

RESEARCH ARTICLE

A new species of the genus *Sphedanolestes* (Hemiptera: Heteroptera: Reduviidae) from Xizang Autonomous Region, China, with an updated key to Chinese species

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Abstract. *Sphedanolestes jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov. is described based on macropterous male and female specimens collected from Jilong County, Rikaze City, Xizang Autonomous Region, China, and compared with related species within the genus. Habitus images and figures of the male genitalia are provided. An updated key to *Sphedanolestes* species from China, totalling 18 as recognised in the present study, together with habitus images of all species are given.

Key words. Hemiptera, Heteroptera, Reduviidae, *Sphedanolestes*, key, male genitalia, new species, taxonomy, Xizang, China, Palaearctic Region

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Introduction

Harpactorinae is the largest subfamily of Reduviidae with more than 2,250 species in over 300 genera (MALDONADO CAPRILES 1990; ZHAO et al. 2009, 2024; WEIRAUCH et al. 2014; MASONICK et al. 2023; GIL-SANTANA & OLIVEIRA 2023; WANG et al. 2023; GIL-SANTANA 2024; TRUONG et al. 2024, 2025; LIU et al. 2025). Within Harpactorinae, the genus *Sphedanolestes* is one of the most speciose genera with over 180 species distributed mainly in tropical and subtropical areas in the Ethiopian, Oriental and Palaearctic Regions (MALDONADO CAPRILES 1990, PUTSHKOV & PUTSHKOV 1996). The genus *Sphedanolestes* was erected by STÅL (1867) and the species *Reduvius impressicollis* Stål, 1861 was subsequently designated as its type species by DISTANT (1904). *Sphedanolestes* species can be recognized by the following characters: the long, elliptic and unarmed head; the unarmed pronotum with the lateral and the posterior

angles rounded, the median longitudinal sulcus of the anterior pronotal lobe anteriorly extending to the collar and posteriorly to the transverse pronotal constriction, the median part of the posterior lobe more or less depressed, the subapical part of the femora subnodulose, and the fore femora not distinctly thickened (HSIAO & REN 1981, CAI et al. 2004, ZHAO et al. 2015).

There have been 17 species recorded from China prior to the present study (WU 1935, CHINA 1940, HOFFMANN 1944, HSIAO & REN 1981, LI 1981, REN 1981, CAI & YANG 2002, CAI et al. 2004, ISHIKAWA et al. 2007, ZHAO et al. 2015), and five of them are known to occur in Xizang Autonomous Region, viz. *Sphedanolestes annulipes* Distant, 1903, *S. granulipes* Hsiao & Ren, 1981, *S. gularis* Hsiao, 1979, *S. nodipes* Li, 1981, and *S. pubinotus* Reuter, 1881 (HSIAO & REN 1981, LI 1981, REN 1981). During the recent field investigation in Jilong County, Rikaze City, Xizang



Autonomous Region, China, a new species of *Sphedanolestes* was found based on a pair of macropterous specimens and described herein. Habitus images and figures of the male genitalia of the new species are provided. An updated key with habitus images of all the keyed species is also provided to help distinguish the 18 *Sphedanolestes* species distributed in China.

Material and methods

The type specimens of the new species and the specimens of other *Sphedanolestes* species used for habitus imaging are deposited in the Entomological Museum of China Agricultural University, Beijing (CAU). The external structures were examined using a binocular dissecting microscope. Male genitalia were soaked in hot 5% NaOH solution for approximately ten minutes to remove soft tissue, rinsed in distilled water and dissected under an Olympus dissecting microscope (Tokyo, Japan). The dissected parts were placed in a vial with glycerin and pinned beneath the corresponding specimen after examination. Images were taken using a Canon 7D Mark II digital camera (Tokyo, Japan) with Canon EF 100 mm macro lens (for nature photography and habitus) or 65 mm micro lens (for genitalia). Helicon Focus version 5.3 (Helicon Soft, Kharkiv, Ukraine) was used for image stacking. Measurements were obtained using a calibrated micrometer. All measurements are expressed in millimeters. The symbol “?” in the measurements means either “not measured” or “the part is missing from the specimen”. Morphological terminology mainly follows LENT & WYGODZINSKY (1979) and ZHAO et al. (2015).

Taxonomy

Key to species of *Sphedanolestes* from China

- 1 Pronotum pale, yellow, orange or red, with or without dark markings. 2
 - Pronotum blackish brown to black, or anterior lobe black and posterior lobe pale or with pale markings. ... 8
- 2 Corium of hemelytron dark, brown or black. 3
 - Corium of hemelytron pale, yellow, orange or red. 4
- 3 Femora with two pale annular markings.
 - *S. annulipes* Distant, 1903 (Fig. 1A)
 - Femora black, only basal part reddish.
 - *S. bicoloroides* Putshkov, 1987 (Fig. 1B)
- 4 Connexivum bicoloured. 5
 - Connexivum unicoloured. 6
- 5 Body yellow; pronotum yellow, anterior lobe with arc-shaped black markings and posterior lobe with four black spots; femora with two median and apical annular markings.
 - *S. quadrinotatus* Cai, Cai & Wang, 2004 (Fig. 1C)
 - Body orange; pronotum orange without spots; femora with a median darker annular marking.
 - *S. xiongi* Cai, Cai & Wang, 2004 (Fig. 1D)
- 6 Legs unicoloured, red.
 - *S. rubripes* Cai, Cai & Wang, 2004 (Fig. 1E)
 - Leg bicoloured with annular markings. 7
- 7 Femora blackish brown, except basal part red; first visible labial segment just slightly shorter than second; first antennal segment twice as long as second.
 - *S. trichrous* Stål, 1874 (Fig. 1F)
 - Femora blackish brown with a pale median annular marking; first visible labial segment distinctly shorter than second; first antennal segment three times as long as second.
 - *S. anellus* Hsiao, 1979 (Fig. 1G)
- 8 Connexivum bicoloured. 9
 - Connexivum unicoloured (except some individuals with obscure blackish markings on connexivum in *S. pubinotus* Reuter, 1881). 15
- 9 Pronotum distinctly covered with granules or minute processes. 10
 - Pronotum without granules or minute processes. 11
- 10 Body length over 13 mm; femora distinctly nodulose ..
 - *S. nodipes* Li, 1981 (Fig. 1H)
 - Body length less than 13 mm; femora not distinctly nodulose, but with yellow granules.
 - *S. granulipes* Hsiao & Ren, 1981 (Fig. 1I)
- 11 Leg bicoloured, with distinct annular markings.
 - *S. impressicollis* (Stål, 1861) (Fig. 2A)
 - Leg unicoloured, without distinct annular markings. ... 12
- 12 Body length over 13 mm; body with blue metallic luster.
 - *S. sinicus* Cai & Yang, 2002 (Fig. 2B)
 - Body length less than 13 mm; body without blue metallic luster. 13
- 13 Venter of head black.
 - *S. subtilis* (Jakovlev, 1893) (Fig. 2C)
 - Venter of head yellow. 14
- 14 Body black; abdomen ventrally with black transverse spots.
 - *S. pilosus* Hsiao, 1979 (Fig. 2D)
 - Body dark brown; abdomen ventrally laterally with blackish brown longitudinal markings.
 - *S. albipilosus* Ishikawa, Cai & Tomokuni, 2007 (Fig. 2E)
- 15 Legs multi-coloured, yellowish brown in large part; connexivum pale yellow.
 - *S. jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov. (Figs 2F, 3)
 - Legs unicoloured, blackish brown to black; connexivum red. 16
- 16 Pronotum and scutellum with blue metallic luster.
 - *S. pubinotus* Reuter, 1881 (Fig. 2G)
 - Pronotum and scutellum without blue metallic luster. ... 17
- 17 Body over 10 mm, somewhat slender.
 - *S. gularis* Hsiao, 1979 (Fig. 2H)
 - Body less than 9 mm, somewhat robust.
 - *S. zhengi* Zhao, Ren, Wang & Cai, 2015 (Fig. 2I)

