

Revision of the Oriental and eastern Palaearctic planthopper genus *Saigona* Matsumura, 1910 (Hemiptera: Fulgoroidea: Dictyopharidae), with descriptions of five new species

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Abstract

The Oriental and eastern Palaearctic planthopper genus *Saigona* Matsumura, 1910 is revised to include nine species including five new species: *S. capitata* (Distant, 1914) (Indo-China, S.W. China: Yunnan), *S. fulgoroides* (Walker, 1858) (S. China, Sumatra, Borneo), *S. fuscoclypeata* **sp. nov.** (C. China: Shaanxi, Hubei and Gansu), *S. henanensis* **sp. nov.** (C. China: Henan), *S. latifasciata* **sp. nov.** (S.W. China: Yunnan), *S. robusta* **sp. nov.** (C. China: Hubei), *S. sinicola* **sp. nov.** (C. China: Shaanxi), *S. taiwanella* Matsumura, 1941 (China: Taiwan), and *S. ussuriensis* (Lethierry, 1878) (Russian: Far Eastern Region, Japan, Korea, N.E. China: Jilin, Heilongjiang). Two new generic and one new specific synonyms are recognized: *Saigona* Matsumura, 1910 = *Leptota* Melichar, 1912 syn. nov. = *Piela* Lallemand, 1942 syn. nov.; *S. fulgoroides* (Walker, 1858) = *Piela singularis* Lallemand, 1942 syn. nov. *S. capitata* (Distant, 1914) is recorded from China for the first time. The genus and its included species are described and illustrated. Photographs of the adults of all known species except *S. taiwanella* are presented. Descriptions of the genus and its included species are provided together with structural illustrations. A key to the known species of *Saigona* is provided.

Key words: *Saigona*, revision, new species, new synonymy, planthoppers, Dictyopharidae, Asia

Introduction

The dictyopharid planthopper genus *Saigona* was established by Matsumura in 1910 based on two species, *Dictyophora* [sic] *ishidae* Matsumura, 1905 from Japan and *Saigona gibbosa* Matsumura, 1910 from Taiwan, China. The third species of the genus, *S. ussuriensis* (Lethierry, 1878) (Far Eastern Region of Russia), was moved from *Dictyophara* to the genus by Melichar (1912). Matsumura (1941) described the fourth species, *S. taiwanella* from Taiwan, China. Nast (1972) moved *fulgoroides* (Walker, 1858) from *Leptota* into *Saigona*. Liang (2001) proposed several taxonomic changes in *Saigona*, based on an examination of the historical type material, mainly at the Natural History Museum, London, UK, and the Insect Collection of Hokkaido University, Sapporo, Japan. He placed *Neoputala* Distant, 1914 in synonymy with *Saigona*, transferred *capitata* Distant, 1914 from *Neoputala* Distant to *Saigona*, and proposed three new specific synonyms within the genus. Prior to this study, *Saigona* included four valid species, namely *S. fulgoroides* (Walker, 1858) (= *S. gibbosa* (Matsumura, 1910)), *S. ussuriensis* (Lethierry, 1878) (type species) (= *S. ishidae* (Matsumura, 1905)), *S. capitata* (Distant, 1914), and *S. taiwanella* Matsumura, 1941.

While identifying *Saigona* material in the Insect Collection at the Institute of Zoology, Chinese Academy of Sciences, Beijing, China, and elsewhere, we discovered five previously unrecognized species from China and found that many previously published taxonomic descriptions were inadequate. In addition, two new generic and one new specific synonymies were also discovered. The purpose of the present paper is to revise the known species of *Saigona*; to redescribe the genus and its included species in addition to

describing the new species; and to provide a key to the known species, dorsal habitus photographs of the adults, and illustrations of the cephalic process, fore wing, and male genitalia for the recognition and separation of the species in the genus.

Material and methods

The specimens studied in the course of this work are deposited in the following institutions whose names are abbreviated in the text as follows:

- BMNH The Natural History Museum (formerly British Museum (Natural History)), London, UK;
- CAU Department of Entomology Insect Collection, Chinese Agricultural University, Beijing, P. R. China;
- DU Insect Collection of the College of Life Sciences, Dali University, Dali, Yunnan, P. R. China;
- HU Laboratory of Systematic Entomology, Hokkaido University, Sapporo, Japan;
- IZCAS Zoological Museum, Institute of Zoology, Chinese Academy of Sciences, Beijing, P. R. China;
- NCSU Department of Entomology Insect Collection, North Carolina State University, Raleigh, NC, USA;
- NU Department of Biology Insect Collection, Nankai University, Tianjin, P. R. China.

The morphological terminology and measurements used in this study follow Yang & Yeh (1994) and Liang & Jiang (2005).

The following abbreviations are used in the text, BL: body length (from apex of cephalic process to tip of fore wings); HL: head length (from apex of cephalic process to base of eyes); HW: head width (including eyes); FWL: fore wing length.

Morphological characters were observed with a Zeiss (Stemi SV 11) optical stereomicroscope and were illustrated with the aid of a drawing tube attached to the microscope; and measurements were made with the aid of an eyepiece micrometer.

Taxonomy

Checklist of the species of *Saigona* Matsumura

Saigona Matsumura, 1910

Leprotia Melichar, 1912 **New Synonymy**

Neoputala Distant, 1914 [Synonymised by Liang, 2001: 236.]

Piela Lallemand, 1942 **New Synonymy**

capitata (Distant, 1914)

fulgoroides (Walker, 1858)

Saigona gibbosa Matsumura, 1910 [Synonymised by Liang, 2001: 235.]

Piela singularis Lallemand, 1942 **New synonymy**

fuscoclypeata **sp. nov.**

henanensis **sp. nov.**

latifasciata **sp. nov.**

robusta **sp. nov.**

sinicola **sp. nov.**

taiwanella Matsumura, 1941

ussuriensis (Lethierry, 1878)

Dictyophara annulipes Melichar, 1902 [Synonymised by Horváth, 1910: 178.]

Dictyophora [sic] *ishidae* Matsumura, 1905 [Synonymised by Liang, 2001: 236.]

Putala lewisi Distant, 1906 [Synonymised by Liang, 2001: 236.]

Genus *Saigona* Matsumura, 1910

Saigona Matsumura, 1910: 110; Melichar, 1912: 28, 50; Metcalf, 1946: 47; Nast, 1972: 84; Chou *et al.*, 1985: 63; Anufriev & Emeljanov, 1988: 482; Emeljanov, 1993: 70; Liang, 2001: 235. Type species: *Dictyophora* [sic] *ishidae* Matsumura, 1905 [= *Almana ussuriensis* Lethierry, 1878], by subsequent designation of Melichar, 1912: 50.

Leprota Melichar, 1912: 91; Metcalf, 1946: 74. Type species: *Dictyophora* [sic] *fulgoroides* Walker, 1858, by original designation and monotypy. **New Synonymy**

Neoputala Distant, 1914: 412; Metcalf, 1946: 78. Type species: *Neoputala lewisi* Distant, 1906 [not *Neoputala capitata* Distant, 1914, as stated by Liang, 2001: 236]. [Synonymised by Liang, 2001: 236.]

Piela Lallemand, 1942: 72. Type species: *Piela singularis* Lallemand, 1942, by original designation and monotypy. **New Synonymy**

Redescription

General color ochraceous or fuscous. Vertex and most part of genae usually with numerous yellowish or pale brown speckles. Frons uniformly yellowish or yellowish brown. Pronotum and mesonotum ochraceous, suffused with blackish brown. Fore wings (Figs. 1–12) and hind wings hyaline, more or less fuliginous, veins fuscous; stigma fuscous, nearly opaque.

Head (Figs. 1–18, 26–28, 36–38, 46–48, 56–58, 66–68, 76–78) long and broad, distinctly produced into a cephalic process, this is longer or shorter than pronotum and mesonotum combined. Vertex (Figs. 13, 16, 26, 36, 46, 56, 66, 76) with lateral margins carinate, sinuate in front of eyes; with obsolete median longitudinal carina; posterior region clearly higher than pronotum. Frons (Figs. 15, 17, 27, 37, 47, 57, 67, 77) broad and elongate, with distinct median longitudinal carina. Postclypeus and anteclypeus (Figs. 15, 17, 27, 37, 47, 57, 67, 77) convex medially, with distinct median carina. Rostrum long, reaching between hind coxae.



FIGURES 1–12. Dorsal habitus of *Saigona* species. 1. *S. capitata* (Distant, 1914), female. 2. *S. fulgoroides* (Walker, 1858), male, China. 3. same, female. 4. *S. fuscoclypeata* **sp. nov.**, male, holotype, China: Shaanxi. 5. *S. henanensis* **sp. nov.**, male, holotype, China: Henan. 6. *S. latifasciata* **sp. nov.**, male, holotype, China: Yunnan. 7. *S. robusta* **sp. nov.**, male, holotype, China: Hubei. 8. same, female, paratype. 9. *S. sinicola* **sp. nov.**, male, holotype, China: Shaanxi. 10. same, female, paratype. 11. *S. ussuriensis* (Lethierry, 1878), male, Japan. 12. same, female.

Pronotum (Figs. 1–13, 16, 26, 36, 46, 56, 66, 76) distinctly shorter than mesonotum medially, narrow anteriorly and broad posteriorly; disc broad with anterior margin centrally strongly arched, posterior margin angularly concave; with distinct median longitudinal carina and two obscure lateral discal carinae (elevated only anteriorly). Mesonotum (Figs. 1–13, 16, 26, 36, 46, 56, 66, 76) tricarinate on disc, with median longitudinal carina obsolete or conspicuous but not reaching to apex, lateral carinae curving anteriorly towards median carina. Fore wings (Figs. 22, 32, 42, 52, 62, 72, 82) with Sc+R, M and Cu branched apically, respectively; stigma distinct, with 2–4 cells; veins with numerous fuscous setae. Legs moderately long; fore and middle femora flattened and dilated; fore femur with short and blunt spine near apex; hind tibia with 5–6 lateral black-tipped spines, spinal formula 8-(9–12)-(9–12).

Male genitalia: pygofer (Figs. 20, 30, 40, 50, 60, 70, 80) short and broad in lateral aspect, ventrally distinctly broader than dorsally, posterior margin excavated apically to accommodate anal tube. Anal tube (Figs. 19, 20, 29, 30, 39, 40, 49, 50, 59, 60, 69, 70, 79, 80) oval and large in dorsal view and short and broad in lateral view. Anal styles usually short and small (Figs. 39, 40, 59, 60, 69, 70, 79, 80) and sometimes relatively large and elongate (Figs. 19, 20, 29, 30). Parameres (Figs. 20–21, 30–31, 40–41, 50–51, 60–61, 70–71, 80–81) with apex rounded and protruded backward, upper margin with dorsally directed, black-tipped process near middle, with ventrally directed, hooklike process near sub-middle on outer upper edge. Aedeagus (Figs. 23–25, 33–35, 43–45, 53–55, 63–65, 73–75, 83–85) elongate and slender, with pair of slender, asymmetrical, phallobasal conjunctival processes apically, processes sclerotized and pigmented apically; phallobase sclerotized and pigmented, with two membranous lobes at apex: one dorsal above phallobase and other ventral below phallobase in lateral view; these lobes usually covered with numerous, pigmented, fine spines at apex.

