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Taxonomic study of the genus *Scaphoideus* Uhler (Hemiptera, Cicadellidae, Deltocephalinae) from Japan

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Abstract

The Japanese species of the genus *Scaphoideus* are revised. Eight species are recognized from Japan, including four new species: *S. ryukyuensis* **sp. nov.** from the Ryukyus, *S. pristiophorus* **sp. nov.** from Honshu and Kyushu, *S. aurantius* **sp. nov.** from the Ryukyus and *S. brevistylus* **sp. nov.** from Honshu, Kyushu and the Ryukyus.

Key words: Auchenorrhyncha, new species, taxonomy, morphology

Introduction

The genus *Scaphoideus* Uhler is distributed in the Holarctic, Oriental and Afrotropic Regions, and comprises about 160 species (Kitbamroong & Freytag 1978; Li *et al.* 2011; Li & Wang 2002; Viraktamath & Mohan 2004; Webb & Viraktamath 2007).

The Japanese species of *Scaphoideus* are generally characterized by the presence of a pair of large processes on the connective. Four species have been recorded from Japan: *S. albovittatus* Matsumura, *S. kumamotonis* Matsumura, *S. festivus* Matsumura and *S. rubroguttatus* Matsumura.

In the text, the following abbreviations are used for the repositories of the material examined: Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (ELKU); Natural Resources Inventory Center, National Institute for Agro-Environmental Sciences, Tsukuba (NIAES); Department of Biology, Faculty of Education, Saitama University, Saitama (SUU).

Scaphoideus albovittatus Matsumura, 1913

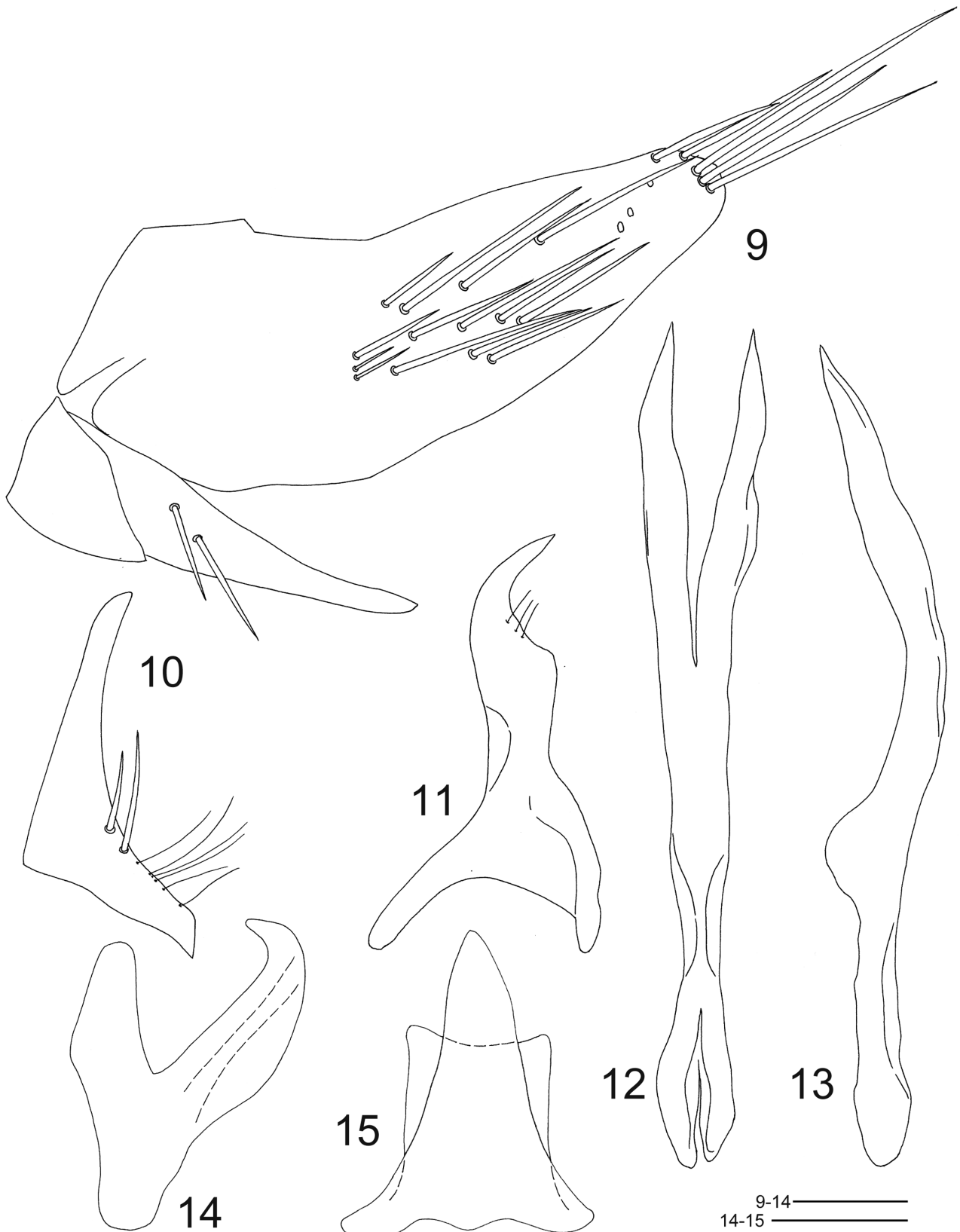
(Figs. 1, 9–15)

Scaphoideus albovittatus Matsumura, 1913: 68.

Description. *Coloration & external morphology.* Head slightly narrower than pronotum; vertex roundly prominent, pale yellow without black spot at apex, with pair of small black spots near ocelli and pair of large black spots near ocelli; medial length of vertex 1.2 times as long as length next to eyes and half as long as width of head; frontoclypeus pale yellow with narrow blackish stripe and wide blackish band near anterior margin; clypellus and lorum pale yellow and immaculate; gena pale yellow with small blackish marking below antenna. Pronotum 2.1 times as wide as long, slightly longer than mesonotum, brown with wide longitudinal pale stripe and 2 pairs of blackish spots anteriorly; pale stripe of pronotum with pair of brownish small spots anteriorly; mesonotum brown with longitudinal pale stripe and pair of brownish spots medially. Fore wing pale yellowish semitransparent; ventral surface of thorax, legs and abdominal segments pale yellow. Caudal margin of female 7th abdominal sternite slightly produced caudally and incised medially.



FIGURES 1–8. 1, *Scaphoideus albovittatus* Matsumura; 2, *S. kumamotonis* Matsumura; 3, *S. ryukyuensis* **sp. nov.**; 4, *S. rubroguttatus* Matsumura; 5, *S. festivus* Matsumura; 6, *S. pristiophorus* **sp. nov.**; 7, *S. aurantius* **sp. nov.**; 8, *S. brevistylus* **sp. nov.**



FIGURES 9–15. *Scaphoideus albovittatus*, ♂ genitalia (9–15). — 9, ♂ pygofer in lateral view; 10, right subgenital plate in ventral view; 11, style; 12, connective in dorsal view; 13, connective in lateral view; 14, aedeagus in lateral view; 15, aedeagus in caudal view. Scales; 0.1 mm.

Male genitalia. Pygofer very long and gradually tapered apically in lateral view, with a tuft of very long macrosetae apically and a few shorter macrosetae subapically, without pygofer process. Subgenital plate distinctly widened basally, as long as 1/3 length of pygofer, with uniseriate row of 2–3 macrosetae subbasally. Style slender, with long apodeme; preapical lobe small; apophysis (apical process) short, directing laterally, with 3 short hairs. Connective with pair of long processes; processes as long as connective, gradually tapered and pointed apically; arms nearly parallel. Aedeagus robust; shaft 1.5 times as long as basal apodeme, wide in lateral view, hooked dorsad at apex, without apical processes; gonopore subapical on ventral surface.

Body length (mean). ♂, 4.9–5.4 mm (5.1 mm); ♀, 5.6–6.1 mm (5.7 mm).

Specimens examined. [Honshu] 2♂, Kuroiso, Tochigi Pref., 5–6. VII. 1975, R. Katayama (NIAES); 1♂, same data except 29. VI. 1975; 1♀, Yoshida, Saitama Pref., 23. X. 1986, M. Hayashi *et al.* (SUU); 9♂ 14♀, Akanuma, Hatoyama, Saitama Pref., 11. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 7♂ 15♀, same data except 19. IX. 1985; 2♀, same data except 20. IX. 1987; 2♀, Akigase, Urawa, Saitama Pref., 21. IV. 1985, M. Hayashi *et al.* (SUU). [Kyushu] 1♂ 1♀, Kokose, Nishimoro, Suki / Kobayashi, Miyazaki Pref., Kyushu, Japan, 3. VII. 2004, S. Kamitani (ELKU).

