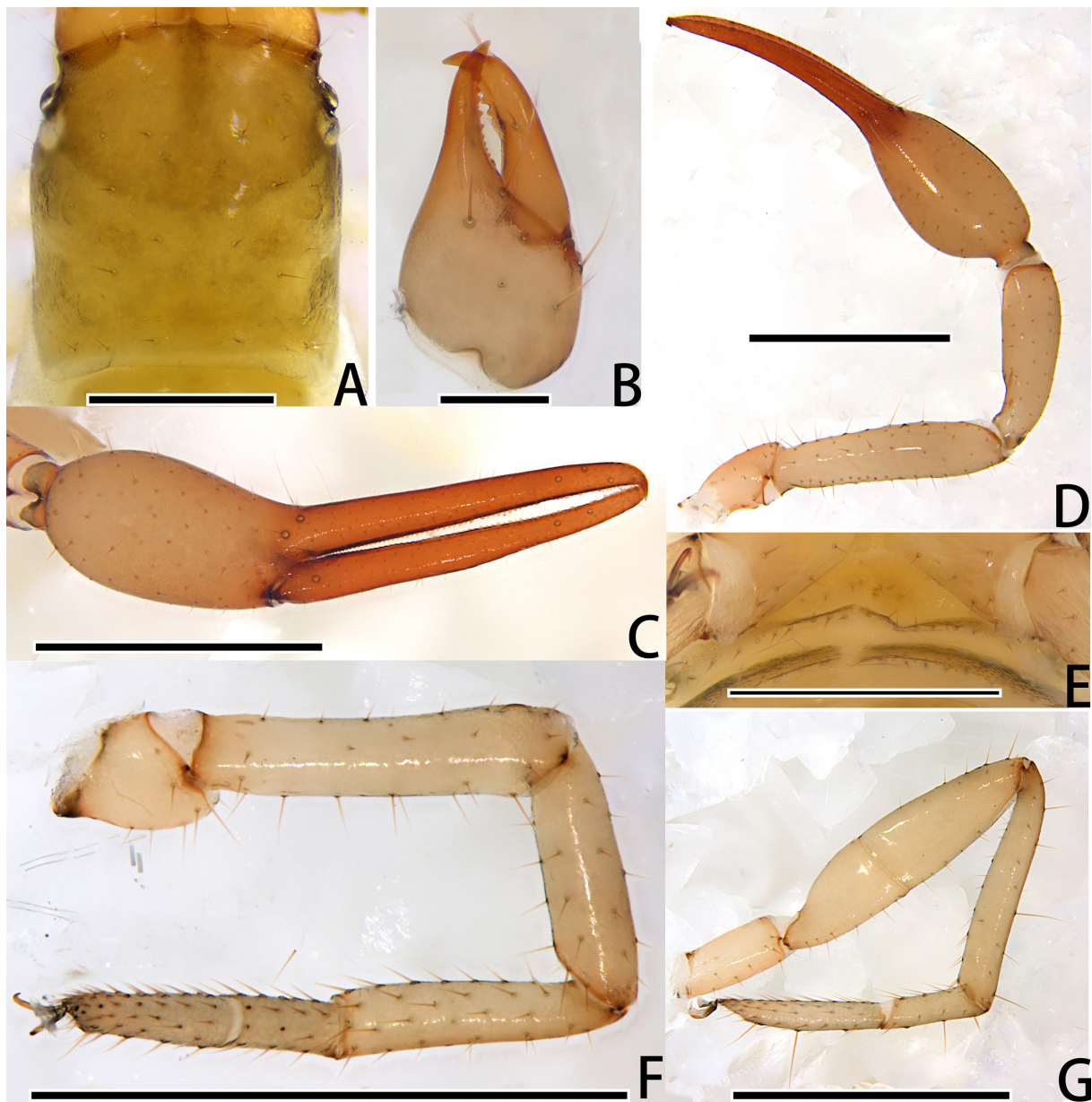
CARAPACE (Figs 18A, 71B). Carapace 1.08 times as long as broad, with a total of 28–29 setae, including six near anterior margin and six near posterior margin; six lyrifissures near the eyes, five lyrifissures



**Fig. 17.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBG-GX2024011502). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Right pedipalpal chela, lateral view. D. Genital area, ventral view. E. Right pedipalp, dorsal view. F. Right leg I, lateral view. G. Right leg IV, lateral view. Scale bars: A, D=0.5 mm; B=0.2 mm; C, E–G=1 mm.

near posterior margin; epistome small, triangular, with rounded top; with four corneate eyes. Carapace smooth.

**CHELICERA** (Fig. 18B). Hand with 5–6 setae and two lyrifissures, movable finger with one seta; fixed finger with 12–14 teeth; movable finger with 6–7 teeth; serrula exterior with 34–39 lamellae; serrula interior with 26–29 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into two terminal rami; rallum consisting of seven blades, all with anteriorly directed spinules, the basalmost blade shortest.



**Fig. 18.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov., paratype, tritonymph (Ps.-MHBU-GX2023120101). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Right pedipalpal chela, lateral view. **D.** Right pedipalp, dorsal view. **E.** Genital area, ventral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, E=0.5 mm; B=0.2 mm; C–D, F–G=1 mm.

**PEDIPALPS** (Fig. 18C–D). Apex of pedipalpal coxa rounded, with four long setae. Femur with some small tubercles in the prolateral position in dorsal view; patella and chelal hand smooth. Trochanter 1.93, femur 4.50–4.81, patella 2.87–3.25, chela (with pedicel) 4.41–4.79, chela (without pedicel) 4.29–4.71 times as long as broad, movable finger 1.53–1.59 times as long as hand (without pedicel). Fixed chelal finger with seven, movable chelal finger with three trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-ib* in fixed chelal finger; *b* situated in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 70–73 pointed teeth, movable finger with 66–73 teeth: 33–39 rounded teeth at base and 33–34 pointed teeth in distal position.

**ABDOMEN.** Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 4:6–9:8–10:9–10:10:8–10:9–11:8–10:7–10:8–9:6–7, sternal chaetotaxy (IV–XI): 16–18:15–17:16:14–17:14–16:12:10–11:4–5, sternites VI–VIII with two medial glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Fig. 18E): anterior genital sternite with 5–6 setae and two lyrifissures; posterior genital sternite with 16–18 setae and two lyrifissures.

**LEGS** (Fig. 18F–G). Leg I: trochanter 1.05, femur 4.06–4.27, patella 3.29–3.38, tibia 3.92–4.27, basitarsus 2.56–2.89, telotarsus 3.50–5.38 times as long as deep. Leg IV: trochanter 2.11–2.29, femur+patella 4.07–4.19, tibia 6.00–6.20, basitarsus 3.45–3.55, telotarsus 5.00–5.45 times as long as deep; tibia with two submedial tactile setae (TS=0.60–0.72, 0.90–0.99), basitarsus with two tactile setae (TS=0.16–0.18, 0.77–0.84), telotarsus with two tactile setae (TS=0.22–0.23, 0.53–0.60); subterminal tarsal seta distally branched. Arolium not divided, shorter than the slender and simple claws.

#### **Measurements** (in mm; length/breadth or, for legs, length/depth)

##### **Males** (holotype and paratypes)

Body length 3.94–4.00. Carapace 1.33–1.38/1.13–1.14. Pedipalpal trochanter 0.66–0.74/0.38–0.42, femur 1.61–1.65/0.42, patella 1.35–1.42/0.37, chela (with pedicel) 2.89–2.97/0.56–0.59, chela (without pedicel) 2.77–2.79/0.59–0.59, hand (without pedicel) length 1.12–1.13, movable finger length 1.78–1.87. Leg I: trochanter 0.35–0.37/0.30, femur 0.78–0.92/0.31–0.34, patella 0.88–0.93/0.21, tibia 0.69–0.70/0.16, basitarsus 0.42–0.47/0.12, telotarsus 0.34–0.37/0.12. Leg IV: trochanter 0.61–0.68/0.24–0.28, femur+patella 1.48–1.50/0.35, tibia 1.23–1.29/0.18–0.19, basitarsus 0.52–0.53/0.12–0.13, telotarsus 0.77–0.79/0.11.

##### **Females** (paratypes)

Body length 3.65–5.21. Carapace 1.23–1.36/1.12–1.24. Pedipalpal trochanter 0.73–0.76/0.41, femur 1.68–1.85/0.37–0.43, patella 1.29–1.35/0.40–0.46, chela (with pedicel) 2.96–3.26/0.74–0.79, chela (without pedicel) 2.84–3.14/0.74–0.79, hand (without pedicel) length 1.17–1.23, movable finger length 1.77–1.98. Leg I: trochanter 0.37–0.38/0.29–0.30, femur 0.87–0.89/0.19–0.22, patella 0.66–0.67/0.16–0.19, tibia 0.67–0.68/0.14–0.25, basitarsus 0.36–0.41/0.11–0.12, telotarsus 0.47–0.48/0.09–0.10. Leg IV: trochanter 0.60–0.78/0.26–0.29, femur+patella 1.52–1.64/0.34–0.39, tibia 1.26–1.35/0.19–0.21, basitarsus 0.47–0.51/0.13–0.15, telotarsus 0.80–0.81/0.11–0.14.

##### **Tritonymphs** (paratypes)

Body length 3.04–3.47. Carapace 0.91–0.92/0.84–0.85. Pedipalpal trochanter 0.56–0.58/0.29–0.30, femur 1.17–1.25/0.26, patella 0.86–0.91/0.28–0.30, chela (with pedicel) 2.16–2.30/0.48–0.49, chela (without pedicel) 2.10–2.26/0.48–0.49, hand length (without pedicel) 0.86–0.89, movable finger length 1.36–1.37. Leg I: trochanter 0.22–0.23/0.21–0.22, femur 0.64–0.65/0.15–0.16, patella 0.44–0.46/0.13–0.14, tibia 0.47/0.11–0.12, basitarsus 0.23–0.26/0.09, telotarsus 0.35–0.43/0.08–0.10. Leg IV: trochanter 0.40–0.48/0.19–0.21, femur+patella 1.10–1.13/0.27, tibia 0.90–0.93/0.15, basitarsus 0.38–0.39/0.11, telotarsus 0.60/0.11–0.12.

### Distribution

China: Guangxi Zhuang Autonomous Region.

### Remarks

The presence of a projection on the prolateral face of the pedipalpal patella has been previously reported for males of *S. gibba*, *S. papillata* and *S. spinata* Zhan, Feng & Zhang, 2023. The new species can be distinguished by the basitarsus and telotarsus of leg I in lateral view: in *S. cordata* Zhao, Guo & Zhang sp. nov., basitarsus and telotarsus are bent (in *S. gibba* basitarsus and telotarsus each have a large columnar projection on the lateral side, in *S. papillata* and *S. spinata* basitarsus and telotarsus are straight) (Zhan *et al.* 2023; Zhao *et al.* 2024). Females of the new species are similar to those of *S. tengchongensis* Yang & Zhang 2013, but can be distinguished by the following: pedipalpal femur 4.30–4.54 times as long as broad (4.00–4.13 in *S. tengchongensis*); pedipalpal patella 2.93–3.23 times as long as broad (2.66–2.67 in *S. tengchongensis*) (Yang & Zhang 2013).

*Stenohya curvata* Zhao, Zhang & Jia, 2011 (弯曲狭伪蝎)  
Figs 1.15, 69A, 70H

*Stenohya curvata* Zhao *et al.*, 2011: 58–61, figs 1–19.

### Diagnosis

Male pedipalpal chelal hand with a thorn-like projection near base of fixed finger; pedipalpal movable chelal finger basally curved in ventral view. Female apex of pedipalpal coxa with five long setae; carapace 1.15–1.28 times as long as broad; pedipalpal femur 5.00–5.24 times as long as broad; the presence of 77–85 pointed teeth on pedipalpal movable chelal finger.

### Material examined

#### Holotype

CHINA • ♂; Yunnan Province, Dali City, Cangshan Mountain; 25°44' N, 100°05' E; 2700 m a.s.l.; 3 Mar. 2010; Zizhong Yang leg.; Ar.-MHBU-YN100303.

#### Paratypes

CHINA • 3 ♀♀; same collection data as for holotype; Ar.-MHBU-YN10030302–04.

#### Other material

CHINA – **Yunnan Province** • 4 ♂♂, 6 ♀♀; Longling County, Xiaoheishan nature reserve; 17 Feb. 2011; Zongxu Li and Luyu Wang leg. • 2 ♂♂; Yunlong County, Tianchi National Nature Reserve; 25°52'35" N, 99°17'05" E; 2580 m a.s.l.; 12 Oct. 2011, Haibo Pu leg. • 1 ♂, 1 ♀; Dali City, Cangshan Mountain; 2600 m a.s.l.; 26 Oct. 2011; Zizhong Yang leg. • 1 ♀; Dali City, Cangshan Mountain; 2500–2700 m a.s.l.; 23 Nov. 2011; Yanyan Ma leg. • 1 ♂, 3 ♀♀; Baoshan City, Baihualing; 2 Mar. 2011; Zongxu Li and Luyu Wang leg. • 7 ♂♂, 2 ♀♀; Gongshan County, Qiuwa town; 23 Nov. 2011; Zongxu Li and Luyu Wang leg.

### Distribution

China: Yunnan Province.

### Remarks

The most obvious sexual dimorphism of this species is found on the pedipalpal chela; the male pedipalpal chela hand has a thorn-like projection on the prolateral face and a movable chelal finger basally curved in ventral view, but the female is without projection and movable finger not curved at the base.

*Stenohya dongtianensis* Li & Shi, 2023 (董田狭伪蝎)  
Figs 1.25, 19–23, 69O, 70O

*Stenohya dongtianensis* Li & Shi, 2023: 388–390, figs 1, 3a.

**Diagnosis**

Male pedipalpal femur with two closely situated protuberances at a distance of  $\frac{2}{3}$  from the base, and a projection on the subterminal prolateral surface (Fig. 21D). Female pedipalpal movable chelal finger length 2.22 mm.

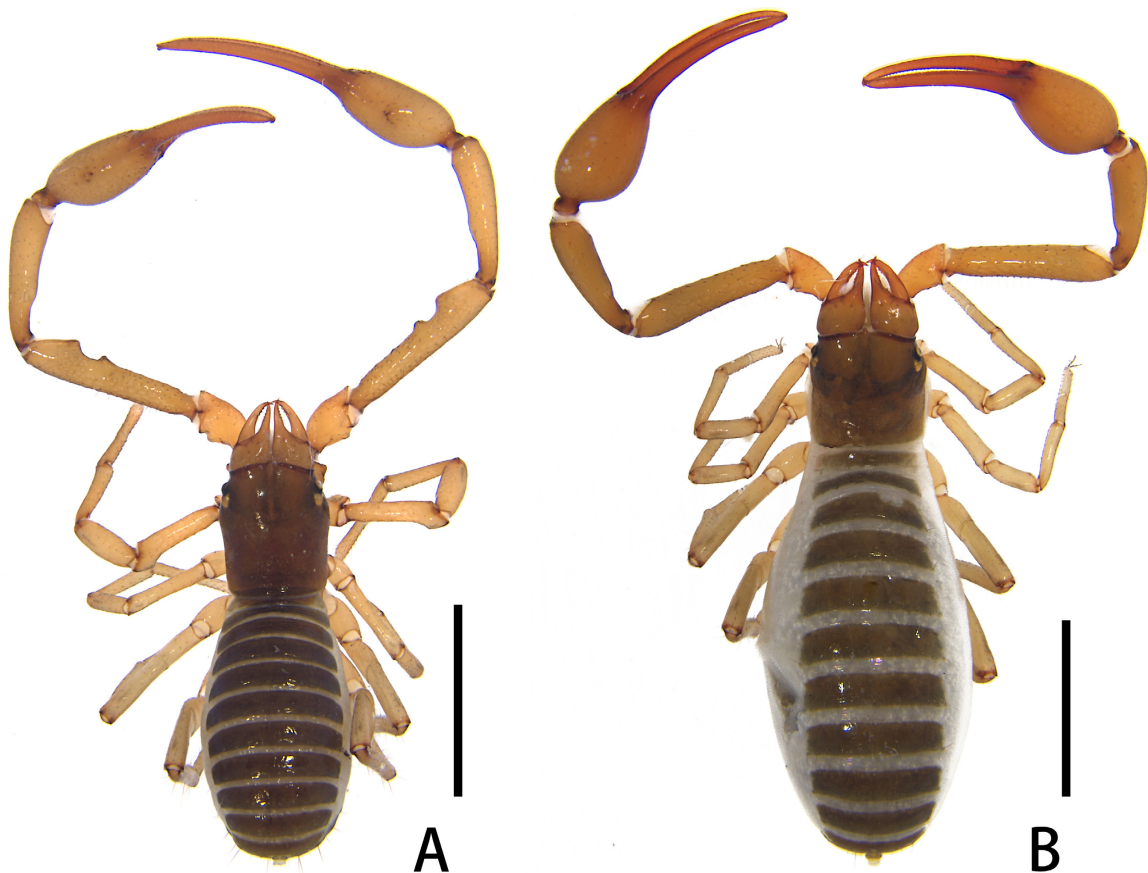
**Material examined**

CHINA • 2 ♂♂, 3 ♀♀; Guangxi Zhuang Autonomous Region, Xingan County, Rudongyan; 25°34'04" N, 110°37'45" E; 257 m a.s.l.; 20 Jan. 2024; in leaf litter and under rocks (Fig. 2G); Jiaqi Zhao, Jianzhou Sun and Yiting Xu leg.; Ps.-MHBU-GX2024012001–05 • 3 ♀♀; Guangxi Zhuang Autonomous Region, Xingan County, Rudongyan; 25°34'04" N, 110°37'47" E; 234 m a.s.l.; 29 Nov. 2023; in leaf litter and under rocks; Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBU-GX2023112901–03.

**Description**

**Adult males** (Figs 19A, 20A)

CARAPACE (Figs 21A, 69O). Carapace 1.23–1.24 times as long as broad, with a total of 32–34 setae, including six near anterior margin and 7–8 near posterior margin; four corneate eyes; seven lyrifissures near the anterior margin, three lyrifissures near posterior margin; epistome triangular, with heavily



**Fig. 19.** *Stenohya dongtianensis* Li & Shi, 2023. **A.** Male (dorsal view) (Ps.-MHBU-GX2024012001). **B.** Female (dorsal view) (Ps.-MHBU-GX2024012002). Scale bars: 2 mm.

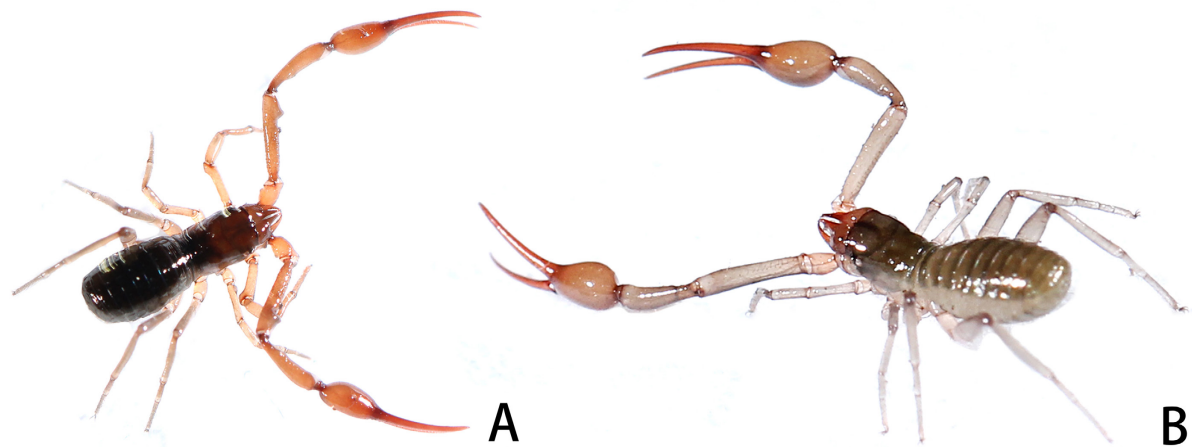
rounded apex. Carapace with a slight elevation in the middle of the eye area and a marked elevation near middle of carapace in lateral view.

**CHELICERA** (Fig. 21B). Hand with 6–7 setae and two lyrifissures, movable finger with one seta; fixed finger with 15–16 teeth; movable finger with 4–6 teeth; serrula exterior with 42–43 lamellae; serrula interior with 40–41 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami; rallum consisting of eight blades, all with anteriorly-directed spinules, the basalmost blade shortest.

**PEDIPALPS** (Fig. 21D–E). Apex of pedipalpal coxa rounded, with five long setae; femur with some small tubercles mainly surrounding the basal to median area in the dorsal position, closely situated the two protuberances at a distance of  $\frac{2}{3}$  from the base, and a projection on the subterminal prolateral surface; chelal hand with 9–14 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base, a few spinous apophyses extended to the subbase of fixed finger, chelal hand swelling on the median dorsal side. Trochanter 1.68–1.75, femur 4.30–4.95, patella 3.49–3.95, chela (with pedicel) 4.78–4.79, chela (without pedicel) 4.58–4.61 times as long as broad, movable finger 1.66–1.79 times as long as hand (without pedicel). Fixed chelal finger with eight, movable finger with four trichobothria: *eb*, *esb*, *ib* and *isb* located basally of fixed chelal finger, *est*, *et* and *it* situated distally of fixed chelal finger, *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger; venom apparatus present only in fixed chelal finger, venom duct short; fixed finger with 102–112 pointed teeth, movable finger with 93–100 teeth: 46–58 rounded teeth at base and 42–47 pointed in distal position.

**ABDOMEN**. Pleural membrane granulated. Tergal chaetotaxy (I–XI): 4–5 : 8–9 : 9–10 : 10 : 10–11 : 11–12 : 12–13 : 12–13 : 11–14 : 11–13 : 11, sternal chaetotaxy (IV–XI): 22–25 : 21–22 : 20–23 : 20 : 17–18 : 15–19 : 11–13 : 5. Sternites VI–VIII with 10–15 medial scattered glandular setae. Genital area (Fig. 21C): sternite II with a total of 39–40 setae and two lyrifissures; sternite III with a row of 32–36 setae and two lyrifissures.

**LEGS** (Fig. 21F–G). In leg I, patella enlarged, basitarsus and telotarsus semi-fused, the dividing line between the two segments visible. Leg I: trochanter 1.03–1.19, femur 3.18–3.24, patella 2.53–2.64, tibia 4.39–4.82, basitarsus 3.29–3.91, telotarsus 4.00–4.62 times as long as deep. Leg IV: trochanter 2.62–2.71, femur+patella 4.34–4.55, tibia 6.77–7.45, basitarsus 3.69–4.77, telotarsus 6.77–7.58 times as long as deep; tibia with one submedial tactile seta (TS=0.64–0.68), basitarsus with two tactile setae

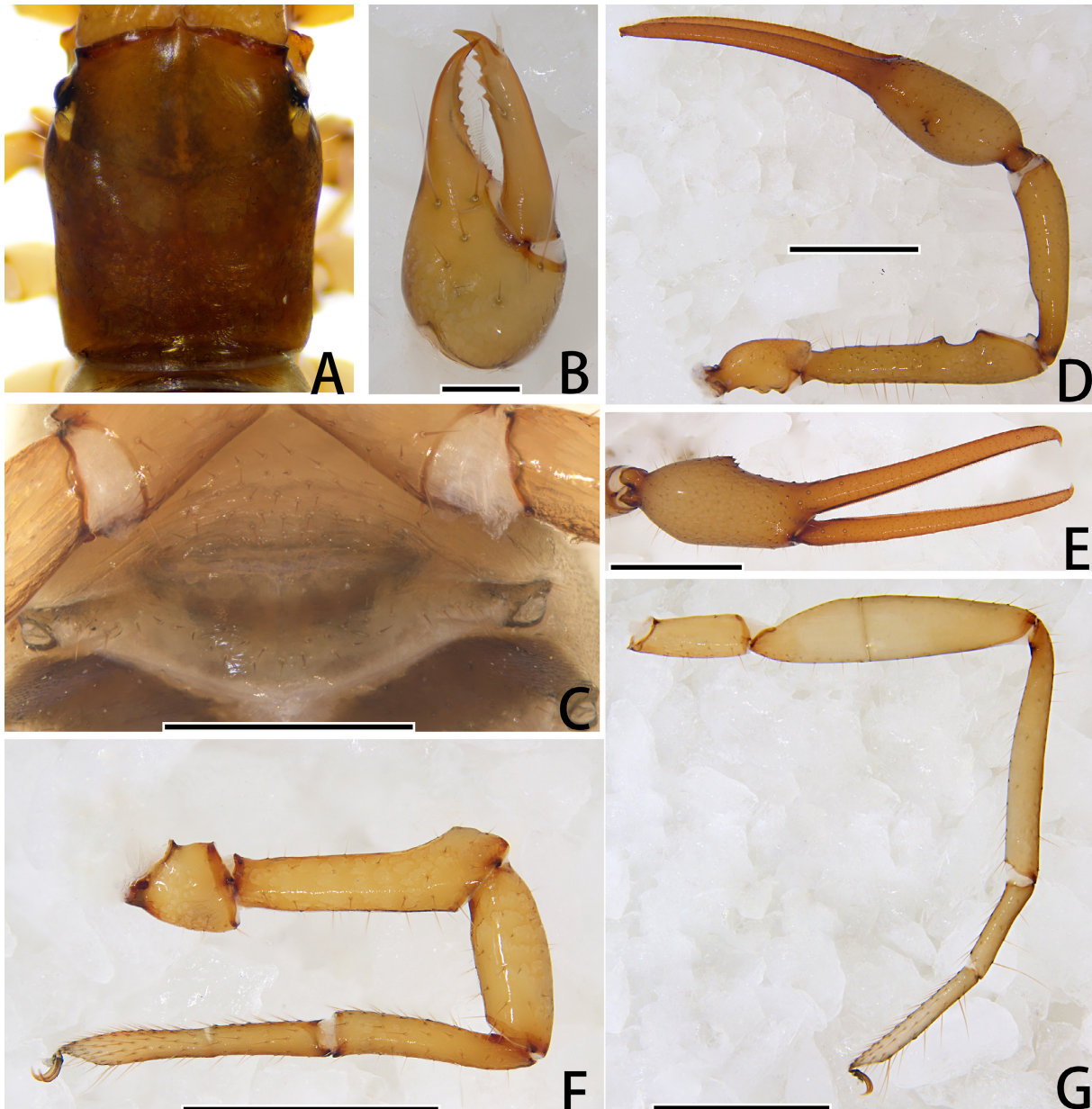


**Fig. 20.** Live specimens of *Stenohya dongtianensis* Li & Shi, 2023. **A.** Male. **B.** Female.

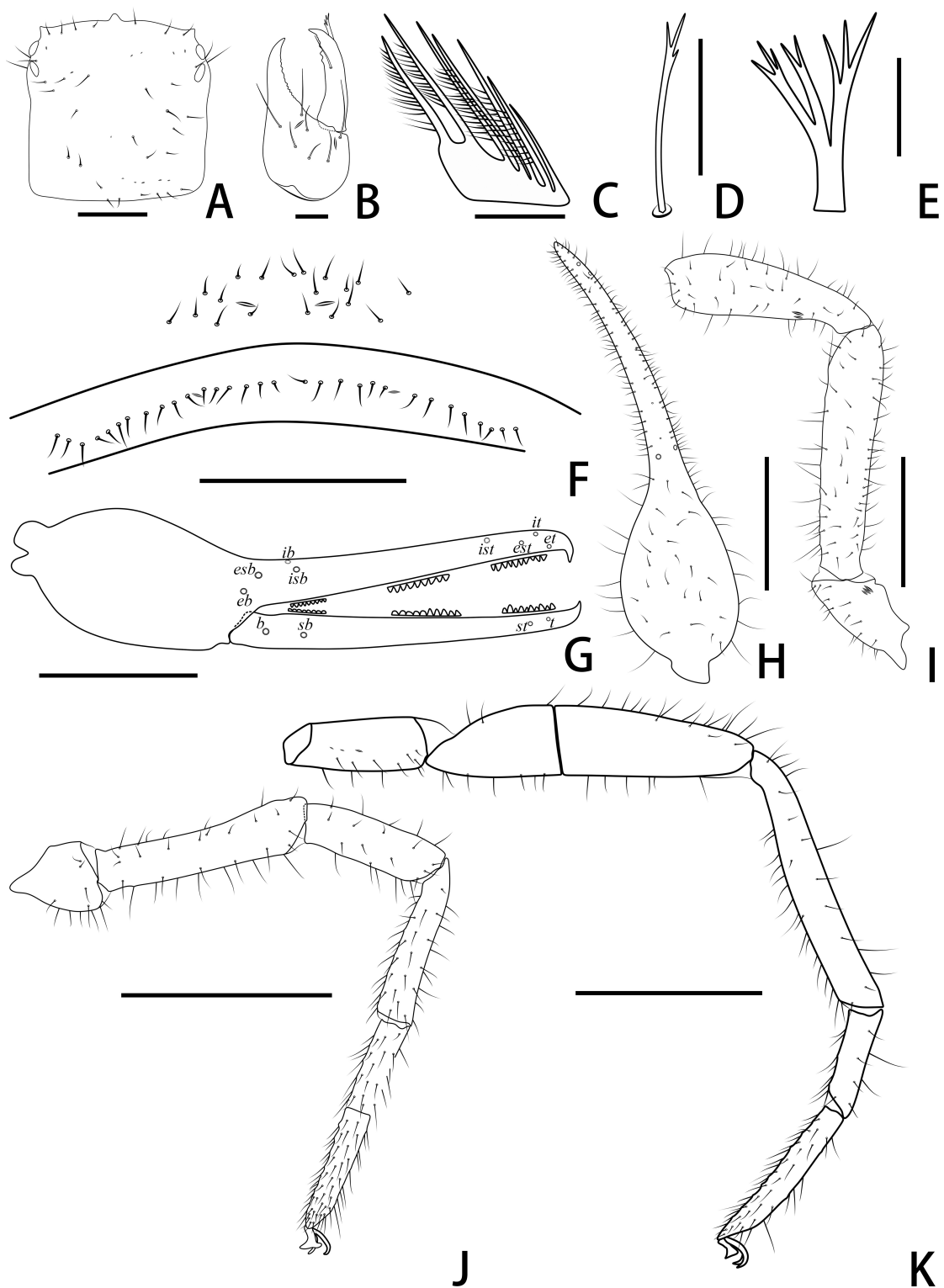
(TS=0.15–0.17, 0.84–0.86), telotarsus with two tactile setae (TS=0.19–0.25, 0.57–0.58); subterminal tarsal seta distally branched. Arolium not divided, shorter than the slender and simple claws.

**Adult females** (Figs 19B, 20B)

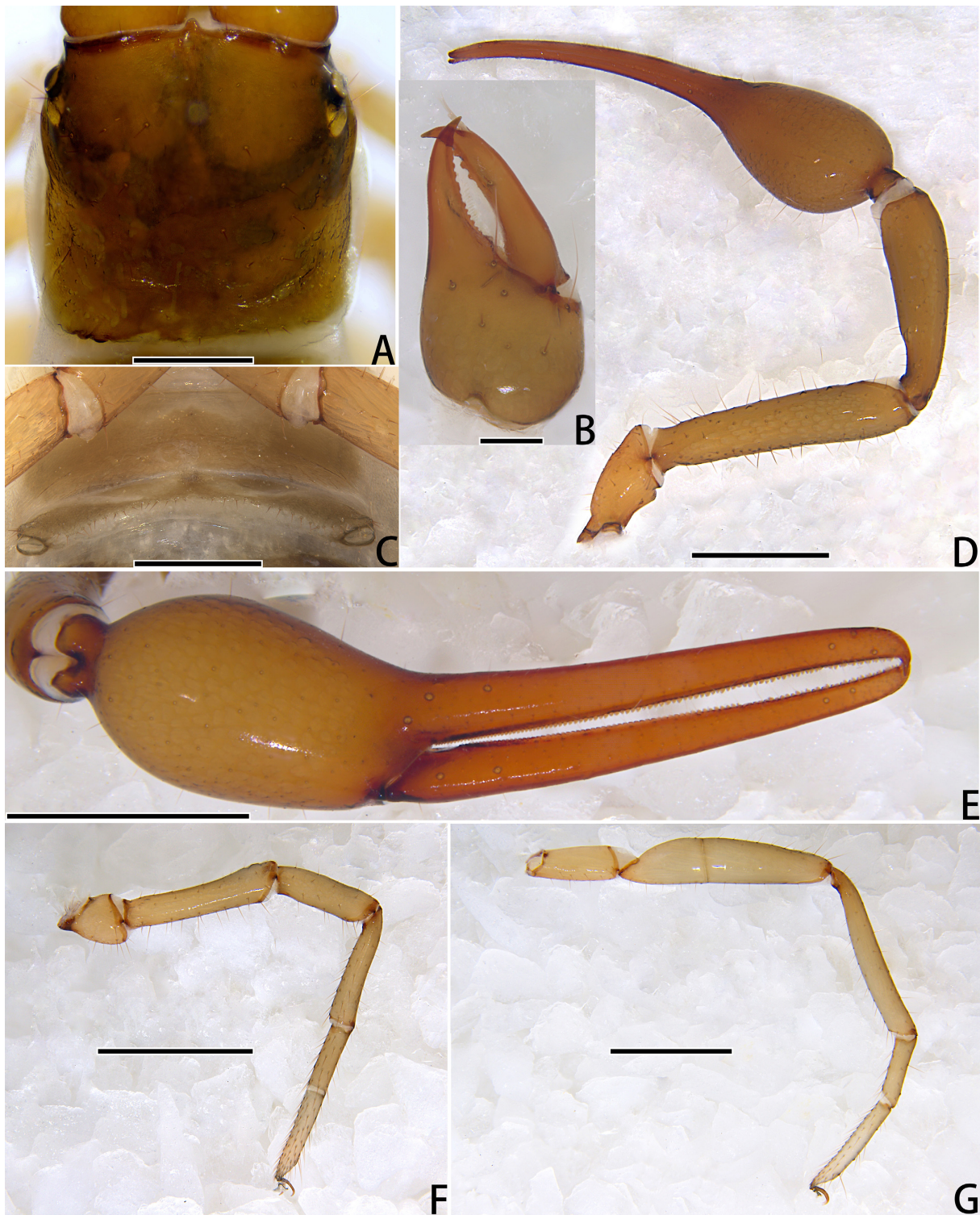
**CARAPACE** (Figs 22A, 23A, 70O). Carapace 1.02–1.12 times as long as broad, with a total of 29–35 setae, including 5–7 near anterior margin and 7–8 near posterior margin; four corneate eyes; five lyrifissures near the anterior margin, five lyrifissures near posterior margin; epistome triangular, with heavily rounded apex. Carapace with a slight elevation in the middle of the eye area in lateral view.



**Fig. 21.** *Stenohya dongtianensis* Li & Shi, 2023, male (Ps.-MHBU-GX2024012001). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalp, dorsal view. **E.** Right pedipalpal chela, lateral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.



**Fig. 22.** *Stenohya dongtianensis* Li & Shi, 2023, female (Ps.-MHBG-GX2024012002). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 23.** *Stenohya dongtianensis* Li & Shi, 2023, female (Ps.-MHBG-GX2024012002). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalp, dorsal view. **E.** Right pedipalpal chela, lateral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.

CHELICERA (Figs 22B, 23B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 10–13 teeth; movable finger with 5–6 teeth; serrula exterior with 45–47 lamellae; serrula interior with 41–42 lamellae; galea developed, divided into two main branches, one branch secondarily divided into five terminal rami, the other branch secondarily divided into three terminal rami (Fig. 22E); rallum consisting of seven blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 22C).

PEDIPALPS (Figs 22G–I, 23D–E). Apex of pedipalpal coxa rounded, with five long setae; femur straight, with a few tubercles prolaterally (Figs 22I, 23D); patella claviform, smooth (Figs 22I, 23D); chela smooth (Figs 22G–H, 23D–E). Trochanter 1.59–1.82, femur 4.51–4.73, patella 3.29–3.48, chela (with pedicel) 4.14–4.24, chela (without pedicel) 3.97–4.04 times as long as broad, movable finger 1.66–1.71 times as long as hand (without pedicel). Fixed chelal finger with eight, movable finger with four trichobothria: *eb*, *esb*, *ib* and *isb* located basally of fixed chelal finger, *est*, *et* and *it* situated distally of fixed chelal finger, *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger; venom apparatus present only in fixed chelal finger, venom duct short; fixed finger with 95–102 pointed teeth, movable finger with 87–91 teeth: 43 rounded teeth at base and 44–48 pointed in distal position.

ABDOMEN. Pleural membrane granulated. Tergal chaetotaxy (I–XI): 4–6:8:8–9:10:10–12:11–12:12:11–12:11–12:10–12:9, sternal chaetotaxy (IV–XI): 22–25:20–22:19–21:16–20:16:16–17:12:4–5. Sternites VI–VIII with two medial glandular setae. Genital area (Figs 22F, 23C): sternite II with a total of 20–21 setae and two lyrifissures; sternite III with a row of 30–31 setae and two lyrifissures.

LEGS (Figs 22J–K, 23F–G). Leg I: trochanter 1.08–1.33, femur 3.84–4.00, patella 3.14–3.17, tibia 4.50–5.47, basitarsus 3.23–3.43, telotarsus 4.62–4.69 times as long as deep. Leg IV: trochanter 2.46–2.87, femur+patella 4.62–4.63, tibia 6.12–7.05, basitarsus 3.24–3.80, telotarsus 6.14–6.71 times as long as deep; tibia with two submedial tactile setae (TS=0.23, 0.99), basitarsus with two tactile setae (TS=0.16–0.18, 0.88–0.98), telotarsus with two tactile setae (TS=0.18–0.23, 0.53–0.65); subterminal tarsal seta distally branched (Fig. 22D). Arolium not divided, shorter than the slender and simple claws.