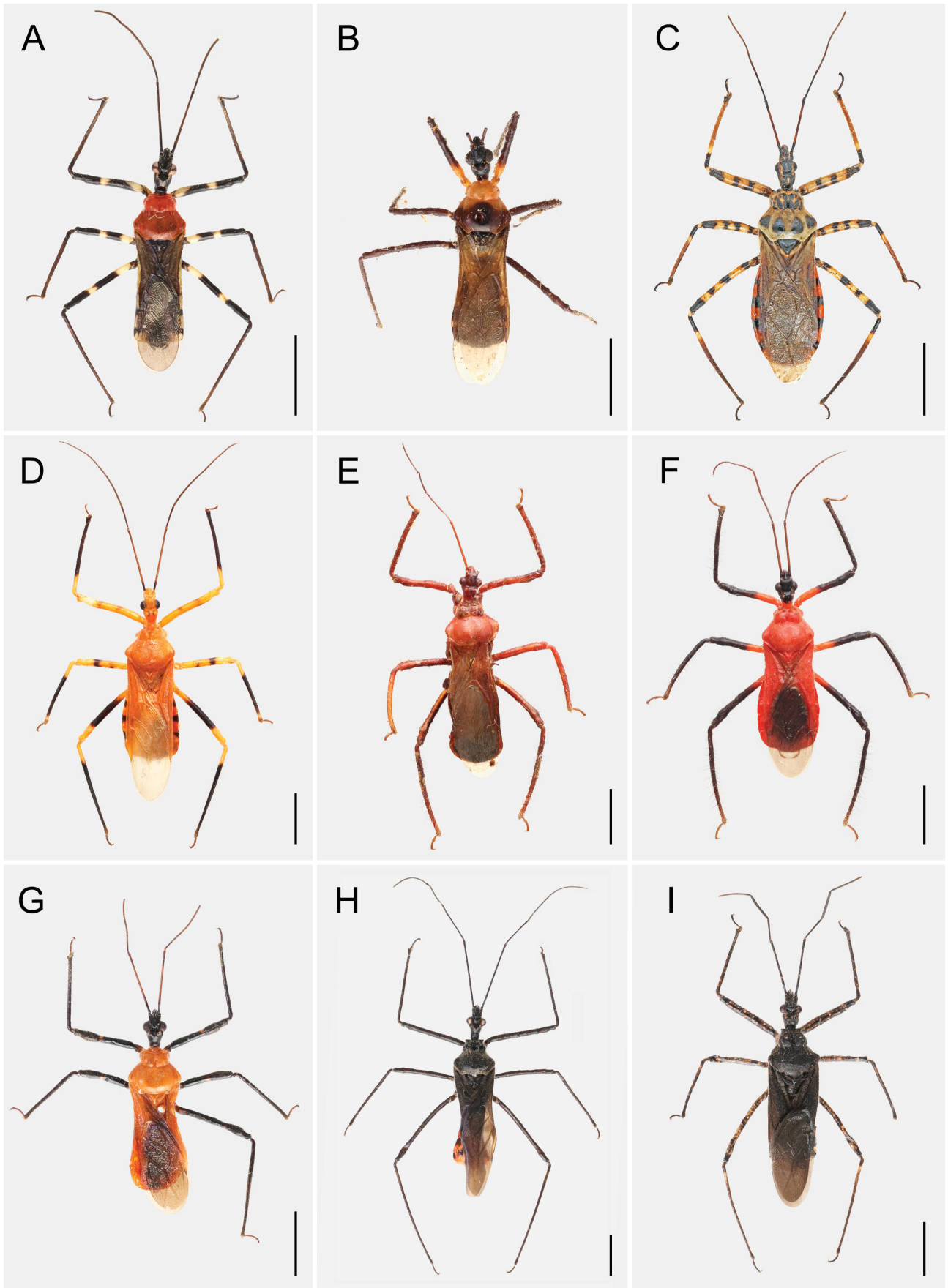


Fig. 1. Habitus in dorsal view of *Sphecanolestes* species from China. A – *S. annulipes* Distant, 1903, non-type male; B – *S. bicoloroides* Putshkov, 1987, non-type male; C – *S. quadrinotatus* Cai, Cai & Wang, 2004, non-type female; D – *S. xiongi* Cai, Cai & Wang, 2004, non-type male; E – *S. rubripes* Cai, Cai & Wang, 2004, holotype female; F – *S. trichrous* Stål, 1874, non-type male; G – *S. anellus* Hsiao, 1979, non-type female; H – *S. nodipes* Li, 1981, non-type male; I – *S. granulipes* Hsiao & Ren, 1981, non-type male. Scale bars: 3.00 mm.