Distribution. Japan (Honshu, Shikoku, Kyushu); Korea, China, Russia.

Remarks. This species had been recognized to be widespread throughout Japan. However, the collecting records from several localities may be a misidentification of *S. kumamotonis* Matsumura.

***Scaphoideus kumamotonis* Matsumura, 1914**

(Figs. 2, 16–22)

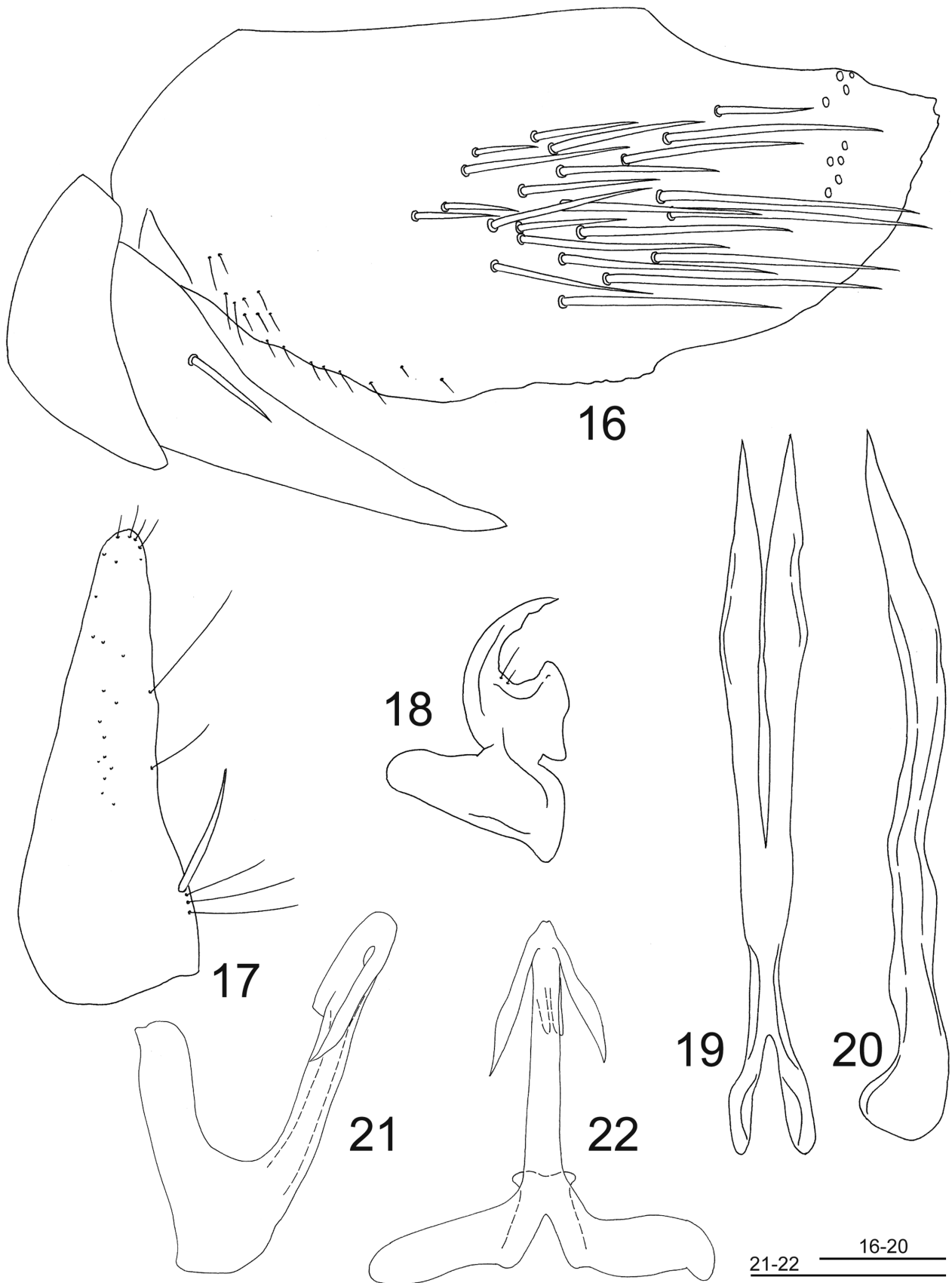
Scaphoideus kumamotonis Matsumura, 1914: 224.

Description. *Coloration & external morphology.* Head slightly narrower than pronotum and strongly produced angularly, pale yellow with very small black spot at apex, pair of small black spots near ocelli; medial length of vertex 1.2 times as long as length next to eyes and 0.6 times as long as width of head; ocelli pale; frontoclypeus pale yellow with 2 transverse narrow brownish stripes near anterior margin, sometimes with only one stripe; clypellus, gena and lorum pale yellow and immaculate. Pronotum 2.1 times as wide as long, slightly longer than mesonotum; pronotum and mesonotum pale brown with wide longitudinal pale stripe weakly darkened laterally. Fore wing pale yellowish semitransparent; ventral surface of thorax, legs and abdominal segments pale yellow. Caudal margin of female 7th abdominal sternite strongly produced caudally and weakly dentate medially.

Male genitalia. Pygofer very long and tapered apically in lateral view, with a tuft of very long macrosetae apically (missing in this specimen figured) and many shorter macrosetae subapically, without pygofer process. Subgenital plate triangular, as long as half length of pygofer, provided with uniseriate row of 2–3 macrosetae subbasally. Style small, with short apodeme; preapical lobe small and weakly angular; apophysis (apical process) short, roundly curved laterally, sinuate at inner margin, with 2–3 short hairs. Connective with pair of very long processes; processes widest at apical half and pointed apically; arms nearly parallel. Aedeagus slender; shaft 1.5 times as long as basal apodeme, usually with pair of long apical processes (sometimes two pairs, subapical one short and arising from dorsal surface); apical process linear, as long as half length of shaft, turning ventrad; subapical process directing parallel to shaft, half as long as apical process; gonopore apical on dorsal surface.

Body length (mean). ♂, 4.1–4.6 mm (4.3 mm); ♀, 4.4–5.1 mm (4.8 mm).

Specimens examined. [Honshu] 1♀, Okuda, Hatoyama, Saitama Pref., 31 VII. 1984 (light trap), M. Hayashi *et al.* (SUU); 1♀, same data except 5. IX. 1985; 1♂ 2♀, same data except 25. IX. 1986; 1♂ 2♀, same data except 13. VIII. 1989; 3♀, same data except 20. VIII. 1992; 3♂ 7♀, same data except 14. VIII. 1995; 1♂ 1♀, same data except 20. IX. 2000; 1♀, Akanuma, Hatoyama, Saitama Pref., 5. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 55♂ 26♀, same data except 11. IX. 1985; 6♂ 16♀, same data except 19. IX. 1985; 4♂ 5♀, same data except 20. IX. 1987; 4♂ 1♀, same data except 15. VIII. 1991; 1♀, Sue, Hatoyama, Saitama Pref., 10. IX. 1995, M. Hayashi *et al.* (SUU); 3♀, Takamatsu, Minano, Saitama Pref., 5. XI. 1996, M. Hayashi *et al.* (SUU); 1♂ 5♀, Gôdo, Higashimatsuyama, Saitama Pref., 16. VII. 1996, M. Hayashi *et al.* (SUU); 1♀, same data except 8. VIII. 1996 (light trap); 1♂ 2♀, same data except 30. VIII. 1996; 15♂ 2♀, same data except 30. VIII. 1996 (light trap); 1♂ 2♀, same data except 18. IX. 1996 (light trap); 3♂ 11♀, same data except 19. IX. 1996; 4♀, same data except 10. X. 1996; 2♀,



FIGURES 16–22. *Scaphoideus kumamotonis*, ♂ genitalia (16–22). — 16, ♂ pygofer in lateral view; 17, right subgenital plate in ventral view; 18, left style in dorsal view; 19, connective in dorsal view; 20, connective in lateral view; 21, aedeagus in lateral view; 22, aedeagus in caudal view. Scales; 0.1 mm.