#### Measurements (in mm; length/breadth or, for legs, length/depth)

##### Males

Body length 4.07–4.39. Carapace 1.42–1.51/1.15–1.22. Pedipalpal trochanter 0.74–0.77/0.44, femur 1.89–1.98/0.40–0.44, patella 1.50–1.62/0.41–0.43, chela (with pedicel) 3.35–3.49/0.70–0.73, chela (without pedicel) 3.23–3.34/0.70–0.73, hand length (without pedicel) 1.21–1.31, movable finger length 2.17. Leg I: trochanter 0.39–0.44/0.37–0.38, femur 1.05–1.10/0.33–0.34, patella 0.74–0.76/0.28–0.30, tibia 0.79–0.82/0.17–0.18, basitarsus 0.43–0.46/0.11–0.14, telotarsus 0.60/0.13–0.15. Leg IV: trochanter 0.65–0.76/0.24–0.29, femur+patella 1.65–1.73/0.38, tibia 1.49/0.20–0.22, basitarsus 0.59–0.62/0.13–0.16, telotarsus 0.88–0.91/0.12–0.13.

##### Females

Body length 5.80–6.09. Carapace 1.34–1.51/1.31–1.35. Pedipalpal trochanter 0.73–0.82/0.45–0.46, femur 1.94–2.08/0.43–0.44, patella 1.58–1.60/0.46–0.48, chela (with pedicel) 3.48–3.64/0.82–0.88, chela (without pedicel) 3.31–3.49/0.82–0.88, hand length (without pedicel) 1.30–1.34, movable finger length 2.22. Leg I: trochanter 0.39–0.44/0.33–0.36, femur 0.96–1.04/0.25–0.26, patella 0.69–0.73/0.22–0.23, tibia 0.81–0.82/0.15–0.18, basitarsus 0.42–0.48/0.13–0.14, telotarsus 0.60–0.61/0.13. Leg IV: trochanter 0.69–0.89/0.28–0.31, femur+patella 1.76–1.80/0.38–0.39, tibia 1.53–1.55/0.22–0.25, basitarsus 0.55–0.57/0.15–0.17, telotarsus 0.86–0.94/0.14.

### Distribution

China: Guangxi Zhuang Autonomous Region.

### Remarks

*Stenohya dongtianensis* was described from a single male specimen by Li & Shi (2023). In this study, more specimens were examined from the type locality (Rudongyan in Xingan County, Guangxi Zhuang Autonomous Region, China), including two adult males and six adult females, which allows the first description of the female. Like some other species of *Stenohya*, *S. dongtianensis* has sexually dimorphic pedipalps and leg I. The male pedipalp femur has two closely situated protuberances at a distance of  $\frac{2}{3}$  from the base and a projection on the subterminal prolateral surface; the chelal hand has 9–14 triangular-shaped, spinous apophyses on the dorsal side, while the female femur only has few tubercles prolaterally. In the male leg I, patella is enlarged, the basitarsus and telotarsus are semi-fused, the dividing line between the two segments is visible, but absent in the female.

Females of this new species are similar to those of *S. biverticis*, *S. gruberi*, *S. guangmingensis* and *S. hamata*, but can be distinguished by the following: pedipalpal movable chelal finger length 2.22 mm (2.05–2.13 in *S. biverticis*, 1.89 in *S. gruberi*, 2.07–2.14 in *S. guangmingensis* and 1.53–1.67 in *S. hamata*) (Ćurčić 1983; Leclerc & Mahnert 1988; Zhao *et al.* 2024).

*Stenohya gibba* Zhao, Guo & Zhang, 2024 (驼峰狭伪蝎)  
Figs 1.6, 69V, 70T

*Stenohya gibba* Zhao *et al.*, 2024: 106–114, figs 1–6.

### Diagnosis

Male pedipalpal femur with three projections; patella with a small projection medially in the prolateral position; chelal hand concave distally on the dorsal side and with 15–18 triangular apophyses on the dorsal side; the basitarsus and telotarsus of leg I each with a large columnar projection laterally. Female pedipalpal movable chelal finger with 79–87 teeth; female pedipalpal chela (with pedicel) 4.67–4.98 times as long as wide.

### Material examined

#### Holotype

CHINA • ♂; Hunan Province, Suining County, Huangsang Nature Reserve in Nanshan National Park; 26°24'32" N, 110°05'38" E; 460 m a.s.l.; 19 Nov. 2023; in leaf litter; Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBU-HN2023111901.

#### Paratypes

CHINA • 3 ♂♂, 4 ♀♀; same collection data as for holotype; Ps.-MHBU-HN2023111902–08.

### Distribution

China: Hunan Province.

### Remarks

The most obvious sexual dimorphism of this species is found on the pedipalp and leg I. For the pedipalp: the male pedipalpal trochanter has a process in the median prolateral position and some small frosted projections (female is smooth); the male femur has a curved cylindrical process in the median prolateral position, a projection on the subdistal prolateral surface, and a columnar process adjacent to this projection (female only has a few tubercles prolaterally); the male patella has a small projection in the median prolateral position (female is smooth); the chelal hand is deeply concave on the dorsal side at

the distal half, and there are 15–18 triangular apophyses on the dorsal side (female is not concave and smooth). The male leg I is stronger than that of the female, the basitarsus and telotarsus of the male each have a large columnar projection laterally (there are no projections on the female).

*Stenohya guangmingensis* Zhao, Guo & Zhang, 2024 (光明狭伪蝎)  
Figs 1.9, 69T, 70R

*Stenohya guangmingensis* Zhao *et al.*, 2024: 122–130, figs 13–18.

### Diagnosis

Male carapace of the anterior half significantly wider than the back part; pedipalpal femur with a large tubercle in the median area and two subdistal projections on the prolateral surface; chelal hand with 23 spinous apophyses on the dorsal side; male femur of leg I with an inward depression on the distal part, patella of leg I enlarged. Female carapace 1.02–1.10 times as long as broad; carapace with a total of 29–30 setae; apex of pedipalpal coxa with six long setae; pedipalpal patella 3.39–3.46 times as long as broad; pedipalpal movable chelal finger with 92–94 teeth; pedipalpal fixed chelal finger with 95–98 teeth.

### Material examined

#### Holotype

CHINA • ♂; Jiangxi Province, Jinggangshan City, Guangming Township, 868 County Road; 26°26′04″ N, 114°12′11″ E; 305 m a.s.l.; 31 Jan. 2023; in leaf litter and under rocks; Xiangbo Guo, Jianzhou Sun, Tao Zheng & Songtao Shi leg.; Ps.-MHBV-JX2023013101.

#### Paratypes

CHINA • 4 ♂♂, 3 ♀♀; same collection data as for holotype; Ps.-MHBV-JX2023013102–08.

### Distribution

China: Jiangxi Province.

### Remarks

The most obvious sexual dimorphism of this species is found on the carapace, pedipalp and leg I. For the carapace: the anterior half of the male carapace protrudes to the sides, the front half is significantly wider than the back half (carapace of female is nearly rectangular). For the pedipalp: the male femur has a large tubercle on the median and two subdistal projections on the prolateral surface; the chelal hand has 23 spinous apophyses on the dorsal side, while the pedipalp of the female is almost smooth. The male leg I is stronger than that of the female, and the femur of the male has an inward depression on the distal part (female is straight).

*Stenohya hainanensis* Guo & Zhang, 2016 (海南狭伪蝎)  
Figs 1.14, 24, 69W, 70A

*Stenohya hainanensis* Guo & Zhang, 2016: 2–4, figs 1–3.

### Diagnosis

Male pedipalpal femur straight; pedipalpal femur 5.00–5.52 times as long as broad; patella 3.44–3.71 times as long as broad, movable finger 1.43–1.59 times as long as hand (without pedicel). Female pedipalpal femur 4.92–5.11 times as long as broad; patella 3.11–3.39 times as long as broad; movable finger 1.55–1.63 times as long as hand (without pedicel); presence of 96–98 teeth on pedipalpal movable chelal finger.

### Material examined

#### Holotype

CHINA • ♂; Hainan Province, Lingshui County, Diaoluo Mountains; 18°40' N, 109°55' E; 920 m a.s.l.; 28 Jan. 2015; Xiangbo Guo leg.; Ps.-MHBU-HN15012101.

#### Paratypes

CHINA • 3 ♂♂, 2 ♀♀; same collection data as for holotype; Ps.-MHBU-HN15012102–06.

### Redescription of female genital area (Fig. 24B–C)

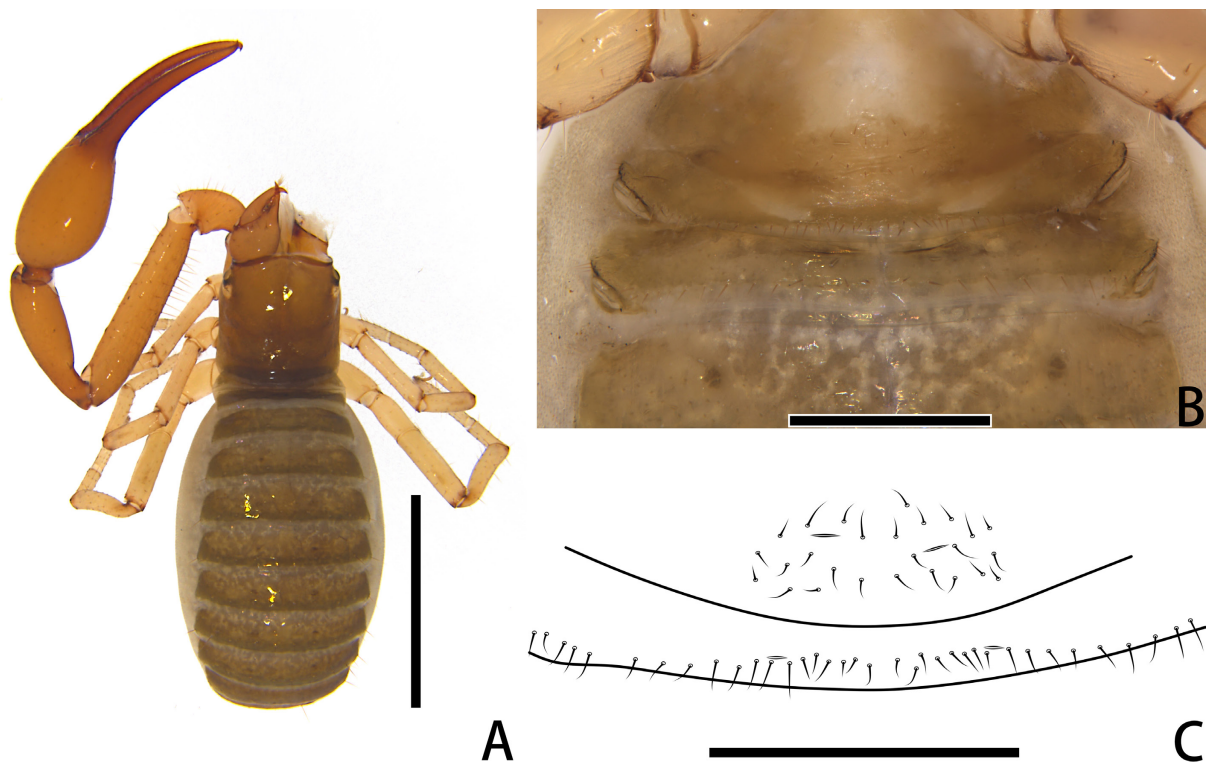
Sternite II with a total of 21–26 setae and two lyrifissures; sternite III with a row of 32–36 setae and two lyrifissures.

### Distribution

China: Hainan Province.

### Remarks

Guo & Zhang (2016: fig. 2i) incorrectly labeled sternites II and III as sternite II and sternite IV was incorrectly labeled as sternite III. In addition, the female genital area was incorrectly considered as having 39–41 setae on sternite II and 20–22 setae on sternite III. After reexamination of the paratype females of *S. hainanensis*, we redescribed the female genital area and provided a new illustration: sternite II with a total of 21–26 setae and two lyrifissures; sternite III with a row of 32–36 setae and two lyrifissures (Fig. 24B–C).



**Fig. 24.** *Stenohya hainanensis* Guo & Zhang, 2016, paratype, female (Ps.-MHBU-HN15012102). **A.** Dorsal view (right chelicera, right pedipalp, left leg IV and right leg I, leg IV removed). **B.** Genital area, ventral view. **C.** Chaetotaxy of genital area, ventral view. Scale bars: A=2mm; B–C=0.5 mm.

*Stenohya harveyi* Zhao, Guo & Zhang sp. nov. (哈氏狭伪蝎)  
[urn:lsid:zoobank.org:act:F709222D-882E-42B5-BFDF-1CAB3FE060EA](https://doi.org/10.21203/rs.3.rs-5111111/v1)  
Figs 1.17, 25–30, 69E, 70B

### Diagnosis

Male pedipalpal chelal hand has a projection with bifid horn-like bulge on prolateral surface near base of finger (Figs 27H, 28E–F); pedipalpal fixed chelal finger with 67–70 teeth; pedipalpal movable chelal finger with 61–64 teeth. Female pedipalpal fixed chelal finger with 73–74 teeth; pedipalpal movable chelal finger with 63–64 teeth.

### Etymology

The specific epithet is a patronym in honor of Dr Mark Harvey, who has provided significant contributions to the study of pseudoscorpions worldwide.

### Type material

#### Holotype

CHINA • ♂; Yunnan Province, Yunlong County, Caojian town; 25°44′03″ N, 99°07′38″ E; 2554 m a.s.l.; 1 Apr. 2024; in leaf litter (Fig. 2E); Jiaqi Zhao, Jianzhou Sun, Songtao Shi & Xiaoru Qi leg.; Ps.-MHBU-YN2024040101.

#### Paratypes

CHINA • 1 ♂, 5 ♀♀; same collection data as for holotype; Ps.-MHBU-YN2024040102–07.

### Description

#### Adult males (holotype and male paratype) (Figs 25A, 26A)

CARAPACE (Figs 27A, 28A, 69E). Carapace 1.25–1.27 times as long as broad, with a total of 24–26 setae, including six near anterior margin and six near posterior margin; two lyrifissures near the eyes, four



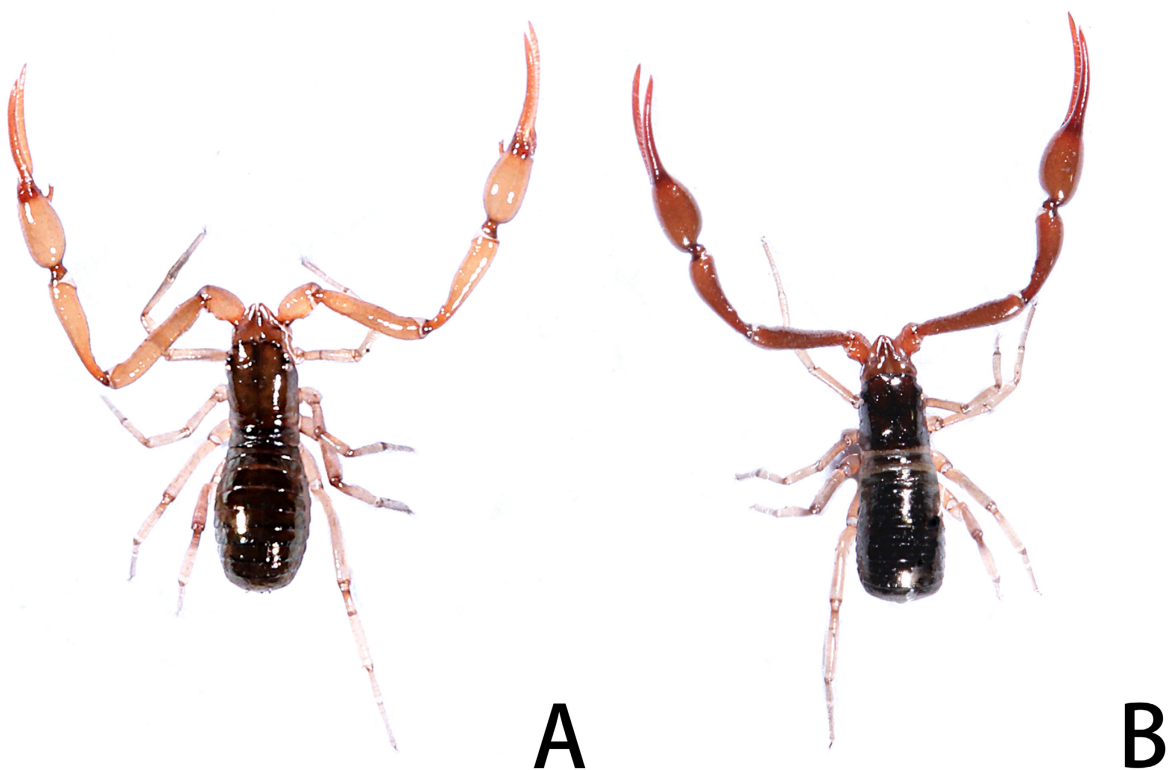
**Fig. 25.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBU-YN2024040101). **B.** Paratype, female (dorsal view) (Ps.-MHBU-YN2024040102). Scale bars: 2 mm.

lyrifissures near posterior margin; epistome small, triangular, with a rounded top; with four corneate eyes. Carapace smooth and nearly rectangular.

**CHELICERA** (Figs 27B, 28B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 14–15 teeth; movable finger with 4–5 teeth; serrula exterior with 36–37 lamellae; serrula interior with 30–31 lamellae; galea developed, divided into two main branches, one branch secondarily divided into two terminal rami, the other branch secondarily divided into three terminal rami (Fig. 27E); rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 27C).

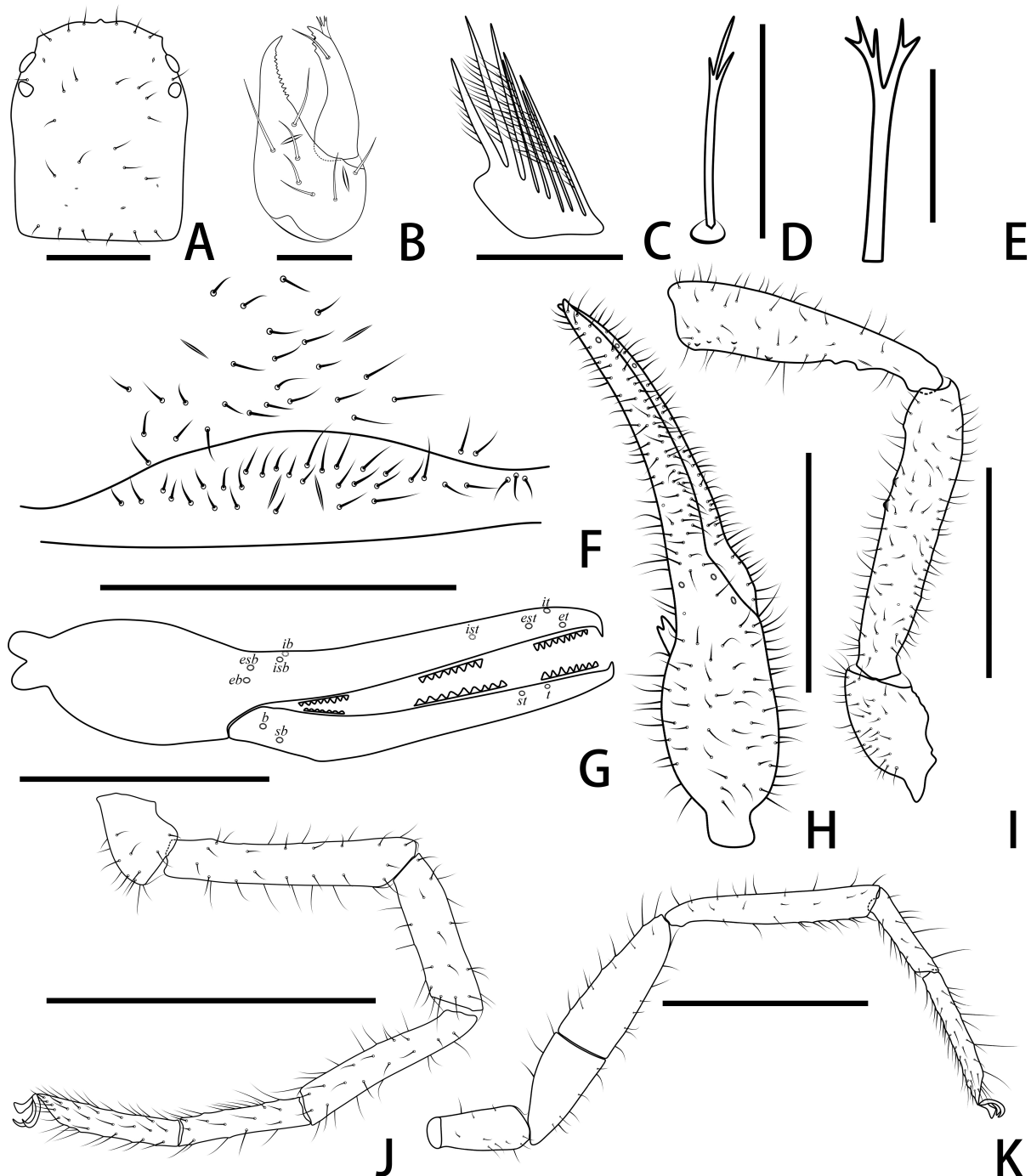
**PEDIPALPS** (Figs 27G–I, 28C, E–F). Apex of pedipalpal coxa rounded, with 5–6 long setae. Femur and patella with a few tubercles prolaterally (Figs 27I, 28E); chelal hand with a projection on prolateral surface near base of finger, and the projection with a bifid horn-like bulge; movable finger enlarged at the base, and swollen downward ventrally (Figs 27G–H, 28C, E–F). Trochanter 1.42–1.82, femur 5.07–5.41, patella 3.92–4.16, chela (with pedicel) 4.55–4.86, chela (without pedicel) 4.22–4.55 times as long as broad, movable finger 2.09–2.11 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 67–70 pointed teeth, movable finger with 61–64 teeth: 25–27 rounded teeth at base and 34–39 pointed teeth in distal position.

**ABDOMEN.** Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 6:8–9:9:9–10:10–12:10–11:11–12:11–12:11–12:9–11:10–11, sternal chaetotaxy (IV–XI):22:24–



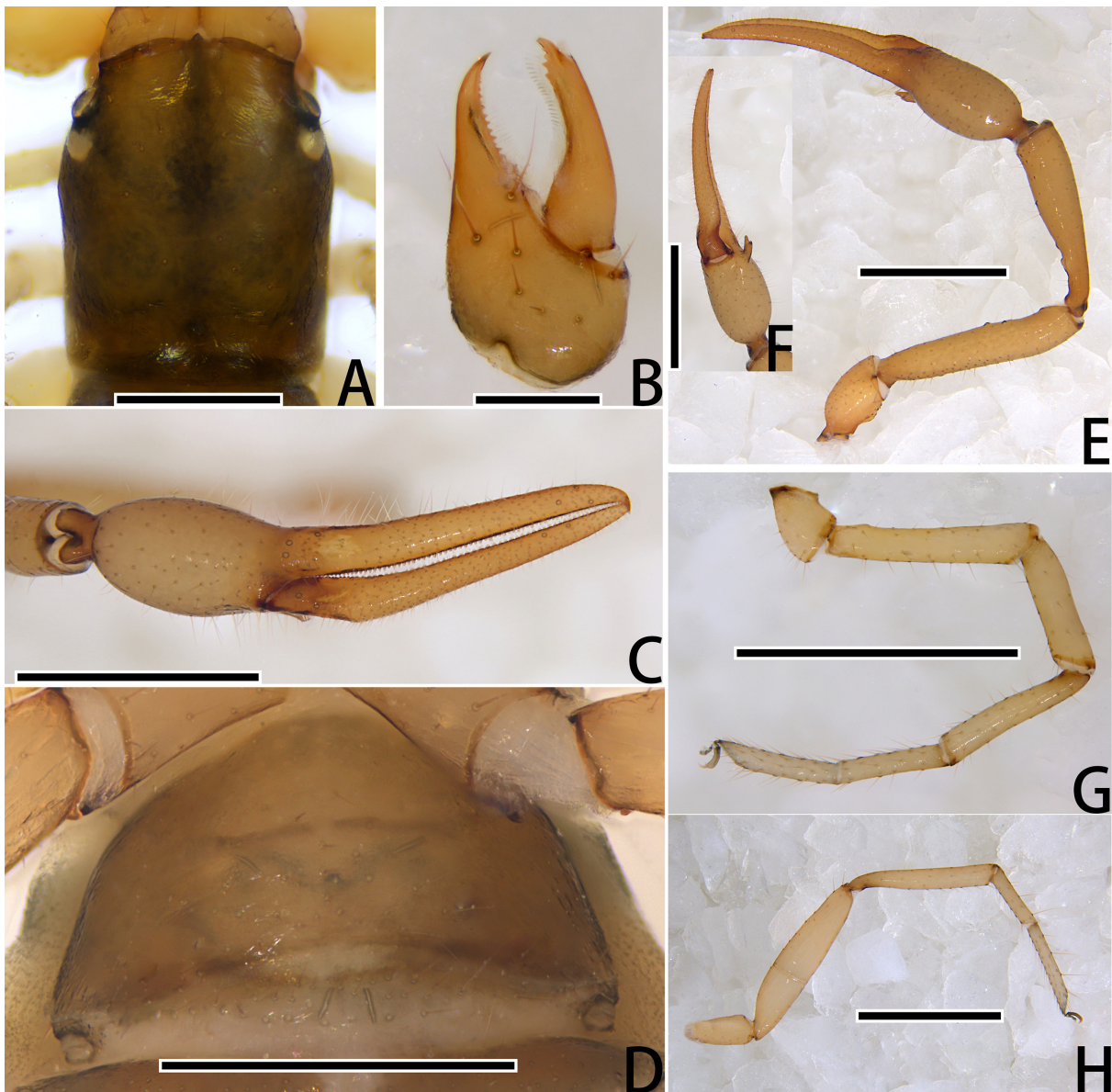
**Fig. 26.** Live specimens of *Stenohya harveyi* Zhao, Guo & Zhang sp. nov. **A.** Male. **B.** Female.

27:21–22:20–21:19–20:19–20:13–15:5, sternites VI–VIII with 7–10 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 27F, 28D): anterior genital sternite with 37–38 setae and two lyrifissures; posterior genital sternite with 33–40 setae and two lyrifissures.



**Fig. 27.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBV-YN2024040101). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.

LEGS (Figs 27J–K, 28G–H). Leg I: trochanter 1.23–1.24, femur 4.65–5.07, patella 3.18–3.33, tibia 4.29–5.36, basitarsus 3.60–5.13, telotarsus 4.20–5.50 times as long as deep. Leg IV: trochanter 2.10–2.65, femur+patella 4.38–4.53, tibia 6.29–7.13, basitarsus 4.45–4.70, telotarsus 6.09–6.80 times as long as deep; tibia with two submedial tactile setae (TS=0.16–0.19, 0.68–0.74), basitarsus with three tactile setae (TS=0.13–0.14, 0.51, 0.88–0.89), telotarsus with two tactile setae (TS=0.36–0.38, 0.61–0.62); subterminal tarsal seta distally branched (Fig. 27D). Arolium not divided, shorter than the slender and simple claws.



**Fig. 28.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBV-YN2024040101). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Right pedipalpal chela, lateral view. D. Genital area, ventral view. E. Right pedipalp, dorsal view. F. Right pedipalpal chela, ventral view. G. Right leg I, lateral view. H. Right leg IV, lateral view. Scale bars: A, D=0.5 mm; B=0.2 mm; C, E–H=1 mm.

**Adult females** (paratypes) (Figs 25B, 26B)

Mostly same as in males, except where noted.

**CARAPACE** (Figs 29A, 30A, 70B). Carapace 1.13–1.16 times as long as broad, with a total of 23 setae, including 6–7 near anterior margin and 5 near posterior margin; three lyrifissures near the eyes, two lyrifissures near posterior margin. Carapace smooth and nearly rectangular.

**CHELICERA** (Figs 29B, 30B). Fixed finger with 13–19 teeth; movable finger with 5–8 teeth; serrula exterior with 36–37 lamellae; serrula interior with 25–34 lamellae; galea divided into two main branches, each branch secondarily divided into three terminal rami (Fig. 29E); rallum consisting of 7–8 blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 29C).

**PEDIPALPS** (Figs 29G–I, 30D–E). Apex of pedipalpal coxa with 5–6 long setae. Femur and patella with a few tubercles prolaterally (Figs 29I, 30D). Trochanter 1.72–1.82, femur 4.68–4.90, patella 3.44–3.68, chela (with pedicel) 4.32–4.34, chela (without pedicel) 4.16–4.20 times as long as broad, movable finger 1.50–1.53 times as long as hand (without pedicel). Fixed chelal finger with 73–74 pointed teeth, movable finger with 63–64 teeth: 26–29 rounded teeth at base and 34–38 pointed in distal position.

**ABDOMEN**. Tergal chaetotaxy (I–XI): 4–8:8:9–11:10:9–10:8–12:10–12:9–12:9–10:9:6–9, sternal chaetotaxy (IV–XI): 16–18:19–20:19–22:19–21:16–20:13–16:10–16:4–5, sternites VI–VIII with two medial glandular setae; genital area (Figs 29F, 30C): sternite II with a total of 17–19 setae and two lyrifissures; sternite III with a row of 25–26 setae and two lyrifissures.

**LEGS** (Figs 29J–K, 30F–G). Leg I: trochanter 1.04–1.14, femur 4.93–5.47, patella 3.40–4.00, tibia 4.92–5.27, basitarsus 4.00–4.44, telotarsus 4.89–5.63 times as long as deep. Leg IV: trochanter 1.88–2.21, femur+patella 4.63–4.70, tibia 6.00–7.19, basitarsus 4.36–4.55, telotarsus 6.00–7.78 times as long as deep; tibia with two submedial tactile setae (TS=0.69–0.71, 0.88–0.99), basitarsus with two tactile setae (TS=0.54–0.66, 0.92), telotarsus with three tactile setae (TS=0.13–0.17, 0.42–0.47, 0.67–0.68).

**Measurements** (in mm; length/breadth or, for legs, length/depth)

**Males** (holotype and paratype)

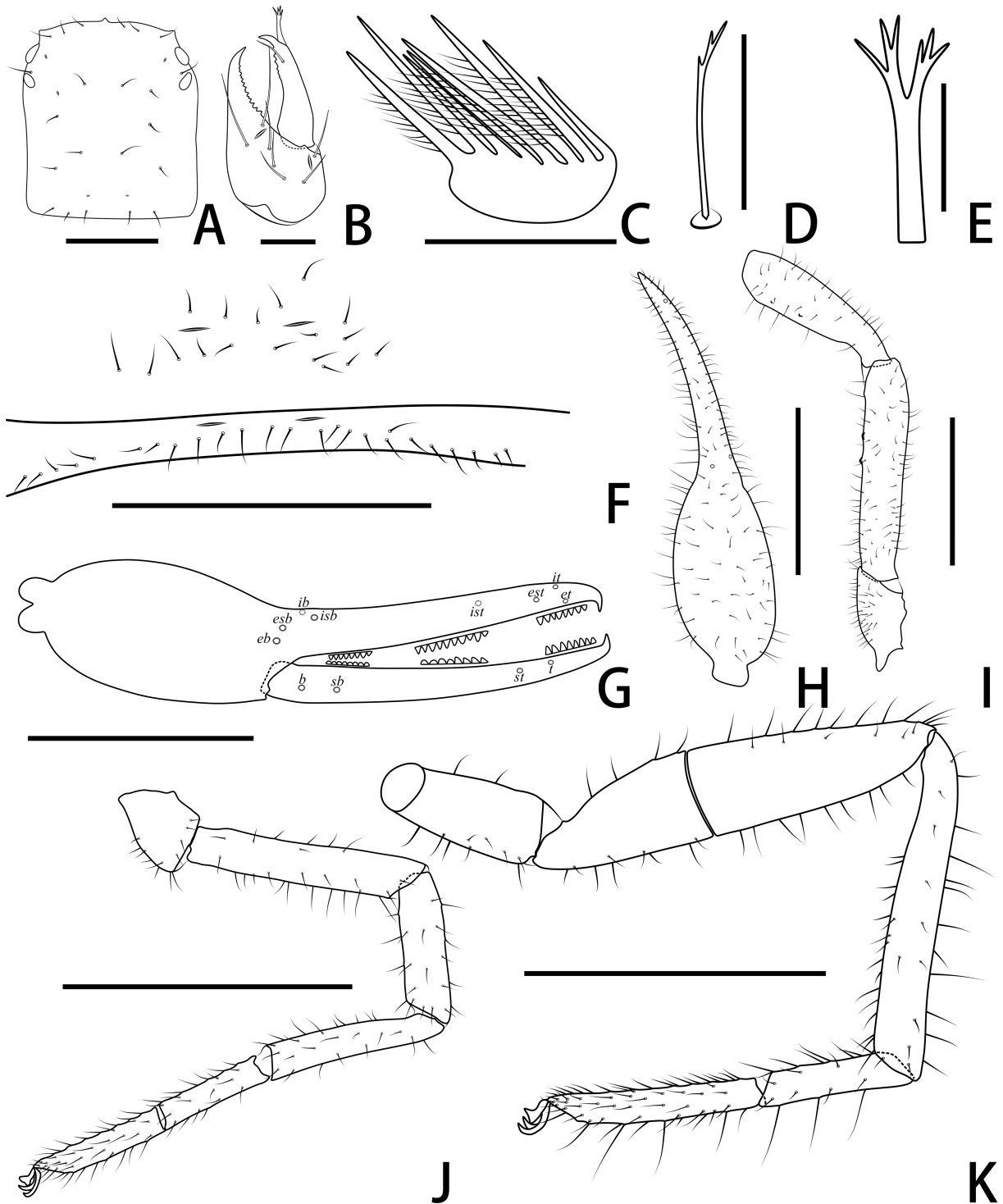
Body length 3.09–3.27. Carapace 1.06–1.13/0.85–0.89. Pedipalpal trochanter 0.51–0.62/0.34–0.36, femur 1.42–1.57/0.28–0.29, patella 1.33–1.41/0.32–0.36, chela (with pedicel) 2.38–2.50/0.49–0.55, chela (without pedicel) 2.23–2.32/0.49–0.55, hand (without pedicel) length 0.75–0.77, movable finger length 1.58–1.61. Leg I: trochanter 0.26–0.27/0.21–0.22, femur 0.76–0.79/0.15–0.17, patella 0.50–0.54/0.14–0.17, tibia 0.59–0.60/0.11–0.14, basitarsus 0.36–0.41/0.08–0.10, telotarsus 0.42–0.44/0.08–0.10. Leg IV: trochanter 0.42–0.53/0.20, femur+patella 1.27–1.36/0.29–0.30, tibia 1.07–1.14/0.16–0.17, basitarsus 0.47–0.49/0.10–0.11, telotarsus 0.67–0.68/0.10–0.11.

**Females** (paratypes)

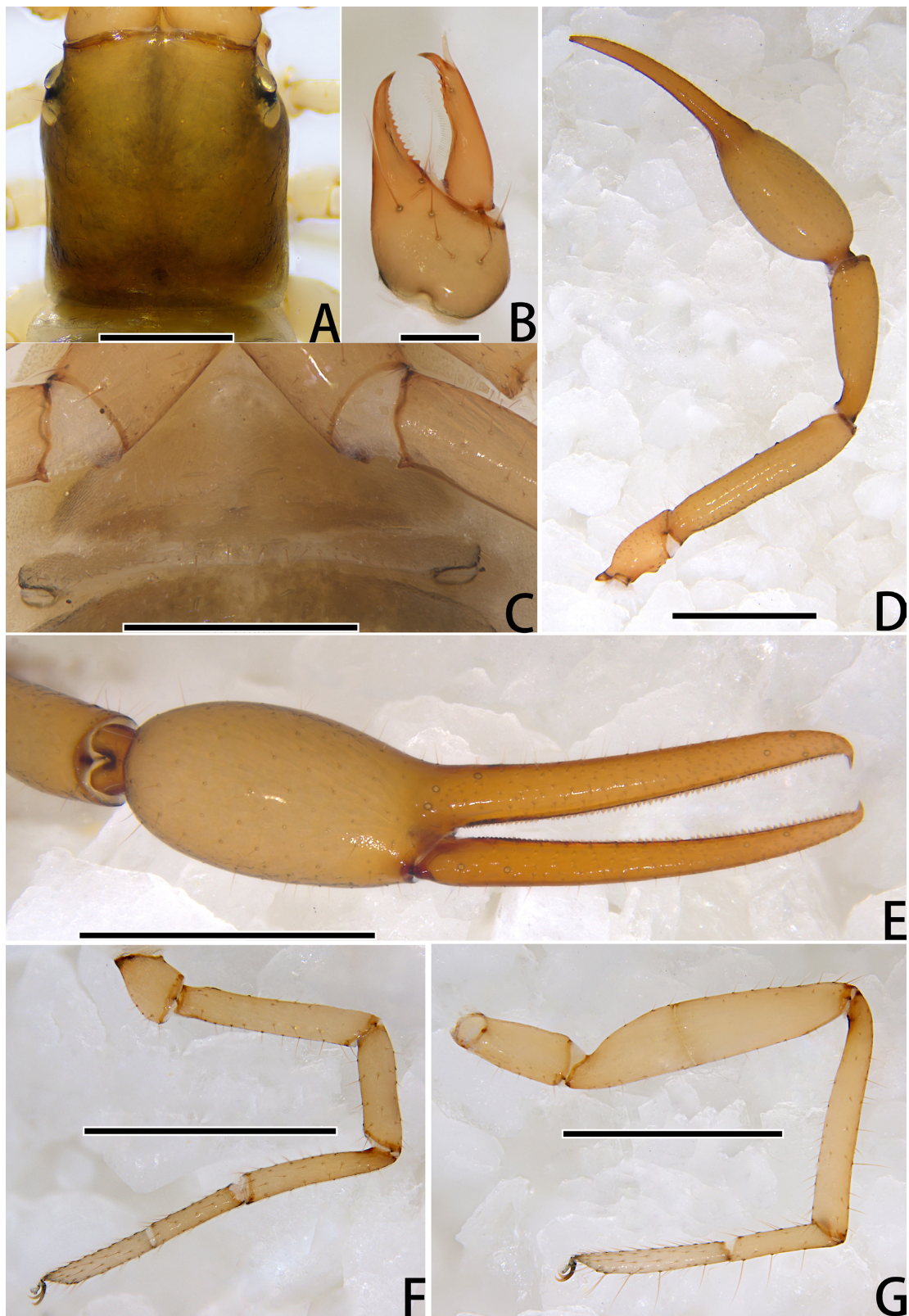
Body length 3.84–4.20. Carapace 1.03–1.05/0.89–0.93. Pedipalpal trochanter 0.50–0.60/0.29–0.33, femur 1.45–1.47/0.30–0.31, patella 1.14–1.17/0.31–0.34, chela (with pedicel) 2.46–2.56/0.57–0.59, chela (without pedicel) 2.37–2.48/0.57–0.59, hand (without pedicel) length 0.98–1.04, movable finger length 1.50–1.56. Leg I: trochanter 0.24–0.25/0.22–0.23, femur 0.74–0.82/0.15, patella 0.48–0.51/0.12–0.15, tibia 0.58–0.59/0.11–0.12, basitarsus 0.36–0.40/0.09, telotarsus 0.44–0.45/0.08–0.09. Leg IV: trochanter 0.45–0.53/0.24, femur+patella 1.27–1.39/0.27–0.30, tibia 1.02–1.15/0.16–0.17, basitarsus 0.48–0.50/0.11, telotarsus 0.60–0.70/0.09–0.10.