Biology

As with most dictyopharid planthopper species, no biological data are currently available for species of *Saigona*.

Remarks

Species of *Saigona* can be distinguished from other dictyopharid planthoppers by the combination of the following diagnostic characters: (1) general color ochraceous or fuscous; (2) vertex and most of genae marked with numerous yellowish or pale brown speckles; (3) cephalic process relatively broad and long; (4) vertex with median longitudinal carina obsolete, posterior region obviously higher than pronotum; (5) legs moderately long, fore femur flattened and dilated with a short and blunt spine near apex; (6) aedeagus with a pair of phallobasal conjunctival processes apically and phallobase sclerotized and pigmented, with two membranous lobes apically.

Species of *Saigona* are externally similar to those of *Dictyophara* Germar, 1833, but

can be distinguished from the latter by the diagnostic characters 1, 2, and 5 listed above. In addition, *Dictyophara* species are usually green or yellowish green (much paler in *Saigona* species) with vertex and most of genae lacking yellowish or pale brown speckles and fore femora not flattened and dilated, without a spine at apex.

Lallemand (1942) described the new genus *Piela* for a single species, *P. singularis* Lallemand, 1942 from Mt. Tianmu in Zhejiang Province in southeastern China. Since then, neither the genus nor the species was mentioned in the literature including Metcalf's (1946) catalogue of the world Dictyopharidae. Our study shows that *P. singularis* Lallemand, 1942 is conspecific with *S. fulgoroides* (Walker, 1858) (see Remarks below under *S. fulgoroides*) and *Piela* Lallemand is then a new junior synonym of *Saigona* Matsumura, 1910.

Distribution

China (Yunnan, Guizhou, Guangxi, Guangdong, Sichuan, Hubei, Hunan, Jiangxi, Zhejiang, Fujian, Gansu, Shaanxi, Henan, Taiwan, Jilin, Heilongjiang); Korea; Indochina; Japan; Russia (Far Eastern Region).

Key to the Species of genus *Saigona*

- 1 Vertex with cephalic process short, shorter than pronotum and mesonotum combined (Figs. 4–6, 11, 12, 26, 36, 46, 76) 2
- Vertex with cephalic process long, longer than or nearly as long as pronotum and mesonotum combined (Figs. 1–3, 7–10, 13, 16, 56, 66) 5
- 2 Postclypeus yellowish or yellowish brown (Figs. 48, 78); mesonotum with a yellowish stripe along median longitudinal carina (Figs. 46, 76) 3
- Postclypeus fuscous (Figs. 28, 38); mesonotum without a yellowish stripe along median longitudinal carina (Figs. 26, 36) 4
- 3 Mesonotum with median longitudinal yellowish stripe narrower (Figs. 11, 12, 76); aedeagus with phallobase with apical ventral membranous lobe with numerous, fine spines at apex (Figs. 83, 84)..... *S. ussuriensis* (Lethierry)
- Mesonotum with median longitudinal yellowish stripe much broader (Figs. 6, 46); aedeagus with phallobase with apical dorsal and ventral membranous lobes with numerous, fine spines at apex (Figs. 53, 54)..... *S. latifasciata* **sp. nov.**
- 4 Frons with lateral carinae reaching to frontoclypeal suture (Fig. 38); aedeagus with phallobasal conjunctival processes relatively short, spiraled dorsally (Figs. 43–45)
.....*S. henanensis* **sp. nov.**
- Frons with lateral carinae reaching to eyes, not to frontoclypeal suture (Fig. 28); aedeagus with phallobasal conjunctival processes long, not spiraled dorsally (Figs. 33–35)
..... *S. fuscoclypeata* **sp. nov.**
- 5 Cephalic process bulbous apically, with 3 pairs of symmetrical knoblike protuberance

- on lateral regions (Figs. 16, 17); pygofer with one distinct process on posterior margin (Fig. 20)..... *S. fulgoroides* (Walker)
- Cephalic process not bulbous apically, without knoblike protuberance on lateral regions (Figs. 13, 56, 66); pygofer without a distinct process on posterior margin (Figs. 60, 70) 6
- 6 Vertex with yellowish spot at apex (Fig. 13); frons with lateral carinae reaching to frontoclypeal suture (Fig. 15) *S. capitata* (Distant)
- Vertex without yellowish spot at apex; frons with lateral carinae reaching to eyes, not to frontoclypeal suture..... 7
- 7 General color much darker; mesonotum with yellowish stripe along median longitudinal carina very narrow *S. taiwanella* Matsumura
- General color much paler; mesonotum with yellowish stripe along median longitudinal carina broad 8
- 8 Cephalic process distinctly robust (Figs. 7, 8, 56); aedeagus with phallobase with apical ventral membranous lobe with numerous, fine spines at apex (Fig. 64) *S. robusta* **sp. nov.**
- Cephalic process relatively slender (Figs. 9, 10, 66); aedeagus with phallobase with apical dorsal and ventral membranous lobes with numerous, fine spines at apex (Fig. 74) *S. sinicola* **sp. nov.**

Saigona capitata (Distant, 1914)

(Figs. 1, 13–15)

Neoputala capitata Distant, 1914: 412; Metcalf, 1946: 78. Holotype ♀, Indo-China (BMNH) [examined].

Saigona capitata (Distant); Liang, 2001: 236.

Redescription

♀, BL: 10.3 mm; HL: 3.5 mm; HW: 1.3 mm; FWL: 9.3 mm.

General color fuscous, marked with ochraceous and brown. Vertex fuscous, with yellowish spot at apex. Genae mostly fuscous, areas surrounding ocellus and antenna beneath eye yellowish. Frons, postclypeus, anteclypeus, and labrum pale brown. Rostrum pale brown, tip black. Pronotum fuscous, suffused with blackish brown; median carina yellowish; lateral, ventrally curved areas yellowish brown. Mesonotum dark brown, with broad, yellow stripe along median longitudinal carina. Thorax ventrally yellowish, marked with blackish brown. Legs fuscous, marked with pale brown; coxa pale brown; femora and tibiae marked with numerous pale brown speckles; tarsi and claws brown; tips of apical spines on hind tibiae and tarsi black. Abdomen ventrally yellowish, with blackish spots, dorsally dark brown with broad, yellowish, median longitudinal stripe.

Head (Figs. 1, 13) long, much longer than pronotum and mesonotum combined.

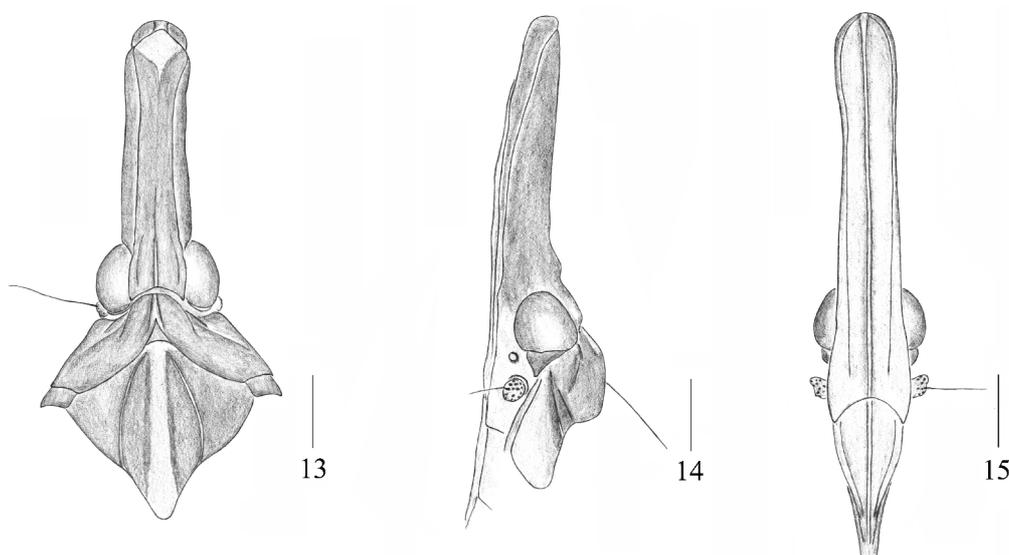
Vertex (Fig. 13) with cephalic process elongate, strongly upturned; median carina very faint, only conspicuous at basal 1/5, the remainders faint, lateral carinate margins slightly curved in front of eyes. Frons (Fig. 15) with lateral carinae reaching to frontoclypeal suture.

Mesonotum (Figs. 1, 13) with lateral carinae distinct, median carina very faint.

Male unknown.

Type Material examined

Holotype ♀, [small round label with red edge] Type H.T., [Distant's handwriting] *Neoputala capitata* Dist. Type, Indo-China (R. Vitalis) [underside] Distant Coll. 1911–222 (BMNH).



FIGURES 13–15. *Saigona capitata* (Distant, 1914), female. 13. head, pronotum and mesonotum (dorsal view). 14. head and pronotum (lateral view). 15. head (ventral view).

Other material examined

China, Yunnan: 1♀, Dali, Cangxi, 2100 m, 4.vi.1998, B. Y. Mao & Z. Z. Yang (DU).

Remarks

This species is externally similar to *S. ussuriensis* (Lethierry, 1878) but can be distinguished from the latter by its distinctly elongate cephalic process; frons, clypeus, and labrum concolorous; and frons with lateral carinae reaching to frontoclypeal suture.

Distribution

Indo-China, southwestern China (Yunnan) (new record). The specimen examined from Yunnan, China in this study represents the first record of this species in China.

Saigona fulgoroides (Walker, 1858)

(Figs. 2, 3, 16–25)

Dictyophora [sic] *fulgoroides* Walker, 1858: 67. Lectotype ♀, designated by Liang, 2001: 235, China (BMNH) [examined].

Saigona gibbosa Matsumura, 1910: 111, 112; Kato, 1933: pl. 12, fig. 3; Metcalf, 1946: 47. Lectotype ♂, designated by Liang and Suwa, 1998: 155, Taiwan (HU) [examined]. [Synonymised by Liang, 2001: 235.]

Leprota fulgoroides (Walker); Melichar, 1912: 91, pl. 3, figs. 14, 15; Metcalf, 1946: 75.

Piela singularis Lallemand, 1942: 73. Holotype ♀, China (IZCAS) [examined]. **New synonymy** *Saigona fulgoroides* (Walker); Nast, 1972: 84.