same data except 24. X. 1996; 1♂ 1♀, Ishidojuku, Kitamoto, Saitama Pref., 5. VII. 1989 (light trap), M. Hayashi *et al.* (SUU); 1♀, Tochiya, Chichibu, Saitama Pref., 28. IX. 1996, M. Hayashi *et al.* (SUU); 13♂ 5♀, Imori, Chichibu, Saitama Pref., 23. VII. 1996, M. Hayashi *et al.* (SUU); 1♀, Higashiwada, Sakado, Saitama Pref., 7. VII. 1999 (light trap), M. Hayashi *et al.* (SUU); 1♀, same data except 8. VII. 1999; 1♂, Kitahirasawa, Hidaka, Saitama Pref., 14. VIII. 2000, M. Hayashi *et al.* (SUU); 3♂ 1♀, Niihori, Hidaka, Saitama Pref., 8. VII. 1999, M. Hayashi *et al.* (SUU); 5♂ 5♀, same data except 9. VII. 1999; 2♂ 5♀, same data except 19. VII. 1999; 1♂ 3♀, same data except 28. VII. 1999; 6♂, same data except 17. VIII. 1999; 1♂ 1♀, same data except 19. VIII. 1999; 8♂ 5♀, same data except 9. IX. 1999; 4♂, same data except 29. IX. 1999; 3♀, same data except 30. IX. 1999 (light trap); 1♂, same data except 19. X. 1999; 1♂, Koma, Hidaka, Saitama Pref., 27. IX. 1984, M. Hayashi *et al.* (SUU); 8♂ 4♀, same data except 29. VIII. 1985 (light trap); 2♀, same data except 12. IX. 1985; 2♀, same data except 19. IX. 1985; 1♂ 1♀, same data except 25. IX. 1985; 3♀, same data except 18. VII. 1996; 1♂ 1♀, same data except 20. IX. 2000; 3♂ 6♀, Hannô, Saitama Pref., 12. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 1♀, Akigase, Urawa, Saitama Pref., 10. VII. 1984, M. Hayashi *et al.* (SUU); 1♀, same data except 22. X. 1984; 2♂ 3♀, same data except 21. IV. 1985; 2♂, same data except 1. VII. 1988; 3♀, same data except 29. VII. 1988; 33♂ 3♀, same data except 20. VI. 1990 (light trap); 1♀, same data except 27. VI. 1990; 1♀, same data except 7. VII. 1990; 19♂ 8♀, same data except 24. VIII. 1990 (light trap); 1♀, same data except 25. IX. 1990; 3♂ 1♀, same data except 15. VIII. 1991; 1♀, same data except 9. IX. 1992; 2♀, same data except 27. VI. 1995 (light trap); 1♀, same data except 4. X. 1995; 2♀, same data except 17. VII. 1996; 2♀, same data except 31. VIII. 1996; 2♂ 1♀, same data except 8. IX. 1996; 2♀, same data except 7. VIII. 1997; 1♀, Kamitome, Miyoshi, Saitama Pref., 29. VI. 1985, M. Hayashi *et al.* (SUU); 2♂ 4♀, Osogi, Ôme, Tokyo, 29. VII. 1986, M. Hayashi *et al.* (SUU); 3♀, same data except 21. VIII. 1986; 2♀, same data except 19. IX. 1986; 1♂ 2♀, same data except 9. X. 1986; 1♀, Takao, Hachiôji, Tokyo, 12. VII. 1979 (light trap), M. Hayashi *et al.* (SUU); 1♂, Imperial Palace, Chiyoda, Tokyo, 10. IX. 1997, T. Tomokuni (NSMT); 1♂ 1♀, same data except 6. VII. 1998; 1♀, same data except 21. X. 1998; 1♂, Shimoinô, Tsukui, Kanagawa Pref., 18. XI. 1986, M. Hayashi *et al.* (SUU); 2♂ 7♀, Endô, Fujisawa, Kanagawa Pref., 11. IX. 1994 (light trap), M. Hayashi *et al.* (SUU); 1♀, Mt. Ôgusu, Yokosuka, Kanagawa Pref., 21. VI. 1994, M. Hayashi *et al.* (SUU); 1♀, same data except 5. VIII. 1994; 1♂, same data except 8. VIII. 1994; 3♀, same data except 19. VIII. 1994; 2♀, same data except 5. IX. 1994; 1♂ 1♀, same data except 20. IX. 1994; 2♂ 3♀, same data except 26. IX. 1994; 1♂ 2♀, same data except 16. VII. 1996; 1♂, Higashizawa, Tanzawa Mts., Kanagawa Pref., 21. IX. 1994, M. Hayashi *et al.* (SUU); 1♀, Koajiro, Miura, Kanagawa Pref., 5. VII. 1994, M. Hayashi *et al.* (SUU); 15♂ 12♀, same data except 25. VII. 1984 (light trap); 2♀, same data except 5. IX. 1994; 35♂ 12♀, same data except 20. IX. 1994 (light trap); 14♂ 36♀, same data except 16. VII. 1996 (light trap); 2♂, Tentokuji, Tottori, Tottori Pref., VI. 1976, T. Okada (SUU).

Distribution. Japan (Honshu, Kyushu, Tsushima Is.).

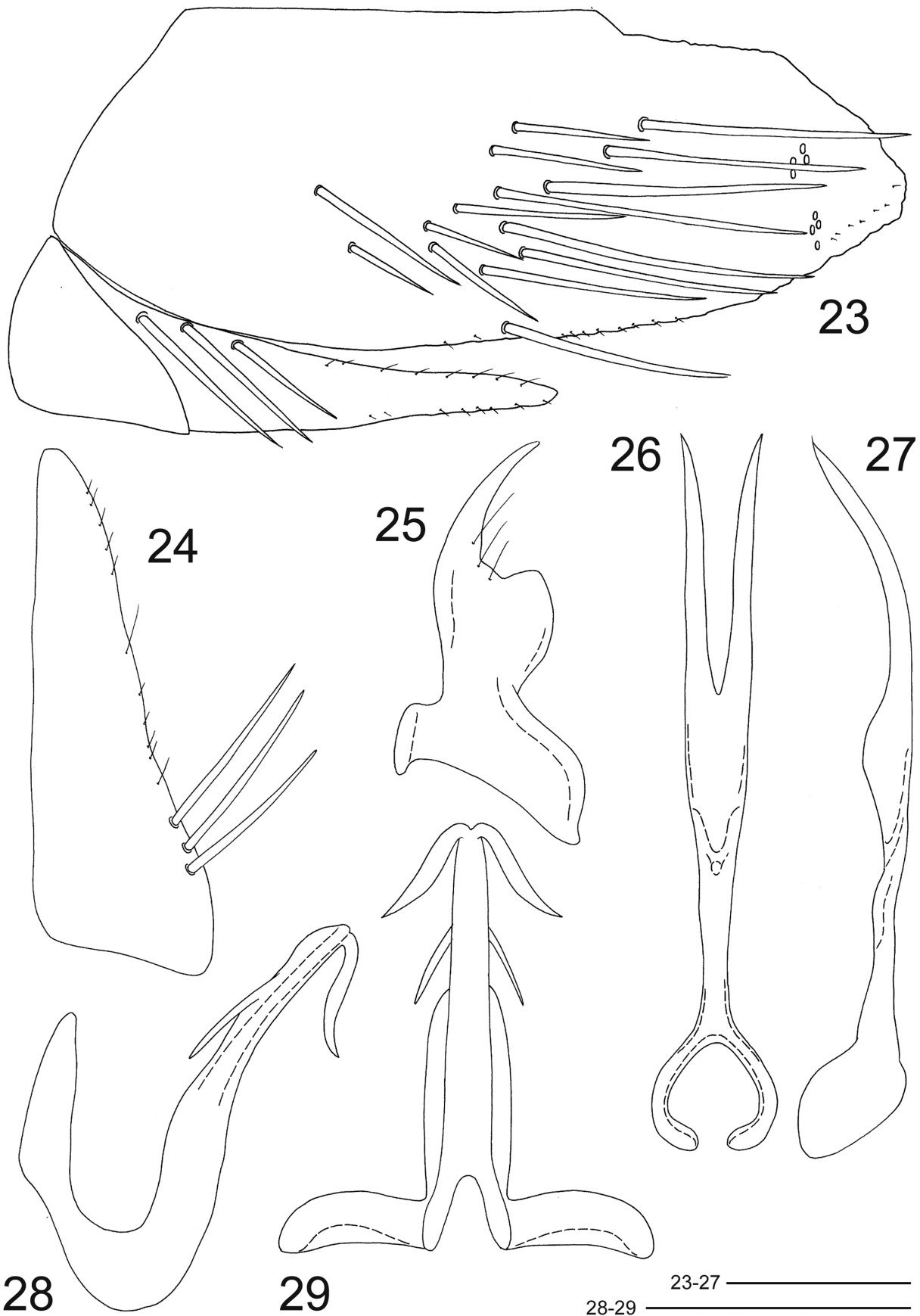
Remarks. This species is similar to *S. albovittatus* Matsumura, but is clearly distinguished by the following taxonomic characters: aedeagus elongate with apical processes directed dorsally; style very small; processes on connective widest at apical half and without serration on outer margin. A record of *S. kumamotonis* Matsumura from the Ryukyus (Hayashi 2002) is a misidentification of *S. ryukyuensis* sp. nov. (described below).