**Distribution**

China: Yunnan Province.



**Fig. 29.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBV-YN2024040102). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 30.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-YN2024040102). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalp, dorsal view. **E.** Right pedipalpal chela, lateral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.

### Remarks

The presence of a bifid horn-like projection on the prolateral face of the chela has previously been reported for *S. bicornuta* (Guo *et al.* 2019). Males of the new species can be distinguished as follows: the pedipalpal femur has sparse tubercles prolaterally (pedipalpal femur with multiple tubercles prolaterally in *S. bicornuta*); the presence of 67–70 teeth on the pedipalpal fixed chelal finger (91–94 in *S. bicornuta*) and the presence of 61–64 teeth on the pedipalpal movable chelal finger (72 in *S. bicornuta*). Females of this new species are similar to those of *S. biverticis*, *S. guangmingensis*, *S. hainanensis* and *S. papillata*, but can be distinguished by the presence of 73–74 teeth on pedipalpal fixed chelal finger (89–103 in *S. biverticis*; 95–98 in *S. guangmingensis*; 88–89 in *S. hainanensis*; 99–102 in *S. papillata*) and the presence of 63–64 teeth on pedipalpal movable chelal finger (96–98 in *S. hainanensis*; 90–94 in *S. papillata*; 92–94 in *S. guangmingensis*; 89–93 in *S. biverticis*) (Guo & Zhang 2016; Zhao *et al.* 2024).

*Stenohya huangi* Hu & Zhang, 2012 (黄氏狭伪蝎)  
Figs 1.11, 69B, 70C

*Stenohya huangi* Hu & Zhang, 2012: 86–90, figs 19–28

*Stenohya huangi* – Zhan *et al.* 2023: 227–233.

### Diagnosis

Male pedipalpal femur 7.64–7.96 times as long as broad, patella 6.32–6.45 times as long as broad, movable chelal finger with 30–33 teeth situated in median to distal position. Female pedipalpal femur 6.07–6.14 times as long as broad, patella 4.70–4.83 times as long as broad, movable chelal finger with 46–51 teeth situated in median to distal position.

### Material examined

#### Holotype

CHINA • 1 ♀; Fujian Province, Fuzhou City, Gushan Mountain; 26°04' N, 119°21' E; 24 Feb. 1975; Fusheng Huang leg.; Ps.-MHBU-FJ750224.

#### Other material

CHINA • 7 ♂♂, 4 ♀♀; Fujian Province, Fuzhou City, Gushan Mountain; 26°05'39" N, 119°22'28" E; 177 m a.s.l.; 4 Apr. 2018; Xiangbo Guo, Weitong Wang and Xiao Zang leg.; Ps.-MHBU-FJ2018040401–11.

### Distribution

China: Fujian Province.

### Remarks

*Stenohya huangi* has sexually dimorphic pedipalps in which the males have thinner pedipalps than the females.

*Stenohya jiahensis* Li & Shi, 2023 (佳和狭伪蝎)  
Figs 1.21, 31–36, 69L, 70D, 71C

*Stenohya jiahensis* Li & Shi, 2023: 390–392, figs 2, 3b.

### Diagnosis

Male pedipalpal femur with a large intumescence on the subbasal prolateral surface, a small intumescence and a columniform intumescence on the median prolateral surface, and a projection on the subterminal prolateral surface (Fig. 33D–E); chelal hand with 40–42 triangular-shaped, spinous apophyses on the dorsal side (Fig. 33F). Female pedipalpal movable chelal finger length 1.86–1.87 mm.

## Material examined

### Other material

CHINA • 10 ♂♂, 8 ♀♀; Guangxi Zhuang Autonomous Region, Lingui District, Lingui Town, Jiahe Garden; 25°14'51" N, 110°12'03" E; 267 m a.s.l.; 14 Jan. 2024; in leaf litter (Fig. 2F); Jiaqi Zhao, Jianzhou Sun and Yiting Xu leg.; Ps.-MHBU-GX2024011401–18 • five tritonymphs; Guangxi Zhuang Autonomous Region, Lingui District, Lingui Town, Jiahe Garden; 25°14'51" N, 110°12'04" E; 162 m a.s.l.; 2 Dec. 2023; in leaf litter; Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBU-GX2023120201–05

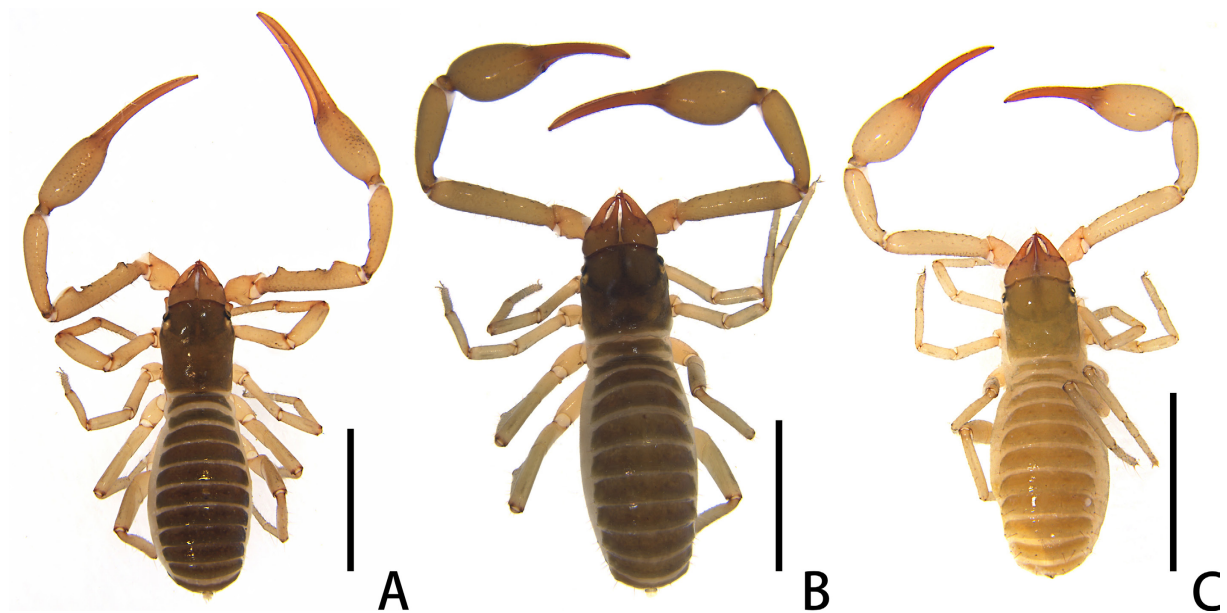
## Description

### Adult males (Figs 31A, 32A)

**CARAPACE** (Figs 33A, 69L). Carapace 1.26–1.28 times as long as broad, with a total of 27–28 setae, including six near anterior margin and 5–6 near posterior margin; four corneate eyes; six lyrifissures near the anterior margin, three lyrifissures near posterior margin; epistome triangular, with heavily rounded apex. Carapace with elevations in the middle of the eye area and near middle of carapace in lateral view.

**CHELICERA** (Fig. 33B). Hand with six setae and two lyrifissures, movable finger with one seta; fixed finger with 12–17 teeth; movable finger with five teeth; serrula exterior with 37–38 lamellae; serrula interior with 31–33 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami; rallum consisting of seven blades, all with anteriorly-directed spinules, the basalmost blade shortest.

**PEDIPALPS** (Figs 33D–F). Apex of pedipalpal coxa rounded, with five long setae; femur with a big intumescence on the subbasal prolateral surface, a small intumescence and a columniform intumescence on the median prolateral surface, as well as a projection on the subterminal prolateral surface (Fig. 33D–E); chelal hand with 40–42 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base, a few spinous apophyses extended to the subbase of fixed finger (Fig. 33E–F). Trochanter 1.76–1.88, femur 4.61–4.77, patella 4.09–4.37, chela (with pedicel) 5.30–5.80, chela



**Fig. 31.** *Stenohya jiahensis* Li & Shi, 2023. A. Male (dorsal view) (Ps.-MHBU-GX2024011401). B. Female (dorsal view) (Ps.-MHBU-GX2024011402). C. Tritonymph (dorsal view) (Ps.-MHBU-GX2023120201). Scale bars: 2 mm.

(without pedicel) 4.93–5.35 times as long as broad, movable finger 1.43–1.63 times as long as hand (without pedicel). Fixed chelal finger with eight, movable finger with four trichobothria: *eb*, *esb*, *ib* and *isb* located basally of fixed chelal finger, *est*, *et* and *it* situated distally of fixed chelal finger; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger; venom apparatus present only in fixed chelal finger, venom duct short; fixed finger with 85–94 pointed teeth, movable finger with 76–78 teeth: 30–32 rounded teeth at base and 44–48 pointed in distal position.

ABDOMEN. Pleural membrane granulated. Tergal chaetotaxy (I–XI): 4–5:5–8:8:9:10:9–10:10–11:11:12:10–11:8–9, sternal chaetotaxy (IV–XI): 18–22:20–22:16–19:18–21:19–21:14–16:12:4. Sternites VI–VIII with 10–15 medial scattered glandular setae. Genital area (Fig. 33C): sternite II with a total of 31–33 setae and 2 lyrifissures; sternite III with a row of 28–31 setae and 2 lyrifissures.

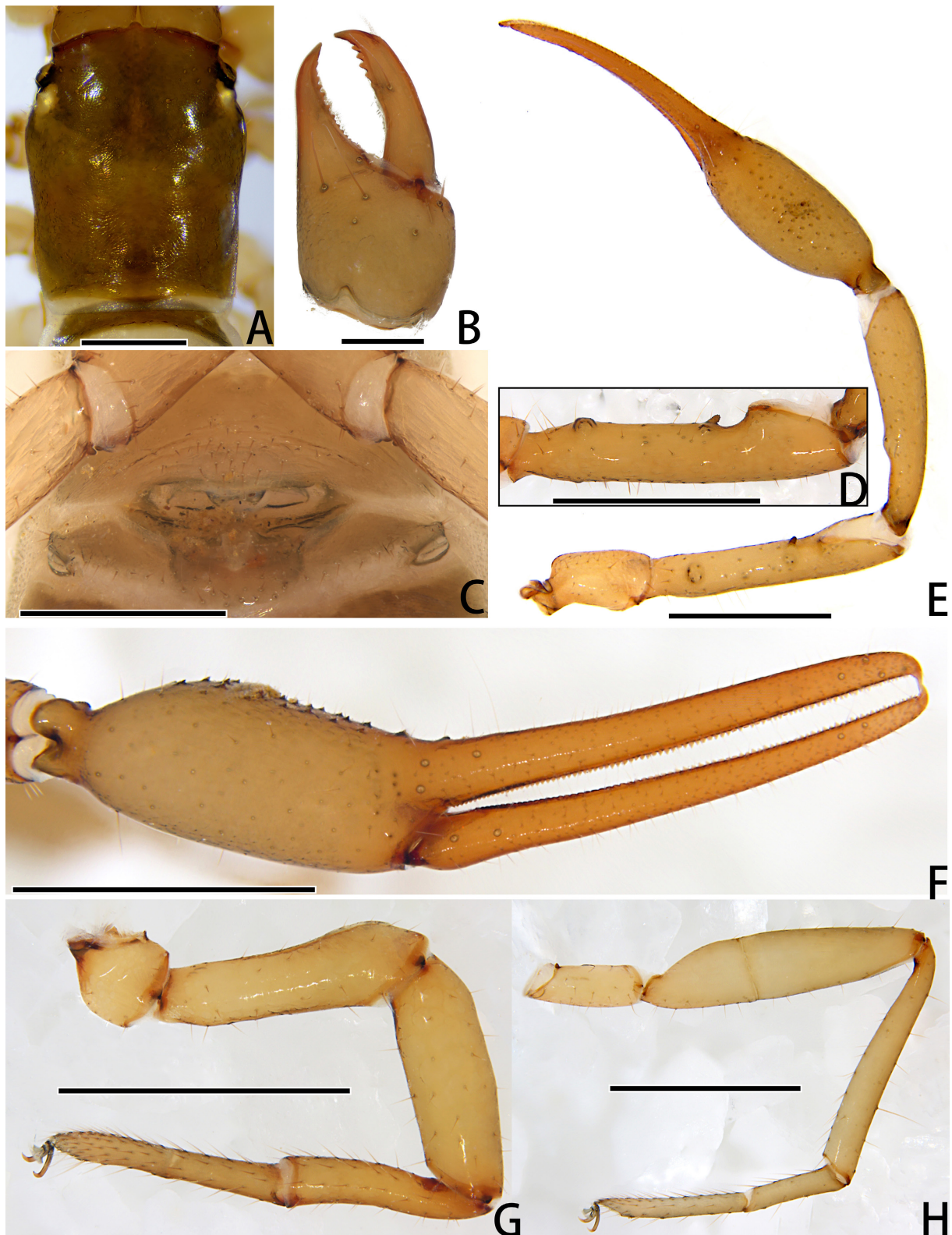
LEGS (Fig. 33G–H). Leg I: trochanter 1.03–1.10, femur 3.07–3.36, patella 2.90–3.19, tibia 4.18–4.47, basitarsus 2.79–3.08, telotarsus 4.09–4.30 times as long as deep. Leg IV: trochanter 2.61–3.26, femur+patella 4.37–4.74, tibia 6.80–7.94, basitarsus 4.23–4.50, telotarsus 7.09 times as long as deep; tibia with two submedial tactile setae (TS=0.67–0.68, 0.94–0.99), basitarsus with two tactile setae (TS=0.22–0.40, 0.82–0.91), telotarsus with two tactile setae (TS=0.09–0.21, 0.56–0.58); subterminal tarsal seta distally branched. Arolium not divided, shorter than the slender and simple claws.

**Adult females** (Figs 31B, 32B)

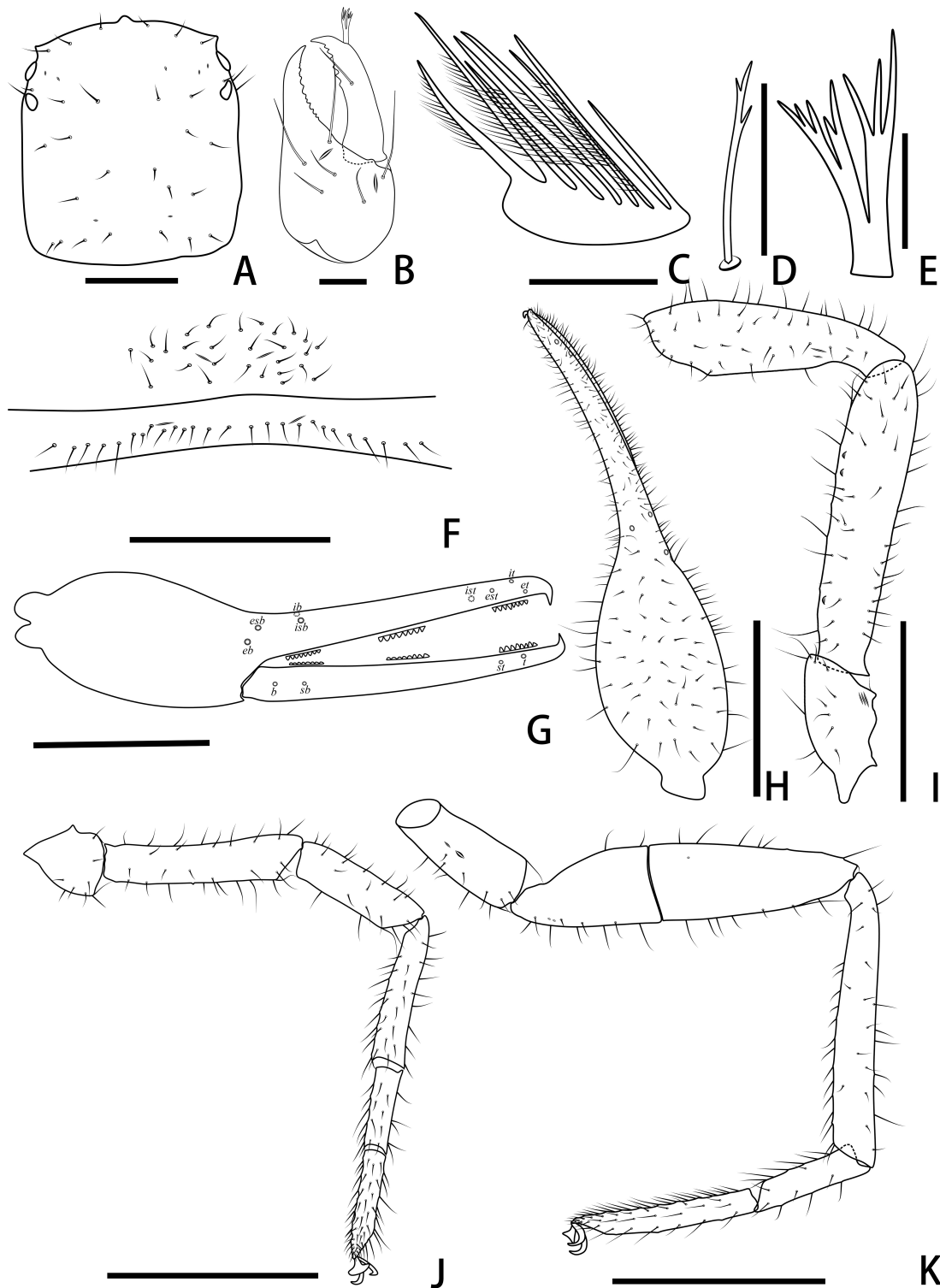
CARAPACE (Figs 34A, 35A, 70D). Carapace 1.07–1.09 times as long as broad, with a total of 28–30 setae, including 6–7 near anterior margin and 6–7 near posterior margin; four corneate eyes; five lyrifissures near the anterior eyes, two lyrifissures near posterior margin. Carapace smooth and nearly rectangular.



**Fig. 32.** Live specimens of *Stenohya jiahensis* Li & Shi, 2023. **A.** Male. **B.** Female.



**Fig. 33.** *Stenohya jiahensis* Li & Shi, 2023, male (Ps.-MHBG-GX2024011401). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalpal femur, dorsal view. **E.** Right pedipalp, dorsal view. **F.** Right pedipalpal chela, lateral view. **G.** Right leg I, lateral view. **H.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–H=1 mm.



**Fig. 34.** *Stenohya jiahensis* Li & Shi, 2023, female (Ps.-MHBV-GX2024011402). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.

CHELICERA (Figs 34B, 35B). Hand with seven setae and two lyrifissures; fixed finger with 17–19 teeth; movable finger with 11–16 teeth; serrula exterior with 43–45 lamellae; serrula interior with 33–38 lamellae; galea developed, divided into two main branches, one branch secondarily divided into five terminal rami, the other branch secondarily divided into three terminal rami (Fig. 34E); rallum consisting of 7–8 blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 34C).

PEDIPALPS (Figs 34G–I, 35C–D). Apex of pedipalpal coxa rounded, with five long setae; femur straight, with a few tubercles prolaterally; patella claviform, smooth; chela smooth. Trochanter 1.71–2.00, femur 4.59–4.61, patella 3.41–3.49, chela (with pedicel) 3.91–4.16, chela (without pedicel) 3.77–3.99 times as long as broad, movable finger 1.53–1.58 times as long as hand (without pedicel). Fixed chelal finger with eight, movable finger with four trichobothria: *eb*, *esb*, *ib* and *isb* located basally of fixed chelal finger, *est*, *et* and *it* situated distally of fixed chelal finger; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger; venom apparatus present only in fixed chelal finger, venom duct short; fixed chelal finger with 81–82 pointed teeth, movable finger with 78–80 teeth: 34–37 rounded teeth at base and 41–46 pointed teeth in distal position.

ABDOMEN. Pleural membrane granulated. Tergal chaetotaxy (I–XI): 4: 6–8: 7–9: 10: 10: 11–12: 10: 11–13: 11–12: 11–12: 8–10, sternal chaetotaxy (IV–XI): 18–23: 18–21: 17–21: 17–20: 17–20: 16–17: 13–14: 4. Sternites VI–VIII with 2–3 medial glandular setae. Genital area (Figs 34F, 35E): sternite II with a total of 26–28 setae and 2 lyrifissures; sternite III with a row of 26–28 setae and 2 lyrifissures.

LEGS (Figs 34J–K, 35F–G). Leg I: trochanter 1.03–1.13, femur 4.33–4.38, patella 3.15–3.26, tibia 4.67–5.00, basitarsus 2.92–3.00, telotarsus 4.42–4.62 times as long as deep. Leg IV: trochanter 2.22–2.52, femur+patella 3.57–4.56, tibia 5.91–7.37, basitarsus 3.67–3.71, telotarsus 6.15–7.33 times as long as deep; tibia with 2 tactile setae (TS=0.68–0.71, 0.94–0.99), basitarsus with two tactile setae (TS=0.18, 0.88–0.89); telotarsus with two tactile setae (TS=0.18–0.25, 0.56–0.64); subterminal tarsal seta distally branched (Fig. 34D). Arolium not divided, shorter than the slender and simple claws.

#### **Tritonymphs** (Fig. 31C)

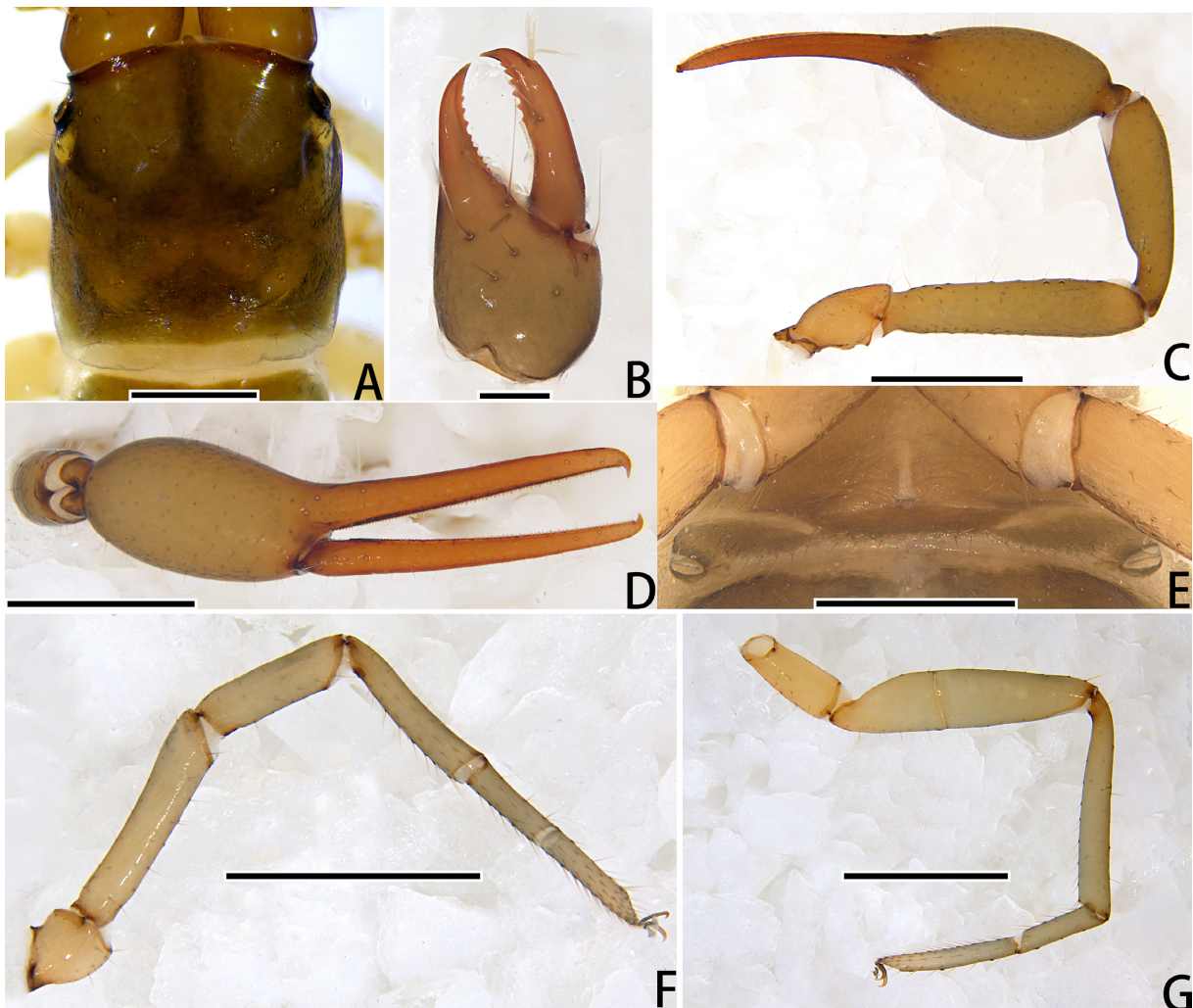
CARAPACE (Figs 36A, 71C). Carapace 1.02–1.09 times as long as broad, with a total of 27 setae, including five near anterior margin and six near posterior margin; six lyrifissures near the eyes, four lyrifissures near posterior margin; epistome small, triangular, with rounded top; with four corneate eyes. Carapace smooth.

CHELICERA (Fig. 36B). Hand with six setae and two lyrifissures, movable finger with one seta; fixed finger with 10–14 teeth; movable finger with 4–7 teeth; serrula exterior with 33–36 lamellae; serrula interior with 30–31 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami; rallum consisting of seven blades, all with anteriorly directed spinules, the basalmost blade shortest.

PEDIPALPS (Fig. 36C–D). Apex of pedipalpal coxa rounded, with four long setae. Femur with some small tubercles in the prolateral position in dorsal view; patella and chelal hand smooth. Trochanter 1.75–1.86, femur 4.44–4.58, patella 3.14–3.20, chela (with pedicel) 4.04–4.27, chela (without pedicel) 3.87–4.04 times as long as broad, movable finger 1.44–1.68 times as long as hand (without pedicel). Fixed chelal finger with seven, movable chelal finger with three trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-ib* in fixed chelal finger; *b* situated in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 68–69 pointed teeth, movable finger with 62–63 teeth: 25–27 rounded teeth at base and 35–38 pointed teeth in distal position.

ABDOMEN. Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 4:6:8–9:7–10:8–10:8–9:8–12:11–12:11:10–11:5–8, sternal chaetotaxy (IV–XI): 15–18:19–20:20–21:18–19:17–18:15–16:12–13:4, sternites VI–VIII with 2–3 medial glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Fig. 36E): anterior genital sternite with 5–6 setae and two lyrifissures; posterior genital sternite with 14–18 setae and two lyrifissures.

LEGS (Fig. 36F–G). Leg I: trochanter 1.19–1.24, femur 3.71–3.94, patella 3.00–3.23, tibia 3.46–4.18, basitarsus 2.40–2.70, telotarsus 3.00–4.10 times as long as deep. Leg IV: trochanter 2.10–2.68, femur+patella 4.15–4.23, tibia 5.56–5.87, basitarsus 3.36–3.50, telotarsus 4.62–5.64 times as long as deep; tibia with two submedial tactile setae (TS=0.24–0.26, 0.62–0.68), basitarsus with two tactile setae (TS=0.14–0.17, 0.81–0.89), telotarsus with two tactile setae (TS=0.20–0.23, 0.52–0.56); subterminal tarsal seta distally branched. Arolium not divided, shorter than the slender and simple claws.

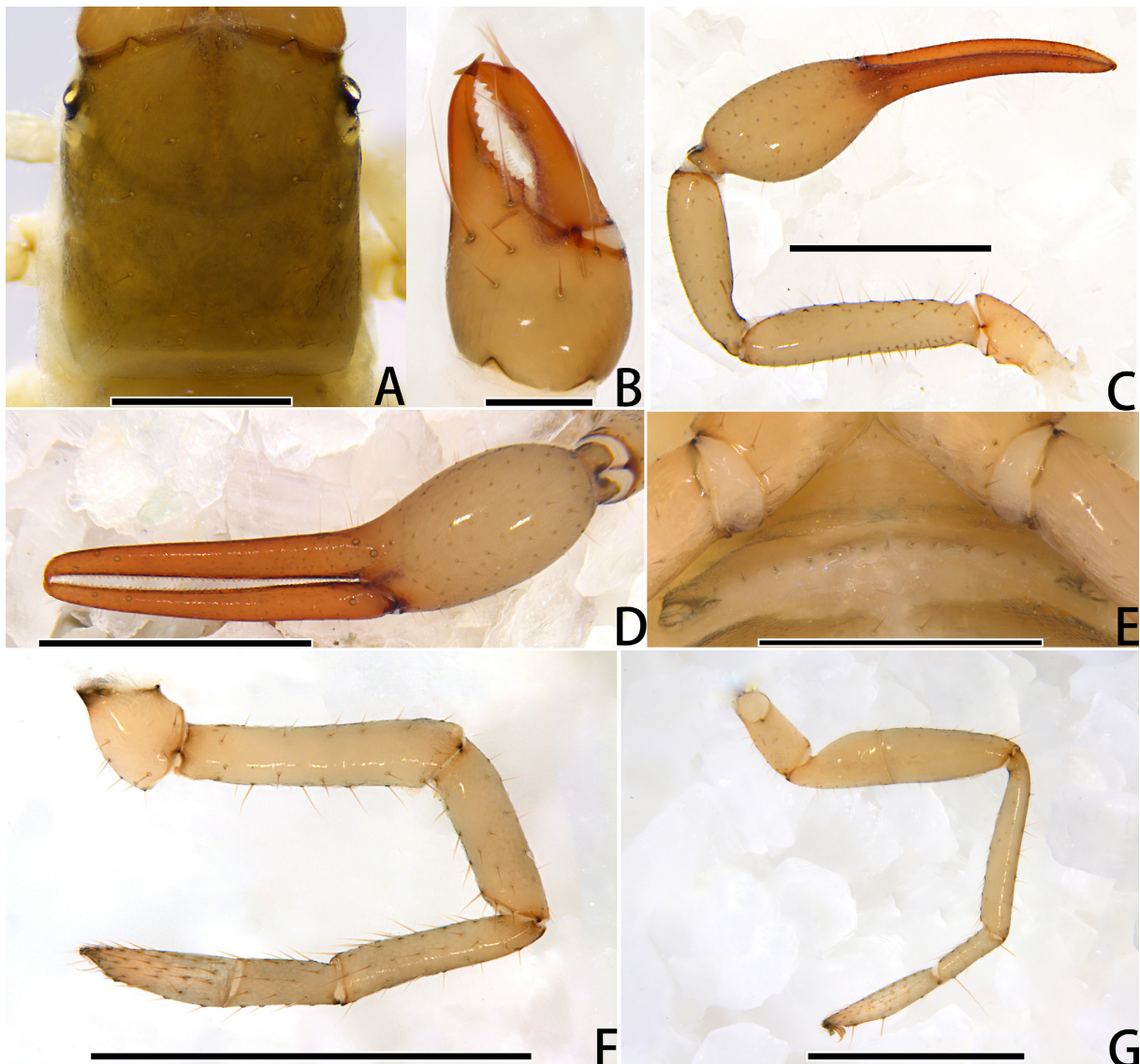


**Fig. 35.** *Stenohya jiahensis* Li & Shi, 2023, female (Ps.-MHBU-GX2024011402). A. Carapace, dorsal view B. Right chelicera, dorsal view C. Right pedipalp, dorsal view D. Right pedipalpal chela, lateral view E. Genital area, ventral view F. Right leg I, lateral view G. Right leg IV, lateral view. Scale bars: A, E=0.5 mm; B=0.2 mm; C–D, F–G=1 mm.

**Measurements** (in mm; length/breadth or, for legs, length/depth)

**Males**

Body length 3.97–4.24. Carapace 1.27–1.36/1.01–1.06. Pedipalpal trochanter 0.67–0.75/0.38–0.40, femur 1.66–1.67/0.35–0.36, patella 1.39–1.53/0.34–0.35, chela (with pedicel) 2.84–2.97/0.49–0.56, chela (without pedicel) 2.62–2.76/0.49–0.56, hand length (without pedicel) 1.12–1.16, movable finger length 1.66–1.83. Leg I: trochanter 0.33–0.34/0.30–0.33, femur 0.92–0.94/0.28–0.30, patella 0.83–0.87/0.26–0.30, tibia 0.67–0.71/0.15–0.17, basitarsus 0.37–0.39/0.12–0.14, telotarsus 0.43–0.45/0.10–0.11. Leg IV: trochanter 0.60–0.62/0.19–0.23, femur+patella 1.47–1.53/0.31–0.35, tibia 1.27–1.36/0.16–0.20, basitarsus 0.54–0.55/0.12–0.13, telotarsus 0.78/0.11.



**Fig. 36.** *Stenohya jiahensis* Li & Shi, 2023, tritonymph (Ps.-MHBU- GX2023120201). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Left pedipalp, dorsal view. **D.** Left pedipalpal chela, lateral view. **E.** Genital area, ventral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, E=0.5 mm; B=0.2 mm; C–D, F–G=1 mm.

### Females

Body length 4.18–4.86. Carapace 1.31–1.32/1.20–1.23. Pedipalpal trochanter 0.72–0.82/0.41–0.42, femur 1.75–1.79/0.38–0.39, patella 1.40–1.43/0.41, chela (with pedicel) 3.04–3.05/0.73–0.78, chela (without pedicel) 2.91–2.94/0.73–0.78, hand length (without pedicel) 1.18–1.22, movable finger length 1.86–1.87. Leg I: trochanter 0.30–0.36/0.29–0.32, femur 0.91–0.92/0.21, patella 0.62–0.63/0.19–0.20, tibia 0.70/0.14–0.15, basitarsus 0.35–0.36/0.12, telotarsus 0.51–0.53/0.11–0.12. Leg IV: trochanter 0.60–0.73/0.27–0.29, femur+patella 1.64/0.36–0.46, tibia 1.36–1.40/0.19–0.23, basitarsus 0.52–0.55/0.14–0.15, telotarsus 0.80–0.88/0.12–0.13.

### Tritonymphs

Body length 2.61–3.40. Carapace 0.85–0.87/0.78–0.85. Pedipalpal trochanter 0.49–0.52/0.28, femur 1.19–1.20/0.26–0.27, patella 0.88–0.96/0.28–0.30, chela (with pedicel) 2.14–2.18/0.51–0.53, chela (without pedicel) 2.05–2.06/0.51–0.53, hand length (without pedicel) 0.81–0.85, movable finger length 1.22–1.36. Leg I: trochanter 0.25–0.26/0.21, femur 0.63/0.16–0.17, patella 0.42–0.45/0.13–0.15, tibia 0.45–0.46/0.11–0.13, basitarsus 0.24–0.27/0.10, telotarsus 0.36–0.41/0.10–0.12. Leg IV: trochanter 0.44–0.51/0.19–0.21, femur+patella 1.10–1.12/0.26–0.27, tibia 0.88–0.89/0.15–0.16, basitarsus 0.35–0.37/0.10–0.11, telotarsus 0.60–0.62/0.11–0.13.

### Distribution

China: Guangxi Zhuang Autonomous Region.

### Remarks

*Stenohya jiahensis* was described from a single male specimen by Li & Shi (2023). In this study, more specimens from the type locality (Jiahe Garden in Lingui District, Guangxi, China), including 10 adult males, eight adult females and five tritonymphs, became available, allowing the first description of the female and tritonymph. Like some other species of *Stenohya*, *S. jiahensis* has sexually dimorphic pedipalps and leg I. The male pedipalpal femur has a big intumescence on the subbasal prolateral surface, a small intumescence and a columniform intumescence on the median prolateral surface, and a projection on the subterminal prolateral surface; the chelal hand has 40–42 triangular-shaped, spinous apophyses on the dorsal side, the chelal hand swells on the median dorsal side, while the female femur only has a few tubercles prolaterally. The male leg I has an enlarged patella, the tibia slightly bent, the basitarsus and telotarsus semi-fused, and the dividing line between the two segments visible, but absent in the female.

The female of *S. jiahensis* is similar to those of *S. biverticis* and *S. hamata*, but can be distinguished by the pedipalpal movable chelal finger length (1.86–1.87 vs 2.05–2.13 in *S. biverticis* and 1.53–1.67 in *S. hamata*) (Leclerc & Mahnert 1988).

*Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov. (嘉贤狭伪蝎)

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Figs 1.10, 37–41, 69M, 70M

### Diagnosis

Male pedipalpal femur with a curved cylindrical protuberance in the middle part, as well as a projection in the subdistal position (Figs 38I, 39D). Basitarsus and telotarsus fused and bent in male leg I, femur of leg I bent (Figs 38J, 39F). Female carapace with 27–28 setae; pedipalpal trochanter 1.95–2.00 times as long as broad; pedipalpal patella 3.15–3.16 times as long as broad; pedipalpal chela (with pedicel) 4.07–4.15 times as long as broad; pedipalpal fixed chelal finger with 106–108 teeth.

### Etymology

The specific epithet is a patronym in honour of Jiaxian Gong, who collected the specimens.

### Type material

#### Holotype

CHINA • ♂; Fujian Province, Dehua County, Jiuxian Mountain; 25°41'28" N, 118°06'40" E; 1265 m a.s.l.; 13 Jan. 2024; Jiaxian Gong, Yanbin Yao, Han Gao, Mingxuan Wu and Rui Zhao leg.; Ps.-MHBUE-FJ2024011301.