Redescription

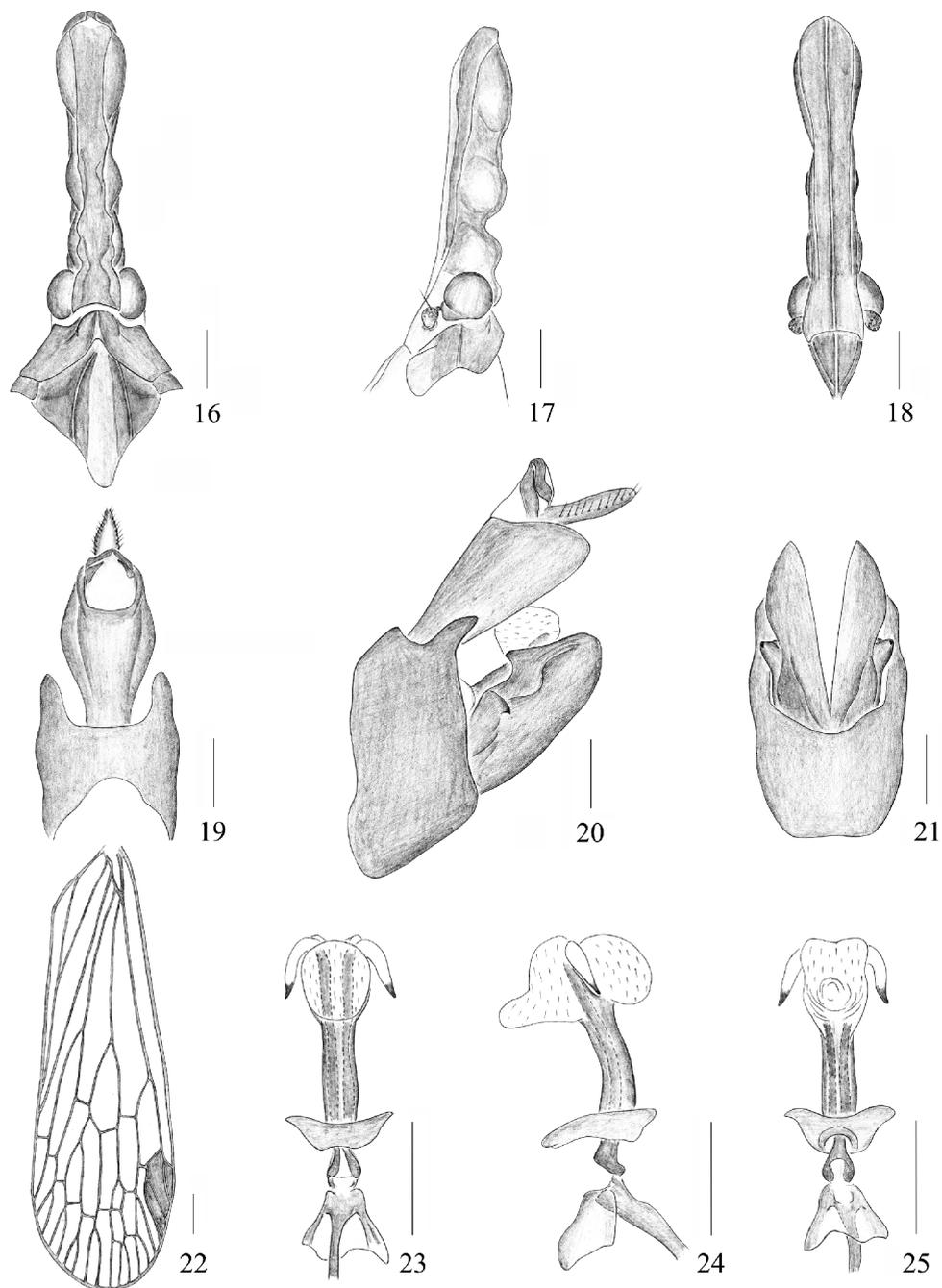
♂, BL: 17.4–18.3 mm; HL: 5.0–5.9 mm; HW: 1.6–1.8 mm; FWL: 11.4–12.2 mm. ♀, BL: 16.5–18.6 mm; HL: 4.8–6.1 mm; HW: 1.6–1.9 mm; FWL: 10.9–12.5 mm.

General color fuscous, marked with ochraceous and brown. Vertex fuscous, with small, yellowish spot at apex. Genae mostly fuscous, areas surrounding ocellus and antenna beneath eye yellowish. Frons, postclypeus, and anteclypeus brown, with numerous yellowish or pale brown speckles. Rostrum yellowish or yellowish green. Pronotum fuscous, suffused with ochraceous; median carina pale green; lateral, ventrally curved areas with broad, yellowish band. Mesonotum dark brown, with broad, pale green stripe along median longitudinal carina. Thorax ventrally yellowish, marked with blackish brown. Legs yellowish brown, marked with ochraceous. Abdomen ventrally yellowish or yellowish brown, marked with fuscous; dorsally dark brown, with broad, yellowish, median longitudinal stripe; pygofer and parameres fuscous.

Head (Figs. 1, 2, 16–18) long, much longer than pronotum and mesonotum combined. Cephalic process (Figs. 1, 2, 16, 17) distinctly elongate and robust, apically bulbous, with 3 pairs of symmetrical knoblike protuberance on lateral region. Vertex with median carina faint, lateral carinate margins strongly sinuate. Frons (Fig. 18) with lateral carinae reaching to eyes, not to frontoclypeal suture.

Mesonotum (Figs. 1, 2, 16) with lateral carinae distinct, median carina strongly faint. Fore wing venation as in Fig. 22.

Male genitalia with pygofer (Figs. 19–21) large and broad in lateral view (Fig. 20), posterior margin with sharp, dorsoposteriorly directed process near apex, length ratio of upper margin to lower margin about 1: 2.0. Anal tube (Figs. 19, 20) relatively large, nearly triangular in lateral view (Fig. 20) and long oval in dorsal view (Fig. 19), with ratio of length to width at middle about 1.7: 1. Anal style (Figs. 19, 20) relatively long and narrow. Parameres (Figs. 20, 21) relatively small and broad in lateral aspect (Fig. 20), apex sharply rounded and protruded posteriorly. Aedeagus (Figs. 23–25) with phallobase relatively short and narrow; phallobasal conjunctival processes short, directed laterally; phallobase with apical, dorsal, membranous lobe produced dorsally in lateral view (Fig. 24) and apical, ventral, membranous lobe small and semi-globose in ventral view (Fig. 23), both lobes without fine spines at apex.



FIGURES 16–25. *Saigona fulgoroides* (Walker, 1858), male. 16. head, pronotum and mesonotum (dorsal view). 17. head and pronotum (lateral view). 18. head (ventral view). 19. pygofer and anal tube (dorsal view). 20. genitalia (lateral view). 21. pygofer and parameres (ventral view). 22. right fore wing. 23. aedeagus (ventral view). 24. same (lateral view). 25. same (dorsal view).

Type material examined

Lectotype ♀ of *Dictyophara fulgoroides* Walker, 1858, designated by Liang (2001), [small round white label with green margin] Type; [printed] *DICTYOPHORA FULGOROIDES*; 55/87 [underside] n. China (BMNH). Lectotype ♂ of *Saigona gibbosa* Matsumura, 1910, designated by Liang & Suwa (1998), Taiwan (HU). Holotype ♀ of *Piela singularis* Lallemand, 1942, [China, Zhejiang]: 24.v.1937, O. Piel coll.; T'ienmu Shan; [pink label] TYPE; [blue label] IOZ(E) 220236; [Lallemand's handwriting] *Piela singularis* Lall. 1940, Lallemand det. (IZCAS). China: 2♀♀ (Paralectotypes of *Dictyophara fulgoroides* Walker, 1858), 58/87 [underside] n. China (BMNH). Taiwan: 10♂♂, 4♀♀ (Paralectotypes of *Saigona gibbosa* Matsumura, 1910), Taiwan (HU).

Other material examined

China, Fujian: 1♂, 1♀, Chongan, Xingcun, Sangang, 740 m, 21.v.1960, F. J. Pu; 2♀♀, same locality and altitude, 16,21.v.1960, S. Q. Jiang; 1♀, same locality and altitude, 4.v.1960, C. L. Ma; 1♀, Chongan, Jianyang, 740–1170 m, 20.v.1960, C. L. Ma; 1♀, Chongan, Xingcun, 800–1140 m, 11.v.1960, F. J. Pu; 1♀, same locality, 900–1160 m, 6.vii.1963, Y. W. Zhang; 1♂, 2♀♀, same locality, 950–1210 m, 22.v.1960, C. L. Ma, Y. R. Zhang & Y. Zuo; 3♂♂, 7♀♀, Jianyang, Huangkeng, Aotou, 700–950 m, 17,27,29,30.iv & 5.v.1960, F. J. Pu; 3♂♂, 1♀, same locality, 750–950 m, 26,30.iv & 7.v.1960, Y. R. Zhang; 3♂♂, 2♀♀, same locality, 650–980 m, 5,6,7.v.1960, S. Q. Jiang; 4♂♂, same locality, 750–1050 m, 26,27.iv & 5,7.v.1960, C. L. Ma; 1♂, same locality, 720–950 m, 2.vii.1963, Y. W. Zhang; 1♀, same locality and altitude, 30.iv.1960, Y. Zuo (all in IZCAS); 1♀, Nanjing, Hexi, 21.iv.1965, L. C. Wang (KU); Guangdong: 1♀, Chebaling, 400 m, 14.iv.2006, D. Zhang (IZCAS); Guangxi: 1♀, Longsheng, 300 m, 27.v.1963, Y. S. Shi (IZCAS); 1♀, Longsheng, Mt. Taiping, 740 m, 9.vi.1963, S. Y. Wang (IZCAS); Guizhou: 1♂, Guiyang, 1000 m, 25.v.1981, F. S. Li (CAU); Hubei: 1♀, Shennongjia, 900–1300 m, 23.v.1981, Y. H. Han (IZCAS); Hunan: 1♂, Dayong, Zhangjiajie, 6.vi.1986, no collector (IZCAS); Jiangxi: 1♀, Mt. Lushan, no date and collector (IZCAS); 1♂, 4♀♀, Jiangxi, Kuling, 10,12,13.vii.1935, O. Piel (Musée Heude) (IZCAS); Sichuan: 1♂, Mt. Qingcheng, 1000 m, 5.vi.1979, J. W. Shang (IZCAS); 1♂, 1♀, Mt. Emei, 9–10.vi.1955, K. R. Huang & G. T. Jin (IZCAS); 1♀, Mt. Emei, Baoguozi, 550–750 m, 30.v.1957, Y. C. Lu (IZCAS); 1♀, same locality and altitude, 25.v.1957, Z. Y. Wang (IZCAS); 2♂♂, Mt. Emei, Qingyinge, 800–1000 m, 29.v & 12.vi.1957, K. R. Huang (IZCAS); 1♂, same locality, 16.v.1957, F. X. Zhu (IZCAS); 1♀, Qianjiang, 1750 m, 14.vii.1989, N. N. Xiao (IZCAS); Taiwan: 1♀, Sakahen, 13.vii.1949, L. Gressitt (NCSU); Zhejiang: 7♂♂, 6♀♀, Mt. Tianmu, 6–21.vi.1936, 21–29.v.1937, O. Piel (Musée Heude) (IZCAS).