Scaphoideus ryukyuensis sp. nov.

(Figs. 3, 23–29)

Scaphoideus kumamotonis: Hayashi 2002: 103 (nec Matsumura 1914).

Description. *Coloration & external morphology.* Head slightly narrower than pronotum and strongly produced angularly; medial length of vertex 1.3 times as long as length next to eyes and half as long as width of head, pale yellow with small black spot at apex, pair of large black spots near apex of anterior margin and pair of large black spots near ocelli; ocelli situated on boundary between vertex and frons, pale; coronal suture on posterior surface of vertex indistinct; frontoclypeus pale yellow with a few transverse blackish stripes near anterior margin; clypellus and lorum pale yellow and immaculate; gena pale yellow with a small blackish spot below antenna. Pronotum 2.2 times as wide as long, nearly as long as mesonotum mid-dorsally; pronotum and mesonotum brown with wide longitudinal pale stripe darkened laterally. Fore wing pale yellowish semitransparent; ventral surface of thorax, legs and abdominal segments pale yellow. Caudal margin of female 7th abdominal sternite bisinuate; central part strongly produced.



FIGURES 23–29. *Scaphoideus ryukyuensis* sp. nov., ♂ genitalia (23–29). — 23, ♂ pygofer in lateral view; 24, right subgenital plate in ventral view; 25, left style in dorsal view; 26, connective in dorsal view; 27, connective in lateral view; 28, aedeagus in lateral view; 29, aedeagus in caudal view. Scales; 0.1 mm.

Male genitalia. Pygofer very long and gradually tapered apically in lateral view, with a tuft of very long macrosetae apically (missing in this figured specimen) and a few shorter macrosetae subapically, without pygofer process. Subgenital plate triangular and long, but as long as half length of pygofer, provided with uniseriate row of 3 macrosetae near base. Style robust, with short apodeme; preapical lobe rounded and wide; apophysis (apical process) rather short, weakly curved laterally, with 3 short hairs. Connective with pair of slender processes; processes as long as 2/3 length of connective, gradually tapered and pointed apically; arms short, roundly curved, widened in lateral view. Aedeagus slender; shaft 2 times as long as basal apodeme, with pair of processes and pair of subapical processes arising from dorsal surface; apical process sinuate, slightly widened, as long as 1/4 length of shaft, directing ventrally; subapical process slender, extending parallel to shaft, slightly shorter than apical process; gonopore apical on posterior surface.

Body length (mean). ♂, 4.0–4.6 mm (4.2 mm); ♀, 4.5–5.3 mm (5.0 mm).

Type material. *Holotype:* ♂, Ura, Kunigami, Okinawa Is., Ryukyus, Japan, 2. VII. 1996, M. Hayashi *et al.*, light trap. *Paratypes:* [Okinawa Is.] 1♀, Oku For. Rd., Kunigami, 2. VII. 1996, M. Hayashi *et al.*; 2♂, Mt. Nishime-dake, Kunigami, 3. VII. 1993 (light trap), M. Hayashi *et al.*; 1♂, same data except 1. VII. 1996; Mt. Terukubi, Kunigami, 22. XII. 1991 (light trap), M. Hayashi *et al.*; 1♂, Terukubi For. Rd., Kunigami, 12. XI. 1985 (light trap), M. Hayashi *et al.*; 7♂ 1♀, Yona, Kunigami, 13. XI. 1985 (light trap), M. Hayashi *et al.*; 1♀, same data except 9. X. 1990; 1♀, same locality, 21. X. 1990, M. Hayashi *et al.*; 1♀, same locality, 22. XII. 1991 (light trap), M. Hayashi *et al.*; 8♂ 8♀, same data except 2. VII. 1996; 1♀, same locality, 4. VII. 2000, M. Hayashi *et al.*; 4♂, same data as holotype; 2♀, Hentona, Kunigami, 2. X. 1991 (light trap), M. Hiratate; 1♂, same data except 4. X. 1991; 1♂ 1♀, Mt. Yonaha-dake, Kunigami, 8. X. 1995, M. Hayashi *et al.*; 1♀, Hiji, Kunigami, 22. XII. 1991, M. Hayashi *et al.*; 3♀, Uebaru., Nakijin, 20. XII. 1991 (light trap), M. Hayashi *et al.*; 1♀, Gogayama, Nakijin, 9. X. 1995, M. Hayashi *et al.*; 2♀, Fukuyama, Ginoza, 28. VII. 1995, M. Hayashi *et al.*; 1♀, Afuso, Onna, 20. XII. 1991, M. Hayashi *et al.*; 2♂ 2♀, Ôura, Nago, 13. X. 1993 (light trap), M. Hayashi *et al.* (all above in SUU).

Distribution. Japan (Ryukyus: Okinawa Is.).

Remarks. This new species is very similar to *S. kumamotonis* Matsumura and *S. maai* Kitbamroong et Freytag in habitus, but it is easily distinguishable from the latter by the structure of male genitalia: narrow processes of connective, large style and aedeagus with apical processes directed ventrally. The species name is derived from the locality of the types.

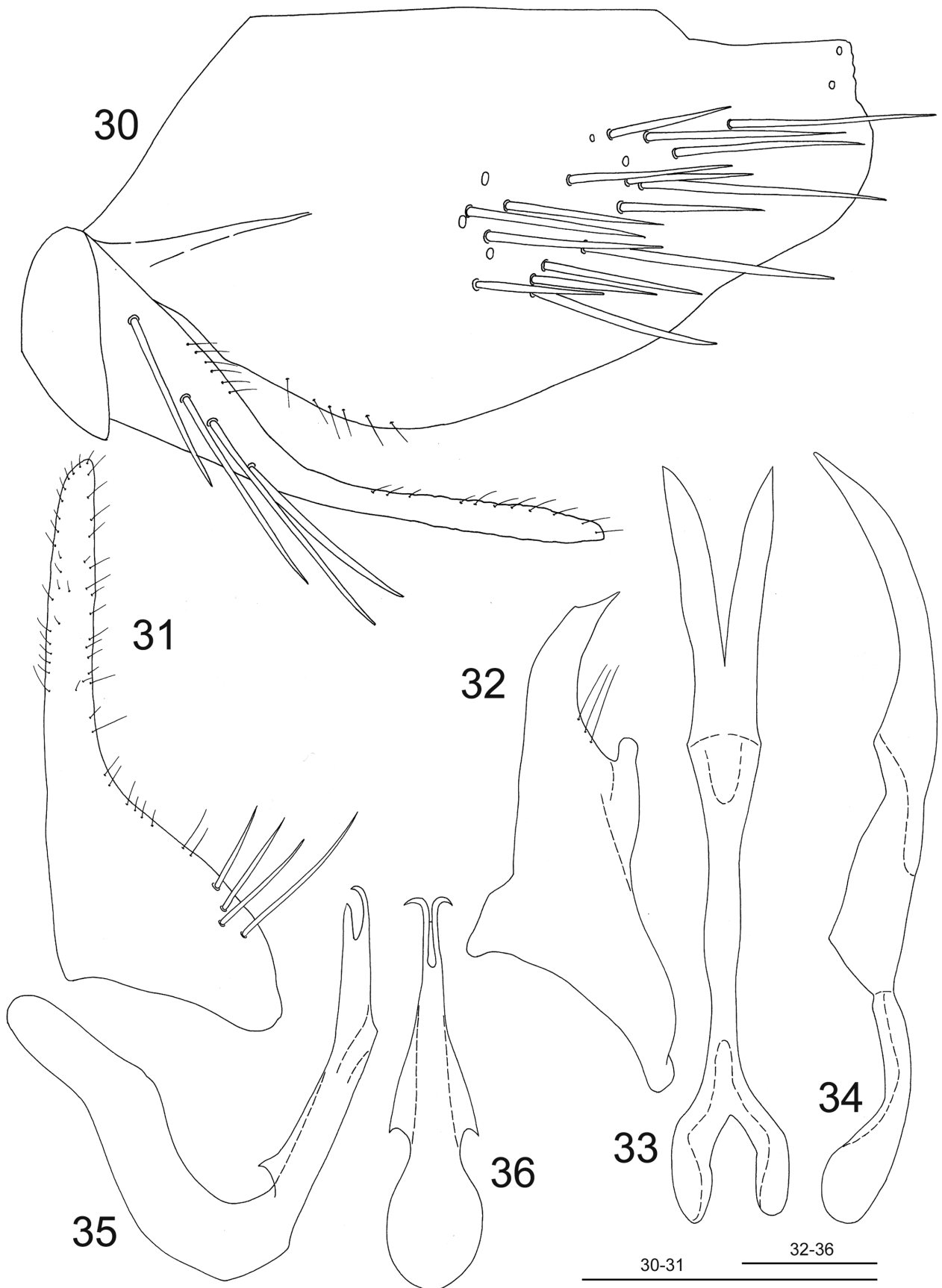
***Scaphoideus rubrogutattus* Matsumura, 1914**

(Figs. 4, 30–36)

Scaphoideus rubrogutattus Matsumura, 1914: 223.