#### Paratypes

CHINA • 4 ♂♂, 2 ♀♀; same collection data as for holotype; Ps.-MHBUE-FJ2024011302–07.

### Description

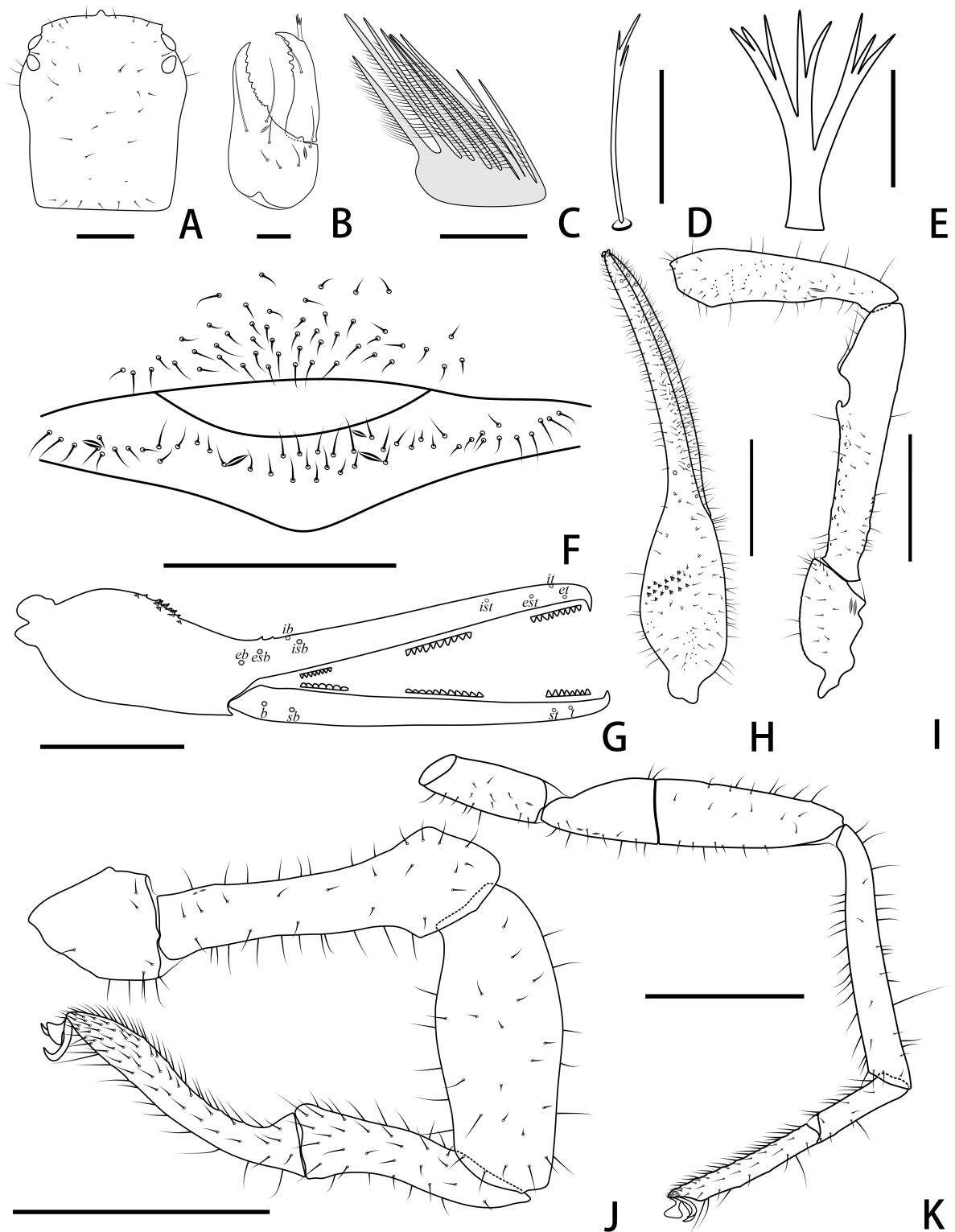
#### Adult males (holotype and male paratypes) (Fig. 37A)

**CARAPACE** (Figs 38A, 39A, 69M). Carapace 1.14–1.17 times as long as broad, with a total of 30–34 setae, including six near anterior margin and 6–7 near posterior margin; five lyrifissures near the eyes, two lyrifissures near posterior margin; epistome small, triangular, with rounded top; with four corneate eyes. Carapace with elevations in the middle of the eye area and near middle of carapace in lateral view.

**CHELICERA** (Figs 38B, 39B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 12–14 teeth; movable finger with five teeth; serrula exterior with 48–49 lamellae; serrula interior with 36–38 lamellae; galea developed, divided into two main branches, one branch



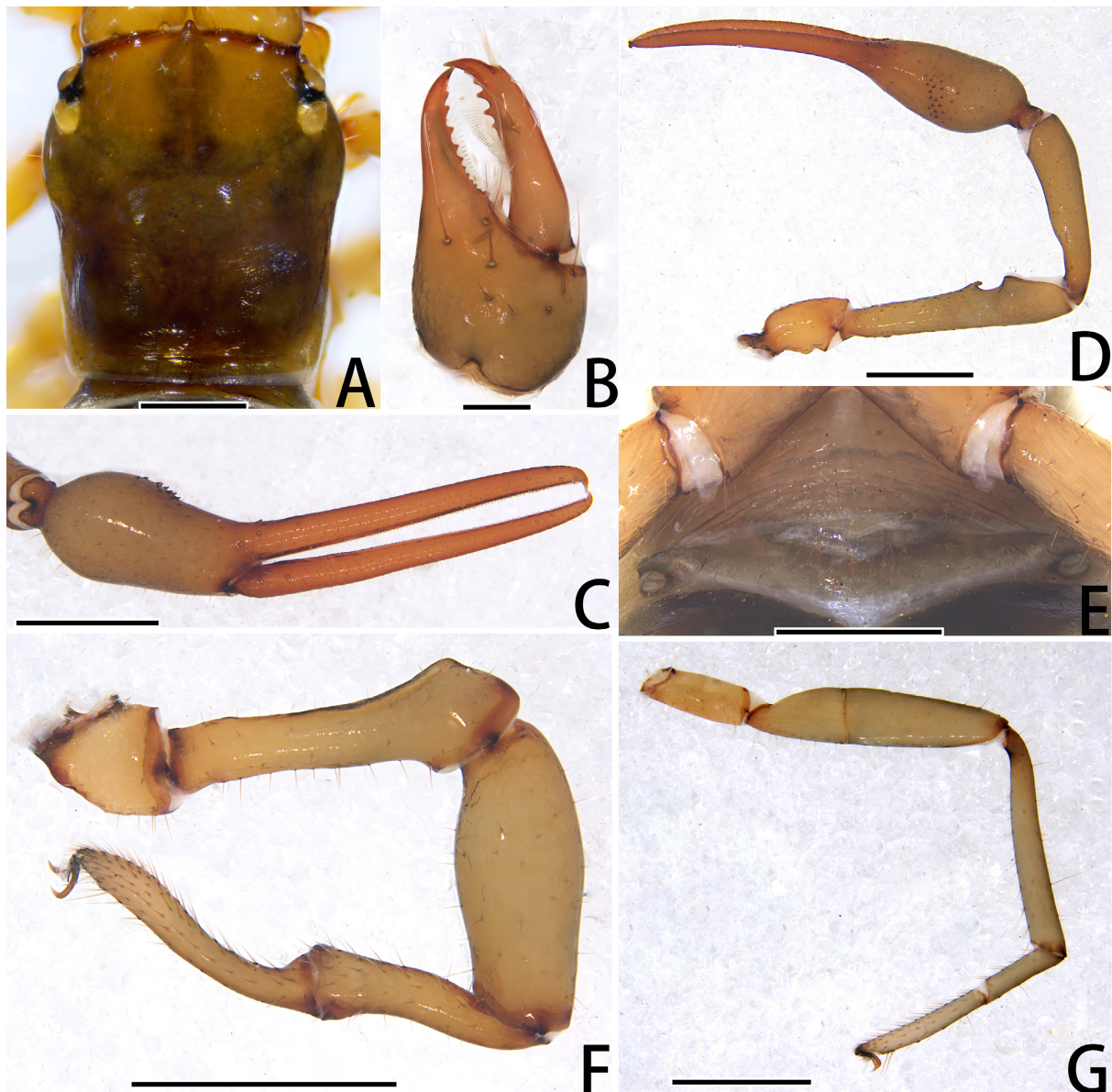
**Fig. 37.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBUE-FJ2024011301). **B.** Paratype, female (dorsal view) (Ps.-MHBUE-FJ2024011302). Scale bars: 2 mm.



**Fig. 38.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBUE-FJ2024011301). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Rallum. D. Subterminal tarsal seta. E. Galea. F. Chaetotaxy of genital area, ventral view. G. Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. H. Right pedipalpal chela, dorsal view. I. Right pedipalp (trochanter, femur and patella), dorsal view. J. Right leg I, lateral view. K. Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.

secondarily divided into five terminal rami, the other branch secondarily divided into three terminal rami (Fig. 38E); rallum consisting of 8–9 blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 38C).

**PEDIPALPS** (Figs 38G–I, 39C–D). Apex of pedipalpal coxa rounded, with six long setae. Trochanter with some small granulations, femur with some small tubercles mainly surrounding the basal to median area in the prolateral and retrolateral position, femur with a curved cylindrical protuberance in the middle part, as well as a projection in the subdistal position (Figs 38I, 39D); patella smooth (Figs 38I, 39D); chelal hand with 22–26 small, triangular, spinous apophyses in the middle of the dorsal side, each spinous apophysis with a seta at the base, a few spinous apophyses extended onto the dorsal face of fixed



**Fig. 39.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBUE-FJ2024011301). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Right pedipalpal chela, lateral view. **D.** Right pedipalp, dorsal view. **E.** Genital area, ventral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, E=0.5 mm; B=0.2 mm; C–D, F–G=1 mm.

finger (Figs 38G–H, 39C–D). Trochanter 1.82–2.12, femur 4.66–4.93, patella 3.86–3.87, chela (with pedicel) 5.04–5.34, chela (without pedicel) 4.86–5.05 times as long as broad, movable finger 1.87–1.88 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 112–114 pointed teeth, movable finger with 103–106 teeth: 55–59 rounded teeth at base and 47–48 pointed teeth in distal position.

ABDOMEN. Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 4–5:8:7–10:9–11:10–11:10:10–11:12:11–13:10–11:12–13, sternal chaetotaxy (IV–XI):27–30:25–26:21–22:21–24:18–19:18–21:13–14:4–5, sternites VI–VIII with 5–6 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 38F, 39E): anterior genital sternite with 42–55 setae; posterior genital sternite with 46–54 setae and 4 lyrifissures.

LEGS (Figs 38J–K, 39F–G). In leg I, femur with marked enlargement distally, patella enlarged, tibia bent, basitarsus and telotarsus fused and bent, the dividing line between the two segments invisible (Figs 38J, 39F). Leg I: trochanter 1.21–1.27, femur 2.96–3.02, patella 2.30–2.38, tibia 3.07–3.33, basitarsus+telotarsus 5.21–6.75 times as long as deep. Leg IV: trochanter 2.52–2.64, femur+patella 4.59–4.60, tibia 6.37–7.08, basitarsus 3.71–3.95, telotarsus 7.77–8.08 times as long as deep; tibia with two submedial tactile setae (TS=0.17–0.20, 0.63–0.69), basitarsus with two tactile setae (TS=0.60, 0.84–0.87), telotarsus with two tactile setae (TS=0.17–0.28, 0.58–0.60); subterminal tarsal seta distally branched (Fig. 38D). Arolium not divided, shorter than the slender and simple claws.

**Adult females** (paratypes) (Fig. 37B)

Mostly same as in males, except where noted.

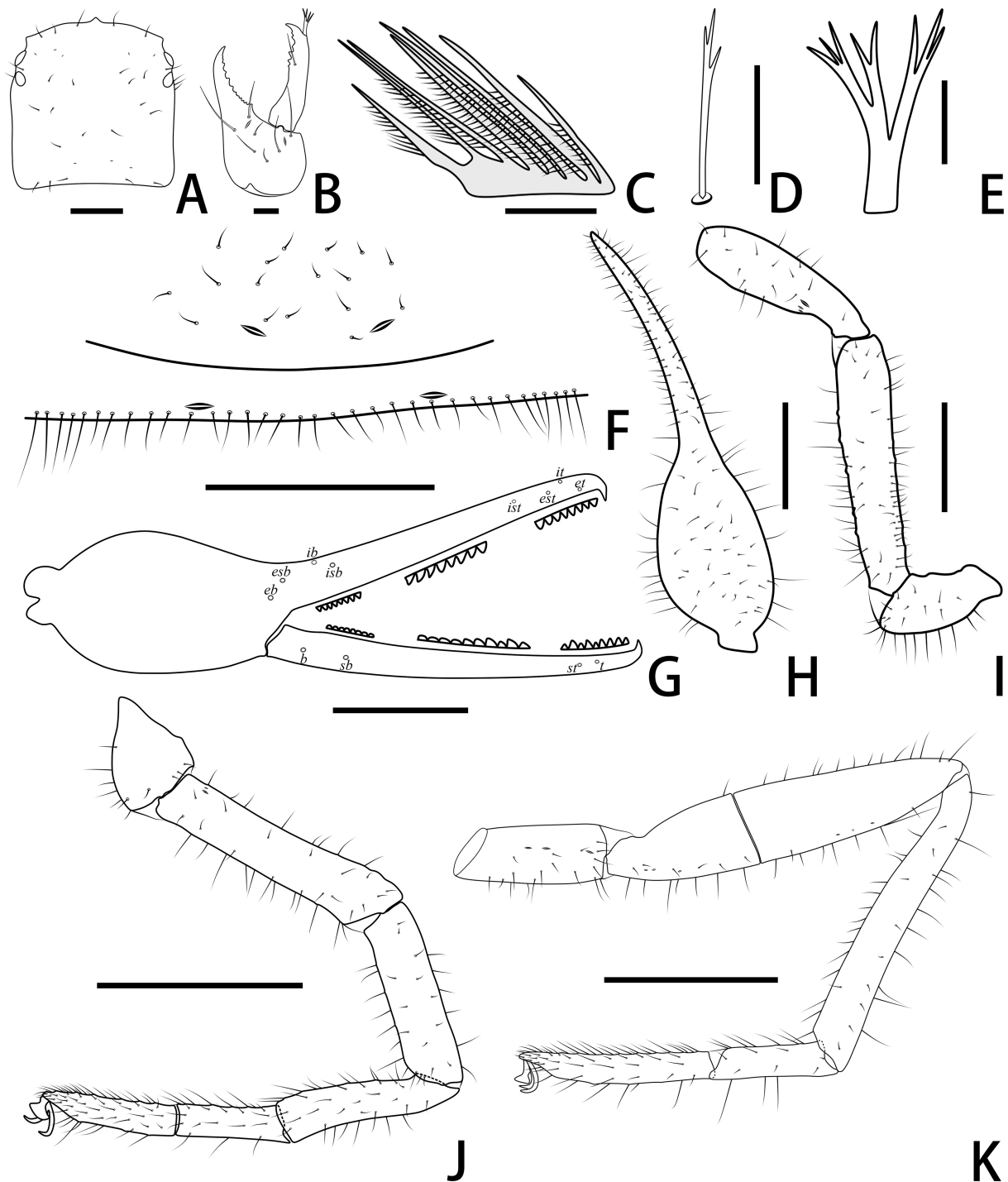
CARAPACE (Figs 40A, 41A, 70M). Carapace 1.04–1.07 times as long as broad, with a total of 27–28 setae, including 5–6 near anterior margin and 5–6 near posterior margin; five lyrifissures near the eyes, three lyrifissures near posterior margin. Carapace with elevations near middle in lateral view.

CHELICERA (Figs 40B, 41B). Fixed finger with 12–13 teeth; movable finger with 6–7 teeth; serrula exterior with 43–49 lamellae; serrula interior with 41–42 lamellae; galea divided into two main branches, one branch secondarily divided into five terminal rami, the other branch secondarily divided into three terminal rami (Fig. 40E); rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 40C).

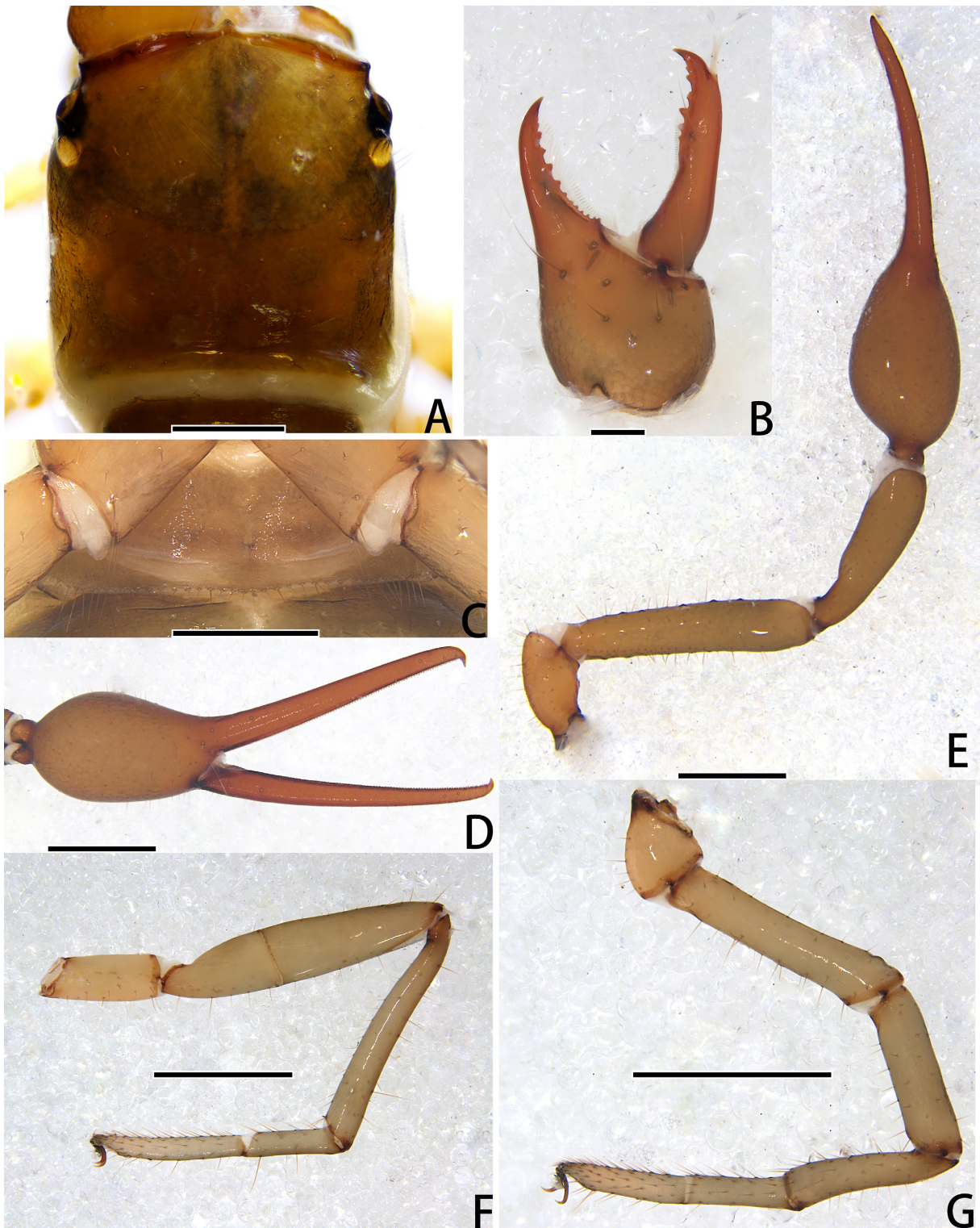
PEDIPALPS (Figs 40G–I, 41D–E). Apex of pedipalpal coxa with 6–7 long setae. Femur with a few tubercles prolaterally (Figs 40I, 41E). Trochanter 1.95–2.00, femur 4.71–5.00, patella 3.15–3.16, chela (with pedicel) 4.07–4.15, chela (without pedicel) 3.95–4.02 times as long as broad, movable finger 1.63–1.74 times as long as hand (without pedicel). Fixed chelal finger with 106–108 pointed teeth, movable finger with 96–102 teeth: 55–58 rounded teeth at base and 41–44 pointed in distal position.

ABDOMEN. Tergal chaetotaxy (I–XI): 4–5:6:9–12:10–11:10–11:10–11:10–11:11–12:11–13:9–11:10–11, sternal chaetotaxy (IV–XI):24–26:21–23:19–23:22:18–20:15–16:11–12:5–7, sternites VI–VIII with two medial glandular setae; genital area (Figs 40F, 41C): sternite II with a total of 17–19 setae and two lyrifissures; sternite III with a row of 36–40 setae and two lyrifissures along posterior margin.

LEGS (Figs 40J–K, 41F–G). Leg I: trochanter 1.24–1.36, femur 4.07–4.10, patella 3.36–3.38, tibia 4.35–5.38, basitarsus 3.25–3.31, telotarsus 4.00–4.79 times as long as deep. Leg IV: trochanter 2.58–2.64, femur+patella 4.65–4.93, tibia 7.19–7.30, basitarsus 3.63–3.89, telotarsus 5.82–7.47 times as long as



**Fig. 40.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBUE-FJ2024011302). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 41.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBUE-FJ2024011302). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Genital area, ventral view. D. Right pedipalpal chela, lateral view. E. Right pedipalp, dorsal view. F. Right leg IV, lateral view. G. Right leg I, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.

deep; tibia with two submedial tactile setae (TS=0.17–0.20; 0.91), basitarsus with two tactile setae (TS=0.17–0.33; 0.87–0.94), telotarsus with two tactile setae (TS=0.27–0.31; 0.60–0.61).

#### Measurements (in mm; length/breadth or, for legs, length/depth)

##### Males (holotype and paratypes)

Body length 4.92–5.21. Carapace 1.68–1.70/1.43–1.49. Pedipalpal trochanter 0.93–1.08/0.51, femur 2.17–2.19/0.44–0.47, patella 1.66–1.74/0.43–0.45, chela (with pedicel) 3.98–4.11/0.77–0.79, chela (without pedicel) 3.84–3.89/0.77–0.79, hand (without pedicel) length 1.35–1.40, movable finger length 2.53–2.63. Leg I: trochanter 0.51–0.52/0.41–0.42, femur 1.33/0.44–0.45, patella 1.14–1.15/0.48–0.50, tibia 0.83–0.90/0.27–0.28, basitarsus+telotarsus 0.99–1.08/0.16–0.19. Leg IV: trochanter 0.78–0.87/0.31–0.33, femur+patella 1.88–1.98/0.41–0.43, tibia 1.70–1.72/0.24–0.27, basitarsus 0.63–0.75/0.17–0.19, telotarsus 1.01–1.05/0.13.

##### Females (paratypes)

Body length 6.25–8.06. Carapace 1.57–1.62/1.47–1.56. Pedipalpal trochanter 0.96–1.09/0.48–0.56, femur 2.25–2.40/0.45–0.51, patella 1.55–1.67/0.49–0.53, chela (with pedicel) 4.07–4.27/1.00–1.03, chela (without pedicel) 3.95–4.14/1.00–1.03, hand (without pedicel) length 1.55–1.56, movable finger length 2.53–2.72. Leg I: trochanter 0.45–0.51/0.33–0.41, femur 1.18–1.23/0.29–0.30, patella 0.84–0.88/0.25–0.26, tibia 0.86–0.87/0.16–0.20, basitarsus 0.52–0.53/0.16, telotarsus 0.60–0.67/0.14–0.15. Leg IV: trochanter 0.85–0.95/0.33–0.36, femur+patella 2.00–2.12/0.43, tibia 1.68–1.87/0.23–0.26, basitarsus 0.69–0.70/0.18–0.19, telotarsus 0.99–1.12/0.15–0.17.

#### Distribution

China: Fujian Province.

#### Remarks

This new species is similar to *S. guangmingensis* in having the completely fused basitarsus+telotarsus in the male leg I, but can be distinguished by the enlarged distal femur (distal femur has an inward depression in *S. guangmingensis*) (Zhao *et al.* 2024). Females of this new species are similar to those of *S. biverticis*, *S. hainanensis*, *S. gibba*, *S. papillata* and *S. guangmingensis*, but can be distinguished by the presence of 27–28 setae on the carapace (39–42 in *S. papillata*); the pedipalpal trochanter 1.95–2.00 times as long as broad (1.55–1.81 in *S. biverticis*); the pedipalpal patella 3.15–3.16 times as long as broad (3.39–3.46 in *S. guangmingensis*); the pedipalpal chela (with pedicel) 4.07–4.15 times as long as wide (4.67–4.98 in *S. gibba*); and the presence of 106–108 teeth on the pedipalpal fixed chelal finger (88–89 in *S. hainanensis*) (Guo & Zhang 2016; Zhao *et al.* 2024).

*Stenohya margarita* Zhao, Guo & Zhang sp. nov. (珍珠狭伪蝎)

[urn:lsid:zoobank.org:act:D872F411-EC13-4626-82A1-E02EDC2D21A1](https://zoobank.org/urn:lsid:zoobank.org:act:D872F411-EC13-4626-82A1-E02EDC2D21A1)

Figs 1.8, 42–47, 69F, 70Q

#### Diagnosis

Male pedipalpal femur with a curved protuberance in median prolateral position, as well as a projection on the subdistal prolateral surface, two intumescences in median and subdistal position on the dorsal side (Figs 44I, 45D–E); chelal hand with 16–20 triangular-shaped, spinous apophyses on the dorsal side; chelal hand with many small granular processes mainly surrounding the basal to median area on prolateral, retrolateral and dorsal sides (Figs 44G–H, 45C–D). Female apex of pedipalpal coxa with six long setae; pedipalpal movable chelal finger with 92–97 teeth; and pedipalpal movable chelal finger with 46–49 rounded teeth at base, and 33–34 pointed in distal position.

### Etymology

The specific epithet is derived from the Greek word ‘*margarita*’, meaning ‘pearl’, which refers to the presence of many small granular processes on the prolateral, retrolateral and dorsal sides of the pedipalpal chelal hand in the male; noun in apposition.

### Type material

#### Holotype

CHINA • ♂; Guangxi Zhuang Autonomous Region, Quanzhou County, Xinhaocaoping Village; 25°52'39" N, 111°26'16" E; 769 m a.s.l.; 23 Nov. 2023; in leaf litter (Fig. 2B); Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBG-GX2023112301.

#### Paratypes

CHINA • 3 ♂♂, 8 ♀♀; same collection data as for holotype; Ps.-MHBG-GX2023112302–12.

### Description

#### Adult males (holotype and male paratypes) (Figs 42A, 43A)

CARAPACE (Figs 44A, 45A, 69F). Carapace 1.23–1.25 times as long as broad, with a total of 30–31 setae, including 5–6 near anterior margin and 5–6 near posterior margin; six lyrifissures near the eyes, five lyrifissures near posterior margin; epistome small, triangular, with rounded top; four corneate eyes. Carapace nearly smooth.



**Fig. 42.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBG-GX2023112301). **B.** Paratype, female (dorsal view) (Ps.-MHBG-GX2023112302). Scale bars: 2 mm.

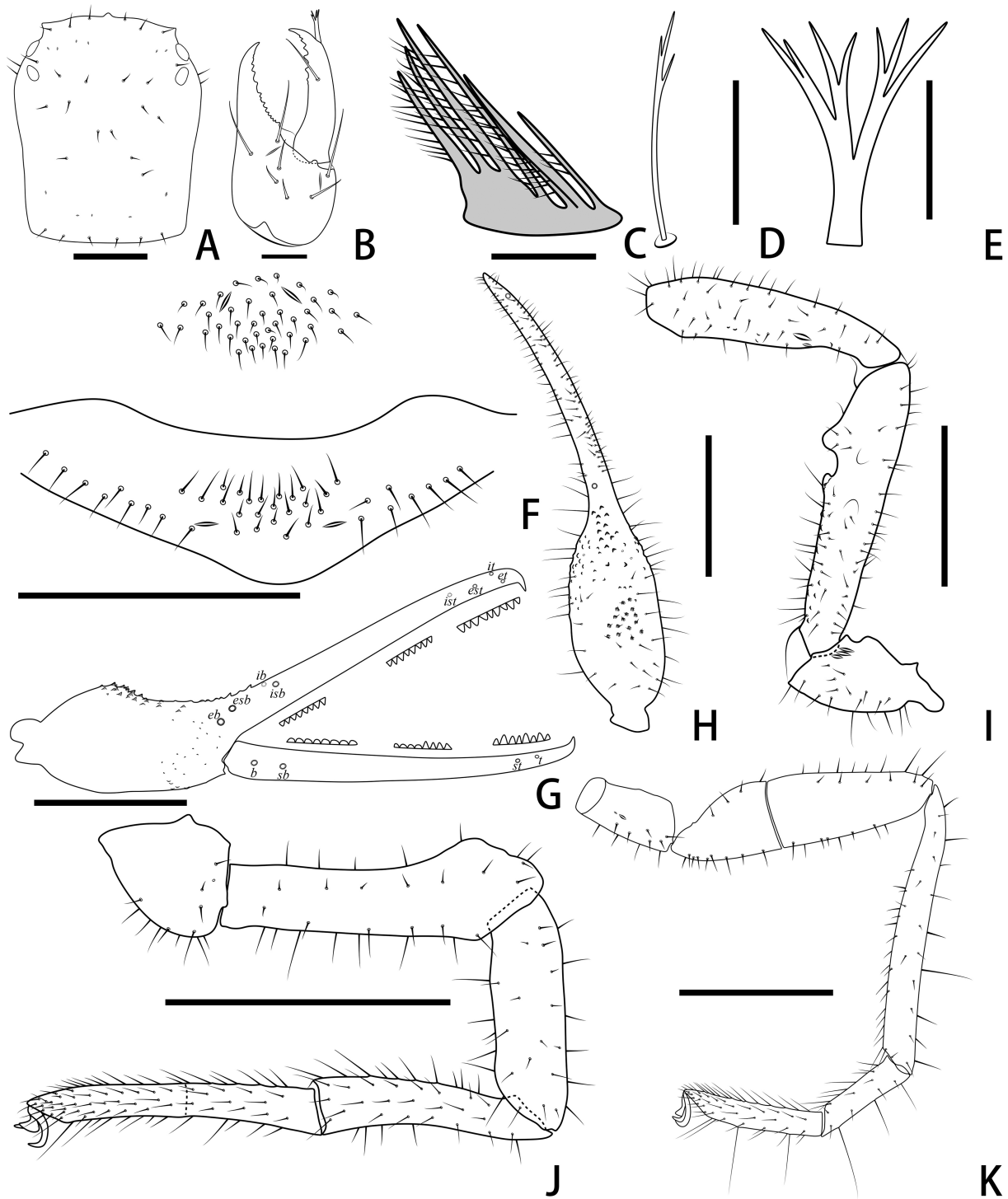
**CHELICERA** (Figs 44B, 45B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 12–15 teeth; movable finger with 5–7 teeth; serrula exterior with 43–45 lamellae; serrula interior with 33–40 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami (Fig. 44E); rallum consisting of seven blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 44C).

**PEDIPALPS** (Figs 44G–I, 45C–E). Apex of pedipalpal coxa rounded, with 6–7 long setae. Femur with some small tubercles in the prolateral position, and a curved protuberance adjacent in the median prolateral position, as well as a projection on the subdistal prolateral surface, two intumescences in the median and subdistal position on the dorsal side (Fig. 45D–E); patella smooth; chelal hand concave on the dorsal side of distal half, and with 16–20 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base, a few spinous apophyses extended onto the dorsal face of fixed finger; chelal hand with many small granular protuberances mainly surrounding the basal to median area on prolateral, retrolateral and dorsal sides (Figs 44G–H, 45C–D). Trochanter 1.56–2.02, femur 3.68–4.05, patella 4.05–4.22, chela (with pedicel) 4.90–5.15, chela (without pedicel) 4.61–4.92 times as long as broad, movable finger 1.88–1.93 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 106–107 pointed teeth, movable finger with 92–94 teeth: 42–46 rounded teeth at base and 48–50 pointed teeth in distal position.

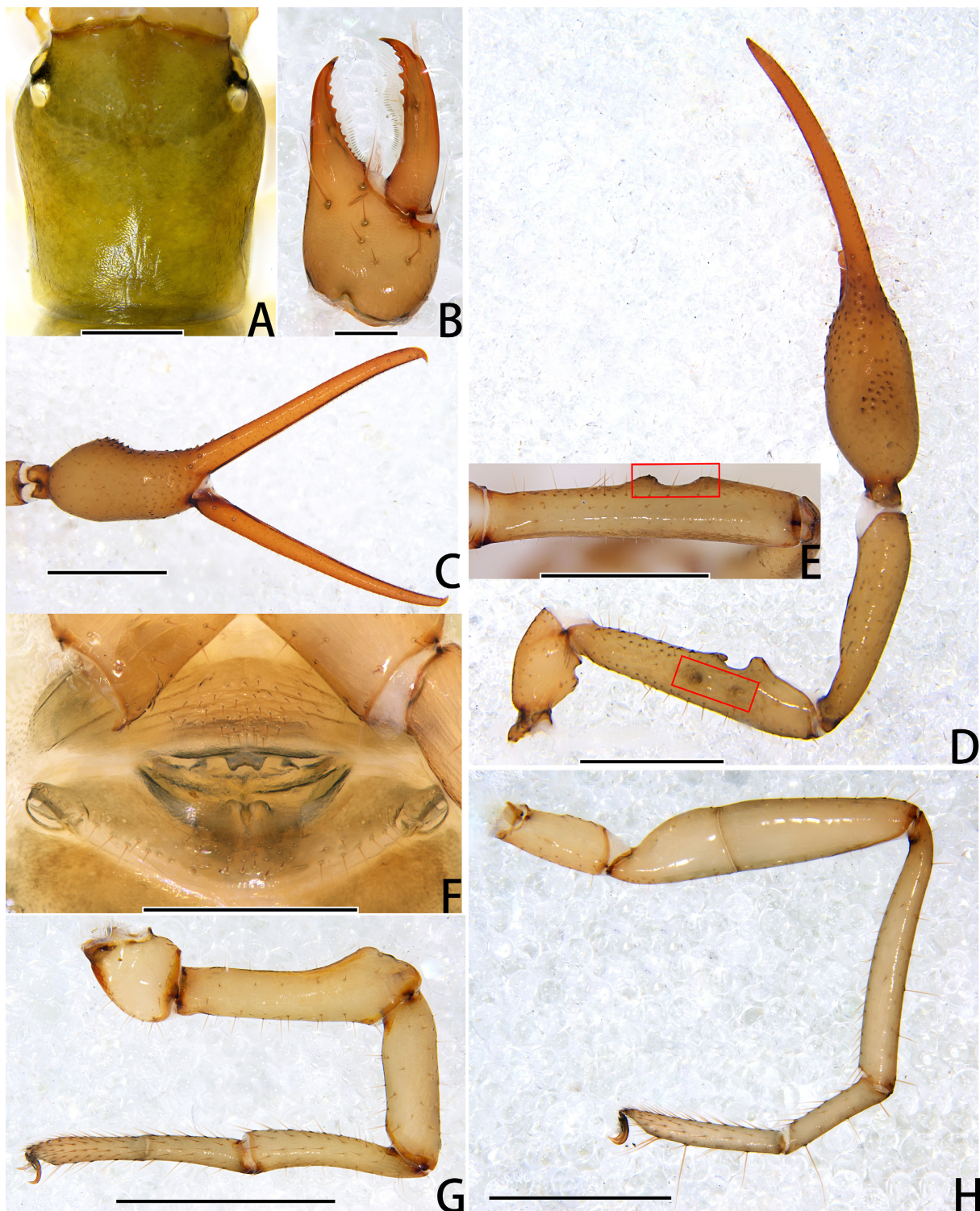
**ABDOMEN.** Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 5–6:7–8:9–10:10:10:10–12:11:12:11–12:10–11:9–13, sternal chaetotaxy (IV–XI): 19–24:18–



**Fig. 43.** Live specimens of *Stenohya margarita* Zhao, Guo & Zhang sp. nov. **A.** Male. **B.** Female.



**Fig. 44.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBU-GX2023112301). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 45.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBU-GX2023112301). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Right pedipalpal chela, lateral view. D. Right pedipalp, dorsal view (two intumescences on femur in red box). E. Right pedipalpal femur, retrolateral view (two intumescences on femur in red box). F. Genital area, ventral view. G. Right leg I, lateral view. H. Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E, G–H=1 mm.

22:16–22:18–19:15–18:13–16:11–13:5, sternites VI–VIII with 6–12 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 44F, 45F): anterior genital sternite with 35–41 setae and two lyrifissures; posterior genital sternite with 35–40 setae and two lyrifissures.

LEGS (Figs 44J–K, 45G–H). In leg I, femur with marked enlargement distally, patella enlarged, tibia bent, basitarsus and telotarsus semi-fused, the dividing line between the two segments visible (Figs 44J, 45G). Leg I: trochanter 1.23–1.43, femur 2.76–3.15, patella 3.07–3.54, tibia 4.33–4.53, basitarsus 3.20–3.40, telotarsus 4.42–4.58 times as long as deep. Leg IV: trochanter 2.18–2.45, femur+patella 3.95–4.61, tibia 6.76–8.35, basitarsus 3.69–4.50, telotarsus 6.00–7.42 times as long as deep; tibia with two submedial tactile setae (TS=0.22, 0.61–0.63), basitarsus with two tactile setae (TS =0.15–0.17, 0.84–0.86), telotarsus with three tactile setae (TS=0.22–0.27, 0.57–0.58, 0.76–0.77); subterminal tarsal seta distally branched (Fig. 44D). Arolium not divided, shorter than the slender and simple claws.

**Adult female** (paratype females) (Figs 42B, 43B)

Mostly same as in males, except where noted.

CARAPACE (Figs 46A, 47A, 70Q). Carapace 1.05–1.12 times as long as broad, with a total of 31–37 setae, including six near anterior margin and 6–7 near posterior margin; six lyrifissures near the eyes, two lyrifissures near posterior margin. Carapace with a slight elevation in the middle of the eye area in lateral view.