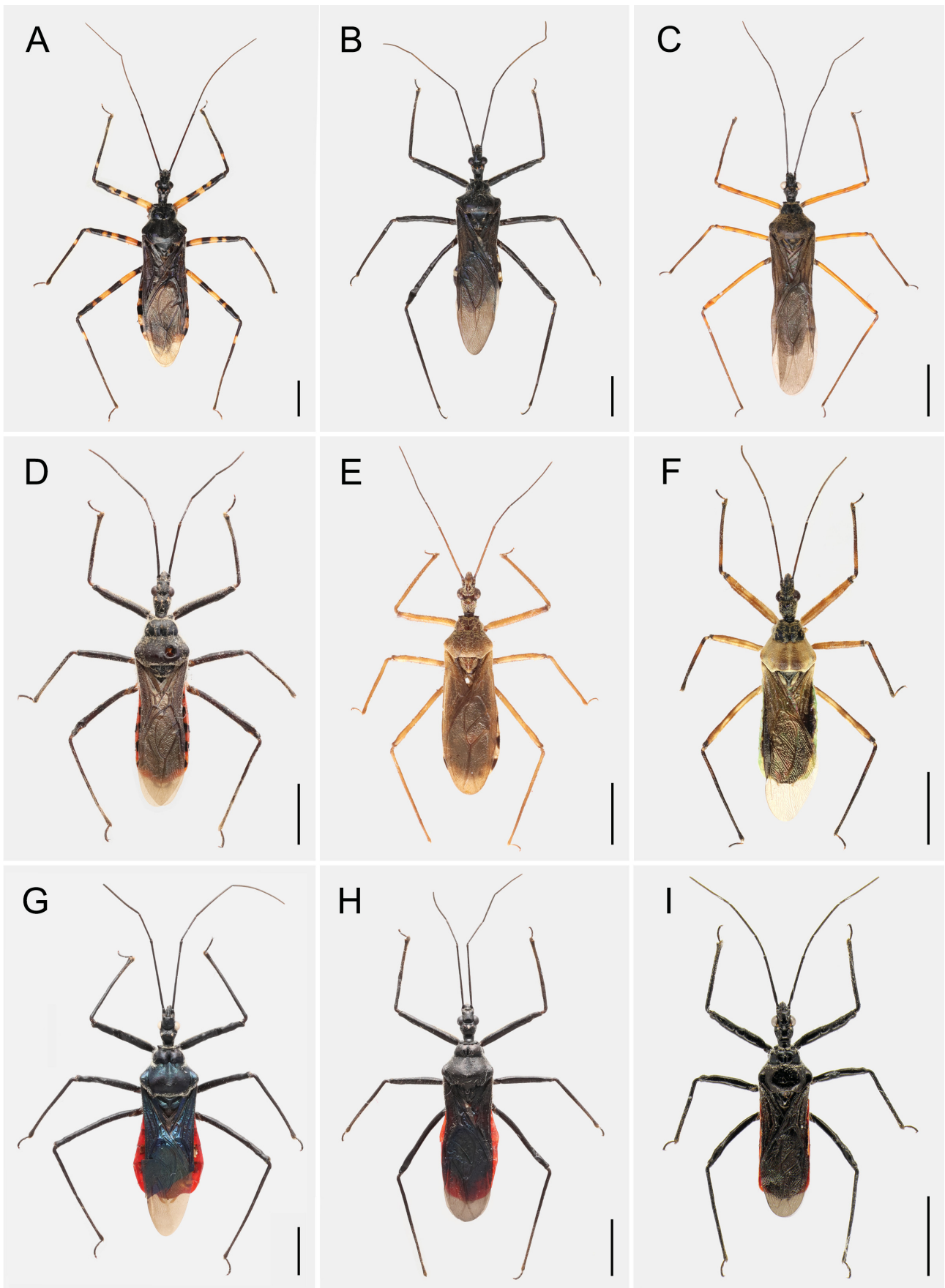


Fig. 2. Habitus in dorsal view of *Sphedanolestes* species from China. A – *S. impressicollis* (Stål, 1861), non-type male; B – *S. sinicus* Cai & Yang, 2002, non-type female; C – *S. subtilis* (Jakovlev, 1893), non-type male; D – *S. pilosus* Hsiao, 1979, non-type male; E – *S. albipilosus* Ishikawa, Cai & Tomokuni, 2007, non-type female; F – *S. jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov., holotype male; G – *S. pubinotus* Reuter, 1881, non-type male; H – *S. gularis* Hsiao, 1979, non-type male; I – *S. zhengi* Zhao, Ren, Wang & Cai, 2015, holotype male. Scale bars: 3.00 mm.

Sphedanolestes jilongensis
 Y. Liu, P. Zhao & W. Cai sp. nov.
 (Figs 2F, 3–6, 7A–B)

Chinese common name. 吉隆猛猎蝽

Type material. HOLOTYPE: ♂, CHINA: “Jilong County, Rikaze City, Xizang Autonomous Region, China / 28°15'55"N, 85°21'3"E, 1942.17 m / 2025-V-08, Leg. Yingqi Liu & Haolin Gan” (CAU). PARATYPE: ♀, same data as holotype (CAU).

Diagnosis. Macropterous male and female, body length less than 10 mm. Body colour yellowish brown in large part. Anterior pronotal lobe black, stripes distinct and covered with gold, short, procumbent pubescence, posterior pronotal lobe dark yellow with pair of brown, longitudinal, subtriangular bands in middle. Most of femora yellowish brown with two obscure, brown, annular markings, apices of femora blackish brown. Connexivum entirely pale

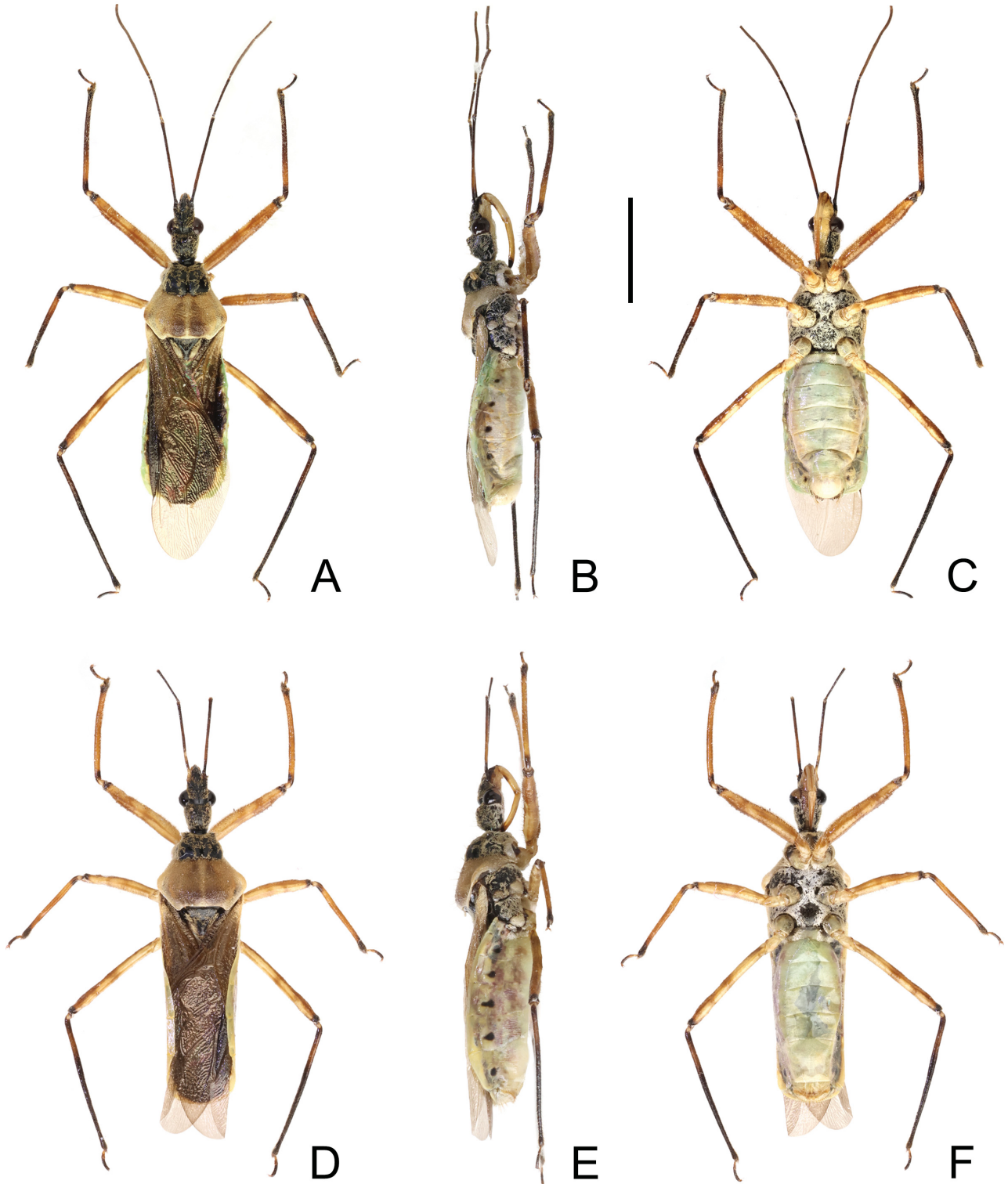


Fig. 3. *Sphedanolestes jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov., habitus. A–C – holotype male; D–F – paratype female. A, D – dorsal view; B, E – lateral view; C, F – ventral view. Scale bar: 3.00 mm.

yellow. Posterior angle of pronotum distinctly protuberant and rounded. Hemelytron extending far beyond abdominal tip. Male genitalia with median pygophore process blackish brown, bifurcated into two sharp, horn-shaped processes produced laterally. Paramere slender, basal 1/3 slightly S-shaped, apical 2/3 clavate and almost straight, apex rounded. Inner part of endosoma with pair of apically acute, spoon-like sclerites; apical part of endosoma with nine pairs of small, scale-like sclerites arranged in curved rows, outer margin of each scale with a tiny, sharp process.