Remarks

This species can be distinguished from other known *Saigona* species by its cephalic process being bulbous apically, with 3 pairs of knoblike protuberance on lateral region;

and male pygofer with a sharp, dorsoposteriorly directed process on the posterior margin near the apex.

Based on dictyopharid material deposited in the Musée Heude, Shanghai, China, Lallemand (1942) described *Piela singularis* from Mt. Tianmu in Zhejiang Province in southeastern China; however, he did not provide any information about the type specimens he studied, including the number and sex of the type specimens. This species was neglected by Metcalf and it was not included in Metcalf's (1942) catalogue of the world Dictyopharidae. Most specimens of Musée Heude, Shanghai, are now housed in the IZCAS, Beijing, China. In the IZCAS, we found one female specimen bearing a type label and a determination label with the name *P. singularis* Lallemand in Lallemand's handwriting. We believe that the female specimen is the holotype of *Piela singularis* that Lallemand (1942) studied, because morphologically it matches Lallemand's (1942) original description very well. Our careful examination of the female holotype shows that it is a synonym of *S. fulgoroides* (Walker, 1858).

Distribution

China (Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Zhejiang), Sumatra, Borneo. It is necessary to note that Walker (1858) reported fulgoroides from "n. China" and he frequently referred to "North China" in his publications on Chinese Homoptera (e.g. Walker, 1858: 67, 171). However, the "North China" *sensu* Walker is actually southern China.

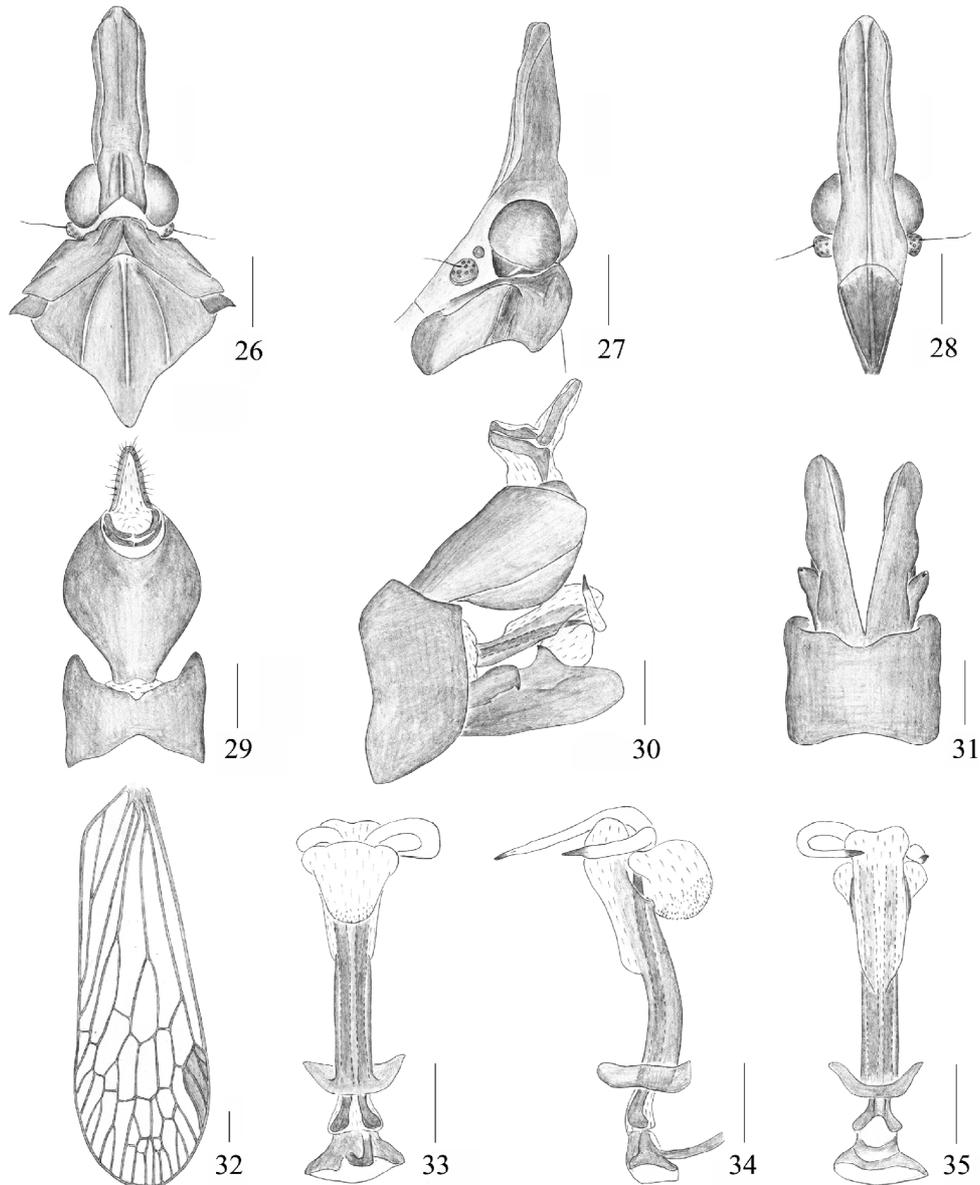
***Saigona fuscoelypeata* sp. nov.**

(Figs. 4, 26–35)

Description

♂, BL: 15.8–16.4 mm; HL: 2.8–2.9 mm; HW: 1.5 mm; FWL: 11.8–12.4 mm. ♀, BL: 16.1–16.9 mm; HL: 2.7–3.0 mm; HW: 1.3–1.5 mm; FWL: 12.4–12.6 mm.

General color ochraceous, marked with fuscous and brown. Vertex and most part of genae ochraceous or fuscous, areas surrounding ocellus and antenna beneath eye yellowish. Frons yellowish brown; postclypeus, anteclypeus and labrum fuscous. Rostrum pale brown, tip black. Pronotum ochraceous, marked with blackish brown; with lateral, ventrally curved areas with broad, triangular, yellowish band. Mesonotum ochraceous, marked with fuscous. Thorax ventrally dark brown, marked with yellowish brown. Legs fuscous, marked with pale brown; coxae blackish brown, middle coxae much paler; femora covered with numerous pale brown speckles; tibiae pale brown with two broad fuscous rings basally and medially, respectively; tarsi and claws brown; tips of apical spines on hind tibiae and tarsi black. Abdomen ventrally yellowish, marked with blackish brown; dorsally dark brown, with yellowish brown spots; pygofer and parameres fuscous.



FIGURES 26–35. *Saigona fuscoclypeata* **sp. nov.**, male, holotype. 26. head, pronotum and mesonotum (dorsal view). 27. head and pronotum (lateral view). 28. head (ventral view). 29. pygofer and anal tube (dorsal view). 30. genitalia (lateral view). 31. pygofer and parameres (ventral view). 32. right fore wing. 33. aedeagus (ventral view). 34. same (lateral view). 35. same (dorsal view).

Head (Figs. 4, 26–28) relatively short, slightly shorter than pronotum and mesonotum combined. Vertex (Figs. 4, 26) with cephalic process relatively short and robust, median carina only conspicuous at basal 1/3, remainder faint; lateral carinate margins curved in front of eyes. Frons (Fig. 28) with lateral carinae reaching to eyes, not to frontoclypeal

suture.

Mesonotum (Figs. 4, 26) tricarinate on disc, with median carina conspicuous but not reaching to extreme tip. Fore wing venation as in Fig. 32.

Male genitalia with pygofer (Figs. 29–31) large and broad, posterior margin nearly straight and excavated over apical 1/3 to accommodate anal tube, length ratio of upper margin to lower margin about 1: 2.0. Anal tube (Figs. 29, 30) large and nearly triangular in lateral view (Fig. 30), large and subcircular in dorsal view (Fig. 29), ratio of length to width at middle about 1.2: 1. Anal styles (Figs. 29, 30) large, broad, elongate. Parameres (Figs. 30, 31) small and short in lateral aspect (Fig. 30), apex sharply rounded and protruded posteriorly. Aedeagus (Figs. 33–35) with phallobasal conjunctival processes long, curved inward; phallobase narrow, long, curved dorsally, with apical, dorsal, membranous lobe narrow and long in dorsal view (Fig. 35), without spines, and apical, ventral, membranous lobe global in lateral view (Fig. 34), covered with numerous fine spines at apex.

Material examined

Holotype ♂, China, Shaanxi, Ningshaan, Dashui Gou, 1500–1760 m, 30.vi.1999, D. C. Yuan (IZCAS). Paratypes, China, Hubei: 1 ♂, Mt. Shennongjia, Guanmen Shan, 1500 m, 30.vii.1998; Y. D. Yu; Gansu: 1 ♂, Wen County, Tielou, Keqiao Cun, 1500 m, 23.vi.1999, H. J. Wang; Hubei: 2 ♀♀, Mt. Shennongjia, Jiuhu, Pingche Gou, 1870 m, 24.vii.1998, T. H. Luo & J. J. He (all in IZCAS).

Etymology

This species is named after its fuscous clypeus.

Remarks

This species is similar to *S. ussuriensis* (Lethierry, 1878) in appearance but can be distinguished from the latter by its clypeus and labrum fuscous; mesonotum without a yellowish median longitudinal stripe; aedeagus with phallobase having the apical, dorsal, membranous lobe more elongate, and the apical, ventral, membranous lobe not divided into smaller lobes at apex (Figs. 33–35).

Distribution

China (Gansu, Hubei, Shaanxi).

***Saigona henanensis* sp. nov.**

(Figs. 5, 36–45)

Description

♂, BL: 15.4 mm; HL: 2.8 mm; HW: 1.4 mm; FWL: 11.7 mm.

General color ochraceous, marked with fuscous and brown. Vertex and most part of genae ochraceous, areas surrounding ocellus and antenna beneath eye yellowish. Frons yellowish brown; postclypeus, anteclypeus, and labrum fuscous. Rostrum pale brown, tip black. Pronotum ochraceous, suffused with blackish brown; lateral, ventrally curved areas with broad, triangular, yellowish spot. Mesonotum ochraceous, marked with fuscous. Thorax ventrally dark brown, marked with yellowish brown. Legs fuscous, marked with pale brown; coxae blackish brown, middle coxae much paler; femora with numerous pale brown speckles; tibiae pale brown with two broad fuscous rings basally and medially respectively; tarsi and claws brown; tips of apical spines on hind tibiae and tarsi black. Abdomen ventrally yellowish, dorsally dark brown with yellowish brown spots; pygofer and parameres fuscous.