CHELICERA (Figs 46B, 47B). Fixed finger with 13–14 teeth; movable finger with 7–8 teeth; serrula exterior with 46–50 lamellae; serrula interior with 30–42 lamellae; galea divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami (Fig. 46E); rallum consisting of 8–9 blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 46C).

PEDIPALPS (Figs 46G–I, 47D–E). Apex of pedipalpal coxa with six long setae. Femur with a few tubercles prolaterally (Figs 46I, 47D); patella smooth (Figs 46I, 47D); chelal hand with several small granular processes located distally on the hand and near the base of fingers (Figs 46G–H, 47D–E). Trochanter 1.58–2.00, femur 4.60–4.80, patella 3.32–3.70, chela (with pedicel) 4.21–4.72, chela (without pedicel) 3.96–4.51 times as long as broad, movable finger 1.69–1.82 times as long as hand (without pedicel). Fixed chelal finger with 92–97 pointed teeth, movable finger with 80–82 teeth: 46–49 rounded teeth at base and 33–34 pointed in distal position.

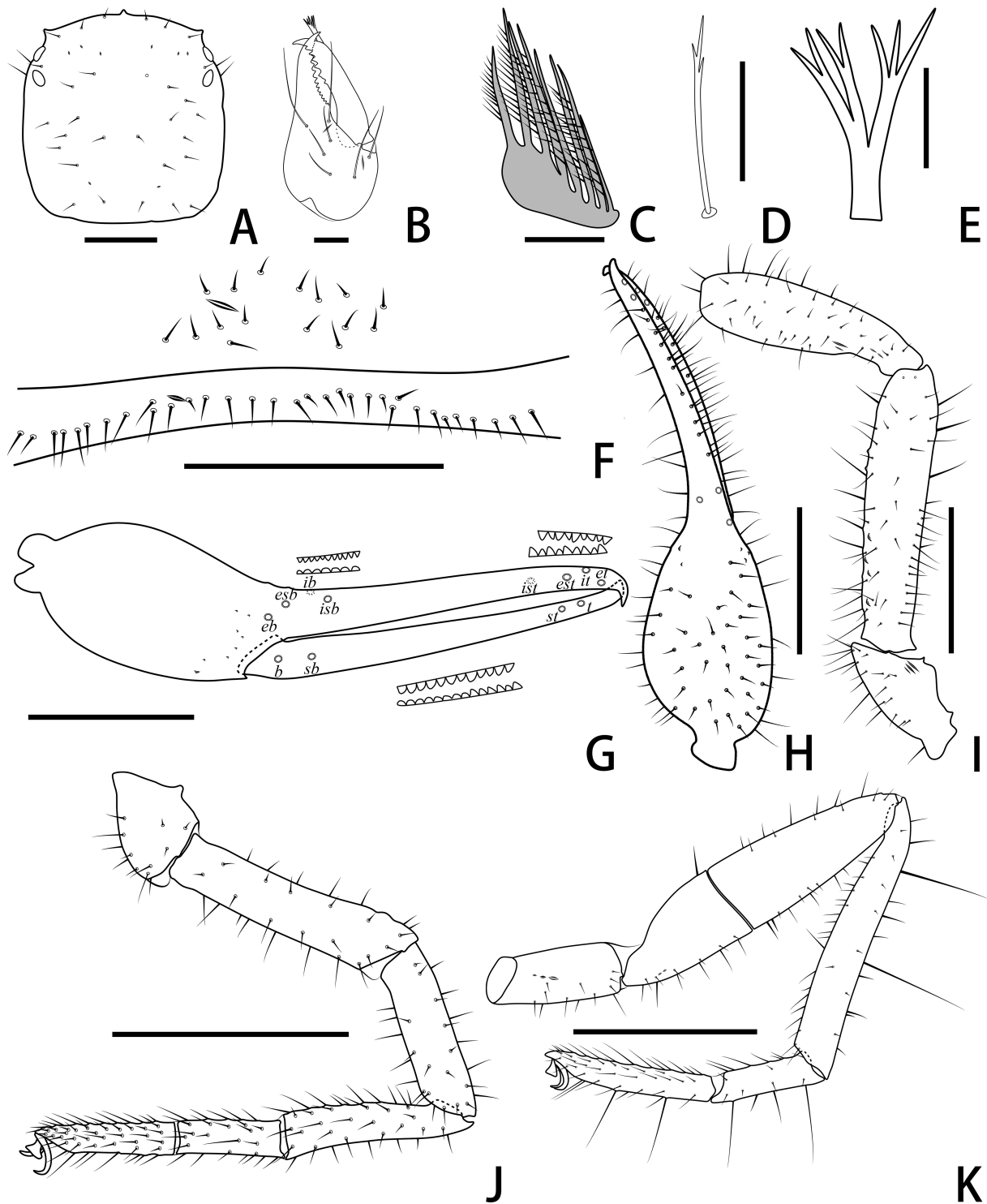
ABDOMEN. Tergal chaetotaxy (I–XI): 6–7:8–9:9–11:9–10:10–11:11–12:10–13:11–12:11–12:11–12:10–12, sternal chaetotaxy (IV–XI): 18–24:20–23:17–19:16–18:16–18:14–18:12–15:5–6, sternites VI–VIII with 2–3 medial glandular setae; genital area (Figs 46F, 47C): sternite II with a total of 17–18 setae and 1–2 lyrifissures; sternite III with a row of 29–32 setae and 1–2 lyrifissures.

LEGS (Figs 46J–K, 47F–G). Leg I: trochanter 1.05–1.45, femur 4.13–4.28, patella 3.17–3.43, tibia 4.47–5.43, basitarsus 3.21–3.50, telotarsus 4.15–4.92 times as long as deep. Leg IV: trochanter 2.38–2.90, femur+patella 4.16–4.40, tibia 6.30–7.14, basitarsus 3.42–3.71, telotarsus 5.88–6.64 times as long as deep; tibia with two submedial tactile setae (TS=0.23–0.25, 0.59–0.64), basitarsus with two tactile setae (TS=0.16–0.18, 0.84–0.86), telotarsus with three tactile setae (TS =0.21–0.26, 0.55, 0.73–0.77).

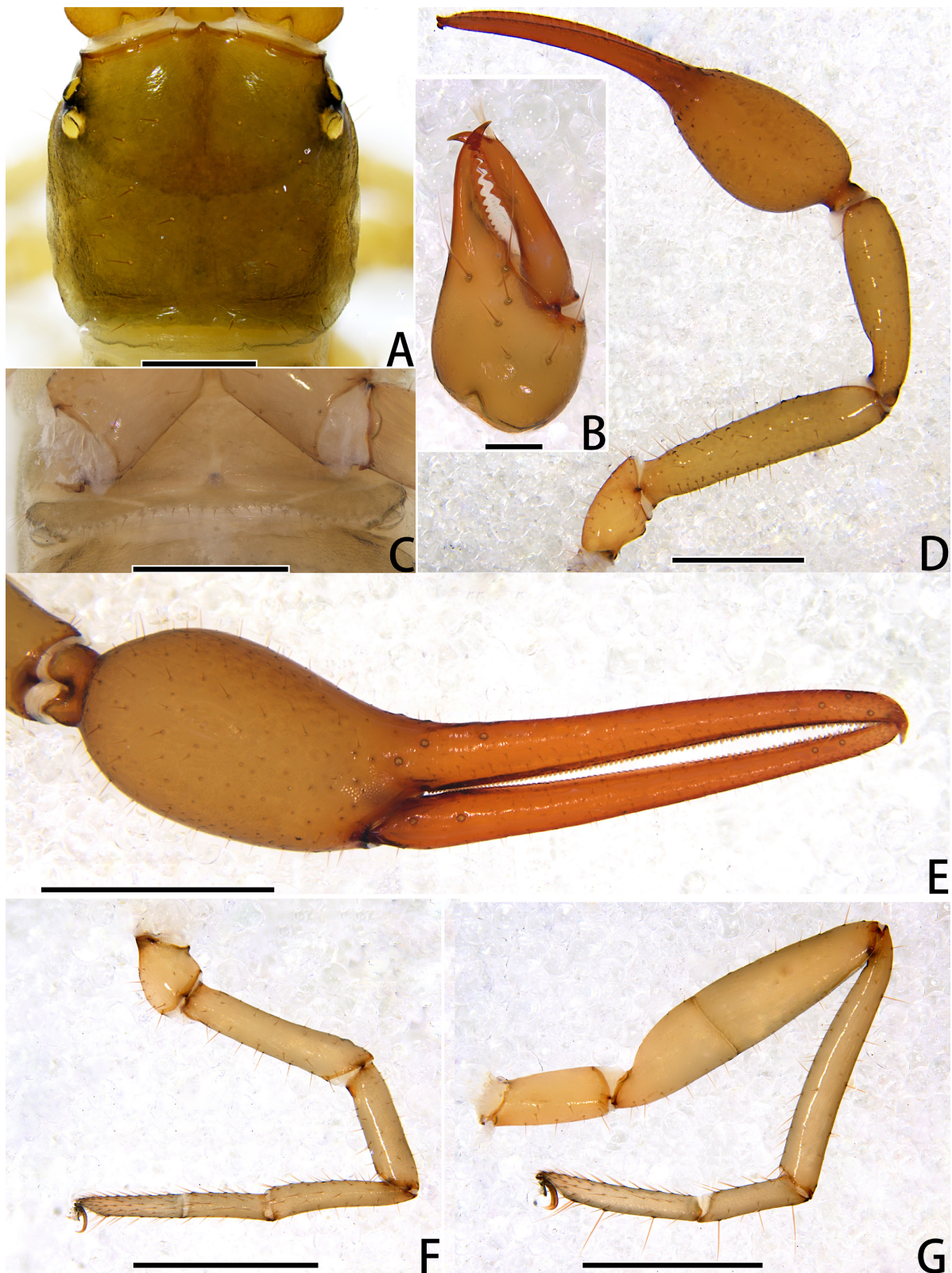
**Measurements** (in mm; length/breadth or, for legs, length/depth)

**Males** (holotype and paratypes)

Body length 4.01–4.49. Carapace 1.54–1.56/1.24–1.26. Pedipalpal trochanter 0.78–0.97/0.46–0.50, femur 1.78–1.87/0.44–0.50, patella 1.56–1.63/0.37–0.39, chela (with pedicel) 3.38–3.50/0.69–0.71,



**Fig. 46.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-GX2023112302). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 47.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-GX2023112302). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Genital area, ventral view. D. Right pedipalp, dorsal view. E. Right pedipalpal chela, lateral view. F. Right leg I, lateral view. G. Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.

chela (without pedicel) 3.21–3.27/0.69–0.71, hand (without pedicel) length 1.16–1.18, movable finger length 2.21–2.26. Leg I: trochanter 0.45–0.50/0.35–0.40, femur 1.02–1.13/0.34–0.37, patella 0.83–0.85/0.24–0.27, tibia 0.77–0.83/0.17–0.19, basitarsus 0.48–0.51/0.15, telotarsus 0.50–0.55/0.11–0.12. Leg IV: trochanter 0.61–0.71/0.28–0.30, femur+patella 1.62–1.75/0.37–0.41, tibia 1.42–1.53/0.17–0.21, basitarsus 0.59–0.65/0.14–0.16, telotarsus 0.89–0.91/0.12–0.15.

#### Females (paratypes)

Body length 4.43–5.17. Carapace 1.47–1.53/1.37–1.40. Pedipalpal trochanter 0.76–0.86/0.43–0.48, femur 1.95–2.07/0.41–0.45, patella 1.53–1.70/0.44–0.47, chela (with pedicel) 3.59–3.79/0.76–0.90, chela (without pedicel) 3.43–3.56/0.76–0.90, hand (without pedicel) length 1.22–1.37, movable finger length 2.22–2.32. Leg I: trochanter 0.39–0.45/0.31–0.37, femur 0.95–1.08/0.23–0.26, patella 0.72–0.79/0.21–0.23, tibia 0.76–0.78/0.14–0.17, basitarsus 0.43–0.49/0.13–0.14, telotarsus 0.54–0.64/0.13. Leg IV: trochanter 0.69–0.84/0.29–0.32, femur+patella 1.76–1.87/0.40–0.45, tibia 1.45–1.57/0.22–0.23, basitarsus 0.62–0.65/0.17–0.19, telotarsus 0.93–1.00/0.14–0.17.

#### Distribution

China: Guangxi Zhuang Autonomous Region.

#### Remarks

This new species is similar to *S. biverticis* by the presence of two intumescences on the dorsal side of the pedipalp, but can be easily separated by the presence of many small granular protuberances on the pedipalpal chelal hand, mainly surrounding the basal to median area of the prolateral, retrolateral and dorsal sides (in *S. biverticis*, there are several small granular protuberances located at the distal retrolateral part of the pedipalpal chelal hand). Females of this new species are similar to those of *S. bicornuta*, *S. biverticis*, *S. cordata*, *S. dongtianensis*, *S. gibba* and *S. papillata*, but can be distinguished as follows: the pedipalpal chelal hand has several small granular processes on the protrolateral side (*S. bicornuta*, *S. biverticis*, *S. cordata*, *S. dongtianensis*, *S. gibba* and *S. papillata* all have a smooth pedipalpal chelal hand); the presence of six long setae on the apex of the pedipalpal coxa (eight in *S. bicornuta* and *S. papillata*); the presence of 92–97 teeth on the pedipalpal movable chelal finger (90–94 in *S. papillata*), the presence of 46–49 rounded at the base and 33–34 pointed teeth in the distal position of the pedipalpal movable chelal finger (*S. biverticis* with 40–45 rounded at the base and 43–48 pointed teeth in distal position; *S. cordata* with 37–38 rounded teeth at the base and 42–44 pointed teeth in distal position; *S. dongtianensis* with 43 rounded teeth at the base and 44–48 pointed teeth in distal position; *S. gibba* with 39–44 rounded teeth at the base and 40–43 pointed teeth in distal position) (Guo *et al.* 2019; Zhao *et al.* 2024).

*Stenohya meiacantha* Yang & Zhang, 2013 (微刺狭伪蝎)

Figs 1.20, 69D, 70I

*Stenohya meiacantha* Yang & Zhang, 2013: 136–139, figs 16–28.

#### Diagnosis

Male pedipalpal chelal hand with a small and blunt spine near the base of the finger prolaterally; the movable chelal finger straight and 1.91 times as long as hand (without pedicel). Female pedipalpal femur 5.13 times as long as broad; pedipalpal patella 2.68 times as long as broad.

### Material examined

#### Holotype

CHINA • ♂; Yunnan Province, Longyang District, Nankang Yakou; 24°50' N, 98°46' E; 2100 m a.s.l.; 28 Feb. 2011; Luyu Wang leg.; Ps.-MHBU-YN11022801.

#### Paratypes

CHINA • 2 ♀♀; same collection data as for holotype; Ps.-MHBU-YN11022802–03.

### Distribution

China: Yunnan Province.

### Remarks

The most obvious sexual dimorphism of this species is found on the pedipalpal chela; the male pedipalpal chela hand has a thorn-like projection on the prolateral face, but the female is without a projection.

*Stenohya papillata* Zhao, Guo & Zhang, 2024 (乳突狭伪蝎)  
Figs 1.7, 69Q, 70V

*Stenohya papillata* Zhao *et al.*, 2024: 114–122, figs 7–12.

### Diagnosis

Male pedipalpal femur with several big tubercles and a projection in the prolateral position; patella with a triangular protuberance in the prolateral position; chelal hand concave distally on the dorsal side, with 30–33 spinous apophyses on the dorsal side and a papillary projection in the median of the ventral side; femur and patella of leg I enlarged. Female pedipalpal femur 4.76–4.98 times as long as wide; pedipalpal fixed chelal finger with 99–102 teeth.

### Material examined

#### Holotype

CHINA • ♂; Hunan Province, Suining County, Ganchong Village; 26°29'59" N, 110°08'01" E; 460 m a.s.l.; 19 Nov. 2023; in leaf litter; Jiaqi Zhao, Jianzhou Sun, Tao Zheng and Songtao Shi leg.; Ps.-MHBU-HN2023111909.

#### Paratypes

CHINA • 2 ♂♂, 3 ♀♀; same collection data as for holotype; Ps.-MHBU-HN2023111910–14.

### Distribution

China: Hunan Province.

### Remarks

The most obvious sexual dimorphism of this species is found on the pedipalp and leg I. For the pedipalp: the male femur has several big tubercles and a projection in the prolateral position (female only has a few tubercles prolaterally); the patella has a projection in the prolateral position (female is smooth); the male chelal hand has a papillary projection in the median of the ventral side and 30–33 spinous apophyses on the dorsal side (female is smooth). Leg I of the male is stronger than that of the female.

*Stenohya pengae* Hu & Zhang, 2012 (彭氏狭伪蝎)  
Figs 1.13, 48–51, 69H, 70E

*Stenohya pengae* Hu & Zhang, 2012: 81–86, figs 1–8, 10–18.

**Diagnosis**

Male pedipalpal femur 6.79–7.20 times as long as broad; patella 6.17–6.25 times as long as broad; presence of 70–74 teeth on pedipalpal fixed chelal finger; presence of 45–47 teeth on pedipalpal movable finger. Female pedipalpal femur 5.18–5.83 times as long as broad; patella 3.83–3.93 times as long as broad.

**Material examined**

**Holotype**

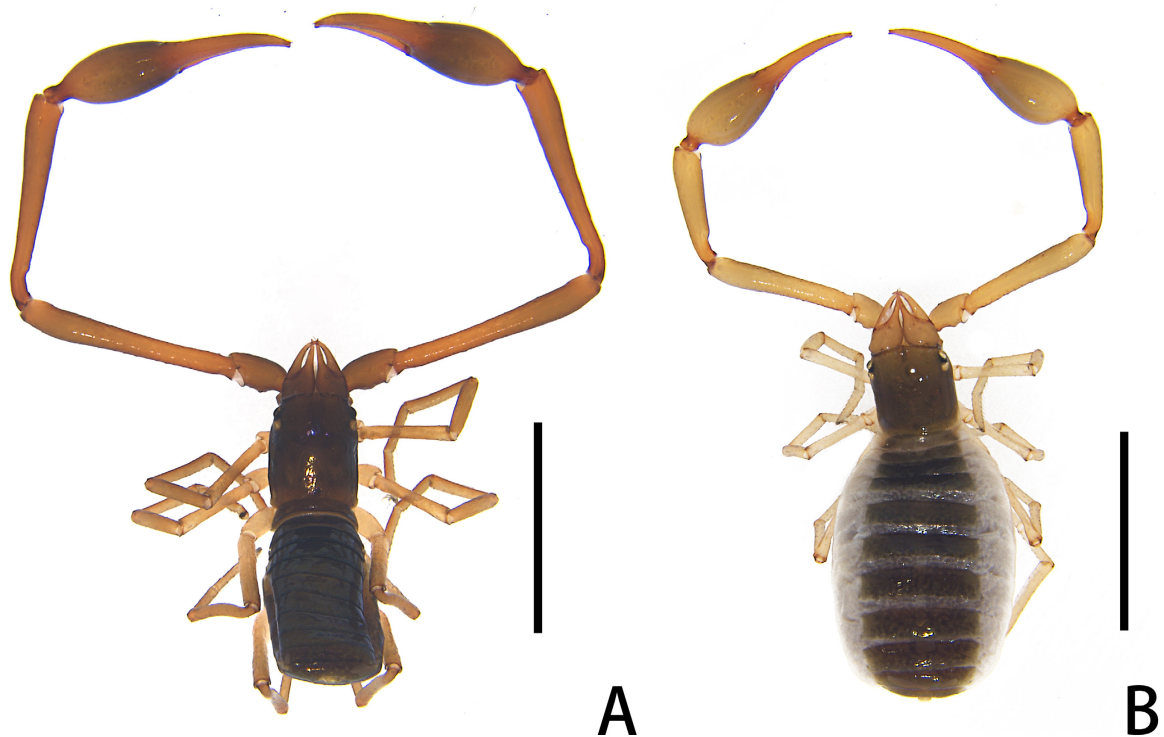
CHINA • ♂; Guangxi Zhuang Autonomous Region, Nanning City, Daming Mountain; 23°08' N, 108°17' E; 1250 m a.s.l.; 21 May 2011; Yanqiu Peng leg.; Ps.-MHBU-GX110521.

**Paratypes**

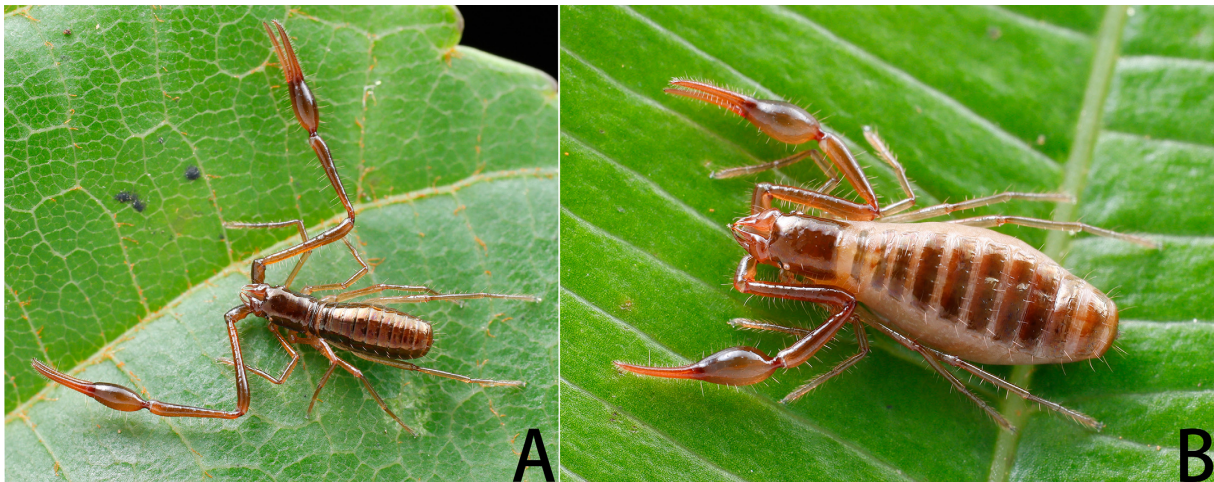
CHINA • 17 ♂♂, 25 ♀♀; same collection data as for holotype; Ps.-MHBU-GX11052102–43.

**Other material**

CHINA • 3 ♂♂, 3 ♀♀; Guangxi Zhuang Autonomous Region, Jinxiu Yao Autonomous County, Silver Fir Forest Park; 24°10'09" N, 110°14'38" E; 1144 m a.s.l.; 26 Apr. 2024; Qianle Lu, Congcong Du and Xueyu Feng leg.



**Fig. 48.** *Stenohya pengae* Hu & Zhang, 2012. **A.** Male (dorsal view). **B.** Female (dorsal view). Scale bars: 2 mm.



**Fig. 49.** Live specimens of *Stenohya pengae* Hu & Zhang, 2012 (photograph by Qianle Lu). **A.** Male. **B.** Female.

#### Distribution

China: Guangxi Zhuang Autonomous Region

#### Remarks

The type material of *S. pengae* was collected from a canopy of *Castanopsis fabri* in Daming Mountain (Hu & Zhang 2012), while the new material in this study was collected from low vegetation in Silver Fir Forest Park which is about 300 km away from the type locality (Fig. 1). The discovery of new material greatly enlarges the distribution range of *S. pengae*. In this study, we also provide more photos from the new collecting site (Figs 48–51). *Stenohya pengae* has sexually dimorphic pedipalps which are thinner in the males than in the females.

*Stenohya polygonia* Zhao, Guo & Zhang sp. nov. (多突狭伪蝎)

[urn:lsid:zoobank.org:act:817F4ABD-3AD1-4CA1-B5FC-6DF9FCF429DD](https://zoobank.org/act:817F4ABD-3AD1-4CA1-B5FC-6DF9FCF429DD)

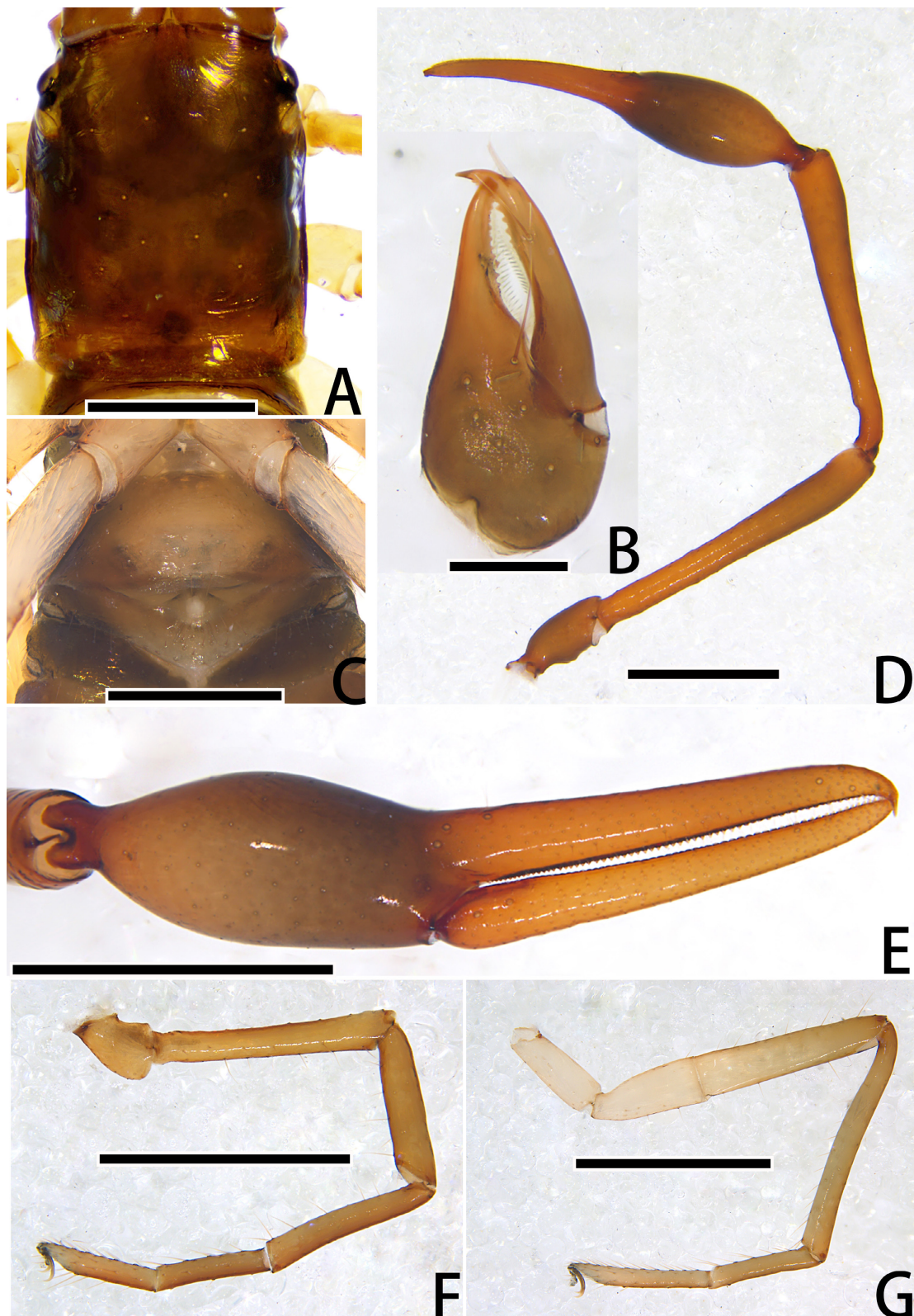
Figs 1.24, 52–57, 69K, 70N

#### Diagnosis

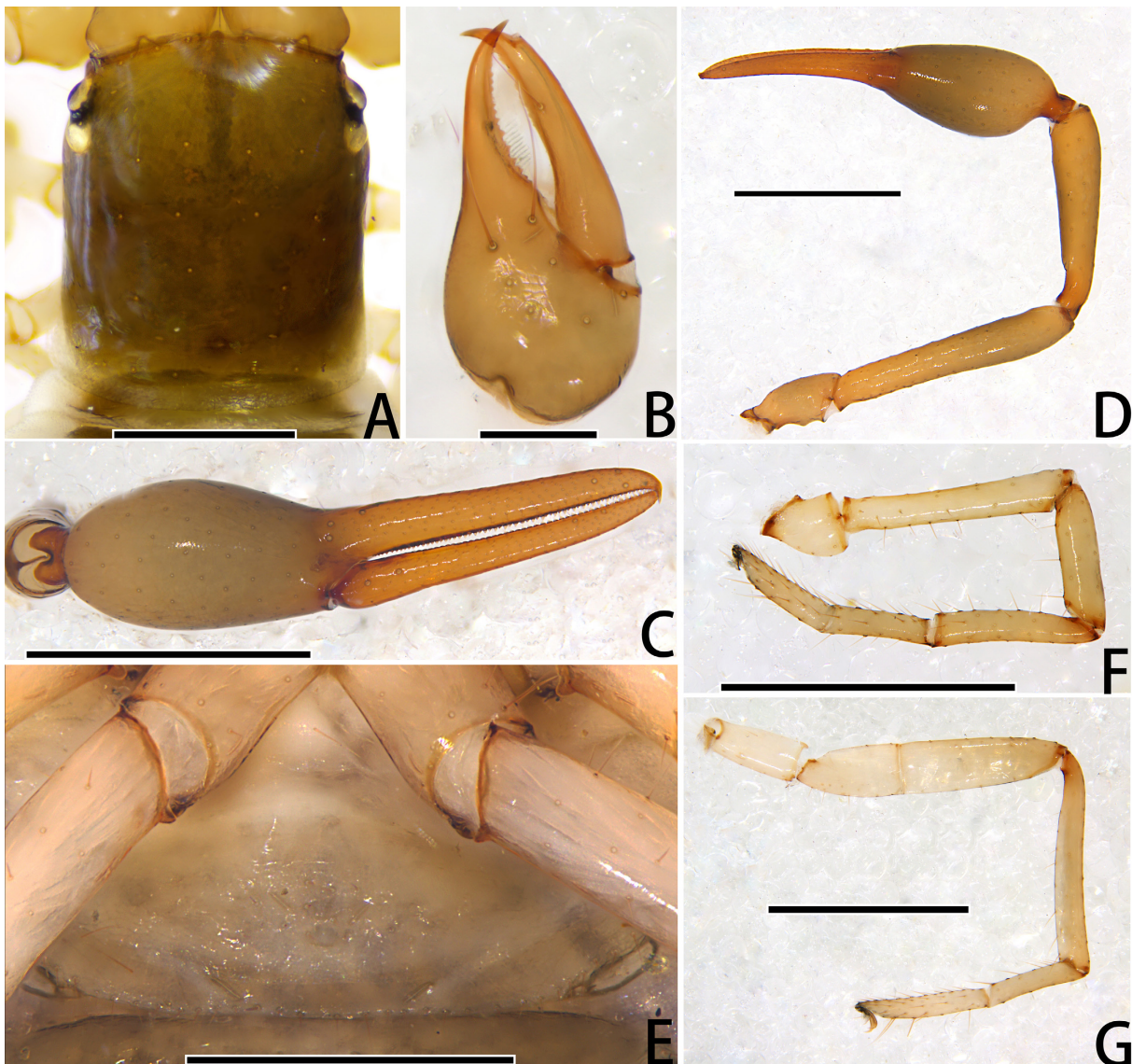
Male femur with a projection on the subdistal prolateral surface, with a polygonal protuberance in the median prolateral position, and with some big tubercles mainly surrounding the basal to median area in the prolateral position (Figs 54I, 55E); femur and patella of leg I enlarged (Figs 54J, 55F). Female pedipalpal femur 4.57–4.63 times as long as broad, pedipalpal patella 3.48–3.57 times as long as broad, pedipalpal chela (with pedicel) 3.89–4.27 times as long as broad, movable finger 1.49–1.59 times as long as hand (without pedicel), and pedipalpal movable chelal finger with 47–54 rounded teeth at base and 42–48 pointed in distal position.

#### Etymology

The specific epithet is derived from the Greek word ‘*polygonius*’, meaning ‘polygonal’, which refers to the shape of the protuberance on the pedipalpal femur in male.



**Fig. 50.** *Stenohya pengae* Hu & Zhang, 2012, male. **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalp, dorsal view. **E.** Right pedipalpal chela, lateral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.



**Fig. 51.** *Stenohya pengae* Hu & Zhang, 2012, female. **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Right chela, lateral view. **D.** Right pedipalp, dorsal view. **E.** Genital area, ventral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, E=0.5 mm; B=0.2 mm; C–D, F–G=1 mm.

### Type material

#### Holotype

CHINA • ♂; Guangxi Zhuang Autonomous Region, Lingchuan County, Sanjie Town; 25°27'46" N, 110°20'43" E; 184 m a.s.l.; 20 Jan. 2024; in leaf litter and under rocks (Fig. 2A); Jiaqi Zhao, Jianzhou Sun and Yiting Xu leg.; Ps.-MHBUSGX2024012001.

#### Paratypes

CHINA • 3 ♂♂, 2 ♀♀; same collection data as for holotype; Ps.-MHBUSGX2024012002–06 • 1 ♂, 2 ♀♀; Guangxi Zhuang Autonomous Region, Lingchuan County, Sanjie Town; 25°20'19" N, 110°20'45" E; 182 m a.s.l.; 14 Jan. 2024; Haofei Fan leg.; Ps.-MHBUSGX2024011401–03.

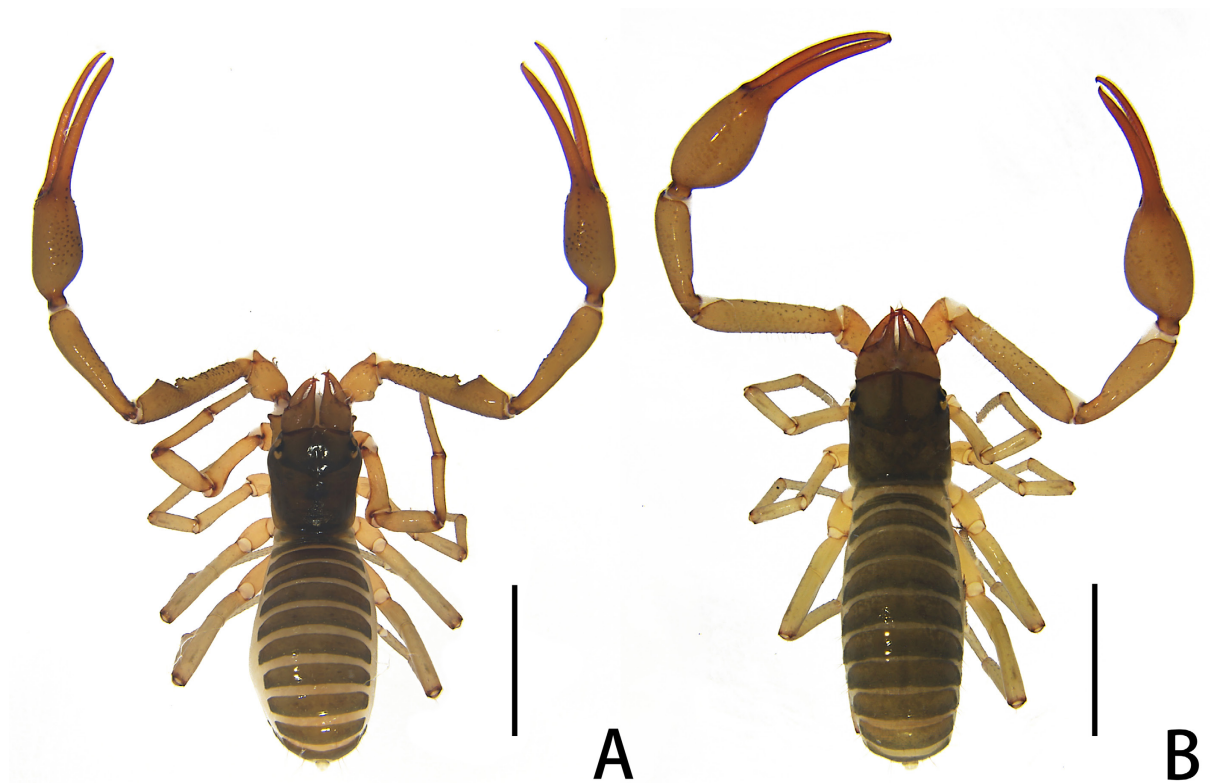
## Description

**Adult males** (holotype and male paratypes) (Figs 52A, 53A)

**CARAPACE** (Figs 54A, 55A, 69K). Carapace 1.21–1.24 times as long as broad, with a total of 31–32 setae, including six near anterior margin and seven near posterior margin; seven lyrifissures near the eyes, six lyrifissures near posterior margin; epistome small, triangular, with heavily rounded top; with four corneate eyes. Carapace with elevations in the middle of the eye area and near middle of carapace in lateral view.

**CHELICERA** (Figs 54B, 55B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 15–16 teeth; movable finger with 6–8 teeth; serrula exterior with 43–48 lamellae; serrula interior with 39–41 lamellae; galea developed, divided into two main branches, each branch secondarily divided into three terminal rami (Fig. 54E); rallum consisting of 8–9 blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 54C).

**PEDIPALPS** (Figs 54G–I, 55D–E). Apex of pedipalpal coxa rounded, with 6–7 long setae. Femur with a projection on the subdistal prolateral surface, and with a polygonal protuberance in the median prolateral position, femur with some big tubercles mainly surrounding the basal to median area in the prolateral position, as well as few small tubercles placed at the retrolateral surface (Figs 54I, 55E); patella smooth (Figs 54I, 55E); chelal hand with 45–50 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base. A few spinous apophyses extended to the subbase of fixed finger, and a few small granular protuberances dispersedly located distally on the hand (Figs 54G–H, 55D–E). Trochanter 1.91–1.94, femur 3.96–3.98, patella 4.13–4.36, chela (with pedicel) 4.84–5.06, chela (without pedicel) 4.66–4.82 times as long as broad, movable finger 1.41–1.52 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and



**Fig. 52.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBU-GX2024012001). **B.** Paratype, female (dorsal view) (Ps.-MHBU-GX2024012002). Scale bars: 2 mm.

*esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 106–107 pointed teeth, movable finger with 100–106 teeth: 55–58 rounded teeth at base and 45–48 pointed teeth in distal position.