Description of macropterous male (Figs 3A–C) **and female** (Figs 3D–F). **Colouration** (Figs 3, 4): Yellowish

brown in large part. Head, anterior pronotal lobe, scutellum, thoracic pleura and sterna black, except venter of head and coxal cavities pale yellow (Figs 4A–C). Most of base and apical half of first antennal segment blackish brown, other part dark brown; second antennal segment blackish brown; apical two antennal segments brown. Basal two visible labial segments yellow, except apices brownish, base of dorsal surface of first segment with a brown spot, ventral surface of second segment brown; third segment blackish brown (Figs 4B, C). Posterior pronotal lobe dark yellow with pair of brown, longitudinal, subtriangular bands in middle (Fig. 4A). Legs with coxae pale yellow;

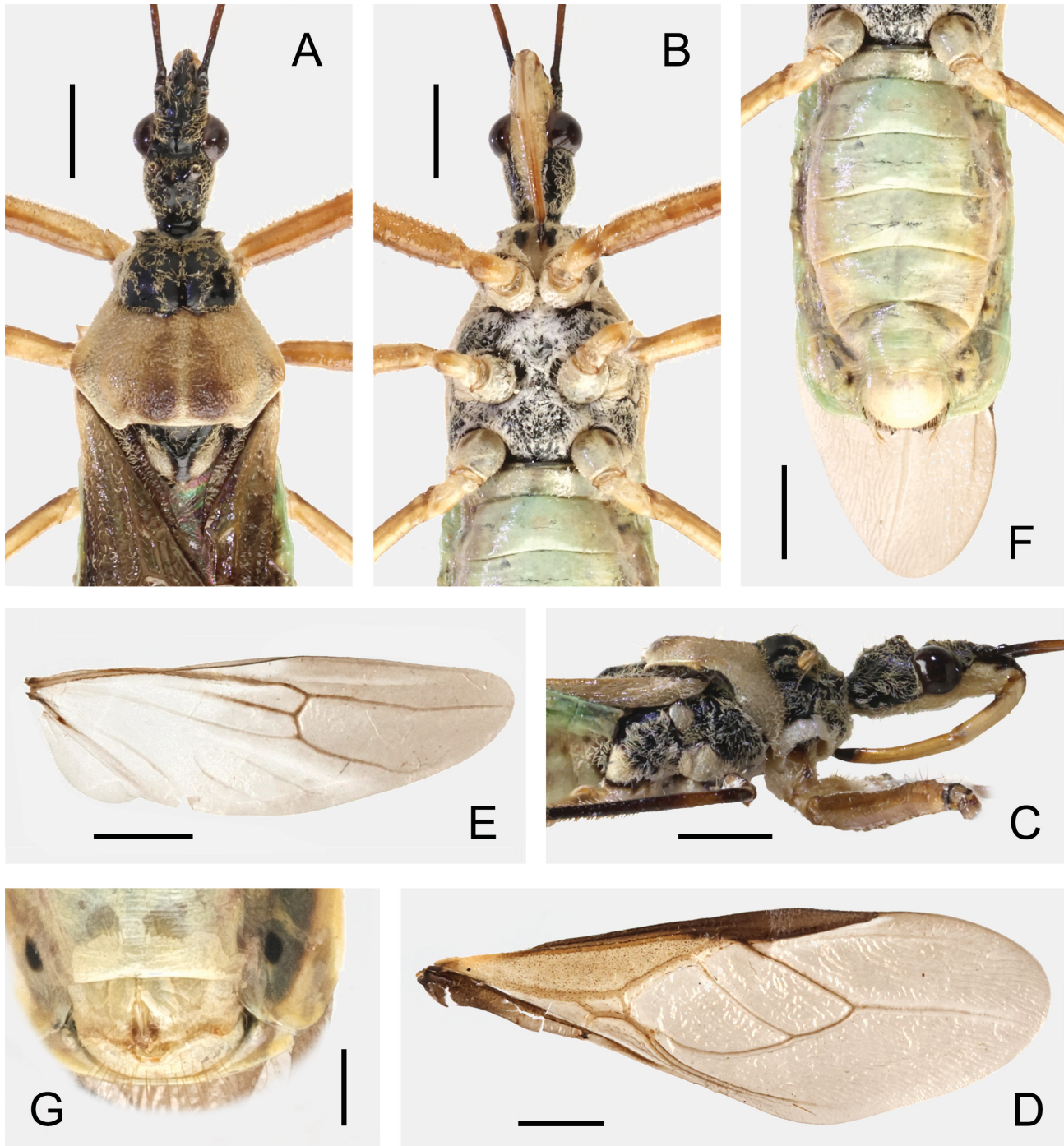


Fig. 4. *Sphedanolestes jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov. A–C – anterior part of body; D – hemelytron; E – hind wing; F – abdomen; G – female genitalia. A–C, F – holotype male; D, E, G – paratype female. A, D, E – dorsal view; B, F, G – ventral view; C – lateral view. Scale bars: 1.00 mm (A–F), 0.50 mm (G).

trochanters yellowish brown, except apical part of fore trochanter brown (Fig. 4B); most of femora yellowish brown with two obscure, brown, annular markings, apices of femora blackish brown; most bases of all tibiae yellow, with a blackish brown, annular marking next to yellow area, fore and middle tibiae with basal 2/5 brown and apical 3/5 blackish brown in male (Figs 3A–C), while fore and middle tibiae mostly brown except apices blackish brown

in female (Figs 3D–F), hind tibiae with basal 1/3 dark brown and apical 2/3 blackish brown to black; tarsi with basal half brown and apical half blackish brown (Fig. 3). Hemelytron greyish brown with base dark yellow and outer margin dark brown (Fig. 4D). Dorsal surface of abdomen blackish brown, connexivum pale yellow, ventral surface of abdomen yellowish white with small, irregular, black spots around spiracles (Fig. 4F).