Description. *Coloration & external morphology.* Head as wide as pronotum; vertex roundly prominent, pale yellow with transverse orange band between ocelli; medial length of vertex 1.2 times as long as length next to eyes and half as long as width of head; frontoclypeus yellow with a narrow blackish stripe near anterior margin (sometimes absent in female); clypellus, gena and lorum pale yellow and immaculate; ocellocular area with blackish marking above antenna (sometimes absent in female). Pronotum 2.1 times as wide as long, slightly longer than mesonotum, with obscure longitudinal pale stripe and a orange marking near anterior margin; mesonotum with obscure longitudinal pale stripe and pair of longitudinal orange stripes medially. Fore wing yellowish semitransparent; ventral surface of thorax, legs and abdominal segments pale yellow. Caudal margin of female 7th abdominal sternite nearly straight, without incision at middle.

Male genitalia. Pygofer long and slightly truncate apically in lateral view, with a tuft of very long macrosetae apically (missing in this specimen figured) and many shorter macrosetae subapically, without pygofer process. Subgenital plate distinctly widened basally, as long as half length of pygofer, provided with a uniseriate row of 4 macrosetae subbasally. Style robust; preapical lobe very small; apophysis (apical process) short and wide, immediately tapered at apical 1/5, with 3 short hairs. Connective with pair of slightly short processes; processes half as long as connective, gradually tapered; arms somewhat apart to each other. Aedeagus slender; shaft slightly longer than basal apodeme, with pair of short apical ventral processes curved laterodorsad and short apical dorsal process, and with a triangular flange on each basal side of shaft slight curved dorsally; basal apodeme widened at apical 1/3; gonopore subapical on ventral surface.



FIGURES 30–36. *Scaphoideus rubroguttatus*, ♂ genitalia (30–36). — 30, ♂ pygofer in lateral view; 31, right subgenital plate in ventral view; 32, left style in dorsal view; 33, connective in dorsal view; 34, connective in lateral view; 35, aedeagus in lateral view; 36, aedeagus in caudal view. Scales; 0.1 mm.

Body length (mean). ♂, 3.6–5.1 mm (4.6 mm); ♀, 4.4–5.8 mm (5.1 mm).

Specimens examined. [Honshu] 1♂, Yanagidaira, Makioka, Yamanashi Pref., 16 VIII. 2000, M. Hayashi *et al.* (SUU); 7♂, Miyakubo, Nirasaki, Yamanashi Pref., 16 VIII. 2000, M. Hayashi *et al.* (SUU); 1♂, Sawada, Nishiizu, Shizuoka Pref., 19 VII. 1990, M. Hayashi *et al.* (SUU); 1♂, Fukuyama, Hiroshima Pref., 19 VII. 1966, J. Hirao (NIAES). [Ryukyus] 1♂ 1♀, Tamina-misaki, China, Okinoerabujima Is., 14 VII. 1993, M. Hayashi *et al.* (SUU); 1♀, Mt. Ibu, Kunigami, Okinawa Is., 4 X. 1989, M. Hiratate (SUU); 1♀, Naha, Okinawa Is., 12 XI. 1971, T. Teruya (SUU); 3♂, Manzamô, Onna, Okinawa Is., 30 IX. 2007, M. Hayashi *et al.* (SUU); 1♀, same data except 31 IX. 2007; 1♂, Gushikawa-Gusuku, Gushikawa, Kumejima Is., 20 IX. 1991, C. Kuwabara (SUU); 4♂ 3♀, Nishi-hennazaki, Hirara, Miyako Is., 22 XI. 1992, M. Hayashi *et al.* (SUU); 1♀, Higashi-hennazaki, Gusukube, Miyako Is., 13 XII. 1992, M. Hayashi *et al.* (SUU); 1♂ 1♀, Hirakubozaki, Ishigaki Is., 27 VI. 2000, M. Hayashi *et al.* (SUU); 1♀, Yonehara, Ishigaki Is., 7 V. 1993 (light trap), M. Hayashi *et al.* (SUU); 1♀, Mt. Banna, Ishigaki Is., 4 XI. 1985, M. Hayashi *et al.* (SUU); 1♀, Omoto / Takeda, Ishigaki Is., 17 X. 1990 (light trap), M. Hayashi *et al.* (SUU); 1♂, Tomino, Ishigaki Is., 29 X. 2007, M. Hayashi *et al.* (SUU); 1♂, Funaura, Iriomote Is., 11 X. 1990 (light trap), M. Hayashi *et al.* (SUU); 1♂, same data except 22 VI. 1992; 1♀, same data except 11 V. 1993; 1♂, Arakawa, Yonaguni Is., 4 X. 1993 (light trap), M. Hayashi *et al.* (SUU); 1♀, same data except 5 X. 1993; 1♀, Higawa, Yonaguni Is., 9 X. 1993, M. Hayashi *et al.* (SUU).

Distribution. Japan (Honshu, Kyushu, Ryukyus); Taiwan.

Remarks. In the drawing of the male genitalia by Okada (1977), the dorsal apodeme is not shown, possibly due to improper dissection. The base of the aedeagal shaft of Okada's drawing is somewhat wider than those of other Japanese specimens including the specimens examined by Webb & Viraktamath (2007). This leafhopper is similar to *S. quangtriensis* Webb et Viraktamath from Vietnam and the Philippines, but differs in the shape of the apical processes of the aedeagal shaft.

Scaphoideus festivus Matsumura, 1902

(Figs. 5, 37–43)

Scaphoideus festivus Matsumura, 1902: 384.