Head (Figs. 5, 36–38) short, shorter than pronotum and mesonotum combined. Vertex (Figs. 5, 36) with cephalic process relatively short and robust, with median carina only conspicuous at basal 1/3, remainder faint; lateral carinate margins curved anterior to eyes. Frons (Fig. 38) with lateral carinae reaching to frontoclypeal suture.

Mesonotum (Figs. 5, 36) tricarinate on disc, with median carina conspicuous but not reaching extreme tip. Fore wing venation as in Fig. 42.

Male genitalia with pygofer (Figs. 39–41) large, broad in lateral view, posterior margin straight, excavated over apical 1/5 to accommodate anal tube, length ratio of upper margin to lower margin about 1: 1.5. Anal tube (Figs. 39, 40) large and nearly triangular in lateral view (Fig. 40), large and oval in dorsal view (Fig. 39), ratio of length to width at middle about 1.6: 1. Anal style (Figs. 39, 40) narrow, long. Parameres (Figs. 40, 41) relatively large and broad in lateral aspect (Fig. 40), apex sharply rounded, protruded posteriorly. Aedeagus (Figs. 43–45) with phallobasal conjunctival processes spiraled dorsally; phallobase narrow, long, curved dorsally, with apical, dorsal, membranous lobe stout and large, produced caudad in lateral view (Fig. 44), without spines; in ventral aspect (Fig. 43), apical, ventral, membranous lobe triangular, converging toward apex, produced toward base of phallobase, covered with numerous fine spines at apex.

Material examined

Holotype ♂, China, Henan, Xishan, Taiping, 17.vii.1957, Y. S. Shi (IZCAS).

Etymology

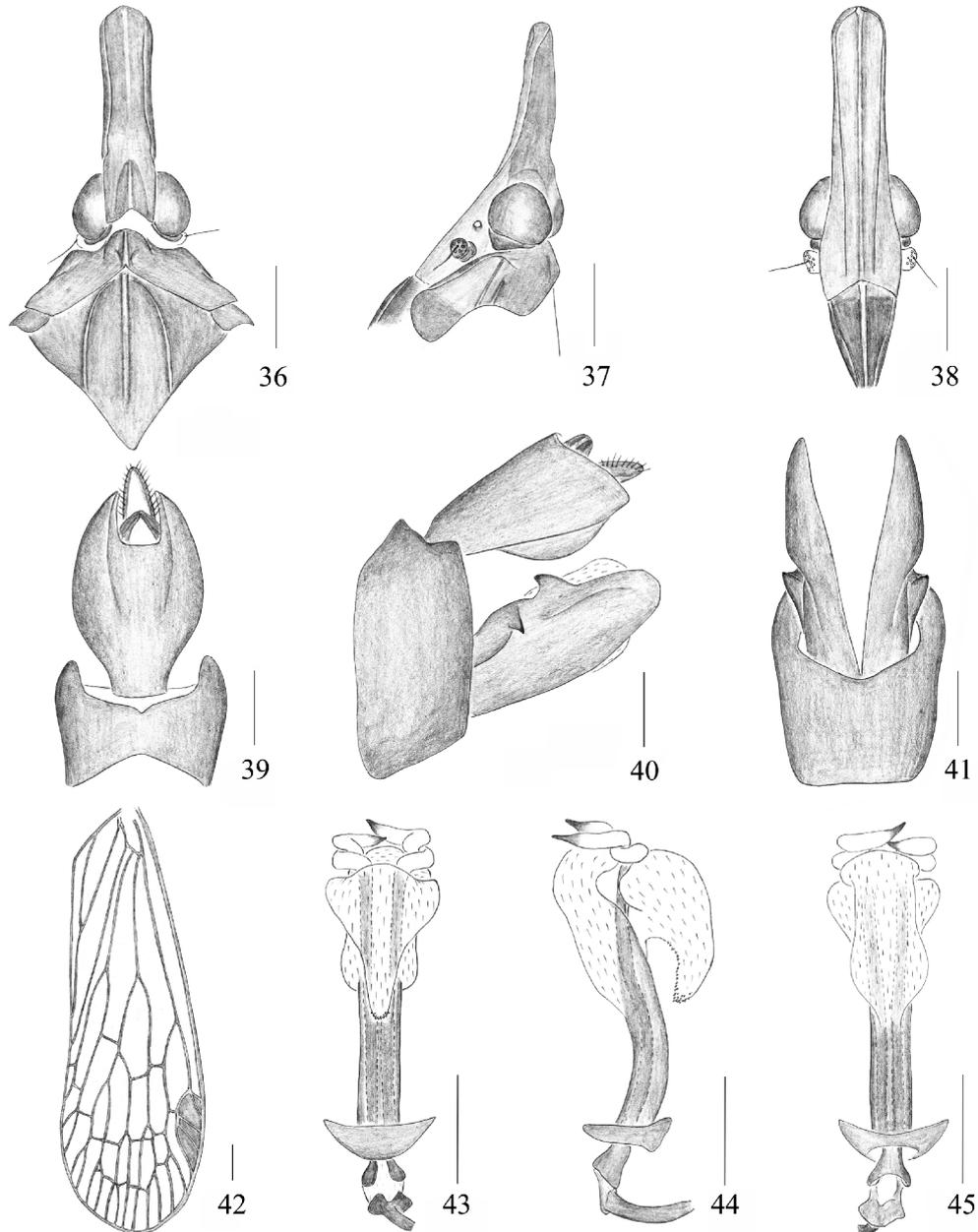
This species is named for its occurrence in Henan Province of China.

Remarks

This species is similar to *S. ussuriensis* (Lethierry, 1878) and *S. fuscoclypeata* **sp. nov.** but can be distinguished from the two species by its frons with lateral carinae reaching to frontoclypeal suture and the aedeagus with phallobasal conjunctival processes spiraled dorsally (Figs. 43–45).

Distribution

China (Henan).



FIGURES 36–45. *Saigona henanensis* sp. nov., male, holotype. 36. head, pronotum and mesonotum (dorsal view). 37. head and pronotum (lateral view). 38. head (ventral view). 39. pygofer and anal tube (dorsal view). 40. genitalia (lateral view). 41. pygofer and parameres (ventral view). 42. right fore wing. 43. aedeagus (ventral view). 44. same (lateral view). 45. same (dorsal view).

Saigona latifasciata sp. nov.

(Figs. 6, 46–55)

Description

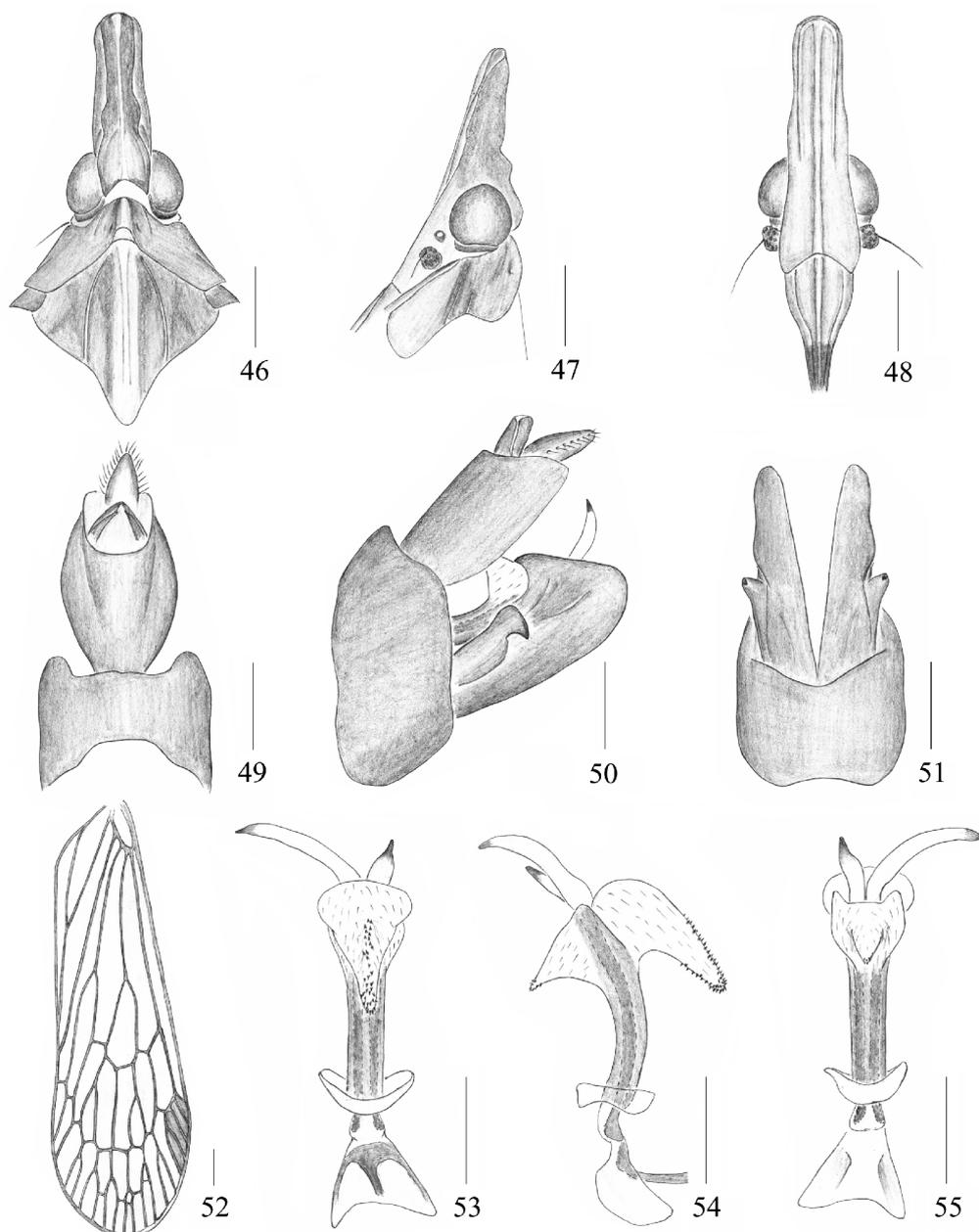
♂, BL: 14.7 mm; HL: 4.0 mm; HW: 1.4 mm; FWL: 9.2 mm.