ABDOMEN. Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 6–7:8–10:10–11:10:10–11:12–13:12:10–12:12–13:12:12, sternal chaetotaxy (IV–XI): 26–32:24–25:20:20–22:19–20:15–19:11–16:5, sternites VI–VIII with 8–11 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 54F, 55C): anterior genital sternite with 33–34 setae and two lyrifissures; posterior genital sternite with 42–46 setae and two lyrifissures.

LEGS (Figs 54J–K, 55F–G). In leg I, femur and patella enlarged, basitarsus and telotarsus semi-fused, the dividing line between the two segments visible (Figs 54J, 55F). Leg I: trochanter 1.24–1.41, femur 3.24–3.26, patella 2.90–3.38, tibia 3.38–4.84, basitarsus 3.36–3.50, telotarsus 3.63–3.75 times as long as deep. Leg IV: trochanter 2.28–2.63, femur+patella 4.41–4.52, tibia 7.85–7.86, basitarsus 4.18–4.50, telotarsus 7.62–8.82 times as long as deep; tibia with two submedial tactile setae (TS=0.24, 0.66–0.74), basitarsus with two tactile setae (TS=0.11–0.17, 0.85–0.87), telotarsus with two tactile setae (TS=0.26–0.29, 0.60–0.63); subterminal tarsal seta distally branched (Fig. 54D). Arolium not divided, shorter than the slender and simple claws.

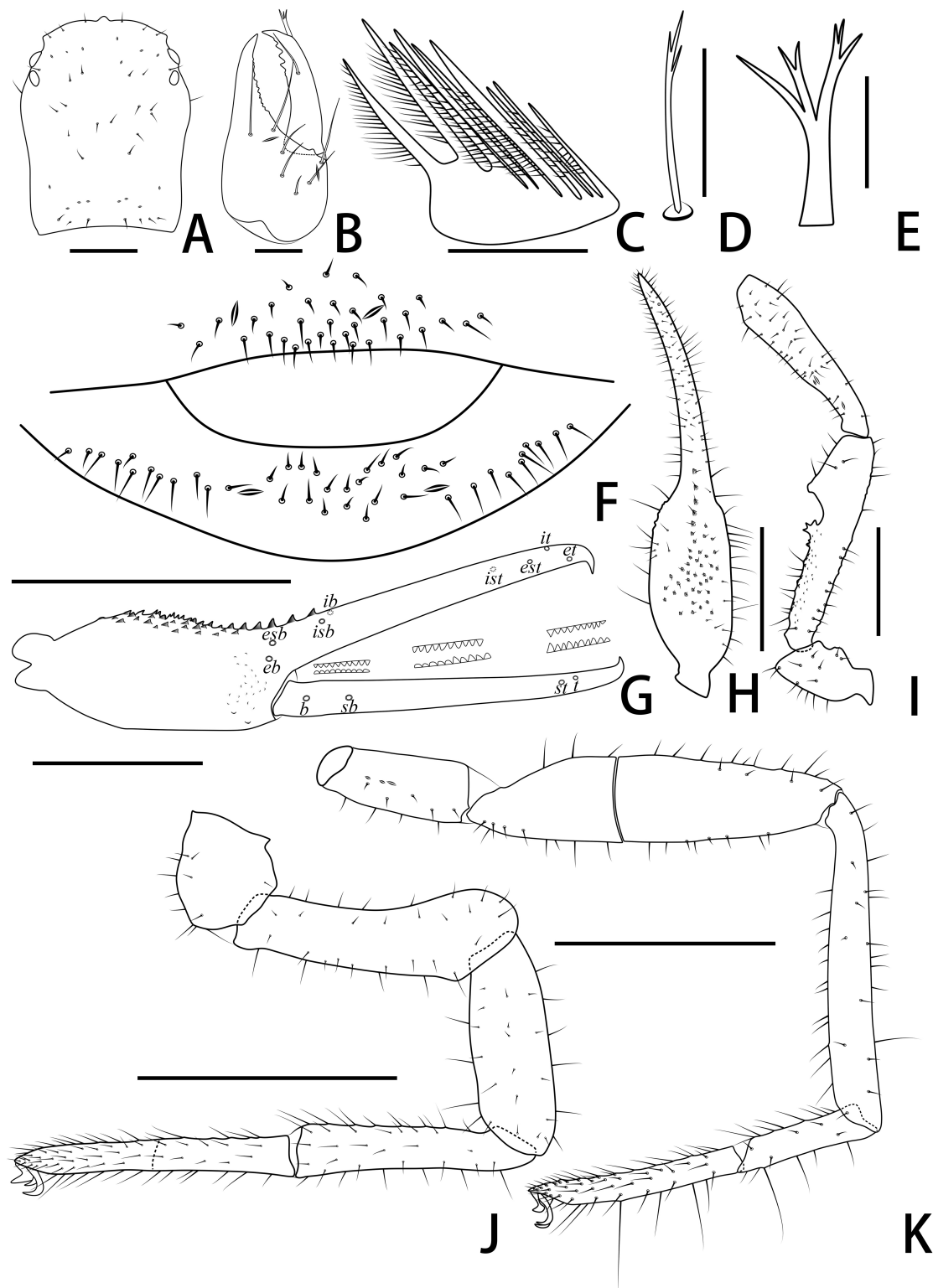
**Adult females** (paratypes) (Figs 52B, 53B)

Mostly same as in males, except where noted.

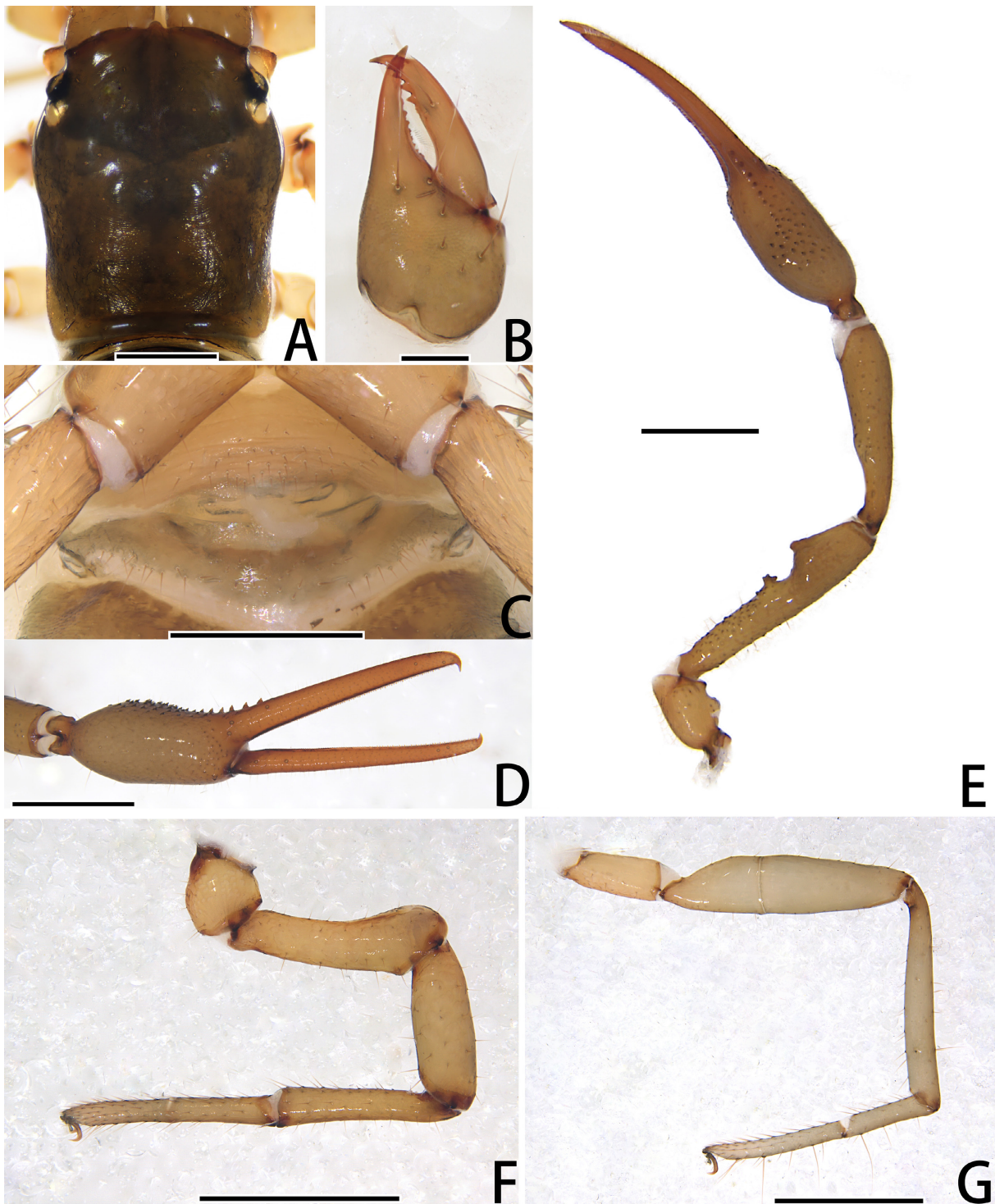
CARAPACE (Figs 56A, 57A, 70N). Carapace 1.00–1.15 times as long as broad, with a total of 25–31 setae, including 4–6 near anterior margin and 7–8 near posterior margin; five lyrifissures near the eyes, five lyrifissures near posterior margin. Carapace with a slight elevation in the middle of the eye area in lateral view.



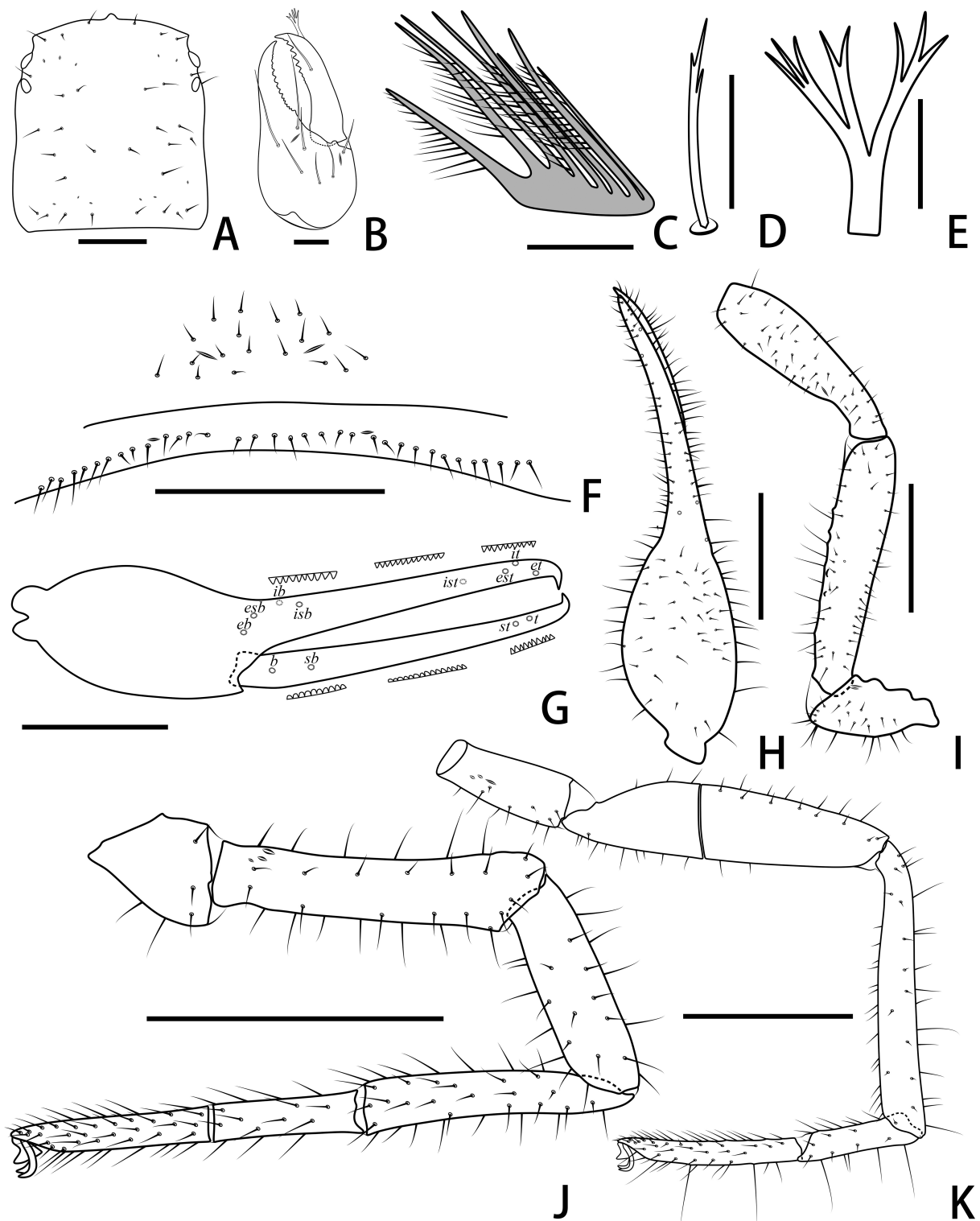
**Fig. 53.** Living specimens of *Stenohya polygonia* Zhao, Guo & Zhang sp. nov. **A.** Male. **B.** Female.



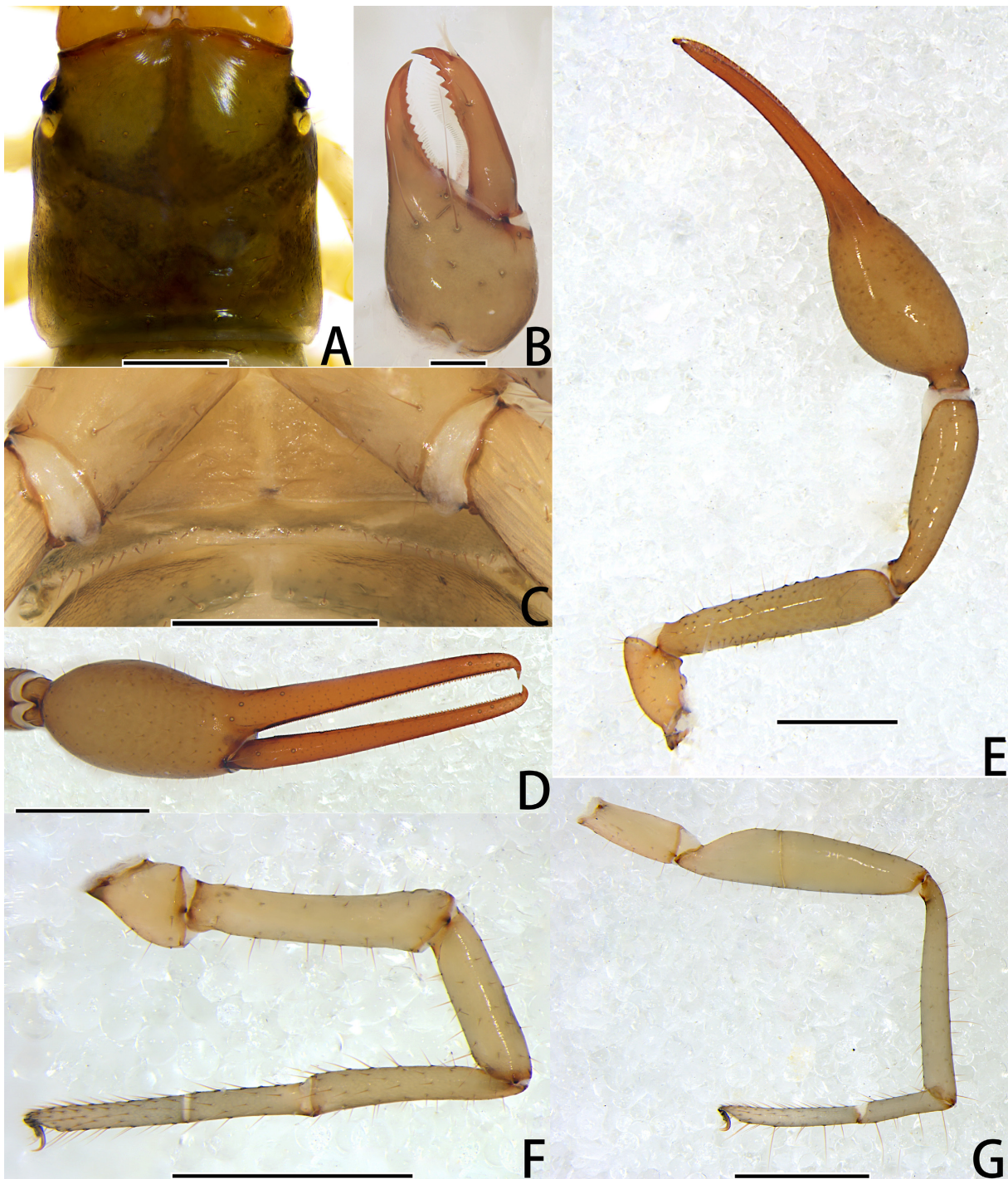
**Fig. 54.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBG-GX2024012001). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Rallum. D. Subterminal tarsal seta. E. Galea. F. Chaetotaxy of genital area, ventral view. G. Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. H. Right pedipalpal chela, dorsal view. I. Right pedipalp (trochanter, femur and patella), dorsal view. J. Right leg I, lateral view. K. Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 55.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBUSGX2024012001). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Genital area, ventral view. D. Right pedipalpal chela, lateral view. E. Right pedipalp, dorsal view. F. Right leg I, lateral view. G. Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.



**Fig. 56.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBV-GX2024012002). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Rallum. D. Subterminal tarsal seta. E. Galea. F. Chaetotaxy of genital area, ventral view. G. Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. H. Right pedipalpal chela, dorsal view. I. Right pedipalp (trochanter, femur and patella), dorsal view. J. Right leg I, lateral view. K. Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 57.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBV-GX2024012002). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right chela, lateral view. **E.** Right pedipalp, dorsal view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C =0.5 mm; B=0.2 mm; D–G=1 mm.

**CHELICERA** (Figs 56B, 57B). Fixed finger with 12–16 teeth; movable finger with 6–7 teeth; serrula exterior with 41–45 lamellae; serrula interior with 39–43 lamellae; galea divided into two main branches, one branch secondarily divided into five terminal rami, the other branch secondarily divided into three terminal rami (Fig. 56E); rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 56C).

**PEDIPALPS** (Figs 56G–I, 57D–E). Apex of pedipalpal coxa with seven long setae. Femur with a few tubercles prolaterally (Figs 56I, 57E). Trochanter 1.85–2.17, femur 4.57–4.63, patella 3.48–3.57, chela (with pedicel) 4.19–4.27, chela (without pedicel) 3.89–4.00 times as long as broad, movable finger 1.49–1.59 times as long as hand (without pedicel). Fixed chelal finger with 99–103 pointed teeth, movable finger with 95–96 teeth: 47–54 rounded teeth at base and 42–48 pointed in distal position.

**ABDOMEN.** Tergal chaetotaxy (I–XI): 4–5:7–8:8–10:10–11:9–10:10–11:11–12:11–12:10:10–12:9–10, sternal chaetotaxy (IV–XI): 26:18–20:19:16–20:18–19:15–18:12–14:5, sternites VI–VIII with two medial glandular setae; genital area (Figs 56F, 57C): sternite II with a total of 15–18 setae and two lyrifissures; sternite III with a row of 34–36 setae and two lyrifissures.

**LEGS** (Figs 56J–K, 57F–G). Leg I: trochanter 1.21–1.23, femur 3.75–4.31, patella 3.23–3.32, tibia 5.29–5.35, basitarsus 3.77–3.92, telotarsus 5.50–5.82 times as long as deep. Leg IV: trochanter 2.38–2.60, femur+patella 4.42–4.62, tibia 6.92–8.30, basitarsus 4.31–4.43, telotarsus 6.07–7.50 times as long as deep; tibia with one submedial tactile seta (TS=0.62–0.65), basitarsus with two tactile setae (TS=0.13–0.18, 0.88–0.89), telotarsus with two tactile setae (TS=0.28–0.32, 0.61–0.63).

#### **Measurements** (in mm; length/breadth or, for legs, length/depth)

##### **Males** (holotype and paratypes)

Body length 4.74–4.84. Carapace 1.54–1.67/1.27–1.35. Pedipalpal trochanter 0.88–0.93/0.46–0.48, femur 2.03–2.06/0.51–0.52, patella 1.83–1.90/0.42–0.46, chela (with pedicel) 3.44–3.73/0.68–0.77, chela (without pedicel) 3.28–3.59/0.68–0.77, hand (without pedicel) length 1.34–1.52, movable finger length 2.04–2.15. Leg I: trochanter 0.47–0.48/0.34–0.38, femur 1.10–1.11/0.34, patella 0.87–0.98/0.29–0.30, tibia 0.92–0.98/0.19–0.20, basitarsus 0.49–0.50/0.14–0.16, telotarsus 0.57–0.58/0.14–0.16. Leg IV: trochanter 0.66–0.79/0.29–0.30, femur+patella 1.72–1.90/0.39–0.42, tibia 1.57–0.65/0.20–0.21, basitarsus 0.63–0.71/0.14–0.17, telotarsus 0.97–0.99/0.11–0.13.

##### **Females** (paratypes)

Body length 5.65–6.48. Carapace 1.35–1.56/1.35–1.36. Pedipalpal trochanter 0.89–1.00/0.46–0.48, femur 1.99–2.01/0.43–0.44, patella 1.67–1.68/0.47–0.48, chela (with pedicel) 3.54–3.73/0.83–0.89, chela (without pedicel) 3.32–3.46/0.83–0.89, hand (without pedicel) length 1.42–1.45, movable finger length 2.11–2.31. Leg I: trochanter 0.41–0.43/0.34–0.35, femur 1.05–1.12/0.26–0.28, patella 0.71–0.73/0.22, tibia 0.90–0.91/0.17, basitarsus 0.49–0.51/0.13, telotarsus 0.64–0.66/0.11–0.12. Leg IV: trochanter 0.76–0.78/0.30–0.32, femur+patella 1.80–1.90/0.39–0.43, tibia 1.66–1.73/0.20–0.25, basitarsus 0.62–0.69/0.14–0.16, telotarsus 0.91–1.05/0.14–0.15.

#### **Distribution**

China: Guangxi Zhuang Autonomous Region.

#### **Remarks**

This new species is similar to *S. biverticis*, *S. cordata*, *S. dongtianensis*, *S. guangmingensis*, *S. gibba*, *S. jiahensis*, *S. jiaxiani*, *S. margarita*, *S. papillata* and *S. spinata* in the presence of triangular-shaped spinous apophyses on the dorsal face of the male pedipalpal chela hand, but can be distinguished by the presence of 45–50 triangular-shaped spinous apophyses on the dorsal face of the pedipalpal chela hand

(31–34 in *S. cordata*; 9–14 in *S. dongtianensis*; 17–19 in *S. guangmingensis*; 15–18 in *S. gibba*; 22–26 in *S. jiaxiani*, 16–20 in *S. margarita*; 30–33 in *S. papillata* and 16–17 in *S. spinata*); the presence of a polygonal protuberance in the median prolateral position in the pedipalpal femur (in *S. biverticis*, the femur has a unimodal protuberance in the median prolateral position; in *S. jiahensis*, the femur has a small intumescence and a columniform intumescence in the near median prolateral surface) (Li & Shi 2023; Zhan *et al.* 2023; Zhao *et al.* 2024). Females of this new species are similar to those of *S. biverticis*, *S. guangmingensis*, *S. jiaxiani*, *S. margarita* and *S. papillata*, but can be distinguished by the pedipalpal femur 4.57–4.63 times as long as broad (4.76–4.98 in *S. papillata*; 4.90–5.39 in *S. guangmingensis*); the pedipalpal patella 3.48–3.57 times as long as broad (3.15–3.16 in *S. jiaxiani*); pedipalpal chelal movable finger 1.49–1.59 times as long as hand (without pedicel) (1.66–1.77 in *S. biverticis*; 1.69–1.82 in *S. margarita*); and the presence of 47–54 rounded teeth at base and 42–48 pointed teeth in distal position of pedipalpal movable chelal finger (*S. jiaxiani* with 55–58 rounded teeth at base and 41–44 pointed teeth in distal position, *S. margarita* with 46–49 rounded teeth at base and 33–34 pointed teeth in distal position) (Zhao *et al.* 2024).

*Stenohya qianlei* Zhao, Guo & Zhang sp. nov. (千乐狭伪蝎)

[urn:lsid:zoobank.org:act:C8ABAA19-DDF2-4A9C-AD27-9E5AB0479B01](https://zoobank.org/act:C8ABAA19-DDF2-4A9C-AD27-9E5AB0479B01)

Figs 1.5, 58–63, 69P, 70J

### Diagnosis

Male pedipalpal femur with a thorn in the prolateral position, and with many tubercles mainly surrounding the basal to median area (Figs 60H, 61D); pedipalpal patella with two small, triangular-shaped projections (Figs 60G–H, 61C–D). Female pedipalpal femur length 1.68–1.89 mm; patella length 1.26–1.43 mm; pedipalpal femur 4.50–4.92 times as long as broad; and pedipalpal movable chelal finger with 83–85 pointed teeth.

### Etymology

The specific epithet is a patronym in honour of Qianle Lu, who provided the marvelous live photos and provided the specimens for study.

### Type material

#### Holotype

CHINA • ♂; Chongqing Municipality, Zhuxian township, Putao village; 31°16'08" N, 110°04'34" E; 1445 m a.s.l.; 6 Oct. 2021; Luyu Wang, Xuanwei Zhou, Tianyu Ren, Wenjing Zhao and Lin Xiao leg.; Ps.-MHBU-CQ2021100601.

#### Paratypes

CHINA • 4 ♂♂, 7 ♀♀; same collection data as for holotype; Ps.-MHBU-CQ2021100602–12 • 1 ♂; Chongqing Municipality, Wuxi County, Yintiaoling Nature Reserve; 31°16'08" N, 110°04'34" E; 1445 m a.s.l.; 10 Apr. 2022 (Fig. 59); Zhisheng Zhang, Luyu Wang, Qianle Lu, Bin Luo, Bing Tan, Xuanwei Zhou, Tianyu Ren, Haoyu Ma and Xiaowei Ma leg.; Ps.-MHBU-CQ2022041001.

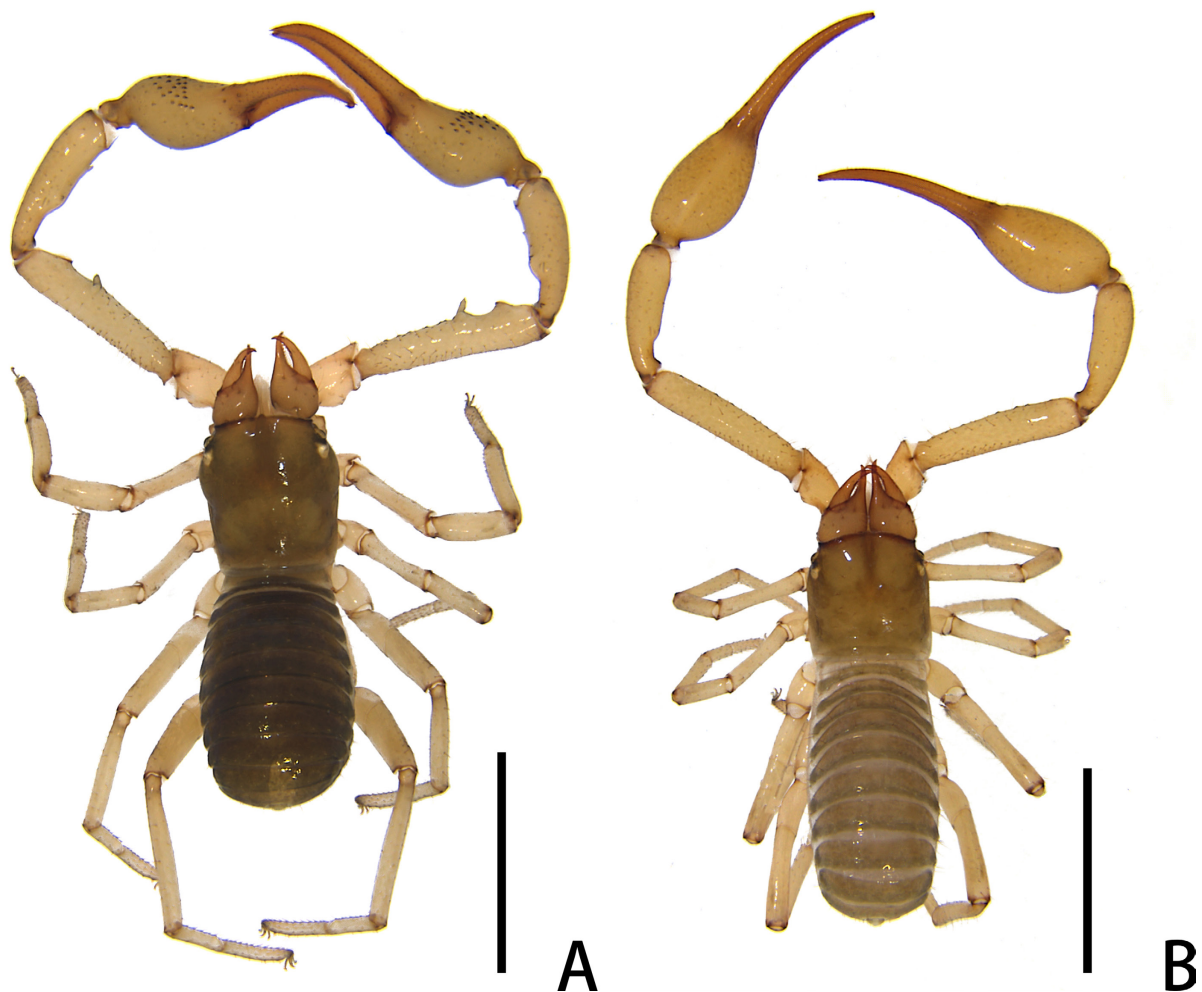
### Description

#### Adult males (holotype and male paratypes) (Figs 58A, 59)

CARAPACE (Figs 60A, 61A, 69P). Carapace 1.05–1.11 times as long as broad, with a total of 26–32 setae, including 6–7 near anterior margin and 6–8 near posterior margin; five lyrifissures near the eyes, seven lyrifissures near posterior margin; epistome small, triangular, with rounded top; four corneate eyes. Carapace with a slight elevation in the middle of the eye area and a marked elevation near middle of carapace in lateral view.

CHELICERA (Figs 60B, 61B). Hand with seven setae and two lyrifissures, movable finger with one seta; fixed finger with 13–15 teeth; movable finger with 5–6 teeth; serrula exterior with 40–44 lamellae; serrula interior with 36–38 lamellae; galea developed, divided into two main branches, each branch secondarily divided into three terminal rami (Fig. 60D); rallum consisting of seven blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 60C).

PEDIPALPS (Figs 60G–H, 61C–D). Apex of pedipalpal coxa rounded, with five long setae. Femur with a thorn in the prolateral position and with many tubercles mainly surrounding the basal to median area (Figs 60H, 61D); patella with two small, triangular projections in the  $\frac{1}{3}$  and  $\frac{2}{3}$  prolateral position (Figs 60H, 61D); chelal hand intumescent in the ventral position, with 15–18 small, triangular, spinous apophyses on the dorsal side, each spinous apophysis with a seta at the base (Figs 60G–H, 61C–D). Trochanter 1.51–1.63, femur 3.37–4.58, patella 3.68–4.12, chela (with pedicel) 4.42–4.60, chela (without pedicel) 4.15–4.38 times as long as broad, movable finger 1.61–1.77 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 92–99 pointed teeth, movable finger with 83–85 pointed teeth.



**Fig. 58.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBUCQ2021100601). **B.** Paratype, female (dorsal view) (Ps.-MHBUCQ2021100602). Scale bars: 2 mm.

ABDOMEN. Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 5–6:7–10:8–10:7–10:8–10:8–11:10–12:10–12:10–13:10–12:7–10, sternal chaetotaxy (IV–XI): 22–23:19–22:17–21:16–19:14–16:13–17:12–15:4–8, sternites VI–VIII with 7–11 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 60G, 61E): anterior genital sternite with 35–45 setae and two lyrifissures; posterior genital sternite with 38–41 setae and two lyrifissures.

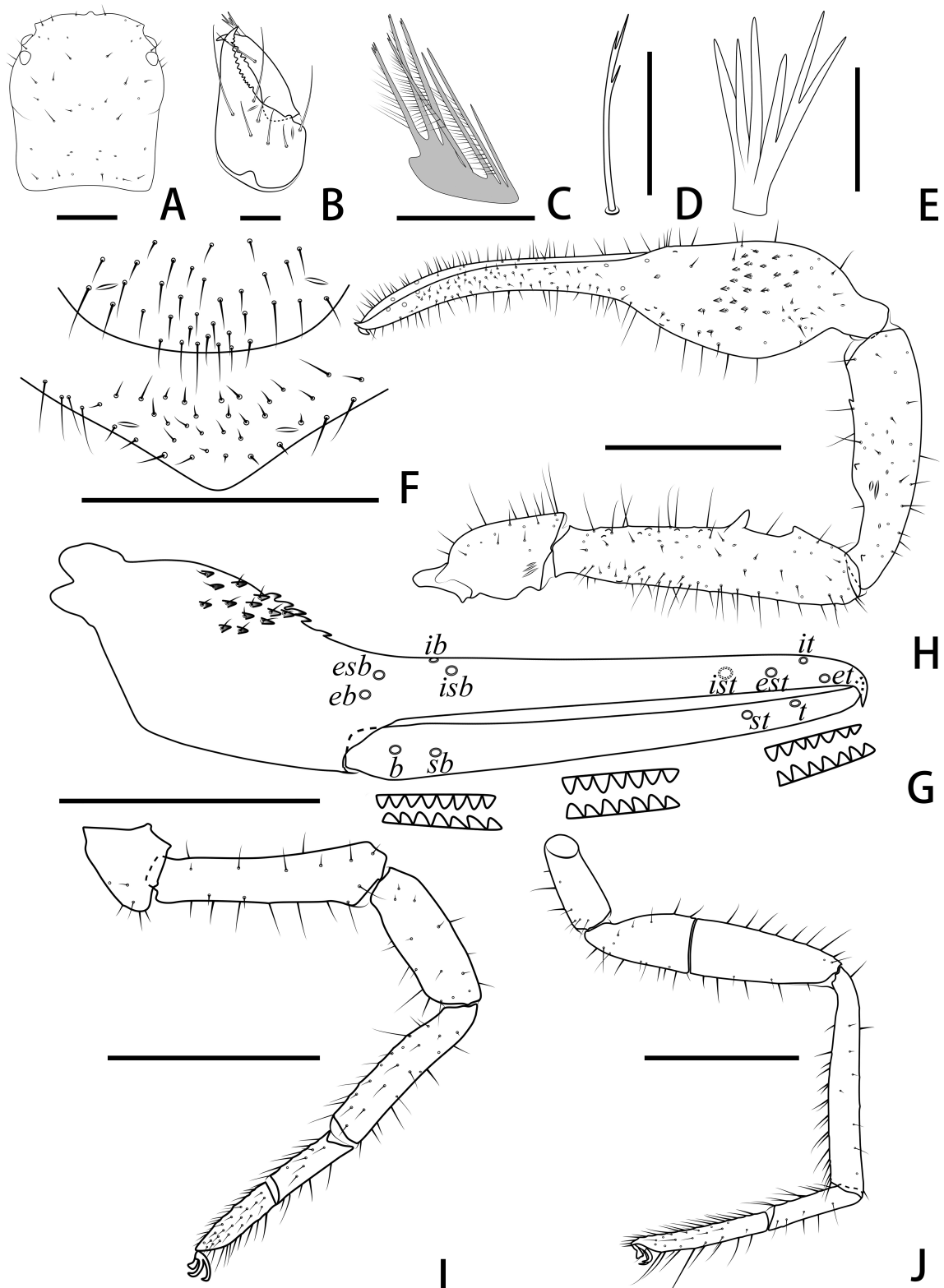
LEGS (Figs 60I–J, 61F–J). Leg I: trochanter 1.43–1.67, femur 4.14–5.61, patella 2.43–3.12, tibia 4.61–5.22, basitarsus 3.58–4.17, telotarsus 3.67–4.18 times as long as deep. Leg IV: trochanter 2.28–2.65, femur+patella 4.23–5.64, tibia 6.74–7.47, basitarsus 3.80–4.77, telotarsus 6.00–6.83 times as long as deep; tibia with one submedial tactile seta (TS=0.55–0.57), basitarsus with two tactile setae (TS=0.39–0.40, 0.85–0.91), telotarsus with two tactile setae (TS=0.20–0.23, 0.53–0.62); subterminal tarsal seta distally branched (Fig. 60D). Arolium not divided, shorter than the slender and simple claws.

**Adult females** (paratypes) (Fig. 58B)

Mostly same as in males, except where noted.