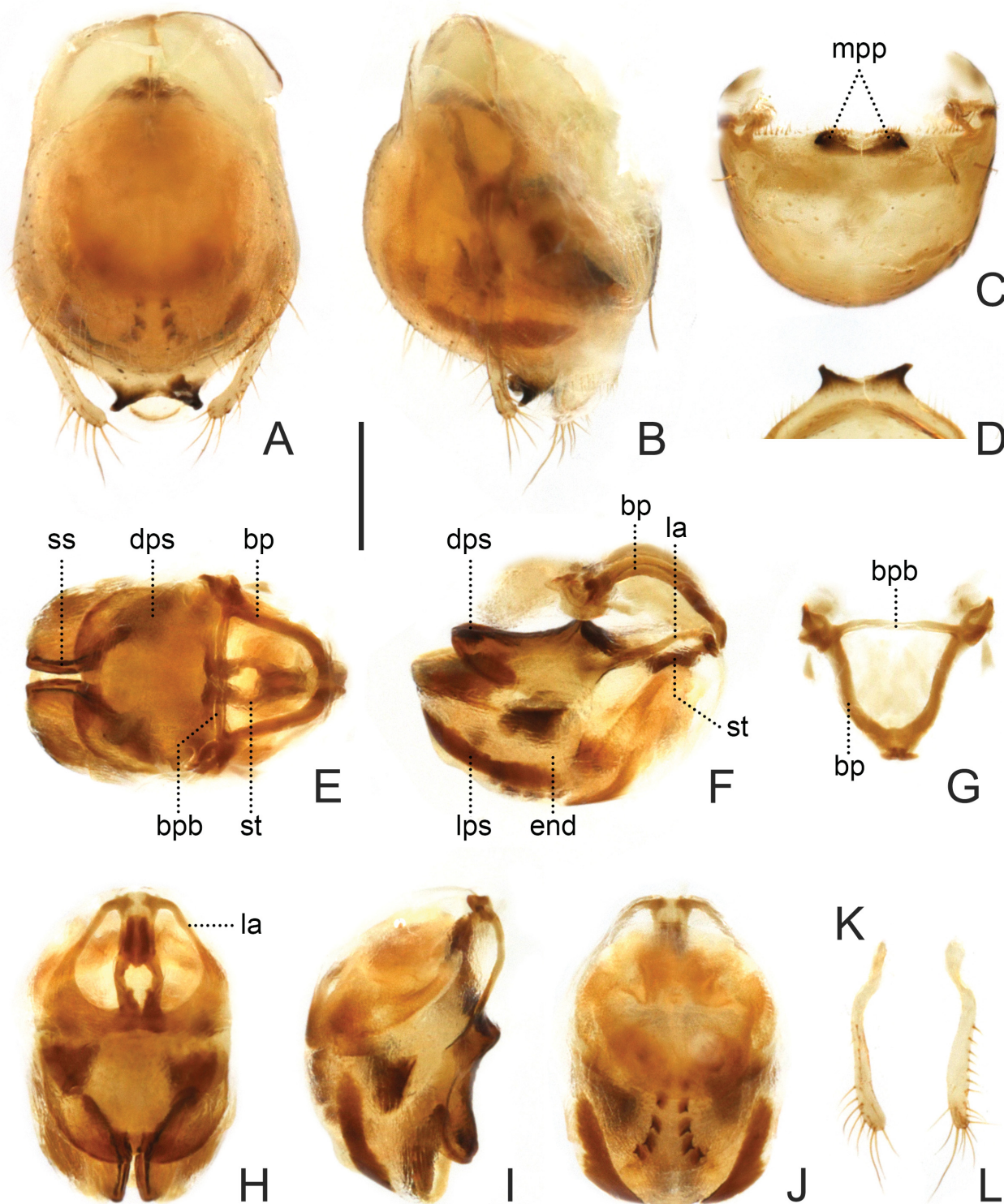


Fig. 5. *Sphedanolestes jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov., male genitalia. A–C – pygophore; D – median pygophore process; E, F – phallus; G – phallobase; H–J – phallosoma; K, L – paramere. A, G, J, L – ventral view; B, F, I – lateral view; C – caudal view; D, E, H, K – dorsal view. Abbreviations: bp – basal plate; bpb – basal plate bridge; dps – dorsal phallosomal sclerite; end – endosoma; la – lateral arm of dorsal phallosomal sclerite; lps – lateral phallosomal sclerite; mpp – median pygophore process; ss – spoon-like sclerites; st – struts. Scale bar: 0.50 mm.

Structure (Figs 3, 4). Small sized with body length less than 10 mm, slender. Head, stripes on anterior pronotal lobe, scutellum, thoracic pleura and sterna, bases of clavus and corium of hemelytron densely covered with yellowish white to gold, short, procumbent pubescence; antenna densely covered with yellowish white, tiny pubescence; legs covered with yellowish white pubescence and yellowish brown, suberect setae of varying lengths.

Head coniform with length almost twice as long as wide, postocular part ellipsoidal, 1.27 times as long as anteocular part in male, and 1.11 times as long as anteocular part in female, neck short (Figs 4A–C). Eye sub-hemispherical and somewhat produced laterally, width of interocular space about twice as long as transverse width of eye in dorsal view (Fig. 4A). Ocelli small, distinctly separated from each other (Fig. 4A). Antenna gracile, first segment longest, only slightly shorter than second and third segments together in length. Labium slender and gradually tapered, first visible labial segment extending to middle of eye in lateral view, second segment about 1.15 times as long as first, third segment shortest (Figs 4B, C).

Thorax. Collar processes obtusely horn-shaped, produced laterally; anterior pronotal lobe round and bulged, median longitudinal sulcus deep at basal half, stripes distinct and densely covered with gold, short, procumbent pubescence; transverse pronotal constriction waved with median part slightly concaved anteriorly; surface of posterior pronotal lobe somewhat wrinkled, median part shallowly depressed (Fig. 4A), 1.40 times as long as anterior lobe in male, and 1.82 times as long as anterior lobe in female, lateral pronotal angle arcuate, posterior margin straight with posterior angle distinctly protuberant and rounded (Fig. 4A). Scutellum triangular, Y-shaped ridges distinct, scutellar process knob-shaped (Fig. 4A). Meso- and metasternum flat (Fig. 4B). Legs slender; fore coxae close to each other, space between middle coxae less than

one width of middle coxa, space between hind coxae longer than one width of hind coxa (Fig. 4B); femora and tibiae straight, subapical part of femora subnodulose, apices of tibiae slightly expanded; tarsi thin and short, slightly curved. Hemelytron extending far beyond abdominal tip in both male and female (Fig. 3).

Abdomen. Connexivum more dilated laterally in female than in male; venter of abdomen flat, lateral part of each abdominal segment and entire seventh segment with transverse wrinkles (Fig. 4F).

Male genitalia (Figs 5, 6). Pygophore oval in ventral view (Fig. 5A), apical part covered with long, thick setae (Figs 5A, B); median pygophore process blackish brown, bifurcated into two sharp, horn-shaped process, produced laterally (Figs 5A, C, D). Paramere (Figs 5K, L) slender, basal 1/3 slightly S-shaped, apical 2/3 clavate and almost straight, apex rounded, dorsum with a row of short, erect setae, apical part with eight to ten relatively long setae. Basal plate bridge of phallobase slightly shorter and thinner than basal plate (Figs 5E, G), basal plate strongly curved in lateral view (Fig. 5F). Phallosoma elliptical (Figs 5E, H, J); basal half of struts fused, apical half of strut slightly curved (Figs 5E, H); dorsal phallosomal sclerite strongly sclerotized and broad, sub-rectangular (Figs 5E, H), slightly concaved in lateral view (Figs 5F, 5I, 6B), lateral arm of dorsal phallosomal sclerite thin (Figs 5F, H, I); lateral phallosomal sclerite spatulate, long and narrow (Figs 5F, 5I, 6B); inner part of endosoma with pair of apically acute, spoon-like sclerites (Figs 5E, 5H, 6C: ss); lateral part of endosoma with pair of sub-trapezoidal sclerites (Figs 5F, 5I, 6B: sts); apical part of endosoma with nine pairs of small, scale-like sclerites arranged in curved rows, outer margin of each scale with a tiny, sharp process (Figs 5J, 6: sps).