General color dark brown, marked with ochraceous. Vertex fuscous, with median, longitudinal, yellowish stripe. Genae mostly ochraceous, areas surrounding ocellus and antenna beneath eye yellowish brown. Frons and postclypeus yellowish or yellowish brown, anteclypeus and labrum fuscous. Rostrum with basal segment pale ochraceous, apical segment brown with extreme apex black. Pronotum fuscous, suffused with blackish brown; median carina yellowish; lateral, ventrally curved areas yellowish brown. Mesonotum dark brown, with broad, yellow, median, longitudinal stripe; maculae black. Thorax ventrally yellowish, marked with blackish brown. Legs yellowish brown, marked with ochraceous; fore coxae fuscous, middle and hind coxae yellow brown, hind coxae covered with fuscous spots; fore femora dark brown, middle and hind femora yellow brown with fuscous ring at apex; fore and middle tibiae pale brown with two broad fuscous rings basally and medially, respectively, hind tibiae much paler; tarsi and claws brown, hind tarsi and claws much paler; tips of apical spines on hind tibiae and tarsi black. Abdomen with tergites and sternites dark brown, covered with yellowish brown spots; pygofer and parameres fuscous.

Head (Figs. 6, 46–48) short, shorter than pronotum and mesonotum combined. Vertex (Figs. 6, 46) with cephalic process relatively short and robust, somewhat upturned, with median carina only conspicuous at base, lateral carinate margins curved in front of eyes. Frons (Fig. 48) with lateral carinae reaching to eyes, not to frontoclypeal suture.

Mesonotum (Figs. 6, 46) tricarinate on disc, with median carina faint, not reaching to tip. Fore wing venation as in Fig. 52.

Male genitalia with pygofer (Figs. 49–51) large and broad in lateral aspect (Fig. 50), posterior margin nearly straight and gently excavated at apical 1/3 to accommodate anal tube, length ratio of upper margin to lower margin about 1: 1.3. Anal tube (Figs. 49, 50) nearly rectangular, large in lateral view (Fig. 50) and long oval, large in dorsal view (Fig. 49) ratio of length to width at middle about 1.6: 1. Anal style (Figs. 49, 50) large and broad. Parameres (Figs. 50, 51) relatively small, short in lateral aspect (Fig. 50), apex bluntly rounded. Aedeagus (Figs. 53–55) with phallobasal conjunctival processes long, produced lateroposteriorly; phallobase narrow, long, curved dorsally; apical, dorsal, membranous lobe small, directed anterodorsally in lateral view (Fig. 50); with some spines at apex; apical, ventral, membranous lobe larger, longer, triangular in ventral view (Fig. 53), converging towards apex, directed anteroventrally in lateral view (Figs. 50, 54), covered with numerous fine spines on dorsal and ventral surfaces from middle to apex (Figs. 54, 55).



FIGURES 46–55. *Saigona latifasciata* **sp. nov.**, male, holotype. 46. head, pronotum and mesonotum (dorsal view). 47. head and pronotum (lateral view). 48. head (ventral view). 49. pygofer and anal tube (dorsal view). 50. genitalia (lateral view). 51. pygofer and parameres (ventral view). 52. right fore wing. 53. aedeagus (ventral view). 54. same (lateral view). 55. same (dorsal view).

Material examined

Holotype ♂, China, Yunnan, Yunlong, 2400 m, 5.vi.1996, L. Y. Zheng (NU).

Etymology

This species is named for the presence of a broad yellow longitudinal stripe on the mesonotum.

Remarks

This species can be distinguished from other known *Saigona* species by its short cephalic process (Figs. 6, 46, 47); mesonotum with a broad yellow longitudinal stripe, and aedeagus with phallobase with apical dorsal and ventral membranous lobes covered with fine spines at apex (Figs. 53–55).

Distribution

China (Yunnan).

***Saigona robusta* sp. nov.**

(Figs. 7, 8, 56–65)

Description

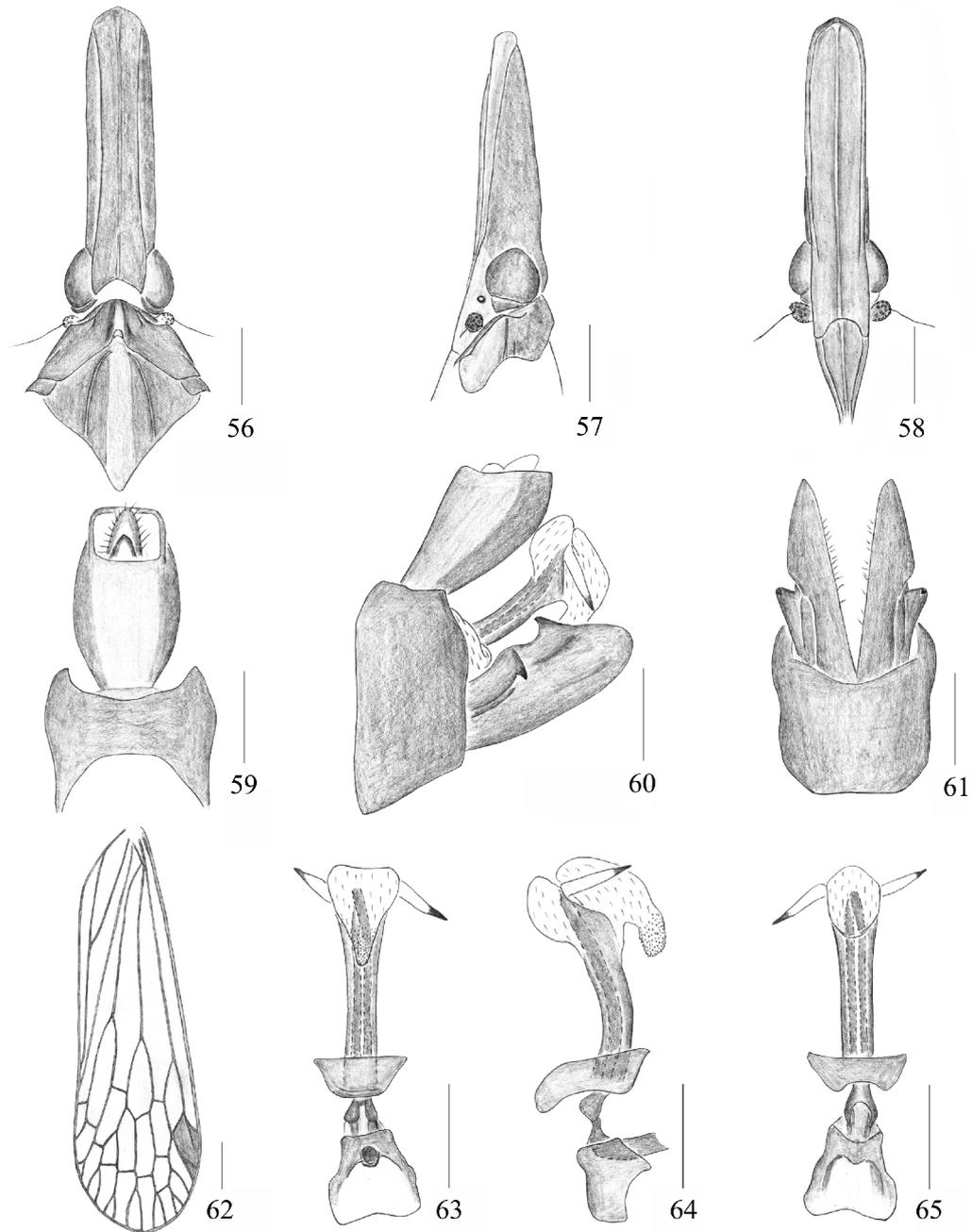
♂, BL: 14.7 mm; HL: 4.0 mm; HW: 1.4 mm; FWL: 9.2 mm. ♀, BL: 14.8 mm; HL: 4.3 mm; HW: 1.5 mm; FWL: 10.0 mm.

General color brown, marked with fuscous and ochraceous. Vertex and most part of genae brown, the areas surrounding ocellus and antenna beneath eye yellowish or yellowish green. Frons, postclypeus, anteclypeus, and rostrum yellowish or yellowish green. Pronotum ochraceous, suffused with fuscous; median carina pale green; lateral, ventrally curved areas yellowish. Mesonotum ochraceous, with broad, pale green stripe along median longitudinal carina. Thorax and abdomen ventrally yellowish or yellowish green; abdomen dorsally dark brown, with yellowish brown spots; pygofer and parameres fuscous, suffused with pale brown; anal tube yellowish dorsally. Legs yellowish brown, marked with ochraceous.

Head (Figs. 7, 8, 56–58) long, much longer than pronotum and mesonotum combined. Vertex (Figs. 7, 8, 56) with cephalic process long, distinctly robust; median carina very faint, only conspicuous at apex and base; lateral carinate margins nearly parallel. Frons (Fig. 58) with lateral carinae reaching to eyes, not to frontoclypeal suture.

Mesonotum (Figs. 7, 8, 56) with lateral carinae distinct, median carina very faint. Fore wing venation as in Fig. 62.

Male genitalia with pygofer (Figs. 59–61) large and broad in lateral view (Fig. 60), posterior margin nearly straight, abruptly curved anteriorly near 1/6 apex to accommodate anal tube, length ratio of upper margin to lower margin about 1: 2.2. Anal tube (Figs. 59, 60) large, nearly triangular in lateral view (Fig. 60), large, long, oval in dorsal view (Fig. 59), ratio of length to width at middle about 1.7: 1. Anal style (Figs. 59, 60) short, broad. Parameres (Figs. 60, 61) relatively large, broad in lateral aspect (Fig. 60), apex sharply



FIGURES 56–65. *Saigona robusta* sp. nov., male, holotype. 56. head, pronotum and mesonotum (dorsal view). 57. head and pronotum (lateral view). 58. head (ventral view). 59. pygofer and anal tube (dorsal view). 60. genitalia (lateral view). 61. pygofer and parameres (ventral view). 62. right fore wing. 63. aedeagus (ventral view). 64. same (lateral view). 65. same (dorsal view).

rounded, protruded posteriorly. Aedeagus (Figs. 63–65) with phallobasal conjunctival processes produced dorsally and ventrally, respectively; phallobase narrow and long,

curved dorsally; apical, dorsal, membranous lobe small, semi-globose in lateral view (Fig. 64), without spines; apical, ventral, membranous lobe converging towards apex and triangular in ventral view (Fig. 63), directed anteroventrally in lateral view (Fig. 60), covered with numerous fine spines at apex.

Material examined

Holotype ♂, China, Hubei, Fang County, Qiaoshang, 16.vi.1977, Q. Mu (NU). Paratype, China, Hubei: 1 ♀, Mt. Shennongjia, Yangri, 500–600 m, 2.vi.1981, Y. H. Han (IZCAS).

Etymology

This new species is named for its stout and elongate cephalic process (Figs. 7, 8, 56–58).