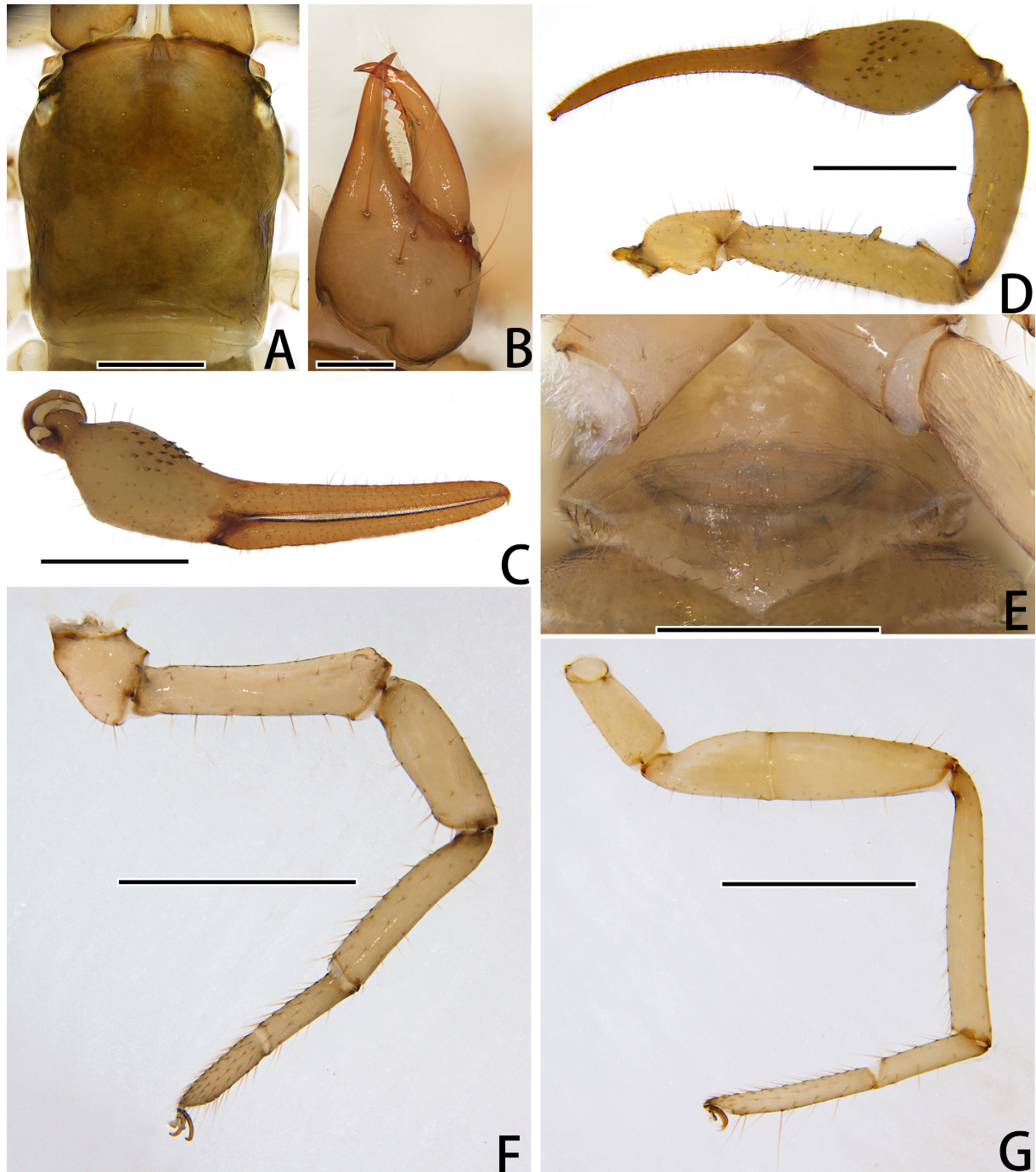
**Fig. 59.** Live male of *Stenohya qianlei* Zhao, Guo & Zhang sp. nov. (photograph by Qianle Lu).



**Fig. 60.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBU-CQ2021100601). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalp, dorsal view. **I.** Right leg I, lateral view. **J.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–J=1 mm.

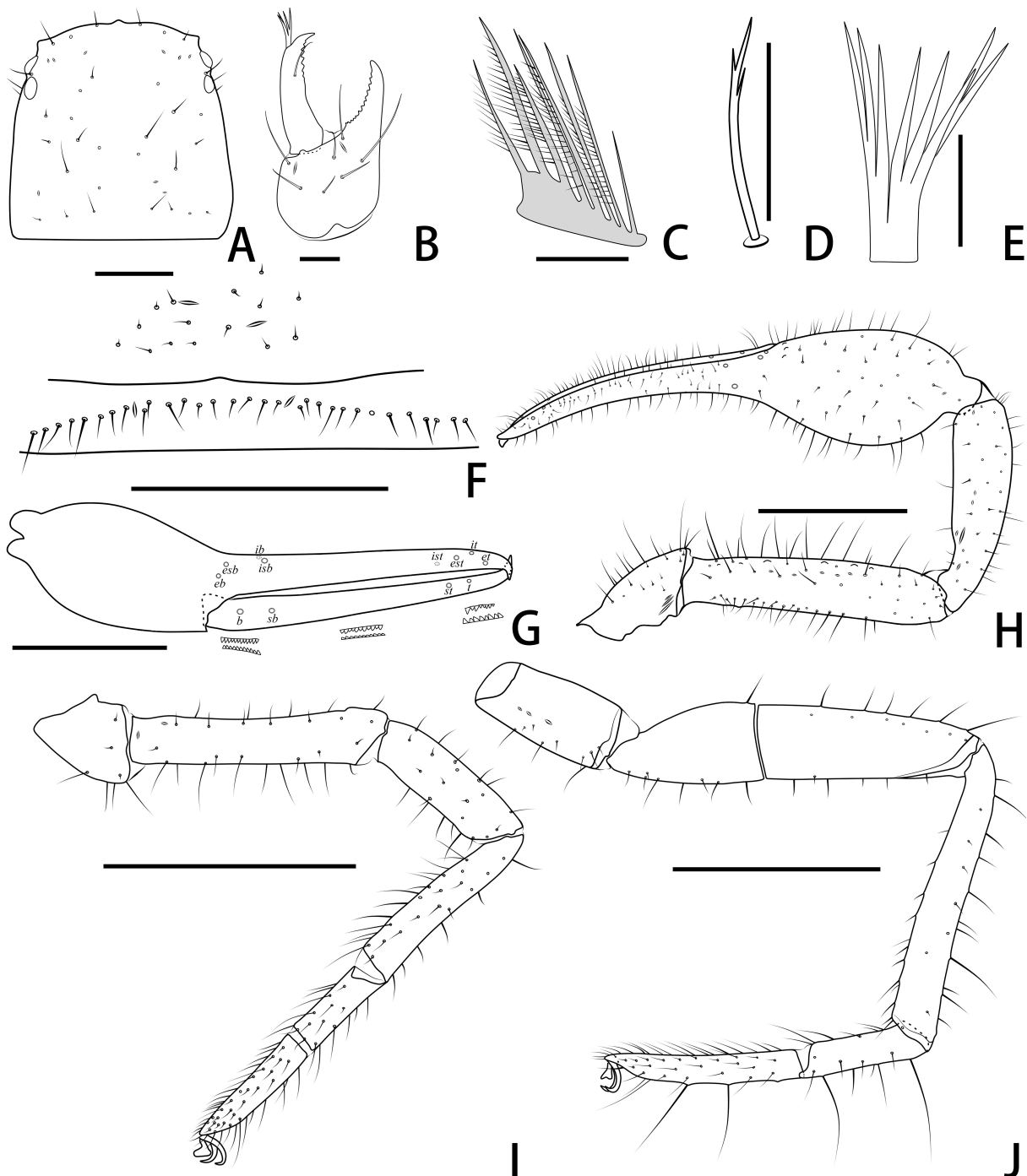
CARAPACE (Figs 62A, 63A, 70J). Carapace 0.98–1.03 times as long as broad, with a total of 27–35 setae, including six near anterior margin and 6–8 near posterior margin; six lyrifissures near the eyes, three lyrifissures near posterior margin. Carapace smooth and nearly rectangular.

CHELICERA (Figs 62B, 63B). Fixed finger with 12–13 teeth; movable finger with 6–7 teeth; serrula exterior with 39–40 lamellae; serrula interior with 34–35 lamellae; galea divided into two main branches, one



**Fig. 61.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBUCQ2021100601). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Right chela, lateral view. **D.** Right pedipalp, dorsal view. **E.** Genital area, ventral view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, E=0.5 mm; B=0.2 mm; C–D, F–G=1 mm.

branch secondarily divided into five terminal rami, the other branch secondarily divided into three terminal rami (Fig. 62E); rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 62C).

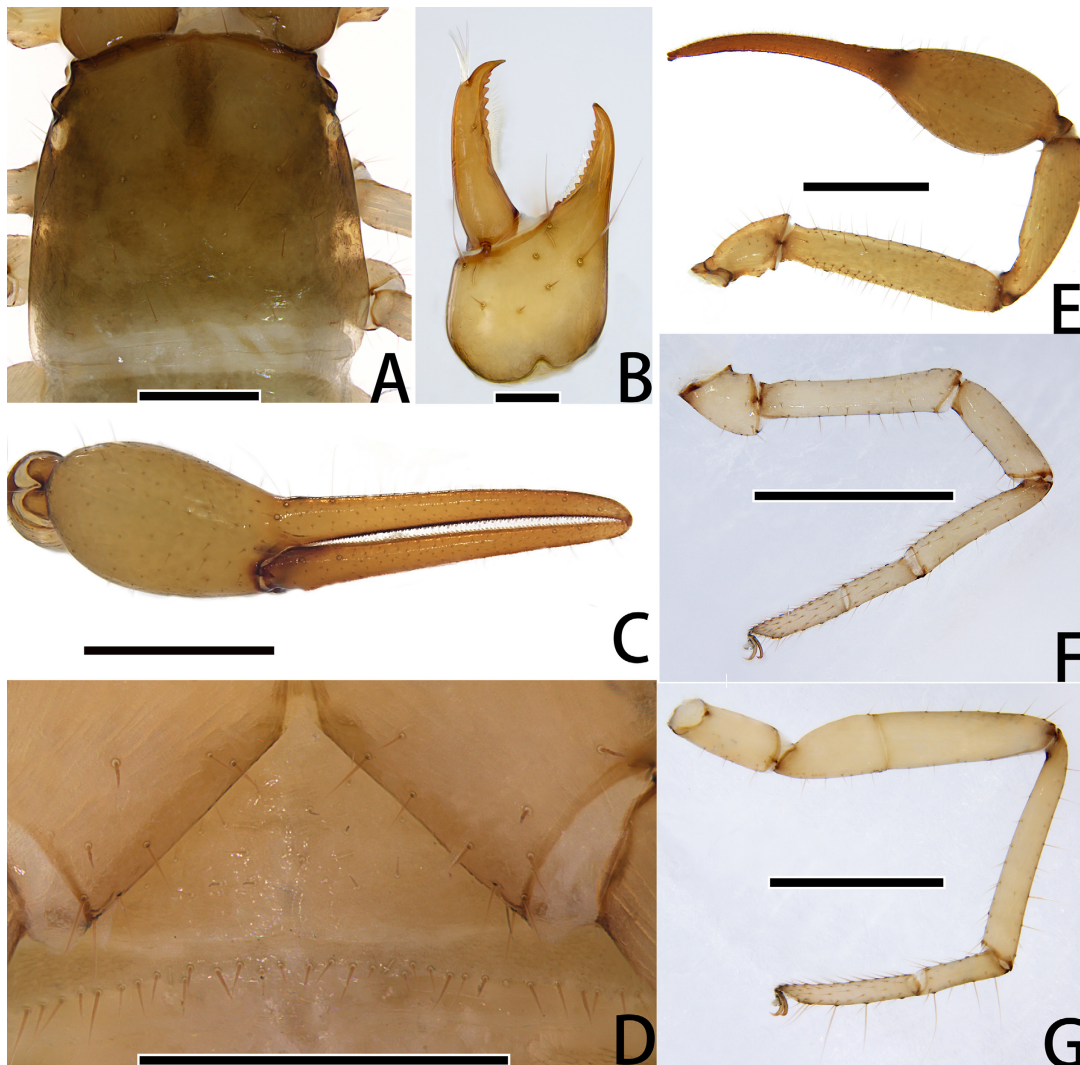


**Fig. 62.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-CQ2021100602). **A.** Carapace, dorsal view. **B.** Left chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalp, dorsal view. **I.** Right leg I, lateral view. **J.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–J=1 mm.

**PEDIPALPS** (Figs 62G–H, 63C, E). Apex of pedipalpal coxa with five long setae. Femur with a few tubercles prolaterally (Figs 62H, 63E). Trochanter 1.78–2.00, femur 4.50–4.92, patella 3.12–3.43, chela (with pedicel) 3.89–4.27, chela (without pedicel) 3.71–4.09 times as long as broad, movable finger 1.37–1.56 times as long as hand (without pedicel). Fixed chelal finger with 87–94 pointed teeth, movable finger with 78–85 pointed teeth.

**ABDOMEN**. Tergal chaetotaxy (I–XI): 4–6:6–8:7–9:8–10:11:9–11:10–12:10–12:11–13:10–12:8–11, sternal chaetotaxy (IV–XI): 20–22:19–23:16–19:14–18:13–18:13–16:12–15:4–8, sternites VI–VIII with 2–3 medial glandular setae; genital area (Figs 62F, 63D): sternite II with a total of 15–17 setae and two lyrifissures; sternite III with a row of 31–40 setae and two lyrifissures.

**LEGS** (Figs 62I–J, 63F–G). Leg I: trochanter 1.33–1.87, femur 4.33–5.94, patella 2.95–4.13, tibia 4.81–5.46, basitarsus 3.07–4.30, telotarsus 4.15–5.60 times as long as deep. Leg IV: trochanter 2.42–2.77, femur+patella 4.11–5.70, tibia 6.36–7.67, basitarsus 3.69–4.46, telotarsus 5.77–7.82 times as long as



**Fig. 63.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBUCQ2021100602). A. Carapace, dorsal view. B. Left chelicera, dorsal view. C. Right pedipalpal chela, lateral view. D. Genital area, ventral view. E. Right pedipalp, dorsal view. F. Right leg I, lateral view. G. Right leg IV, lateral view. Scale bars: A, D=0.5 mm; B=0.2 mm; C, E–G=1 mm.

deep; tibia with two submedial tactile setae (TS=0.69, 0.91), basitarsus with two tactile setae (TS=0.13–0.15, 0.80–0.85), telotarsus with two tactile setae (TS=0.26–0.31, 0.59–0.61).

**Measurements** (in mm; length/breadth or, for legs, length/depth)

**Males** (holotype and paratypes)

Body length 3.35–3.83. Carapace 1.35–1.43/1.26–1.29. Pedipalpal trochanter 0.67–0.72/0.41–0.46, femur 1.65–1.75/0.36–0.49, patella 1.40–1.79/0.34–0.41, chela (with pedicel) 3.16–3.25/0.69–0.73, chela (without pedicel) 2.95–3.03/0.69–0.73, hand (without pedicel) length 2.95–3.03, movable finger length 1.93–2.00. Leg I: trochanter 0.43–0.53/0.30–0.33, femur 0.87–1.06/0.18–0.23, patella 0.68–0.78/0.25–0.28, tibia 0.83–0.94/0.17–0.19, basitarsus 0.43–0.50/0.11–0.12, telotarsus 0.44–0.50/0.11–0.12. Leg IV: trochanter 0.63–0.70/0.24–0.29, femur+patella 1.55–1.62/0.28–0.32, tibia 1.28–1.44/0.19–0.20, basitarsus 0.57–0.62/0.13–0.15, telotarsus 0.82–0.87/0.12–0.14.

**Females** (paratypes)

Body length 3.23–4.12. Carapace 1.17–1.31/1.14–1.31. Pedipalpal trochanter 0.73–0.79/0.38–0.43, femur 1.68–1.89/0.37–0.39, patella 1.26–1.43/0.38–0.43, chela (with pedicel) 3.12–3.37/0.75–0.84, chela (without pedicel) 2.96–3.23/0.75–0.84, hand (without pedicel) length 1.21–1.30, movable finger length 1.70–2.03. Leg I: trochanter 0.36–0.44/0.23–0.27, femur 0.78–1.01/0.16–0.22, patella 0.56–0.70/0.15–0.20, tibia 0.71–0.81/0.13–0.16, basitarsus 0.38–0.43/0.10–0.14, telotarsus 0.48–0.56/0.10–0.13. Leg IV: trochanter 0.68–0.76/0.25–0.30, femur+patella 1.31–1.67/0.22–0.38, tibia 1.31–1.43/0.18–0.22, basitarsus 0.48–0.58/0.13–0.14, telotarsus 0.74–0.88/0.11–0.13.

**Distribution**

China: Chongqing City.

**Remarks**

This new species is similar to *S. cordata*, *S. spinata*, *S. gibba* and *S. papillata* in the presence of a small, triangular-shaped projection on the male pedipalpal patella of the prolateral face in dorsal view, but can be distinguished by the presence of two small, triangular projections in the  $\frac{1}{3}$  and  $\frac{2}{3}$  prolateral position in the patella (in *S. cordata*, *S. gibba*, *S. papillata*, the patella has one small, triangular-shaped projection in the median prolateral position, in *S. spinata*, the patella has a strong thorn in the median prolateral position, a small projection placed near the base of this thorn) (Zhan *et al.* 2023; Zhao *et al.* 2024). Females of this new species are similar to those of *S. biverticis*, *S. cordata*, *S. curvata*, *S. hainanensis*, *S. guangmingensis*, *S. gruberi*, *S. margarita* and *S. polygonia*, but can be distinguished by the pedipalpal femur length 1.68–1.89 mm (2.13 in *S. gruberi*); patella length 1.26–1.43 mm (1.72 in *S. gruberi*); the pedipalpal femur 4.50–4.92 times as long as broad (5.00–5.24 in *S. curvata*); and the presence of only pointed teeth on the pedipalpal movable chelal finger (*S. biverticis*, *S. cordata*, *S. guangmingensis*, *S. margarita* and *S. polygonia* have rounded teeth at the base and pointed teeth in distal position) (Čurčić 1983; Zhao *et al.* 2011; Guo & Zhang 2016; Zhan *et al.* 2023; Zhao *et al.* 2024).

*Stenohya setulosa* Guo & Zhang, 2016 (多毛狭伪蝎)

Figs 1.2, 69I

*Stenohya setulosa* Guo & Zhang, 2016: 4–6, figs 4–6.

**Diagnosis**

Male pedipalpal femur and patella curved, patella claviform and curved at base; apex of pedipalpal coxa with two rows of setae, including 3 long ones and 10–12 short acicular ones.

### Material examined

#### Holotype

CHINA • ♂; Xizang Autonomous Region, Mainling County; 29°13' N, 94°12' E; 3986 m a.s.l.; 12 Sep. 2013; Zhizhong Gao leg.; Ps.-MHBU-XZ13091201.

#### Paratype

CHINA • 1 ♂; same collection data as for holotype; Ps.-MHBU-XZ13091202.

### Distribution

China: Xizang Autonomous Region.

*Stenohya spinata* Zhan, Feng & Zhang, 2023 (荆棘狭伪蝎)  
Figs 1.4, 69N, 70S

*Stenohya spinata* Zhan *et al.*, 2023: 219–227, figs 2–7.

### Diagnosis

Male pedipalpal femur with a strong, long, peg-like thorn in the median prolateral position, and a projection on the subdistal prolateral surface; pedipalpal patella with a strong thorn prolaterally, and a small projection near the base of this thorn; pedipalpal chela hand concave on the ventral side of base, with 16 or 17 spinous apophyses on the medial-dorsal side; male fixed chelal finger curved upward at median to distal part, movable chelal finger enlarged at base. Apex of female pedipalpal coxa with 10 long setae; pedipalpal femur 4.64–4.88 times as long as broad; pedipalpal patella 3.53–3.62 times as long as broad; pedipalpal chela (with pedicel) 4.02–4.10 times as long as broad; the presence of 76–78 pointed teeth on pedipalpal fixed chelal finger.

### Material examined

#### Holotype

CHINA • ♂; Chongqing Municipality, Fuling County, Wuling Mountain Great Rift Valley; 29°30'01" N, 107°34'50" E; 1109m a.s.l.; 5 Dec. 2021; Zhisheng Zhang and Luyu Wang leg.; Ps.-MHBU-CQ2021120501.

#### Paratypes

CHINA • 1 ♂, 3 ♀♀; same collection data as for holotype; Ps.-MHBU-CQ2021120502–05.

#### Other material

CHINA • 1 ♂; Chongqing Municipality, Fuling County, Wuling Mountain Great Rift Valley; 29°29'47" N, 107°35'16" E; 1135 m a.s.l.; 26 Jan. 2023; Xiangbo Guo and Tao Zheng leg.; Ps.-MHBU-CQ2023012601.

### Distribution

China: Chongqing City.

### Remarks

The most obvious sexual dimorphism of this species is found on the pedipalp. The male pedipalpal femur has a strong and peg-like thorn in the median prolateral position, and a projection on the subdistal prolateral surface (female only has many big tubercles mainly surrounding the basal to median area); the male pedipalpal patella has a strong thorn and a small projection (female is smooth); the male pedipalpal chela hand is concave on the ventral side of the base, and with 16 or 17 spinous apophyses on the medial-dorsal side (female is smooth); the male fixed chelal finger is curved upward in the median to distal part, the movable chelal finger is enlarged at the base (female is straight).

*Stenohya tengchongensis* Yang & Zhang, 2013 (腾冲狭伪蝎)  
Figs 1.19, 69J, 70K

*Stenohya tengchongensis* Yang & Zhang, 2013: 132–136, figs 1–15.

**Diagnosis**

Male pedipalpal femur claviform and enlarged distally; patella with more tubercles on prolateral face, claviform; pedipalpal femur 4.14–4.43 times as long as broad; patella 2.40–2.75 times as long as broad; chela (with pedicel) 3.31–3.64 times as long as broad. Female pedipalpal femur 4.00–4.13 times as long as broad; patella 2.66–2.67 times as long as broad; presence of 83–91 teeth on pedipalpal movable chelal finger.

**Material examined**

**Holotype**

CHINA • ♂; Yunnan Province, Tengchong County, Wuhe Village; 24°51'18" N, 98°45'34" E; 1800 m a.s.l.; 27 Feb. 2011; Zongxu Li leg.; Ps.-MHBU-YN11022701.

**Paratypes**

CHINA • 1 ♂, 8 ♀♀; same collection data as for holotype; Ps.-MHBU-YN11022702–10.

**Other material**

CHINA • 3 ♂♂, 1 ♀; Yunnan Province, Baoshan City, Gaoligong Mountains; 25°17'09" N, 98°42'50" E; 2536 m a.s.l.; 20 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 7 ♂♂, 5 ♀♀; same data as for preceding; 25°17'22" N, 98°43'37" E; 2818 m a.s.l.; 23 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 4 ♂♂, 6 ♀♀; same data as for preceding; 25°17'14" N, 98°43'21" E; 2720 m a.s.l.; 24 Mar. 2014; Xuankong Jiang and Tian Lu leg. • 4 ♂♂, 4 ♀♀; Yunnan Province, Lushui County, Pianma Town; 28 Nov. 2011; Zongxu Li and Luyu Wang leg.

**Distribution**

China: Yunnan Province.

**Remarks**

When Yang & Zhang (2013) first published this species, the coordinate information of the type material was incorrectly written. After reviewing the specimen collection information, it was corrected to 24°51'18" N, 98°45'34" E. The most obvious sexual dimorphism of this species is found on the pedipalpal femur, the male pedipalpal femur being claviform and enlarged distally, but that of the female is straight.

*Stenohya ungulata* Zhao, Guo & Zhang sp. nov. (蹄印狭伪蝎)  
[urn:lsid:zoobank.org:act:9347F564-D764-4FDD-A138-F8D507A65498](https://zoobank.org/act:9347F564-D764-4FDD-A138-F8D507A65498)  
Figs 1.23, 64–68, 69R, 70G

**Diagnosis**

Male pedipalpal femur with a curved protuberance at a distance of  $\frac{2}{3}$  from the base in the prolateral position, a projection on the subdistal prolateral surface, and an intumescence in the median dorsal position, surrounded by several tubercles (Figs 65I, 66C–D); patella with a small, triangular projection in prolateral position (Figs 65I, 66D). In male leg I, femur with a mountain-like prominence in distal position, the basal half of basitarsus and telotarsus with a large irregular projection and a small finger-shaped projection, the large irregular projection concave in the middle, horseshoe-shaped in dorsal view,

the tip of the finger-shaped projection semi-transparent (Figs 65J, 66G–J). Female pedipalpal femur 4.68–5.06 times as long as broad; presence of 89–93 pointed teeth on pedipalpal fixed chelal finger; the presence of 34–39 rounded teeth at base and 42–47 pointed teeth in distal position on pedipalpal movable chelal finger; pedipalpal chelal movable finger 1.52–1.53 times as long as hand (without pedicel).

### Etymology

The specific epithet is derived from the Latin word ‘*ungulata*’, meaning ‘hoofprint’, which refers to the horseshoe-shaped protrusion in the dorsal position of basitarsus+telotarsus in male leg I; noun in apposition.

### Type material

#### Holotype

CHINA • ♂; Guangxi Zhuang Autonomous Region, Qixing District, Xinan Village; 25°15′54″ N, 110°20′44″ E; 149 m a.s.l.; 1 Feb. 2024; Haofei Fan leg.; Ps.-MHBU-GX2024020101.

#### Paratypes

CHINA • 3 ♂♂, 5 ♀♀; same collection data as for holotype; Ps.-MHBU-GX2024020102–09.

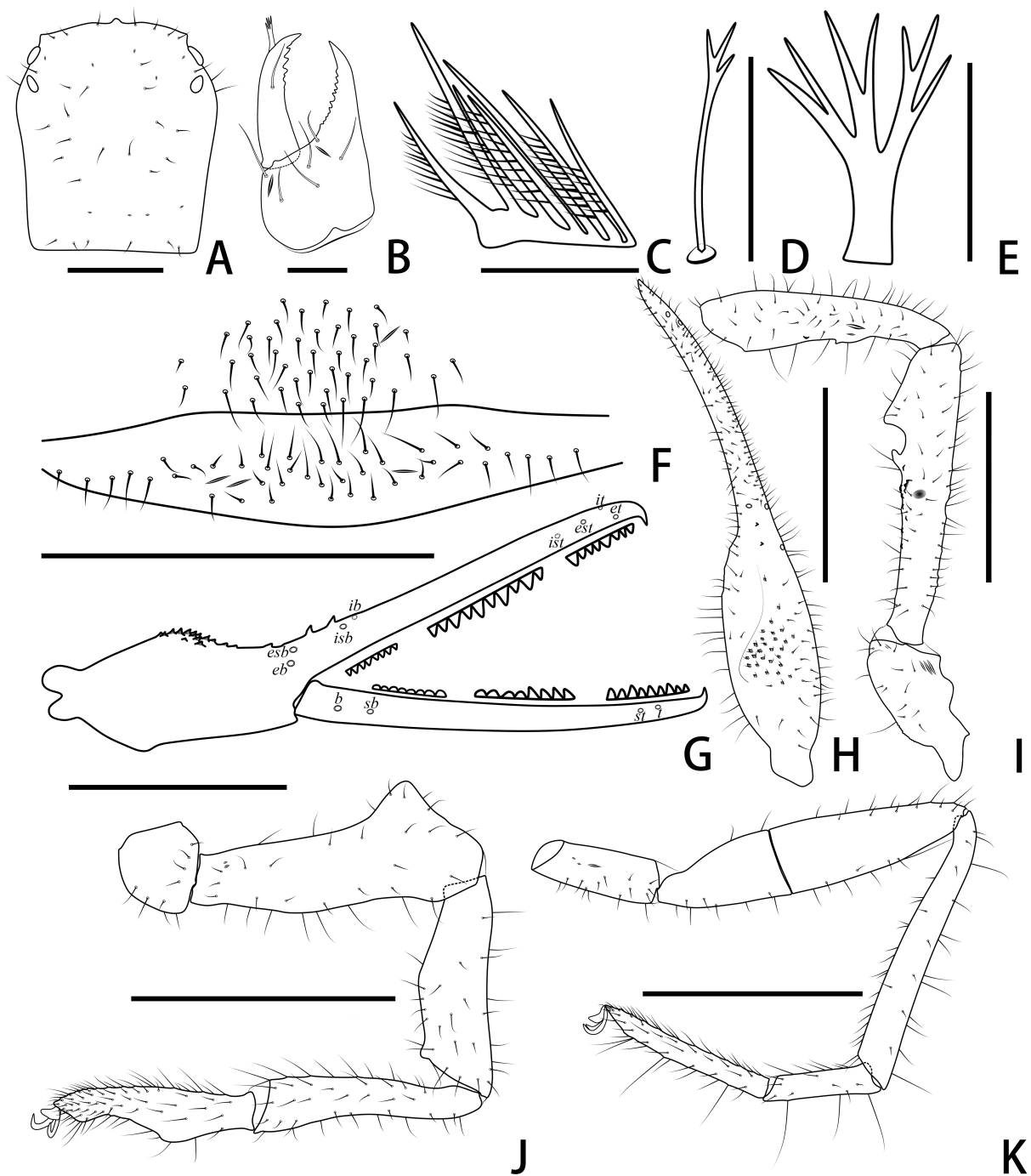
### Description

**Adult males** (holotype and male paratypes) (Fig. 64A)

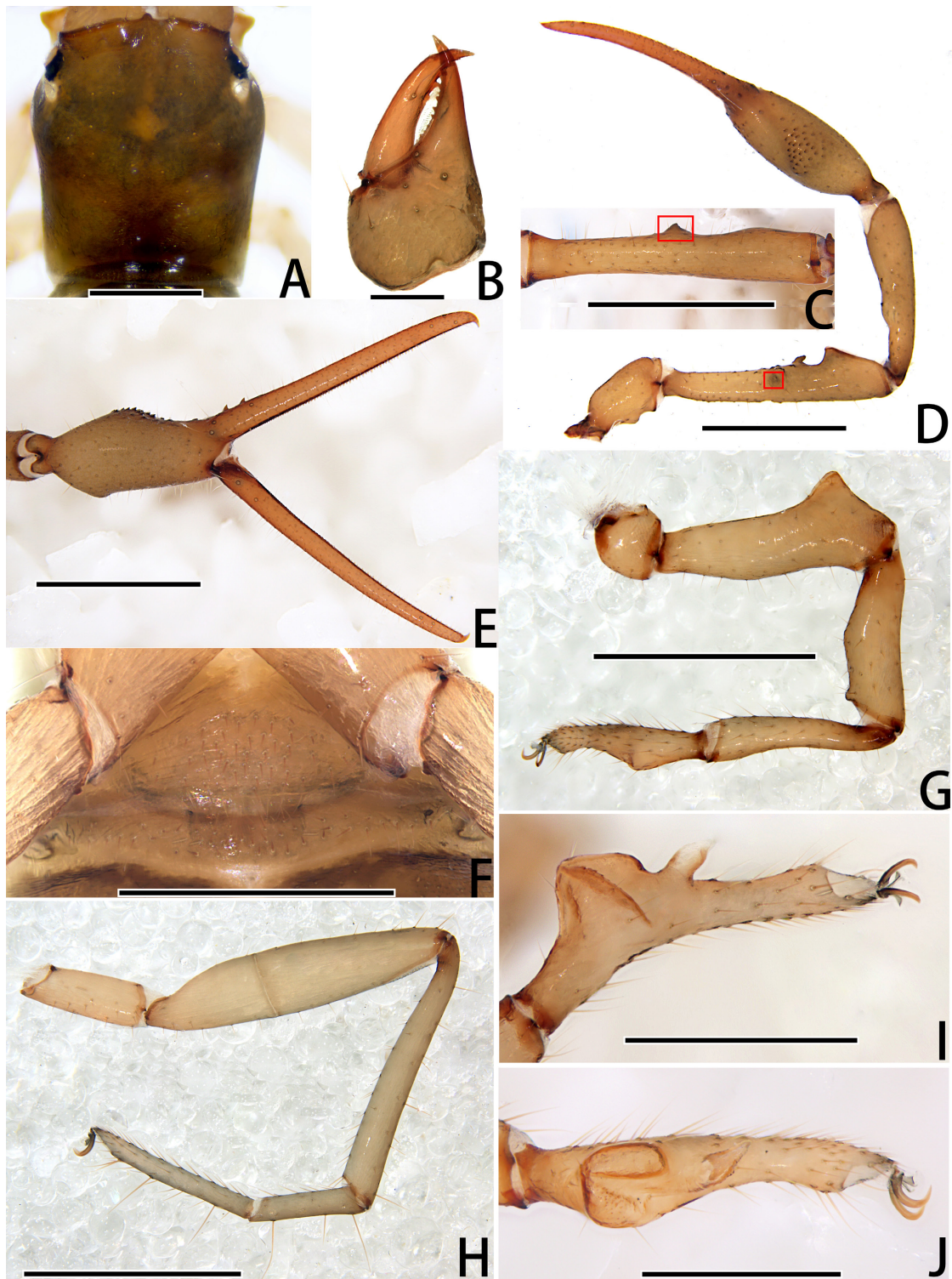
**CARAPACE** (Figs 65A, 66A, 69R). Carapace 1.10–1.27 times as long as broad, with a total of 28–32 setae, including 6–7 near anterior margin and six near posterior margin; five lyrifissures near the eyes, four lyrifissures near posterior margin; epistome small, triangular, with rounded top; with four corneate eyes. Carapace with slight elevations in the middle of the eye area and near middle of carapace in lateral view.



**Fig. 64.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov. **A.** Holotype, male (dorsal view) (Ps.-MHBU-GX2024020101). **B.** Paratype, female (dorsal view) (Ps.-MHBU-GX2024020102). Scale bars: 2 mm.



**Fig. 65.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBG-GX2024020101). **A.** Carapace, dorsal view. **B.** Left chelicera, dorsal view. **C.** Rallum. **D.** Subterminal tarsal seta. **E.** Galea. **F.** Chaetotaxy of genital area, ventral view. **G.** Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. **H.** Right pedipalpal chela, dorsal view. **I.** Right pedipalp (trochanter, femur and patella), dorsal view. **J.** Right leg I, lateral view. **K.** Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 66.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov., holotype, male (Ps.-MHBG-GX2024020101). **A.** Carapace, dorsal view. **B.** Left chelicera, dorsal view. **C.** Right pedipalpal femur, retrolateral view (red box showing an intumescence on the median dorsal position). **D.** Right pedipalp, dorsal view (red box showing an intumescence on the median dorsal position). **E.** Right pedipalpal chela, lateral view. **F.** Genital area, ventral view. **G.** Right leg I, lateral view. **H.** Right leg IV, lateral view. **I.** Right leg I (basitarsus and telotarsus), retrolateral view. **J.** Right leg I (basitarsus and telotarsus), dorsal view. Scale bars: A, F, I–J=0.5 mm; B=0.2 mm; C–E, G–H=1 mm.

CHELICERA (Figs 65B, 66B). Hand with six setae and two lyrifissures, movable finger with one seta; fixed finger with 11–12 teeth; movable finger with 5–7 teeth; serrula exterior with 34–39 lamellae; serrula interior with 25–33 lamellae; galea developed, divided into two main branches, one branch secondarily divided into four terminal rami, the other branch secondarily divided into three terminal rami (Fig. 65E); rallum consisting of seven blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 65C).

PEDIPALPS (Figs 65G–I, 66C–E). Apex of pedipalpal coxa rounded, with five long setae. Trochanter with some small granulations, femur with a curved protuberance at a distance of  $\frac{2}{3}$  from the base in the prolateral position, a projection on the subdistal prolateral surface. An intumescence in the median dorsal position, surrounded by several tubercles (Figs 65I, 66C–D); patella with a small, triangular projection in the prolateral position (Figs 65I, 66D); chelal hand concave on the ventral side of distal half, and with 29–31 triangular-shaped, spinous apophyses on the dorsal side, each apophysis with a seta at the base. A few spinous apophyses extended to the subbase of fixed finger (Figs 65G–H, 66D–E). Trochanter 2.11–2.13, femur 4.24–4.46, patella 4.23, chela (with pedicel) 4.93–5.64, chela (without pedicel) 4.81–5.40 times as long as broad, movable finger 1.86–1.89 times as long as hand (without pedicel). Fixed chelal finger with eight, movable chelal finger with four trichobothria: *eb* and *esb* situated basally, grouped very closely with *ib* and *isb*; *est*, *et* and *it* grouped distally; *ist* closer to *et-est-it* than to *eb-esb-isb-ib* in fixed chelal finger; *b* and *sb* situated closer to each other in basal half, *st* and *t* close to each other in distal half of movable finger. Venom apparatus present only in fixed chelal finger, venom duct short. Fixed chelal finger with 96–97 pointed teeth, movable finger with 84–88 teeth: 39–44 rounded teeth at base and 44–45 pointed teeth in distal position.

ABDOMEN. Pleural membrane granulated. Tergites and sternites undivided, tergal chaetotaxy (I–XI): 4–5:6–9:9–10:10:9–11:11–12:11–12:11–13:11–13:11–12:9, sternal chaetotaxy (IV–XI):20–26:22:20–21:20–22:18–19:15–18:12–14:4–5, sternites VI–VIII with 7–10 medial scattered glandular setae, anal cone with two dorsal and two ventral setae. Genital area (Figs 65F, 66F): anterior genital sternite with 35–44 setae and one lyrifissure; posterior genital sternite with 38–42 setae and three lyrifissures.