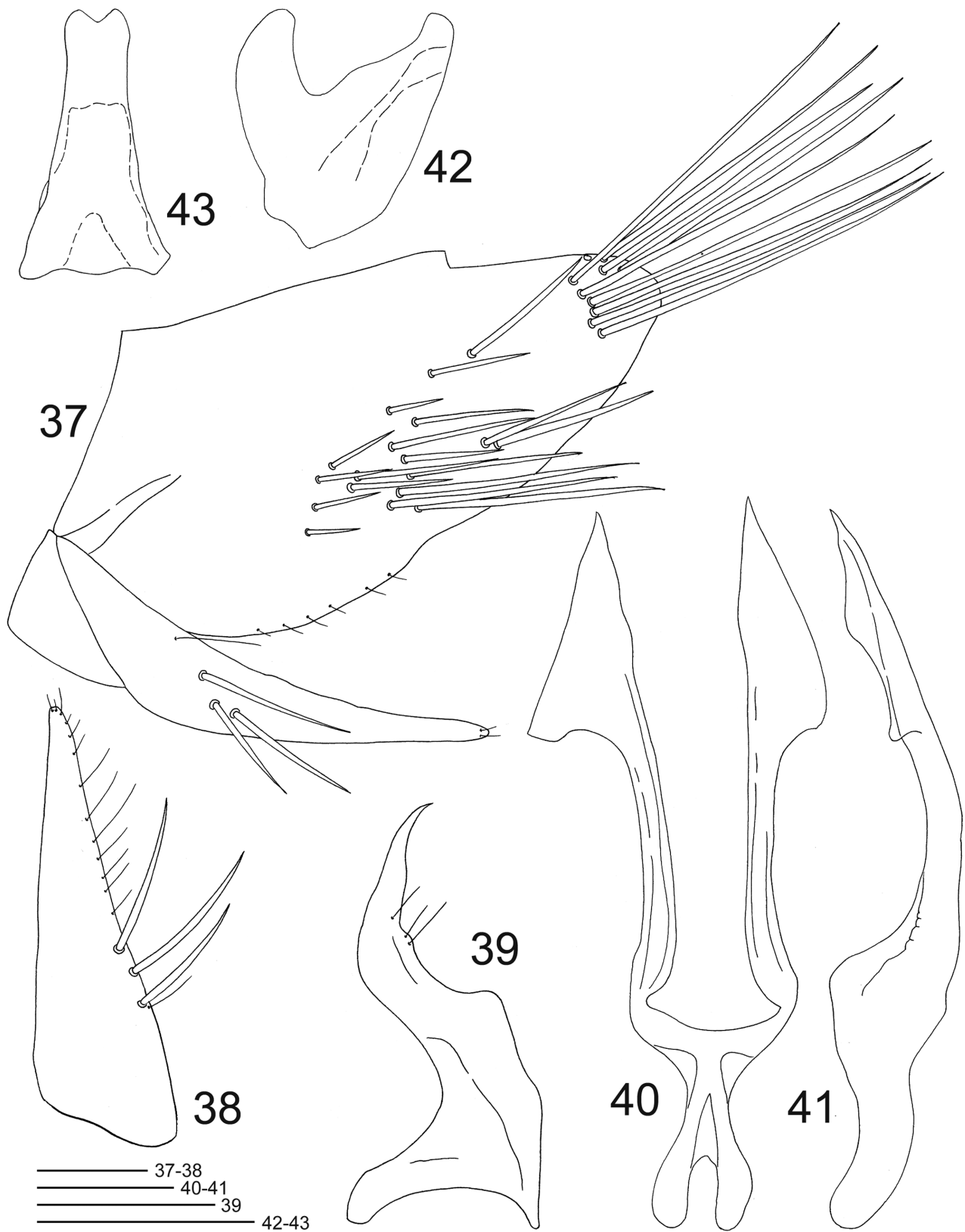
Description. *Coloration & external morphology.* Head narrower than pronotum; anterior margin roundly prominent, pale with transverse wide orange band between ocelli, without apical black spot; medial length of vertex 1.3 times as long as length next to eyes and 0.3 times as long as width of head; frontoclypeus pale with 2 or 3 narrow black stripes near anterior margin; clypellus, gena and lorum pale and immaculate. Pronotum 2.2 times as wide as long, longer than mesonotum, darkened near anterior margin, pale at center, pale orange at posterior half; mesonotum pale orange at apical half and pale at posterior half. Fore wing brownish semitransparent; ventral surface of thorax, legs and abdominal segments pale. Caudal margin of female 7th abdominal sternite roundly produced caudally and not incised medially.

Male genitalia. Pygofer long and gradually tapered apically in lateral view, with a tuft of very long macrosetae apically and many shorter macrosetae subapically, without pygofer process. Subgenital plate triangular and long, as long as half length of pygofer, provided with row of 3 macrosetae near base. Style slightly slender; preapical lobe small and weakly rounded; apophysis (apical process) long, pointed apically, weakly curved laterally, with 3 short hairs. Connective with pair of long processes; processes 3 times as long as connective, distinctly widened at apical 1/3, forming like arrowhead; arms short, somewhat apart to each other. Aedeagus small and robust; shaft short, as long as basal apodeme; gonopore subapical on ventral surface.

Body length (mean). ♂, 4.5–5.3 mm (5.0 mm); ♀, 5.1–5.9 mm (5.6 mm).

Specimens examined. [Honshu] 1♂, Imoritai, Nishimeya, Aomori Pref., 29. IX. 1992, M. Hayashi *et al.* (SUU); 1♀, Yunomata, Matsuo, Iwate Pref., 27. VIII. 2000 (light trap), M. Hayashi *et al.* (SUU); 1♂ 1♀, Ikeuchi, Ôdate, Akita Pref., 23–27. VII. 2000, M. Hayashi *et al.* (SUU); 1♀, Ryôu, Sakata, Yamagata Pref., 30–31. VII. 2000, M. Hayashi *et al.* (SUU); 1♂, Horiuchi, Funagata, Yamagata Pref., 27–29. VII. 2000, M. Hayashi *et al.* (SUU); 1♂, Budô-sawa, Iide, Yamagata Pref., 19. VIII. 1988, M. Hayashi *et al.* (SUU); 9♂ 22♀, Kawairi, Yamato, Fukushima Pref., 18. VIII. 1988 (light trap), M. Hayashi *et al.* (SUU); 17♂ 20♀, same data except 19. VIII. 1988; 7♂ 11♀, Osawa, Yamato, Fukushima Pref., 17. VIII. 1988 (light trap), M. Hayashi *et al.* (SUU); 6♂ 10 ♀, same