Remarks

This species can be distinguished from other known species in *Saigona* by its distinctly elongate and robust cephalic process (Figs. 7, 8, 56–58).

Distribution

China (Hubei).

***Saigona sinicola* sp. nov.**

(Figs. 9, 10, 66–75)

Saigona sinicola Matsumura, 1940: 14. [*Nomen nudum*.]

Description

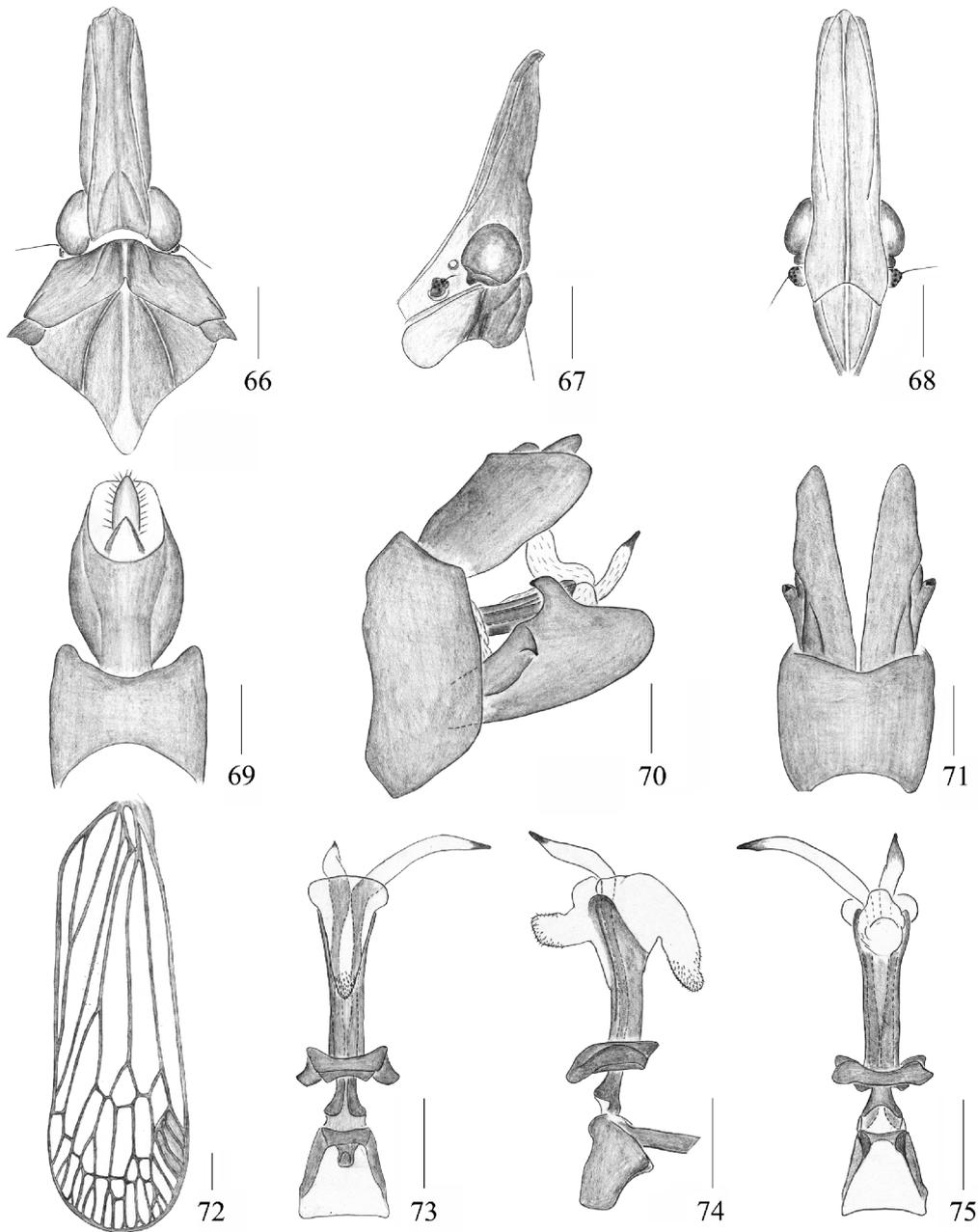
♂, BL: 14.5–14.7 mm; HL: 3.7–4.0 mm; HW: 1.4–1.6 mm; FWL: 9.2–9.8 mm. ♀, BL: 15.1 mm; HL: 3.8 mm; HW: 1.8 mm; FWL: 10.0 mm.

General color brown, marked with fuscous and ochraceous. Vertex and most part of genae brown, the areas surrounding ocellus and antenna beneath eye yellowish. Frons, postclypeus, anteclypeus and rostrum yellowish. Pronotum ochraceous, suffused with fuscous; median carina yellowish; lateral, ventrally curved areas yellowish. Mesonotum ochraceous, with a broad, yellow stripe along median longitudinal carina. Thorax ventrally yellowish; abdomen dorsally dark brown, with yellowish brown spots, ventrally yellowish; pygofer and parameres fuscous, suffused with pale brown. Legs yellowish brown, marked with ochraceous.

Head (Figs. 9, 10, 66–68) moderately long, longer than pronotum and mesonotum combined. Vertex (Figs. 9, 10, 66) cephalic process relatively long and robust, somewhat upturned; median carina very faint, only conspicuous at apex and base; lateral carinate

margins slightly curved in front of eyes. Frons (Figs. 9, 10, 68) with lateral carinae reaching to eyes, not to frontoclypeal suture.

Mesonotum (Figs. 9, 10, 66) with lateral carinae distinct, median carina very faint. Fore wing venation as in Fig. 62.



FIGURES 66–75. *Saigona sinicola* sp. nov., male, holotype. 66. head, pronotum and mesonotum (dorsal view). 67. head and pronotum (lateral view). 68. head (ventral view). 69. pygofer and anal tube (dorsal view). 70. genitalia (lateral view). 71. pygofer and parameres (ventral view). 72. right fore wing. 73. aedeagus (ventral view). 74. same (lateral view). 75. same (dorsal view).

Male genitalia with pygofer (Figs. 69–71) large and broad in lateral view (Fig. 70), posterior margin straight and gently excavated at apical 1/4 to accommodate anal tube, length ratio of upper margin to lower margin about 1:2. Anal tube (Figs. 69, 70) broad, large, nearly rectangular in lateral aspect (Fig. 70) and large, oval in dorsal view (Fig. 70), with ratio of length to width at middle about 1.8: 1. Anal style (Figs. 69, 70) long, broad. Parameres (Figs. 70, 71) relatively large and broad in lateral aspect (Fig. 70), apex sharply rounded, protruded posteriorly. Aedeagus (Figs. 73–75) with phallobasal conjunctival processes directed lateroposteriorly; phallobase relatively short; apical, dorsal, membranous lobe small, produced dorsally in lateral view (Fig. 74), covered with numerous fine spines at apex; apicoventral, membranous lobe triangular, large and long in ventral aspect (Fig. 73), produced towards base, covered with numerous fine spines at apex.

Material examined

Holotype ♂, China, Shaanxi, Foping, Liangfengya, 1800–2100 m, 28.vi.1999, T. L. He (IZCAS). Paratypes, China, Shaanxi: 1♂, Mt. Huashan, 10.vi.1936, no collector; 1♀, Chungnanshan, Shensi, 6.v.[19]36, [pink label] PARATYPE, [Matsumura's handwriting] *Saigona sinicola* Mats.) (both in IZCAS); Hubei: 1♂, Mt. Shennongjia, Hong Ping, 30.vi.1977, Q. Mu (NU).

Etymology

In his paper dealing with several new dictyopharid species from northeastern and other parts of China, Matsumura (1940: 14) listed *Saigona sinicola* Matsumura from China as a new species in the introductory part of his paper, but unfortunately he did not describe this species in the subsequent part of his paper. Later, Matsumura (1941: 163) also made a comparative note between his new species *S. taiwanella* from Taiwan and *S. sinicola* Matsumura. Metcalf (1946) treated the specific name *Saigona sinicola* Matsumura as a *nomen nudum*. During the course of the present work, we found one female specimen that bears a paratype label and Matsumura's handwriting determination label. Our study shows that Matsumura's (1940) identification was correct and the specimen represents an undescribed species. We herein describe this new species and follow the specific name proposed by Matsumura (1940). The specific name seems to refer to the occurrence of this species in China.

Remarks

This species is similar to *S. ussuriensis* (Lethierry, 1878) but can be separated from the latter by its cephalic process more elongate (Figs. 9, 10, 66–68) and the frons, postclypeus, anteclypeus, and rostrum uniformly yellowish. It can be distinguished from the other known species in the genus by its male parameres with a distinctly stout, black-tipped process near the middle and the aedeagus with phallobase having apical dorsal and ventral

membranous lobes covered with numerous fine spines at apex (Figs. 73, 74).

Distribution

China (Shaanxi, Hubei).

***Saigona taiwanella* Matsumura, 1941**

Saigona taiwanella Matsumura, 1941: 163; Yang & Yeh, 1994: 115. Holotype ♀, China (Taiwan: Kayahara, Taichu) (missing from HU).

Diagnosis

Length ♀ 16.0 mm.

Similar to *S. sinicola* Matsumura, but differs from the latter as follows: ♀, Body darker; the granulous pale pigments of the cephalic process on the upper surface obsolete; the central longitudinal yellowish stripe in the scutellum much narrowed towards the apex. The apical cells on the tegmina nearly in the same length, whereas in *sinicola* Matsumura the middle two are much longer, having no cross-veins; stigma with 3 veins, the outer one branching from the middle. Mesosternum largely fuscous. Abdomen dorsally largely fuscous. Legs with all the tibial apices fuscous; the anterior femur near the femoral spine near the apex much lower. The genital organ resembles that of *S. sinicola* Matsumura, but is darker. (After Matsumura, 1941)

Male. Unknown.

Remarks

Matsumura (1941) described *S. taiwanella* based on one single female species from Taiwan, China. The species was neglected by Metcalf (1946) and was not included in his world catalogue of Dictyopharidae. Yang & Yeh (1994) listed this species. Liang & Suwa (1998) reported that they failed to find the holotype of this species in Matsumura's collection housed in the Hokkaido University, Sapporo, Japan. Specimens, especially the males, of this species are needed to determine its status.

Distribution

China (Taiwan).

***Saigona ussuriensis* (Lethierry, 1878)**

(Figs. 11, 12, 76–85)

Almana ussuriensis Lethierry, 1878: 25. Syntype[s] [?sex], Russia (Siberia) [not traced.]

Dictyophara annulipes Melichar, 1902: 84. [Synonymised by Horváth, 1910: 178.]