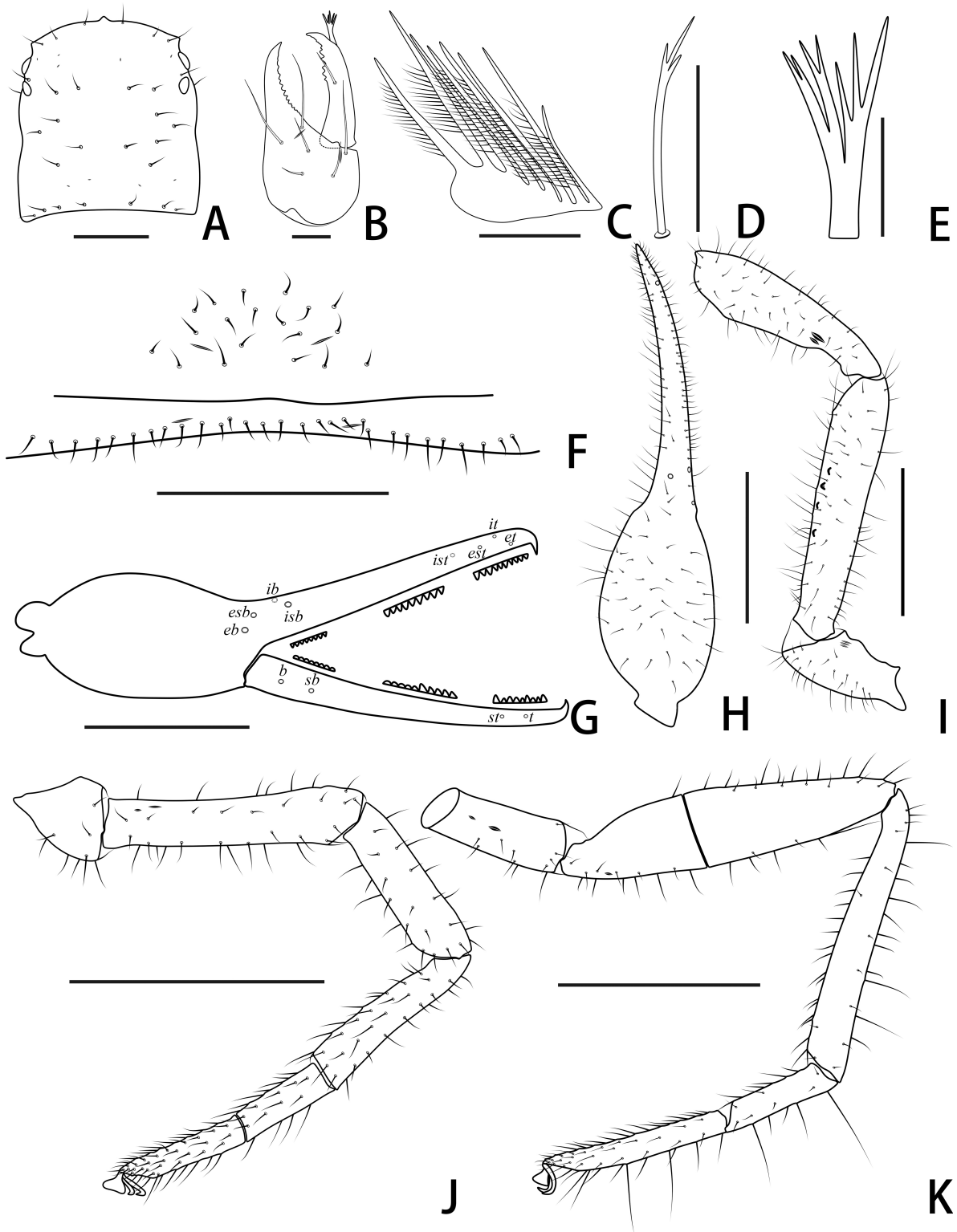
LEGS (Figs 65J–K, 66G–J). In leg I, femur with a mountain-like prominence distally; patella with an enlargement in the middle and with a small cylindrical protuberance terminally; tibia claviform; basitarsus and telotarsus fused, the dividing line between the two segments disappears, the basal half of basitarsus and telotarsus with a large irregular projection and a smaller finger-shaped projection, the large irregular projection concave in the middle, horseshoe-shaped in dorsal view, the tip of the finger-shaped projection semi-transparent (Figs 65J, 66I–J). Leg I: trochanter 1.00–1.07, femur 2.27–2.56, patella 3.15, tibia 3.95–4.25, basitarsus+telotarsus 3.68–3.70 times as long as deep. Leg IV: trochanter 2.67–2.71, femur+patella 4.71, tibia 7.29–7.39, basitarsus 4.15, telotarsus 8.89–9.33 times as long as deep; tibia with two submedial tactile setae (TS=0.50–0.61, 0.95–0.99), basitarsus with two tactile setae (TS=0.13–0.15, 0.81–0.85), telotarsus with two tactile setae (TS=0.20–0.24, 0.63–0.66); subterminal tarsal seta distally branched (Fig. 65D). Arolium not divided, shorter than the slender and simple claws.

**Adult female** (paratype females) (Fig. 64B)

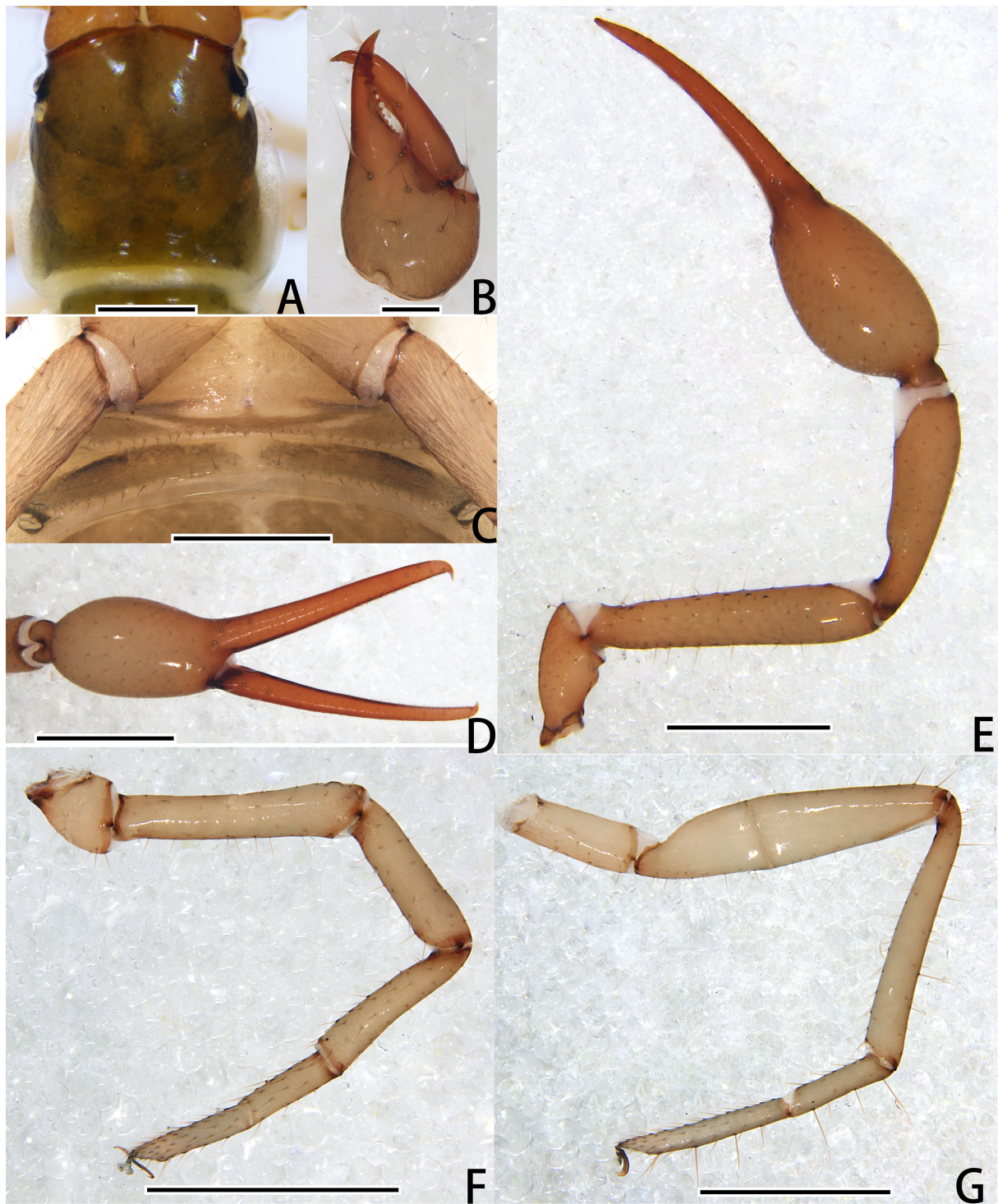
Mostly same as in males, except where noted.

CARAPACE (Figs 67A, 68A, 70G). Carapace 1.06–1.10 times as long as broad, with a total of 30–31 setae, including six near anterior margin and 7–8 near posterior margin; five lyrifissures near the eyes, four lyrifissures near posterior margin. Carapace nearly smooth and rectangular.

CHELICERA (Figs 67B, 68B). Fixed finger with 13–14 teeth; movable finger with 6–7 teeth; serrula exterior with 37–39 lamellae; serrula interior with 30–37 lamellae; rallum consisting of eight blades, all with anteriorly directed spinules, the basalmost blade shortest (Fig. 67C).



**Fig. 67.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBV-GX2024020102). A. Carapace, dorsal view. B. Right chelicera, dorsal view. C. Rallum. D. Subterminal tarsal seta. E. Galea. F. Chaetotaxy of genital area, ventral view. G. Right pedipalpal chela, lateral view, showing trichobothriotaxy and teeth. H. Right pedipalpal chela, dorsal view. I. Right pedipalp (trochanter, femur and patella), dorsal view. J. Right leg I, lateral view. K. Right leg IV, lateral view. Scale bars: A, F=0.5 mm; B=0.2 mm; C–E=0.1 mm; G–K=1 mm.



**Fig. 68.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov., paratype, female (Ps.-MHBU-GX2024020102). **A.** Carapace, dorsal view. **B.** Right chelicera, dorsal view. **C.** Genital area, ventral view. **D.** Right pedipalpal chela, lateral view. **E.** Right pedipalp, dorsal view. **F.** Right leg I, lateral view. **G.** Right leg IV, lateral view. Scale bars: A, C=0.5 mm; B=0.2 mm; D–G=1 mm.

**PEDIPALPS** (Figs 67G–I, 68D–E). Apex of pedipalpal coxa with five long setae. Femur with a few tubercles prolaterally (Figs 67I, 68E). Trochanter 1.90–2.33, femur 4.68–5.06, patella 3.38–3.58, chela (with pedicel) 4.11–4.46, chela (without pedicel) 3.91–4.15 times as long as broad, movable finger 1.52–1.53 times as long as hand (without pedicel). Fixed chelal finger with 89–93 pointed teeth, movable finger with 76–86 teeth: 34–39 rounded teeth at base and 42–47 pointed in distal position.

**ABDOMEN.** Tergal chaetotaxy (I–XI): 2–4:7–8:8:9–10:10:10:10–11:11:10:10:8–10, sternal chaetotaxy (IV–XI): 22–24:21:18–19:18–19:17–18:15–16:11–12:4–5, sternites VI–VIII with two medial glandular setae; genital area (Figs 67F, 68C): sternite II with a total of 19–20 setae and two lyrifissures; sternite III with a row of 29–30 setae and two lyrifissures.

**LEGS** (Figs 67J–K, 68F–G). Leg I: trochanter 1.23–1.41, femur 4.55–4.80, patella 3.10–3.89, tibia 4.29–4.67, basitarsus 2.69–3.17, telotarsus 4.55–5.00 times as long as deep. Leg IV: trochanter 2.37–2.72, femur+patella 4.14–4.47, tibia 7.00–7.05, basitarsus 4.07–4.42, telotarsus 5.13–7.67 times as long as deep; tibia with two submedial tactile setae (TS=0.18–0.21, 0.62–0.65), basitarsus with two tactile setae (TS=0.12–0.17, 0.83–0.84), telotarsus with two tactile setae (TS=0.35–0.43, 0.59–0.60).

**Measurements** (in mm; length/breadth or, for legs, length/depth)

**Males** (holotype and paratypes)

Body length 3.68–3.88. Carapace 1.18–1.26/0.99–1.07. Pedipalpal trochanter 0.76–0.81/0.36–0.38, femur 1.61–1.65/0.37–0.38, patella 1.27–1.31/0.30–0.31, chela (with pedicel) 2.91–3.10/0.55–0.59, chela (without pedicel) 2.84–2.97/0.55–0.59, hand (without pedicel) length 0.99–1.04, movable finger length 1.87–1.93. Leg I: trochanter 0.30–0.33/0.28–0.33, femur 1.02–1.05/0.41–0.45, patella 0.82/0.26, tibia 0.79–0.85/0.20, basitarsus+telotarsus 0.74–0.81/0.20–0.22. Leg IV: trochanter 0.57–0.64/0.21–0.24, femur+patella 1.46/0.31, tibia 1.24–1.33/0.17–0.18, basitarsus 0.54/0.13, telotarsus 0.80–0.84/0.09.

**Females** (paratypes)

Body length 5.39–5.83. Carapace 1.33–1.34/1.21–1.26. Pedipalpal trochanter 0.74–0.91/0.39, femur 1.78–1.82/0.36–0.38, patella 1.35–1.43/0.40, chela (with pedicel) 3.08–3.17/0.71–0.75, chela (without pedicel) 2.93–2.95/0.71–0.75, hand (without pedicel) length 1.20–1.24, movable finger length 1.83–1.89. Leg I: trochanter 0.37–0.38/0.27–0.30, femur 0.96–1.00/0.20–0.22, patella 0.62–0.70/0.18–0.20, tibia 0.70–0.73/0.15–0.17, basitarsus 0.35–0.38/0.12–0.13, telotarsus 0.50/0.10–0.11. Leg IV: trochanter 0.64–0.79/0.27–0.29, femur+patella 1.49–1.70/0.36–0.38, tibia 1.34–1.47/0.19–0.21, basitarsus 0.53–0.57/0.12–0.14, telotarsus 0.82–0.92/0.12–0.16.

**Distribution**

China: Guangxi Zhuang Autonomous Region.

**Remarks**

This new species is similar to *S. gibba* in the presence of projections on the lateral side of the basitarsus and telotarsus in the male leg I, but it can be distinguished by having a large irregular projection and a smaller finger-shaped projection on the basitarsus and telotarsus (in *S. gibba*, basitarsus and telotarsus each have a large columnar projection on the lateral side) (Zhao *et al.* 2024). Females of this new species are similar to those of *S. cordata*, *S. gibba*, *S. guangmingensis*, *S. jiahensis*, *S. margarita*, *S. papillata* and *S. polygonia*, but can be distinguished by the pedipalpal femur 4.68–5.06 times as long as broad (3.83–3.93 in *S. cordata*); the pedipalpal fixed chelal finger with 89–93 pointed teeth (81–82 pointed teeth in *S. jiahensis*); the pedipalpal movable chelal finger with 34–39 rounded teeth at the base and 42–47 pointed teeth in distal position (*S. guangmingensis* with 47–48 rounded teeth at the base, and 45–46 pointed ones, *S. margarita* with 46–49 rounded teeth at the base, and 33–34 pointed ones, *S. papillata* with 43–49 rounded teeth at the base, and 45–47 pointed ones, and *S. polygonia* with 47–54 rounded

teeth at the base, and 42–48 pointed ones); the pedipalpal chelal movable finger 1.52–1.53 times as long as the hand (without pedicel) (1.60–1.72 in *S. gibba*, 1.62–1.66 in *S. guangmingensis*, 1.69–1.82 in *S. margarita*) ( Zhao *et al.* 2024).

*Stenohya xiningensis* Zhao, Zhang & Jia, 2011 (西宁狭伪蝎)

Figs 1.1, 69G

*Stenohya xiningensis* Zhao *et al.*, 2011: 61–63, figs 20–29.

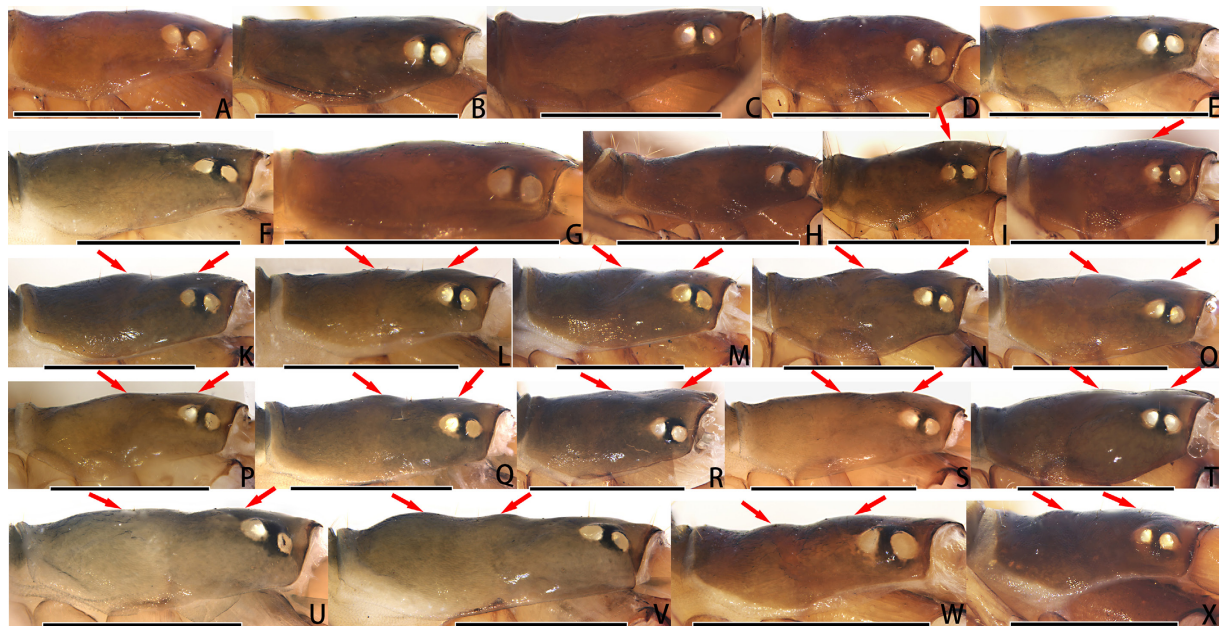
**Diagnosis**

Male pedipalpal femur 6.42 times as long as broad; pedipalpal patella 4.68 times as long as broad; chela (with pedicel) 4.46 times as long as broad; chela (without pedicel) 3.86 times as long as broad.

**Material examined**

**Holotype**

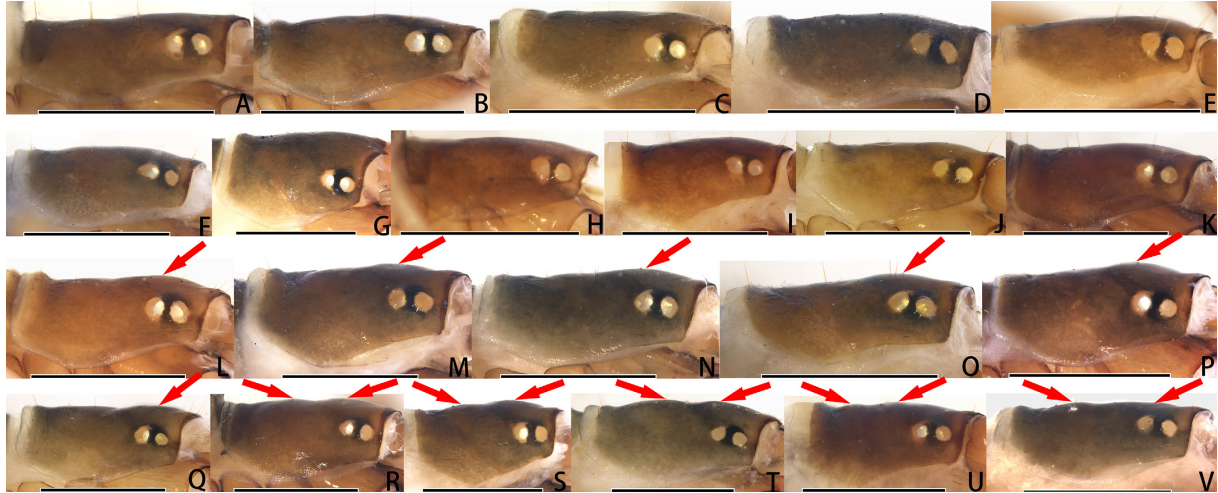
CHINA • ♂; Qinghai Province, Xining City, Laoye Mountain; 36°55' N, 101°41' E; 3 Jun. 1997; Min Wu leg.; Ar.-MHBU-QH970603.



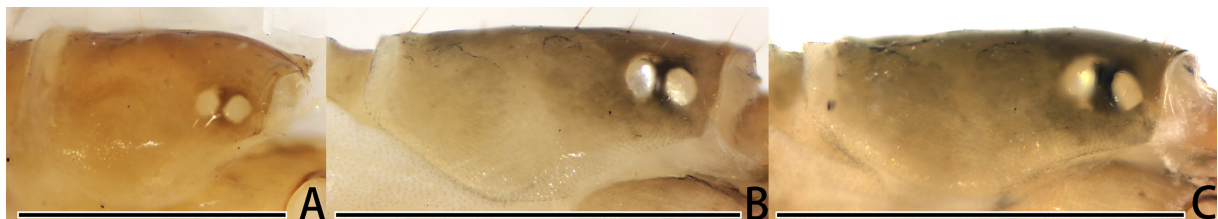
**Fig. 69.** Male carapaces, lateral views (the red arrows indicate the elevation on the carapace). **A.** *Stenohya curvata* Zhao, Zhang & Jia, 2011. **B.** *Stenohya huangi* Hu & Zhang, 2012. **C.** *Stenohya bicornuta* Guo, Zang & Zhang, 2019. **D.** *Stenohya meiacantha* Yang & Zhang, 2013. **E.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov. **F.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov. **G.** *Stenohya xiningensis* Zhao, Zhang & Jia, 2011. **H.** *Stenohya pengae* Hu & Zhang, 2012. **I.** *Stenohya setulosa* Guo & Zhang, 2016. **J.** *Stenohya tengchongensis* Yang & Zhang, 2013. **K.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov. **L.** *Stenohya jiahensis* Li & Shi, 2023. **M.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov. **N.** *Stenohya spinata* Zhan, Feng & Zhang, 2023. **O.** *Stenohya dongtianensis* Li & Shi, 2023. **P.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov. **Q.** *Stenohya papillata* Zhao, Guo & Zhang, 2024. **R.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov. **S.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov. **T.** *Stenohya guangmingensis* Zhao, Guo & Zhang, 2024. **U.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov. **V.** *Stenohya gibba* Zhao, Guo & Zhang, 2024. **W.** *Stenohya hainanensis* Guo & Zhang, 2016. **X.** *Stenohya arcuata* Guo, Zang & Zhang, 2019. Scale bars: 1 mm.

**Distribution**

China: Qinghai Province.



**Fig. 70.** Female carapaces, lateral views (the red arrows indicate the elevation on the carapace). **A.** *Stenohya hainanensis* Guo & Zhang, 2016. **B.** *Stenohya harveyi* Zhao, Guo & Zhang sp. nov. **C.** *Stenohya huangi* Hu & Zhang, 2012. **D.** *Stenohya jiahensis* Li & Shi, 2023. **E.** *Stenohya pengae* Hu & Zhang, 2012. **F.** *Stenohya biverticis* Zhao, Guo & Zhang sp. nov. **G.** *Stenohya ungulata* Zhao, Guo & Zhang sp. nov. **H.** *Stenohya curvata* Zhao, Zhang & Jia, 2011. **I.** *Stenohya meiacantha* Yang & Zhang, 2013. **J.** *Stenohya qianlei* Zhao, Guo & Zhang sp. nov. **K.** *Stenohya tengchongensis* Yang & Zhang, 2013. **L.** *Stenohya bicornuta* Guo, Zang & Zhang, 2019. **M.** *Stenohya jiaxiani* Zhao, Guo & Zhang sp. nov. **N.** *Stenohya polygonia* Zhao, Guo & Zhang sp. nov. **O.** *Stenohya dongtianensis* Li & Shi, 2023. **P.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov. **Q.** *Stenohya margarita* Zhao, Guo & Zhang sp. nov. **R.** *Stenohya guangmingensis* Zhao, Guo & Zhang, 2024. **S.** *Stenohya spinata* Zhan, Feng & Zhang, 2023. **T.** *Stenohya gibba* Zhao, Guo & Zhang, 2024. **U.** *Stenohya arcuata* Guo, Zang & Zhang, 2019. **V.** *Stenohya papillata* Zhao, Guo & Zhang, 2024. Scale bars: 1 mm.



**Fig. 71.** Tritonymph carapaces, lateral views. **A.** *Stenohya bomica* Zhao & Zhang, 2011. **B.** *Stenohya cordata* Zhao, Guo & Zhang sp. nov. **C.** *Stenohya jiahensis* Li & Shi, 2023. Scale bars: 1 mm.

**Key to males of species of *Stenohya* Beier, 1967 from China**

1. Pedipalpal femur with small tubercles or smooth..... 2
  - Pedipalpal femur with large and conspicuous projection..... 12
2. Pedipalpal chelal hand with projection on prolateral surface..... 3
  - Pedipalpal chelal hand without prolateral projection..... 6
3. Prolateral projection of chelal hand with pointed projection..... 4
  - Prolateral projection of chelal hand with bifid, hornlike bulges..... 5
4. Pedipalpal femur with a depression at the base of prolateral face; movable finger basally curved in ventral view..... *S. curvata* Zhao, Zhang & Jia, 2011
  - Pedipalpal with straight femur; movable finger straight or slightly procurved.....  
..... *S. meiacantha* Yang & Zhang, 2013
5. Pedipalpal fixed chelal finger with 67–70 teeth..... *S. harveyi* Zhao, Guo & Zhang sp. nov.
  - Pedipalpal fixed chelal finger with 91–94 teeth..... *S. bicornuta* Guo, Zang & Zhang, 2019
6. Pedipalpal femur strongly procurved..... 7
  - Pedipalpal femur straight or slightly procurved..... 8
7. Apex of pedipalpal coxa only with four long setae, short acicular seta absent.....  
..... *S. arcuata* Guo, Zang & Zhang, 2019
  - Apex of pedipalpal coxa with three long setae and 10–12 short acicular ones.....  
..... *S. setulosa* Guo & Zhang, 2016
8. Each of chelal fingers with more than 85 teeth..... 9
  - Each of chelal fingers with fewer than 85 teeth..... 10
9. Pedipalpal femur distally thickened, noticeably thicker than the basal section.....  
..... *S. tengchongensis* Yang & Zhang, 2013
  - Pedipalpal femur not distally thickened..... *S. hainanensis* Guo & Zhang, 2016
10. Carapace with fewer than 30 setae..... *S. xiningensis* Zhao, Zhang & Jia, 2011
  - Carapace with more than 30 setae..... 11
11. Pedipalpal femur 6.79–7.20 times as long as broad..... *S. pengae* Hu & Zhang, 2012
  - Pedipalpal femur 7.64–7.96 times as long as broad..... *S. huangi* Hu & Zhang, 2012
12. Pedipalpal femur with intumescence on the dorsal side..... 13
  - Pedipalpal femur without intumescence on the dorsal side..... 15
13. Pedipalpal femur with one intumescence on the dorsal side; leg I basitarsus and telotarsus with a large irregular projection and a smaller finger-shaped projection.....  
..... *S. ungulata* Zhao, Guo & Zhang sp. nov.
  - Pedipalpal femur with two intumescences on the dorsal side..... 14
14. Pedipalpal chelal hand with several small granular processes on the retrolateral side.....  
..... *S. biverticis* Zhao, Guo & Zhang sp. nov.
  - Pedipalpal chelal hand with many small granular processes on the prolateral, retrolateral and dorsal sides..... *S. margarita* Zhao, Guo & Zhang sp. nov.

|  |  |
|--|--|
| 15. Pedipalpal patella with small, triangular-shaped projection .....  | 16   |
| – Pedipalpal patella smooth .....  | 20   |
| 16. Pedipalpal chelal hand with fewer than 20 spinous apophyses .....  | 17   |
| – Pedipalpal chelal hand with more than 20 spinous apophyses .....   | 19   |
| 17. Basitarsus and telotarsus of leg I each with a large columnar projection .....   |  |
| ..... <i>S. gibba</i> Zhao, Guo & Zhang, 2024  |  |
| – Basitarsus and telotarsus of leg I without projection .....  | 18   |
| 18. Pedipalpal patella with strong, long, peg-like projections on prolateral surface, plus a small projection placed near the base of this thorn .....   | <i>S. spinata</i> Zhan, Feng & Zhang, 2023       |
| – Pedipalpal patella with two small, triangular projections in the $\frac{1}{3}$ and $\frac{2}{3}$ prolateral positions .....  | <i>S. qianlei</i> Zhao, Guo & Zhang sp. nov.     |
| 19. Pedipalpal chelal hand with a papillary projection on the ventral face; femur with a projection on the subdistal prolateral surface and several big tubercles in prolateral position .....   |  |
| ..... <i>S. papillata</i> Zhao, Guo & Zhang, 2024  |  |
| – Pedipalpal chelal hand without projection on the ventral face; femur with a heart-shaped protuberance in the middle and a projection on the subterminal prolateral surface .....   | <i>S. cordata</i> Zhao, Guo & Zhang sp. nov.     |
| 20. Pedipalpal chelal hand with fewer than 30 spinous apophyses .....  | 21   |
| – Pedipalpal chelal hand with more than 30 spinous apophyses .....   | 23   |
| 21. Pedipalpal chelal hand swelling on the median dorsal side .....  | <i>S. dongtianensis</i> Li & Shi, 2023           |
| – Pedipalpal chelal hand without swelling .....  | 22   |
| 22. Femur of leg I with an inward depression distally; femur with a projection on the subdistal prolateral surface and several big tubercles in prolateral position; the anterior half of the carapace noticeably protruding to the sides .....        | <i>S. guangmingensis</i> Zhao, Guo & Zhang, 2024 |
| – Femur of leg I without depression; tibia, basitarsus and telotarsus of leg I noticeably bent; the anterior half of the carapace slightly protruding to the sides .....   | <i>S. jiaxiani</i> Zhao, Guo & Zhang sp. nov.    |
| 23. Pedipalpal femur with a large intumescence on the subbasal surface, a small intumescence and a columniform intumescence on the median surface and a projection on the subterminal prolateral surface; femur 4.25–4.77 times as long as broad ..... | <i>S. jiahensis</i> Li & Shi, 2023               |
| – Pedipalpal femur with a projection on the subdistal prolateral surface and a polygonal protuberance in median prolateral position; femur 3.96–3.98 times as long as broad .....  | <i>S. polygonia</i> Zhao, Guo & Zhang sp. nov.   |

**Key to females of species of *Stenohya* Beier, 1967 from China**

|   |   |
|---|---|
| 1. Pedipalpal chelal hand with several small granular processes on the protrolateral side ..... |   |
| ..... <i>S. margarita</i> Zhao, Guo & Zhang sp. nov.  |   |
| – Pedipalpal chelal hand smooth .....   | 2 |
| 2. Pedipalpal movable chelal finger with one type of teeth .....                                | 3 |
| – Pedipalpal movable chelal finger with pointed and rounded teeth .....                         | 6 |
| 3. Pedipalpal movable chelal finger with rounded teeth .....                                    | 4 |
| – Pedipalpal movable chelal finger with pointed teeth .....                                     | 5 |

|  |  |    |
|--|--|----|
| 4. Pedipalpal movable chelal finger with 83–91 teeth.....  | <i>S. tengchongensis</i> Yang & Zhang, 2013    |    |
| – Pedipalpal movable chelal finger with 76 teeth.....  | <i>S. meiacantha</i> Yang & Zhang, 2013        |    |
| 5. Apex of pedipalpal coxa with 10 long setae.....   | <i>S. spinata</i> Zhan, Feng & Zhang, 2023     |    |
| – Apex of pedipalpal coxa with five long setae.....  | <i>S. qianlei</i> Zhao, Guo & Zhang sp. nov.   |    |
| 6. Pedipalpal patella with small tubercles.....  | <i>S. harveyi</i> Zhao, Guo & Zhang sp. nov.   |    |
| – Pedipalpal patella smooth.....   |  | 7  |
| 7. Pedipalpal movable chelal finger with fewer than 60 teeth.....  |  | 8  |
| – Pedipalpal movable chelal finger with more than 60 teeth.....  |  | 9  |
| 8. Pedipalpal patella 3.83–3.93 times as long as broad.....  | <i>S. pengae</i> Hu & Zhang, 2012              |    |
| – Pedipalpal patella 4.70–4.83 times as long as broad.....   | <i>S. huangi</i> Hu & Zhang, 2012              |    |
| 9. Pedipalpal fixed chelal finger with 124–129 teeth; pedipalpal movable chelal finger with 115–118 teeth.....           | <i>S. arcuata</i> Guo, Zang & Zhang, 2019      |    |
| – Pedipalpal fixed and movable chelal finger both with fewer than 110 teeth.....   |  | 10 |
| 10. Epistome triangular, with heavily rounded apex.....  |  | 11 |
| – Epistome triangular, with slightly rounded apex.....   |  | 13 |
| 11. Pedipalpal fixed chelal finger with 81–82 teeth.....   | <i>S. jiahensis</i> Li & Shi, 2023             |    |
| – Pedipalpal fixed chelal finger with 95–103 teeth.....  |  | 12 |
| 12. Apex of pedipalpal coxa with seven long setae, movable finger 1.49–1.59 times as long as hand (without pedicel)..... | <i>S. polygonia</i> Zhao, Guo & Zhang sp. nov. |    |
| – Apex of pedipalpal coxa with five long setae, movable finger 1.66–1.71 times as long as hand (without pedicel).....    | <i>S. dongtianensis</i> Li & Shi, 2023         |    |
| 13. Apex of pedipalpal coxa with eight long setae.....   |  | 14 |
| – Apex of pedipalpal coxa with 5–7 long setae.....   |  | 15 |
| 14. Pedipalpal femur 5.37 times as long as broad.....  | <i>S. bicornuta</i> Guo, Zang & Zhang, 2019    |    |
| – Pedipalpal femur 4.76–4.98 times as long as broad.....   | <i>S. papillata</i> Zhao, Guo & Zhang, 2024    |    |
| 15. Chela (with pedicel) 4.67–4.98 times as long as broad.....   | <i>S. gibba</i> Zhao, Guo & Zhang, 2024        |    |
| – Chela (with pedicel) 4.00–4.46 times as long as broad.....   |  | 16 |
| 16. Pedipalpal femur 3.83–3.93 times as long as broad.....   | <i>S. cordata</i> Zhao, Guo & Zhang sp. nov.   |    |
| – Pedipalpal femur more than 4.40 times as long as broad.....  |  | 17 |
| 17. Pedipalpal movable chelal finger 1.29–1.30 times as long as hand (without pedicel).....                              |  |    |
| .....  | <i>S. curvata</i> Zhao, Zhang & Jia, 2011      |    |
| – Pedipalpal movable chelal finger more than 1.50 times as long as hand (without pedicel).....                           |  | 18 |
| 18. Pedipalpal movable chelal finger with 12 rounded teeth.....  | <i>S. hainanensis</i> Guo & Zhang, 2016        |    |
| – Pedipalpal movable chelal finger with more than 30 rounded teeth.....  |  | 19 |
| 19. Pedipalpal movable chelal finger length 2.53–2.72 mm.....  | <i>S. jiaxiani</i> Zhao, Guo & Zhang sp. nov.  |    |
| – Pedipalpal movable chelal finger length less than 2.14 mm.....   |  | 20 |

20. Pedipalpal movable chelal finger 1.52–1.53 times as long as hand (without pedicel) .....  
 ..... *S. ungulata* Zhao, Guo & Zhang sp. nov.  
 – Pedipalpal movable chelal finger more than 1.62 times as long as hand (without pedicel) ..... 21
21. Pedipalpal femur 4.90–5.39 times as long as broad .....  
 ..... *S. guangmingensis* Zhao, Guo & Zhang, 2024  
 – Pedipalpal femur 4.44–4.79 times as long as broad ..... *S. biverticis* Zhao, Guo & Zhang sp. nov.

## Discussion

As of now, including the eight new species reported in this study, there are 25 species of the genus *Stenohya* reported from China. An increasing number of species of *Stenohya* are being discovered, and their geographic distribution range is gradually expanding. Except for *S. bomica*, *S. setulose* and *S. xiningensis*, which were reported and described based only on immature or adult male specimens, the remaining 22 Chinese species are all known from both adult male and female specimens. Sexual dimorphism is found to be highly prevalent in the species of *Stenohya*, primarily manifest in the pedipalp and leg I. In the pedipalp, males sometimes have conspicuous peculiar protuberances on the femora, patellae, and/or chelae, which are absent in females (Leclerc & Mahnert 1988; Zhao *et al.* 2011; Yang & Zhang 2013; Guo *et al.* 2019; Zhan *et al.* 2023; Zhao *et al.* 2024), males are distinctly slenderer than females (Schawaller 1987; Hu & Zhang 2012; Zhan *et al.* 2023) and the femora are markedly curved or claviform compared with the females (Yang & Zhang 2013; Guo *et al.* 2019). In leg I, males sometimes exhibit enlargement, the basitarsus and telotarsus are sometimes fused, and they sometimes have prominent protuberances (Zhao *et al.* 2024). Zhan *et al.* (2023) previously discussed the potential functions of sexually dimorphic pedipalps. Considering the proximity of the leg I to the pedipalp, we hypothesize that the leg I may interact in some way with the male pedipalp, used for controlling the female, courtship, mating, or competition. Currently, our understanding of the life history of *Stenohya* is limited, and these hypotheses remain unverified. Future research should focus on observations of the behavior or biology of *Stenohya* to clarify the functions of these sexually dimorphic structures.

By examining the specimens of *Stenohya*, it was found that the surface of the carapace in some species is uneven. This characteristic had not been noticed before Zhan *et al.* (2023), in which it was described as transverse grooves present on the carapace of *S. spinata*. Subsequently, Zhao *et al.* (2024) followed this terminology in the description of *S. gibba* and *S. papillata*. Transverse grooves on the carapace are a common character in some species of Cheliferidae (Gao & Zhang 2012), Chernetidae (Xu *et al.* 2022) and Syarinidae (Hu & Zhang 2013), and they are straight and marked in these pseudoscorpion groups. However, the grooves on the carapace of *Stenohya* are very shallow and not straight, they are a result of raised surrounding areas on the surface (Figs 69–71). Therefore, in order to avoid confusion, the carapace of *Stenohya* was described as having raised areas on the surface instead of transverse grooves in this study. Following this, an examination of the carapaces of *Stenohya* revealed the following configurations: the carapace is smooth, without apparent elevation (Figs 69A–H, 70 A–K, 71); an elevation in the middle of the eye area (Figs 69I–J, 70L–Q); two elevations in the middle of the eye area and near the middle of the carapace (Fig. 69K–T); two elevations in the middle of the eye area and the posterior half of the carapace (Fig. 69U); two elevations in the middle and  $\frac{2}{3}$  position of the carapace (Figs 69V–W, 70U); two elevations in the  $\frac{1}{3}$  and  $\frac{2}{3}$  positions of the carapace (Figs 69X, 70R–T, V).

Given the increasing number of species with trichobothrium *ist* situated sub-distally, this study supplements the diagnosis of *Stenohya*. The positions of *ist* have two forms: medially between *et-est-it* and *eb-esb-isb-ib*, or closer to *et-est-it* than to *eb-esb-isb-ib*. We are skeptical about dividing the genus into two species groups based on this criterion, as it may not fully capture the complexity of the characteristics. To ensure the rationality of the species group division, future work should obtain

molecular data and construct a phylogenetic tree, providing a more comprehensive understanding of the species diversity and evolutionary relationships, thus offering a more reliable foundation for taxonomic research.

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