Female genitalia. External structures of female genitalia are shown in Fig. 4G. First valvulae rounded with sub-basal part slightly constricted.

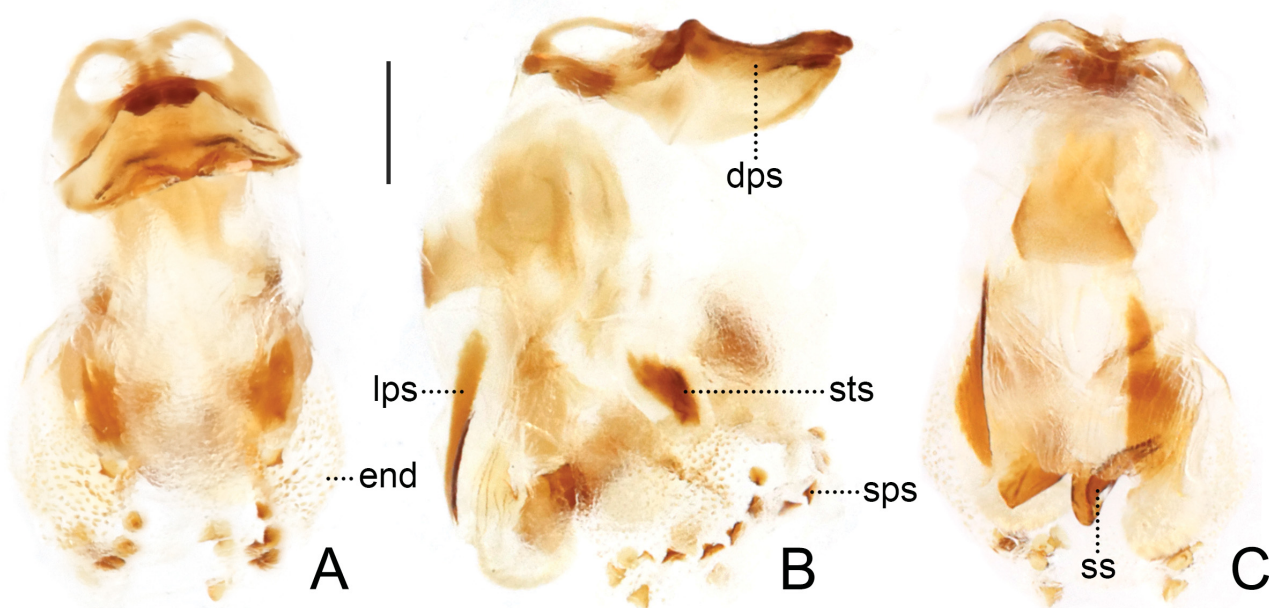


Fig. 6. *Spheganoolestes jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov., phallosoma of male genitalia. A – dorsal view; B – lateral view; C – ventral view. Abbreviations: dps – dorsal phallosomal sclerite; end – endosoma; lps – lateral phallosomal sclerite; sps – scale-like sclerite with tiny, sharp process; ss – spoon-like sclerites; sts – sub-trapezoidal sclerites. Scale bar: 0.30 mm.

Measurements (male holotype, followed by female paratype; in mm). Body length (distance between apex of head and tip of abdomen) 8.89, 9.68; body length (distance between apex of head and tip of hemelytron) 10.48, 10.70; maximum width of abdomen 2.49, ? (connexivum upturned); length of head 2.09, 2.06; length of anteocular part 0.70, 0.71; length of postocular part 0.89, 0.79; width of head across eyes 1.05, 1.07; width of interocular space 0.51, 0.55; width of interocellar space 0.38, 0.35; width of eye in dorsal view 0.27, 0.26; lengths of antennal segments: I – 2.45, 2.23, II – 1.28, ?, III – 1.22, ?, IV – ?; length of visible labial segments: I – 1.03, 1.05, II – 1.19, 1.23, III – 0.28, 0.31; length of pronotum 2.04, 2.03; length of anterior pronotal lobe 0.85, 0.72; length of posterior pronotal lobe 1.19, 1.31; width of anterior pronotal lobe 1.24, 1.27; width of posterior pronotal lobe 2.36, 2.55; length of scutellum 0.76, 0.97; maximum width of scutellum 1.11, 1.24; length of hemelytra 6.82, 7.21; length of fore femur 2.89, 2.71; length of fore tibia 3.28, 3.08; length of fore tarsus (without claw) 0.60, 0.54; length of middle femur 2.34, 2.22; length of middle tibia 2.67, 2.59; length of middle tarsus (without claw) 0.62, 0.54; length of hind femur 3.48, 3.26; length of hind tibia 4.34, 4.11; length of hind tarsus (without claw) 0.62, 0.65.

Etymology. The specific epithet is derived from the type locality (Jilong) of this new species; adjective.

Bionomics. Like the majority of Harpactorinae species, the new species is diurnal and lives on plants (WEIRAUCH et al. 2014). The holotype male was found on the shrubs

of *Debregeasia* sp. (Urticaceae) (Fig. 7A) in the morning (around 11 a.m.), while the paratype female (Fig. 7B) was collected by sweeping among the surrounding bushes.

Distribution. China: Xizang Autonomous Region.

Remarks. We dropped a few drops of alcohol into the small, sealed bag where the specimens were kept in the field to prevent the decay of specimens. As a consequence of contact with alcohol, some parts of the abdomen turned greenish (Fig. 3).

Discussion

Systematic position of *Sphedanolestes jilongensis* sp. nov. It is worth noting that *Biasticus* Stål, 1867 is also a harpactorine genus with 23 known species and the morphological characters of *Biasticus* are highly similar to those of the genus *Sphedanolestes*. As a result, it is often challenging to distinguish the species of these two genera. HA et al. (2022) described three new species of *Biasticus* from Vietnam and modified the diagnosis of the genus. One of the diagnostic characters of *Biasticus* they mentioned is “anterior lobe of pronotum longitudinally impressed, posterior lobe with a distinct, central, anterior, longitudinally [sic!] elevation”. However, in the genus *Sphedanolestes*, the median part of the posterior lobe is more or less depressed, without the distinct, central, anterior, longitudinal elevation (HSIAO & REN 1981, CAI et al. 2004, ZHAO et al. 2015). In the new species, the posterior pronotal lobe is slightly depressed medially, and also lacks a distinct elevation (Figs 4A, C). Combining the other characters that