data except 19. VIII. 1988; 1♂, Kuroishi, Iwadate, Fukushima Pref., 27. VII. 1999 (light trap), M. Hayashi *et al.* (SUU); 1♀, Hinoemata, Fukushima Pref., 17. VIII. 1988, M. Hayashi *et al.* (SUU); 1♂, Nakata, Furukawa, Ibaraki Pref., 1. VIII. 1988 (light trap), M. Hayashi *et al.* (SUU); 3♂ 4♀, Shimokimida, Takahagi, Ibaraki Pref., 22. VIII. 1989 (light trap), M. Hayashi *et al.* (SUU); 3♂ 6♀, Nakanosawa, Ueno, Gunma Pref., 28. VIII. 1994 (light trap), M. Hayashi *et al.* (SUU); 2♂, Aguma, Yoshida, Saitama Pref., 25. VII. 1989, M. Hayashi *et al.* (SUU); 3♂, Okuda, Hatoyama, Saitama Pref., 31. VII. 1984 (light trap), M. Hayashi *et al.* (SUU); 1♂, same data except 24. X. 1988; 1♂ 3♀, same data except 15. VIII. 1991; 2♂, same data except 13. VIII. 1989; 1♀, same data except 20. VIII. 1992; 1♀, Akanuma, Hatoyama, Saitama Pref., 5. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 1♂ 1♀, same data except 11. IX. 1985; 1♂ 1♀, same data except 20. IX. 1987; 2♀, Sue, Hatoyama, Saitama Pref., 10. IX. 1995, M. Hayashi *et al.* (SUU); 1♂, Gôdo, Higashi-matsuyama, Saitama Pref., 8. VIII. 1996 (light trap), M. Hayashi *et al.* (SUU); 5♂ 3♀, same data except 30. VIII. 1986; 1♂ 1♀, same data except 18. IX. 1996; 1♀, same data except 19. IX. 1996; 3♂ 1♀, Mt. Jômine, Yoshida, Saitama Pref., 5. IX. 1996 (light trap), M. Hayashi *et al.* (SUU); 3♂ 2♀, same data except 4. VIII. 1997; 1♂, Takao, Kitamoto, Saitama Pref., 27. VIII. 1992 (light trap), M. Hayashi *et al.* (SUU); 1♀, Narao, Minano, Saitama Pref., 10. IX. 1986, M. Hayashi *et al.* (SUU); 1♂ 1♀, Nihongi, Minano / Higashi-chichibushi, Saitama Pref., 14. VIII. 1984, M. Hayashi *et al.* (SUU); 1♂, same data except 15. X. 1985; 3♀, same data except 29. VIII. 1994; 2♀, Imori, Chichibu, Saitama Pref., 23. VII. 1996 (light trap), M. Hayashi *et al.* (SUU); 1♀, Heirinji, Iwatsuki, Saitama Pref., 19. VII. 1999, M. Hayashi *et al.* (SUU); 3♀, Kamitome, Miyoshi, Saitama Pref., 24. VII. 1991, M. Hayashi *et al.* (SUU); 4♂ 3♀, Nakatsugawa, Ôtaki, Saitama Pref., 15. VIII. 1984 (light trap), M. Hayashi *et al.* (SUU); 1♂, same data except 25. VII. 1998; 1♀, Mt. Mitsumine, Ôtaki, Saitama Pref., 5. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 7♂ 3♀, same data except 6. IX. 1984; 1♀, same data except 6. IX. 1989; 1♀, same data except 7. IX. 1989; 1♀, same data except 21. IX. 2000; 2♂ 7♀, Ôtaki, Ôtaki, Saitama Pref., 1. VIII. 1994 (light trap), T. Usui (SUU); 10♂ 13♀, Futase, Ôtaki, Saitama Pref., 7. IX. 1986 (light trap), M. Hayashi *et al.* (SUU); 10♂ 10♀, same data except 31. VIII. 1988; 7♂ 6♀, same data except 6. IX. 1989; 4♂ 5♀, same data except 13. VIII. 1990; 10♂ 7♀, same data except 11. IX. 1990; 1♂ 3♀, same data except 2. IX. 1993; 4♂ 10♀, same data except 3. IX. 1993; 12♂ 26♀, same data except 20. IX. 2000; 1♀, Irikawa Valley, Ôtaki, Saitama Pref., 24. VIII. 1983 (light trap), M. Hayashi *et al.* (SUU); 1♀, same data except 15. VIII. 1986; 2♀, same data except 1. IX. 1988; 1♂ 2♀, same data except 8. IX. 1987; 1♀, same data except 10. IX. 1990; 4♂ 1♀, same data except 11. IX. 1990; 2♂ 1♀, same data except 28. VII. 1998; 1♂ 3♀, same data except 14. VIII. 2000; 2♀, Ôchigawa Valley, Ôtaki, Saitama Pref., 6. VIII. 1997, M. Hayashi *et al.* (SUU); 2♂, Higashiwada, Sakado, Saitama Pref., 7. VII. 1999 (light trap), M. Hayashi *et al.* (SUU); 3♂, same data except 8. VII. 1999; 1♂, same data except 8. IX. 1999; 1♂ 1♀, Niihori, Hidaka, Saitama Pref., 2. VIII. 1985 (light trap), M. Hayashi *et al.* (SUU); 1♀, same data except 26. IX. 1984; 1♂, same data except 19. IX. 1985; 1♀, same data except 25. IX. 1986; 8♂, same data except 8. VII. 1999; 4♂ 7♀, same data except 9. VII. 1999; 1♂ 2♀, same data except 19. VII. 1999; 2♂ 1♀, same data except 28. VII. 1999; 1♀, same data except 30. IX. 1999; 1♂ 1♀, Koma, Hidaka, Saitama Pref., 18. VII. 1996 (light trap), M. Hayashi *et al.* (SUU); 2♀, same data except 6. VIII. 1996; 1♀, Onakage, Hidaka, Saitama Pref., 22. VII. 1996, M. Hayashi *et al.* (SUU); 1♀, Hannô, Saitama Pref., 11. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 7♂ 21♀, same data except 12. IX. 1985; 7♂ 6♀, Akigase, Urawa, Saitama Pref., 17. VII. 1996, M. Hayashi *et al.* (SUU); 5♂, same data except 27. VI. 1990; 1♂, same data except 26. VII. 1990; 2♀, same data except 7. VII. 1990; 3♂ 12♀, same data except 24. VIII. 1990 (light trap); 1♀, same data except 21. VI. 1985; 2♀, same data except 10. VII. 1984; 3♂ 4♀, same data except 9. IX. 1992 (light trap); 4♂, same data except 2. VIII. 1980; 1♂, same data except 2. VII. 1989; 1♂, same data except 8. IX. 1996; 2♂, same locality, 8. VIII. 1980, H. Kurokawa (SUU); 1♂, Tomiyama, Chiba Pref., 27. VIII. 1987, M. Hayashi *et al.* (SUU); 2♂ 2♀, Osogi, Ôme, Tokyo, 21. VIII. 1986 (light trap), M. Hayashi *et al.* (SUU); 31♂ 2♀, same data except 29. VII. 1986; 8♀, same data except 19. IX. 1986; 1♂, Mt. Takao, Hachiôji, Tokyo, 12. VII. 1979 (light trap), M. Hayashi *et al.* (SUU); 1♀, Sanogawa, Fujino, Kanagawa Pref., 5. IX. 1987, M. Hayashi *et al.* (SUU); 1♂ 1♀, Ichinomiya, Samukawa, Kanagawa, 13. IX. 1986 (light trap), M. Hayashi *et al.* (SUU); 45♂ 2♀, Jizôdaira, Tanzawa Mts., Kanagawa Pref., 3. VIII. 1995, M. Hayashi *et al.* (SUU); 4♂, Mizunoki, Tanzawa Mts., Kanagawa Pref., 26. VII. 1994 (light trap), M. Hayashi *et al.* (SUU); 1♀, Hôkisawa, Tanzawa Mts., Kanagawa Pref., 8. IX. 1994, M. Hayashi *et al.* (SUU); 2♂ 2♀, Yagisawa, Yuzawa, Niigata Pref., 4. VIII. 2000, M. Hayashi *et al.* (SUU); 1♂ 1♀, Nyûgawa, Aikawa, Sado Is., Niigata Pref., 27. VIII. 1983, K. Baba (SUU); 2♀, Nozawa-Onsen, Nagano Pref., 27. VIII. 1983 (light trap), M. Hayashi *et al.* (SUU); 3♂ 7♀, Mt. Neko-dake, Sanada, Nagano Pref., 2. IX. 1992 (light trap), M. Hayashi *et al.* (SUU); 1♀, Sugadaira, Sanada, Nagano Pref., 21. IX. 1985, M. Hayashi *et al.* (SUU); 1♂ 2♀, same data except 1. IX. 1992 (light trap); 8♂



FIGURES 37–43. *Scaphoideus festivus*, ♂ genitalia (37–43). — 37, ♂ pygofer in lateral view; 38, right subgenital plate in ventral view; 39, left style in dorsal view; 40, connective in dorsal view; 41, connective in lateral view; 42, aedeagus in lateral view; 43, aedeagus in caudal view. Scales; 0.1 mm.

3♀, same data except 31. VIII. 1992 (light trap); 1♂ 1♀, same data except 16. IX. 1993; 1♂, same data except 7. VIII. 1995 (light trap); 2♂, same data except 22. VIII. 1995; 1♂ 1♀, same data except 9. VIII. 1995 (light trap); 1♀, same data except 10. IX. 1995; 1♂ 1♀, same data except 17. IX. 1995; 1♀, same data except 18. IX. 1995; 1♀, same data except 19. IX. 1995; 1♀, same data except 5. IX. 1996; 1♂, Harayama, Hara, Nagano Pref., 6. VIII. 1995 (light trap), M. Hayashi *et al.* (SUU); 1♀, Mitsumata, Horigane, Azumi, Nagano Pref., 18. IX. 1988, M. Hayashi *et al.* (SUU); 1♀, Mt. Utsukushinomori, Ôizumi, Hokuto, Yamanashi Pref., 24. VIII. 1987, M. Hayashi *et al.* (SUU); 1♂, Yanagidaira, Makioka, Yamanashi Pref., 16. VIII. 2000, M. Hayashi *et al.* (SUU); 1♂, Miyakubo, Nirasaki, Yamanashi Pref., 16. VIII. 2000, M. Hayashi *et al.* (SUU); 1♂, Asahigaoka, Yamanakako, Yamanashi Pref., 10. VIII. 1994, M. Hayashi *et al.* (SUU); 1♂ 2♀, Iwai, Iwata, Shizuoka Pref., 16. VII. 1988, M. Hayashi *et al.* (SUU); 1♂, Akiyoshidai, Shuhô, Mine, Yamaguchi Pref., 29. VII. 1995 (light trap), M. Hayashi *et al.* (SUU). [Kyushu] 5♂ 5♀, Kokose, Nishimoro, Suki/Kobayashi, Miyazaki Pref., 18. IX. 2004 (light trap), S. Kamitani (ELKU); 12♂ 8♀, Inoko-dani, Nishimoro, Suki / Kobayashi, Miyazaki Pref., 18. IX. 2004 (light trap), T. Saigusa (ELKU).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu); Korea, China, Russia.

Remarks. Although the shape of the processes of the connective is somewhat similar to those of *S. jogensis* Viraktamath et Mohan from India and *S. midvittatus* Li et Wang from China, this species is easily distinguishable from the latter two in the shape of the style, particularly the length of the apodeme and shape of the apophysis.

Scaphoideus pristiophorus sp. nov.

(Figs. 6, 44–50)

Description. *Coloration & external morphology.* Head slightly narrower than pronotum; anterior margin roundly prominent, pale with transverse wide orange band between ocelli, with apical black spot and black anterior margin; medial length of vertex 1.3 times as long as length next to eyes and 0.3 times as long as width of head, frontoclypeus pale with 4 or 5 narrow black stripes near anterior margin; clypellus, gena and lorum pale and immaculate. Pronotum 2.2 times as wide as long, longer than mesonotum, brown, pale at center; mesonotum orange at apical half and pale at posterior half. Fore wing brownish semitransparent; ventral surface of thorax darkened; legs pale, with black socket of macrosetae; abdominal segments pale with black anterior margin in ventral and black posterior margin in dorsum. Caudal margin of female 7th abdominal sternite more or less convex and weakly incised medially.