Dictyophora [sic] *ishidae* Matsumura, 1905: [55], pl. 21, fig. 5; Matsumura, 1930: [36], pl. 5, fig. 5;

- 1931: [1265], fig'd; 1932: 72, 106, pl. xviii, fig. 10. [Synonymised by Liang, 2001: 236.]
Putala lewisi Distant, 1906: 354; Melichar, 1912: 101, 102. Holotype ♀, Japan (BMNH) [examined]. [Synonymised by Liang, 2001: 236.]
Dictyophora ussuriensis (Lethierry); Horváth, 1910: 178.
Saigona ishidae (Matsumura); Matsumura, 1910: 111; Melichar, 1912: 51; Esaki, 1932: [1771], fig'd; Kato, 1933: pl. 12, fig. 5; Metcalf, 1946: 47; Nast, 1972: 84.
Saigona ussuriensis (Lethierry); Melichar, 1912: 51, 52; Matsumura, 1940: 14; Metcalf, 1946: 48; Nast, 1972: 84; Anufriev & Emeljanov, 1988: 482, figs. 378-2, 379-1,2, 380-1-3, 381-1-4; Liang, 2001: 236.
Neoputala lewisi (Distant); Distant, 1914: 412; Metcalf, 1946: 79.

Redescription

♂, BL: 11.9–14.2 mm; HL: 1.8–3.2 mm; HW: 1.3–1.7 mm; FWL: 9.2–10.6 mm. ♀, BL: 13.4–14.1 mm; HL: 2.0–2.5 mm; HW: 1.3–1.6 mm; FWL: 9.8–10.8 mm.

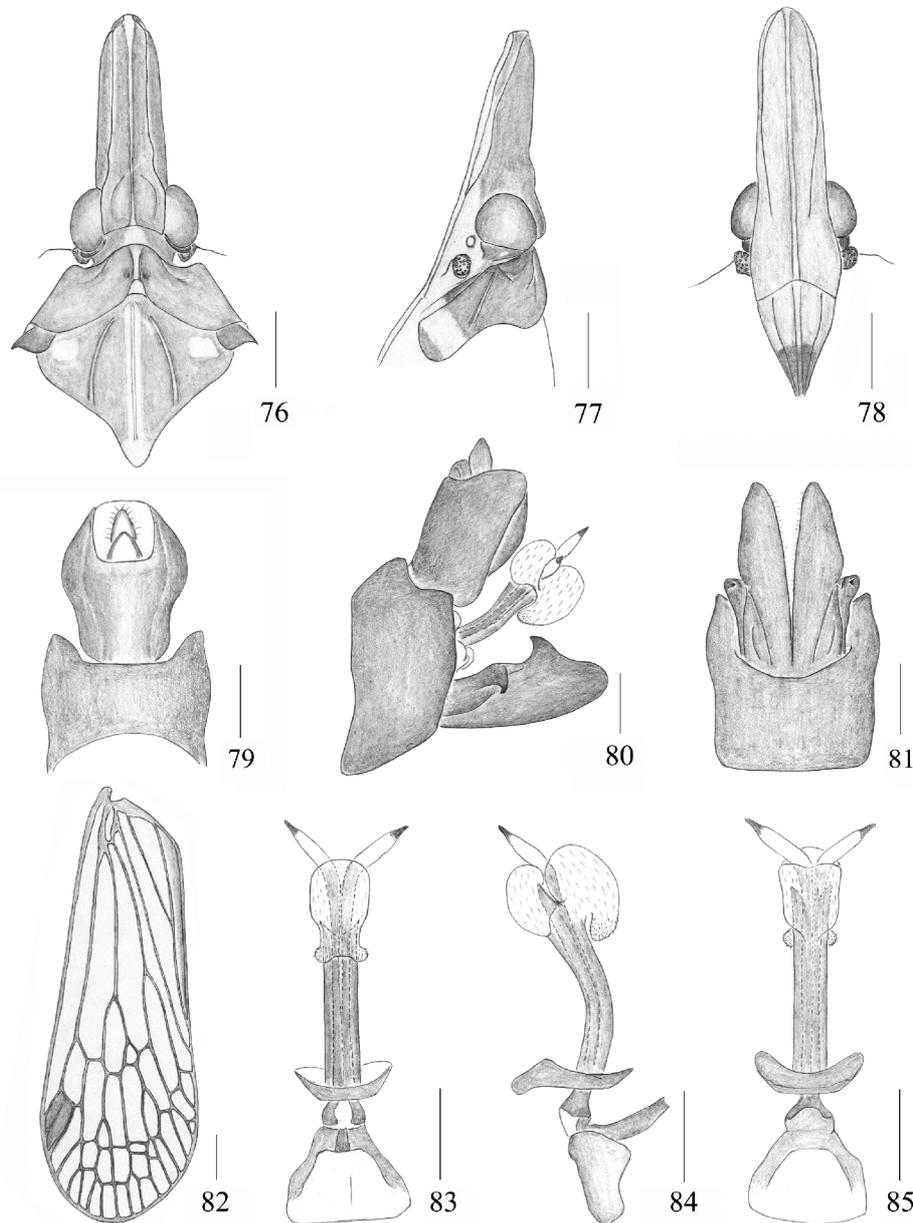
General color ochraceous, marked with fuscous and brown. Vertex ochraceous, with median, longitudinal, yellowish stripe. Genae mostly ochraceous, areas surrounding ocellus and antenna beneath eye yellowish or yellowish brown. Frons and postclypeus yellowish or yellowish brown, anteclypeus and labrum fuscous. Rostrum with basal segment pale ochraceous, apical segment brown with extreme apex black. Pronotum ochraceous, suffused with blackish brown; median carina yellowish; lateral, ventrally curved areas with broad oblique yellowish band. Mesonotum ochraceous, with median longitudinal yellowish stripe, maculae pale brown. Thorax ventrally dark brown, marked with yellowish or yellowish brown. Legs ochraceous or fuscous, marked with pale brown; coxae blackish brown; femora dark brown or fuscous (hind femora much darker), with numerous pale brown speckles; tibiae pale brown with two broad fuscous rings basally and medially, respectively; tarsi and claws brown (hind tarsi and claws much paler), tips of apical spines on hind tibiae and tarsi black. Abdomen with tergites and sternites dark brown, covered with yellowish brown spots; pygofer and parameres fuscous.

Head (Figs. 11, 12, 76–78) relatively short, shorter than pronotum and mesonotum combined. Vertex (Figs. 11, 12, 76) with cephalic process relatively short, converging anteriorly, somewhat upturned; with median carina only conspicuous at apex and base, middle 1/3 faint; lateral carinate margins curved in front of eyes. Frons (Figs. 11, 12, 78) with lateral carinae reaching to middle of eyes, not to frontoclypeal suture.

Mesonotum (Figs. 11, 12, 76) tricarinate on disc, with median carina conspicuous, not reaching to extreme tip. Fore wing venation as in Fig. 72.

Male genitalia with pygofer (Figs. 79–81) short and broad in lateral aspect (Fig. 80), posterior margin straight and angularly excavated at apical 1/4 apex to accommodate anal tube, length ratio of upper margin to lower margin about 1:2. Anal tube (Figs. 79, 80) rectangular, broad and large in lateral view and oval and large in dorsal view, ratio of length to width at middle about 1.3: 1. Anal style (Figs. 79, 80) short, broad. Parameres (Figs. 80, 81) relatively small and narrow in lateral aspect (Fig. 80), apex sharply rounded, protruded backward. Aedeagus (Figs. 83–85) with phallobasal conjunctival processes

directed lateroposteriorly; phallobase narrow, long, curved dorsally, apicodorsal, membranous lobe small and short, without spines (Fig. 85), apicoventral, membranous lobe larger and longer, produced toward base, divided into pair of small lobes at apex covered with numerous fine spines (Fig. 83).



FIGURES 76–85. *Saigona ussuriensis* (Lethierry, 1878), male. 76. head, pronotum and mesonotum (dorsal view). 77. head and pronotum (lateral view). 78. head (ventral view). 79. pygofer and anal tube (dorsal view). 80. genitalia (lateral view). 81. pygofer and parameres (ventral view). 82. left fore wing. 83. aedeagus (ventral view). 84. same (lateral view). 85. same (dorsal view).

Type material examined

Lectotype ♂ of *Dictyophora* [sic] *ishidae* Matsumura, 1905, designated by Liang & Suwa (1998), [underside] 4/7 [18]90 Jozankei [In Japanese]; Sapporo DR. MATSUMURA; [Matsumura's handwriting] *ishidae* n. sp. det. Dr. Matsumura (HU). Holotype ♀ of *Putala lewisi* Distant 1906, JAPAN: [small round label with red edge] Type, [Distant's handwriting] *Putala lewisi* Dist. Type, Japan (Lewis), 31.7.[18]81, Distant Coll. 1911–383 (BMNH). JAPAN: 1♂ (paralectotype of *Dictyophora* [sic] *ishidae* Matsumura, 1905), Jozankei [In Japanese] Ishida [In Japanese]; 1♀ (paralectotype of *Dictyophora* [sic] *ishidae* Matsumura, 1905), Sapporo DR. MATSUMURA; [underside] 4/7 [18]90 Jozankei [In Japanese]; 1♀ (paralectotype of *Dictyophora* [sic] *ishidae* Matsumura, 1905), Urakawa (all in HU).

Other material examined

Russia: 1♀, Soviet Maritime Territory, 27.vi.1964 (Anufriev), *Saigona ussuriensis* Mel. Anufriev det. 1969, Brit. Mus. 1969–360; 1♂, 1♀, ?Far East Maritime Territory, 28.vi.[?] & 17.vi.[?], *Dictyophara ussuriensis* Leth. Kiritschenko det., Brit. Mus. 1925–285 (all in BMNH). Japan: 1♂, no locality, vi.1949, C. Watanabe; 1♂, no locality and date, G. Muic; 1♀, Takamagahara, 4.ix.1934, no collector (all in IZCAS); 1♀, Tokyo, vii.1933, A. Mura & L. Gressitt (NCSU). China: 1♂, Jilin, Linjiang, 29.v.1955, no collector; 2♀♀, Jilin, Gaolinzi, 10.vii.1939, no collector; 1♀, same locality, 6.vii.1940, no collector; 1♀, Heilongjiang, Dailing, 13.vii.1959, S. X. Zhou (all in IZCAS).

Remarks

This species can be distinguished from other known species of *Saigona* by the aedeagus with phallobase having the apical, ventral, membranous lobe divided into a pair of small lobes covered with numerous fine spines at apex. It is similar to *S. capitata* (Distant, 1914) and *S. taiwanella* Matsumura, 1941 but can be separated from these two species by its distinctly shorter cephalic process (the cephalic process is distinctly longer in the latter two species).

Distribution

Russia (Far Eastern Region), Japan, Korea, northeastern China (Jilin, Heilongjiang).

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