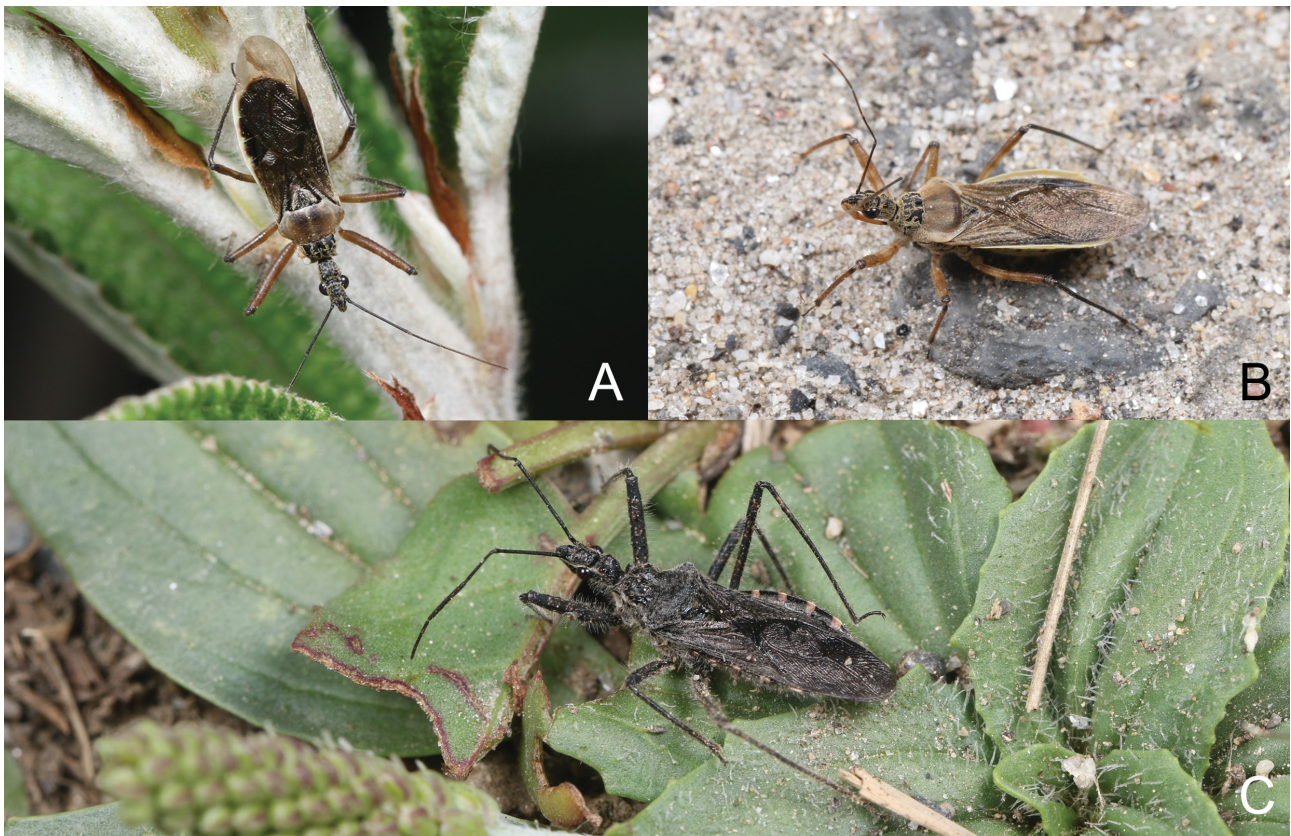


Fig. 7. Nature photography of *Sphedanolestes* species collected from Jilong County. A – *S. jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov., living male; B – *S. jilongensis* Y. Liu, P. Zhao & W. Cai sp. nov., living female; C – *S. granulipes* Hsiao & Ren, 1981, living female. ©Yingqi Liu.

Table 1. Differences between *Sphedanolestes jilongensis* sp. nov. and *S. albipilosus* Ishikawa, Cai & Tomokuni, 2007.

	<i>S. jilongensis</i> sp. nov.	<i>S. albipilosus</i>
Coloration of pronotum	anterior pronotal lobe black, stripes distinct and covered with gold, short, procumbent pubescence; posterior pronotal lobe dark yellow with a pair of brown, longitudinal, subtriangular bands in middle	pronotum dark brown to blackish except margins pale yellow
Coloration of connexivum	entirely pale yellow	bicoloured with basal half of each segment blackish and apical half pale yellow
Coloration of femora	with two obscure, brown, annular markings	without annular marking
Shape of posterior angle of pronotum	distinctly protuberant and rounded	only slightly protuberant posteriorly
Shape of paramere	apical part of paramere almost straight	apical part of paramere inwardly curved
Sclerites on apical part of endosoma	apical part of endosoma with nine pairs of small, scale-like sclerites arranged in curved rows, outer margin of each scale with a tiny, sharp process	apical part of endosoma with a patch of sharp, conical processes which are not arranged in rows
Distribution	China (Xizang)	China (Taiwan), Japan (Ryukyu Islands)

fit the diagnosis listed in the introduction above, we place the new species in the genus *Sphedanolestes*.

Comparison of *Sphedanolestes jilongensis* sp. nov. with related taxa. *Sphedanolestes jilongensis* sp. nov. can be easily distinguished from most of the other congeners in China by the small body size (less than 10 mm), and the generally yellowish brown body colour. Among the 18 Chinese *Sphedanolestes* species, 11 of them have the blackish or blackish brown body colour, three of them (viz. *S. rubripes* (Fig. 1E), *S. trichrous* (Fig. 1F), and *S. anellus* (Fig. 1G)) have the reddish body colour, and *S. xiongi* is mostly orange (Fig. 1D), which are largely different from the new species. Only *S. quadrinotatus* (Fig. 1C) and *S. albipilosus* (Fig. 2E) have relatively similar body colour to the new species, but *S. quadrinotatus* is larger with the body length over 12 mm, and *S. quadrinotatus* is quite unique among the 18 species by the colouration of its pronotum (pale yellow with collar processes and stripes on anterior pronotal lobe black, posterior lobe with four black spots). The new species superficially resembles *S. albipilosus* in terms of body colouration and size. The two species also share some similarities in the structure of the male genitalia, such as the bifurcated median pygophore process, the broad and sub-rectangular dorsal phallosomal sclerite, and the phallosoma with a pair of the spoon-like sclerites. However, the new species can be separated from *S. albipilosus* by the differences listed in Table 1.

Up to now, there have been five species of the genus *Sphedanolestes* recorded from Xizang Autonomous Region, China. The new species is the smallest as the others (*S. annulipes*, *S. granulipes*, *S. gularis*, *S. nodipes*, and *S. pubinotus*) are all over 11 mm in body length. During our field investigation in Jilong County, we also collected a female specimen of *S. granulipes* (Fig. 7C). The type locality of *S. granulipes* is Zhangmu Town, Nielamu County, which is not far from Jilong County, but these two species are totally different in body colour, and *S. granulipes* can be easily identified by the dispersed, yellow granules on the legs.

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References

- CAI W.-ZH., CAI X.-Y. & WANG Y.-ZH. 2004: Notes on the genus *Sphedanolestes* Stål (Heteroptera: Reduviidae: Harpactorinae) from China, with the description of three new species. *Raffles Bulletin of Zoology* **52**: 379–388. <https://doi.org/10.11646/zootaxa.3985.4.8>
- CAI W.-ZH. & YANG SH.-L. 2002: Reduviidae. Pp. 208–230. In: LI Z.-ZH. & JIN D.-CH. (eds): *Insects from Maolan Landscape*. Guizhou Science and Technological Publishing House, Guiyang, 615 pp. (in Chinese).
- CHINA W. E. 1940: Key to the subfamilies and genera of Chinese Reduviidae with descriptions of new genera and species. *Lingnan Science Journal* **19**: 205–255.
- DISTANT W. L. 1903–1904: *The fauna of British India, including Ceylon and Burma. Rhynchota 2 (Heteroptera)*. Taylor and Francis, London, xvii + 503 pp. [pp. 1–242 (1903); pp. i–xvii, 243–503 (1904)] <https://doi.org/10.1080/00222930408562466>
- GIL-SANTANA H. R. 2024: *Hiranetis vanderheydeni* sp. nov. (Hemiptera: Reduviidae: Harpactorinae), an example of how a superficial evaluation may impair the taxonomy. *Revista Chilena de Entomología* **50** (2): 353–373. <https://doi.org/10.35249/rche.50.2.24.17>
- GIL-SANTANA H. R. & OLIVEIRA J. 2023: A new genus and a new species of wasp-mimicking Harpactorini (Hemiptera, Heteroptera, Reduviidae, Harpactorinae), with an updated key to the Neotropical genera. *ZooKeys* **1152**: 163–204. <https://doi.org/10.3897/zookeys.1152.96058>
- HA N. L., TRUONG X. L., ISHIKAWA T., JAITRONG W., LEE C. F., CHOUANGTHAVY B. & EGUCHI K. 2022: Three new species of the genus *Blasticus* Stål, 1867 (Insecta, Heteroptera, Reduviidae, Harpactorinae) from Central Highlands, Vietnam. *ZooKeys* **1118**: 133–180. <https://doi.org/10.3897/zookeys.1118.83156>

- HOFFMANN W. E. 1944: Catalogue of Reduviidae of China. *Lingnan University Science Bulletin* **10**: 1–80.
- HSIAO T.-Y. & REN S.-ZH. 1981: Reduviidae. Pp. 390–538. In: HSIAO T.-Y. (ed.): *A handbook for the determination of the Chinese Hemiptera-Heteroptera. Vol. II*. Science Press, Beijing, 654 pp. (in Chinese with English summary).
- ISHIKAWA T., CAI W.-ZH. & TOMOKUNI M. 2007: *Sphedanolestes albipilosus* (Hemiptera: Heteroptera: Reduviidae), a new harpactorine species from the Ryukyus and Taiwan. *Zootaxa* **1388**: 45–50. <https://doi.org/10.11646/zootaxa.1388.1.3>
- LENT H. & WYGODZINSKY P. 1979: Revision of the Triatominae (Hemiptera, Reduviidae) and their significance as vectors of Chagas' disease. *Bulletin of the American Museum of Natural History* **163**: 125–520.
- LI J.-J. 1981: New species of Hemiptera-Heteroptera from Xizang, China. *Acta Zootaxonomica Sinica* **6**: 191–198 (in both Chinese and English).
- LIU H.-Y., CHEN ZH., XIONG H.-Y., CHEN ZH.-Y., LI H., ZHAO P. & CAI W.-ZH. 2025: Comments on two controversial Oriental assassin bug species of the genus *Rhynocoris* (Heteroptera: Reduviidae: Harpactorinae), with the description of *R. minutus* sp. nov. from China. *Insects* **16** (823): 1–22. <https://doi.org/10.3390/insects16080823>
- MALDONADO CAPRILES J. 1990: *Systematic Catalogue of the Reduviidae of the World (Insecta: Heteroptera)*. A special edition of Caribbean Journal of Science, Mayagüez, 694 pp.
- MASONICK P. K., KNYSHOV A., GORDON E. R., FORERO D., HWANG W. S., HOEY-CHAMBERLAIN R., BUSH T., CASTILLO S., HERNANDEZ M., RAMIREZ J., STANDRING S., ZHANG J. & WEIRAUCH CH. 2023: A revised classification of the assassin bugs (Hemiptera: Heteroptera: Reduviidae) based on combined analysis of phylogenomic and morphological data. *Systematic Entomology* **50** (1): 102–138. <https://doi.org/10.1111/syen.12646>
- PUTSHKOV P. V. & PUTSHKOV V. G. 1996: Family Reduviidae Latreille, 1807, assassin-bugs. Pp. 148–265. In: AUKEMA B. & RIEGER CH. (eds): *Catalogue of the Heteroptera of the Palaearctic Region. Vol. 2. Cimicomorpha I*. The Netherlands Entomological Society, Amsterdam, 361 pp. https://doi.org/10.1007/978-981-99-1470-8_50-1
- REN S.-ZH. 1981: Hemiptera: Berytidae, Enicocephalidae, Reduviidae, Nabidae. Pp. 173–182. In: HUANG F. (ed.): *Insects of Xizang*. Science Press, Beijing, 1108 pp. (in Chinese).
- STÅL C. 1867: Bidrag till Reduviidernas kännedom. *Öfversigt af Kungliga Vetenskapsakademiens Förhandlingar* **23**: 235–302. <https://doi.org/10.5962/bhl.title.61897>
- TRUONG X. L., PHAN T. G., NGUYEN D. D., CHAU T. P. M. & HA N. L. 2024: Two new species of the genus *Sycanus* Amyot & Serville (Insecta: Hemiptera: Reduviidae: Harpactorinae) from Vietnam. *Zootaxa* **5481** (3): 301–325. <https://doi.org/10.11646/zootaxa.5481.3.1>
- TRUONG X. L., PHAN T. G., THAI T. N. L., NGUYEN D. D. & HA N. L. 2025: *Epidaus batxatensis* and *Epidaus konkakinensis*, two new species of the genus *Epidaus* Stål (Insecta: Hemiptera: Reduviidae: Harpactorinae) from Vietnam. *European Journal of Taxonomy* **1012**: 172–200. <https://doi.org/10.5852/ejt.2025.1012.3037>
- WANG J.-Y., CHEN ZH., ZHAO P. & CAI W.-ZH. 2023: *Renicoris robustus*, a new genus and species of the subfamily Harpactorinae (Hemiptera, Reduviidae) from China. *ZooKeys* **1182**: 331–338. <https://doi.org/10.3897/zookeys.1182.108219>
- WEIRAUCH CH., BÉRENGER J.-M., BERNIKER L., FORERO D., FORTHMAN M., FRANKENBERG S., FREEDMAN A., GORDON E., HOEY-CHAMBERLAIN R., HWANG W. S., MARSHALL S. A., MICHAEL A., PAIERO S. M., UDAH O., WATSON C., YEO M., ZHANG G.-Y. & ZHANG J. 2014: An illustrated identification key to assassin bug subfamilies and tribes (Hemiptera: Reduviidae). *Canadian Journal of Arthropod Identification* **26**: 1–115. <https://doi.org/10.5531/sd.sp.69>
- WU C.-F. 1935: *Catalogus insectorum sinensium. (Catalogue of Chinese Insects)*. Vol. II. Fan Memorial Institute of Biology, Peiping, 634 pp.
- ZHAO P., CHEN S.-Y., LIU Y.-Q., WANG J.-Y., CHEN ZH., LI H. & CAI W.-ZH. 2024: Review of the genus *Sycanus* Amyot & Serville, 1843 (Heteroptera: Reduviidae: Harpactorinae), from China based on DNA barcoding and morphological evidence. *Insects* **15** (165): 1–55. <https://doi.org/10.20944/preprints202308.1674.v2>
- ZHAO P., LUO ZH.-H. & CAI W.-ZH. 2009: *Locoris nodulifemoralis*, a new genus and new species of Harpactorinae (Hemiptera: Heteroptera: Reduviidae) from China. *Zootaxa* **2129**: 63–68. <https://doi.org/10.11646/zootaxa.2129.1.4>
- ZHAO P., REN S.-J, WANG B.-H. & CAI W.-ZH. 2015: A new species of the genus *Sphedanolestes* Stål 1866 (Hemiptera: Reduviidae: Harpactorinae) from China, with a key to Chinese species. *Zootaxa* **3985**: 591–599. <https://doi.org/10.11646/zootaxa.3985.4.8>