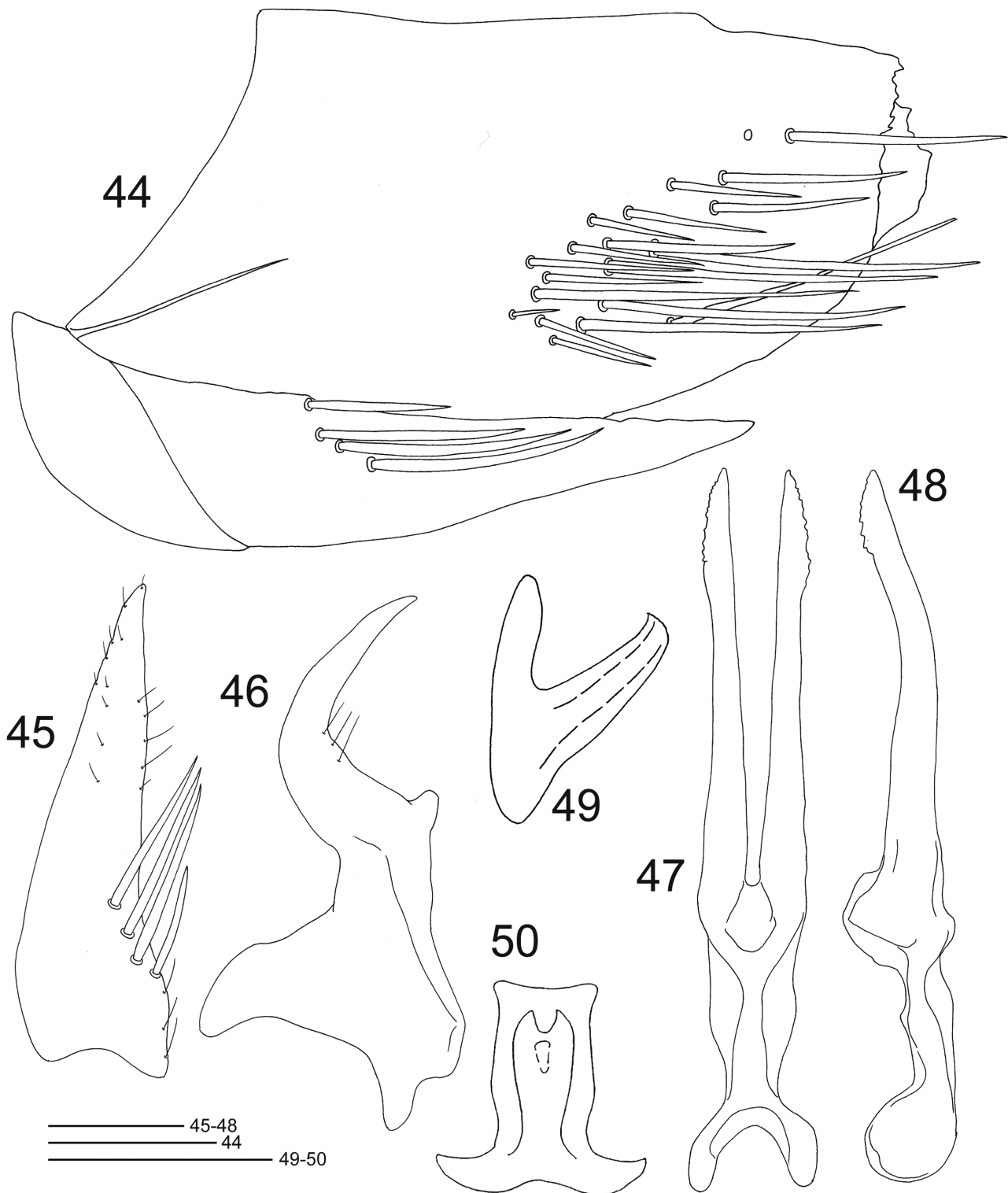
Male genitalia. Pygofer rather long and truncate apically in lateral view, with a tuft of very long macrosetae apically (missing in this specimen figured) and many shorter macrosetae subapically, without pygofer process. Subgenital plate triangular and long, as long as 2/3 length of pygofer, provided with uniseriate row of 4 macrosetae near base. Style robust; preapical lobe very small; apophysis (apical process) slender, weakly curved laterally, with 3 short hairs. Connective with pair of very long processes; processes 2 times as long as connective, serrate at lateral margin near apex, widest at apical 1/4; arms apart to each other. Aedeagus small and robust; shaft short, as long as basal apodeme, with very small apical hooked processes at dorsal margin; gonopore apical on posterior surface.

Body length (mean). ♂, 4.4–5.0 mm (4.7 mm); ♀, 5.0–5.7 mm (5.3 mm).

Type material. *Holotype:* ♂, (ELKU No. 3322), Inoko-dani, Nishimoro, Suki / Kobayashi, Miyazaki Pref., Kyushu, Japan, 18. IX. 2004, S. Kamitani. *Paratypes:* [Honshu] 1♂, Kawairi, Yamato, Fukushima Pref., 18. VIII. 1988 (light trap), M. Hayashi *et al.* (SUU); 2♂, same data except 19. VIII. 1988; 1♀, Osawa, Yamato, Fukushima Pref., 19. VIII. 1988 (light trap), M. Hayashi *et al.* (SUU); 1♂, Mt. Tsuchidake, Takahagi, Ibaraki Pref., 4. IX. 1986 (light trap), M. Hayashi *et al.* (SUU); 1♂, Kashiwagura, Tochigi Pref., 18. IX. 1999, M. Hayashi *et al.* (SUU); 1♂, Okuda, Hatoyama, Saitama Pref., 20. IX. 1984, M. Hayashi *et al.* (SUU); 1♂, same data except 24. X. 1988; 1♀, Akanuma, Hatoyama, Saitama Pref., 5. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 1♂, Kiroko, Ogawa, Saitama Pref., 27. IX. 1996, M. Hayashi *et al.* (SUU); 2♀, Mt. Sengen, Ogawa, Saitama Pref., 27. IX. 1996, M. Hayashi *et al.* (SUU); 15♂ 3♀, Mt. Mitsumine, Ôtaki, Saitama Pref., 6. IX. 1984, M. Hayashi *et al.* (SUU); 1♀, same locality, 5. IX. 1985 (light trap), M. Hayashi *et al.* (SUU); 69♂ 80♀, Futase, Ôtaki, Saitama Pref., 7. IX. 1986 (light trap), M. Hayashi *et al.* (SUU); 18♂ 25♀, same data except 31. VIII. 1988; 1♂ 2♀, same data except 6. IX. 1989; 2♂ 2♀, same data except 13. VIII. 1990; 1♂ 3♀, same data except 11. IX. 1990; 2♂ 4♀, same locality, 2. IX. 1993, M. Hayashi *et al.* (SUU); 10♂ 1♀, same locality, 3. IX. 1993 (light trap), M. Hayashi *et al.* (SUU); 2♂ 2♀, same data except 20. IX. 2000; 1♂ 1♀; same locality, 21. IX. 2000, M. Hayashi *et al.* (SUU); 1♂, Satogawa,

Shibata, Niigata Pref., 7. IX. 1984, K. Baba (SUU); 1♀, Nyugawa, Aikawa, Sado, Niigata Pref., 27. VIII. 1983, K. Baba (SUU); 2♀, Nita, Shimane Pref., 7. IX. 1964, H. Kadowaki (NIAES); 1♀, Hiba, Hiwa, Hiroshima Pref., 20. VIII. 1962, S. Nakamura (NIAES); 1♀, same data except 30. VIII. 1962. [Kyushu] 1♂, same data as holotype (ELKU). The holotype is deposited in Kyushu University, Japan (ELKU).

Distribution. Japan (Honshu, Kyushu).



FIGURES 44–50. *Scaphoideus pristiophorus* sp. nov., ♂ genitalia (44–50). — 44, ♂ pygofer in lateral view; 45, right subgenital plate in ventral view; 46, left style in dorsal view; 47, connective in dorsal view; 48, connective in lateral view; 49, aedeagus in lateral view; 50, aedeagus in caudal view. Scales; 0.1 mm.

Remarks. This new species is similar to *S. festivus* and an East Asian species, *S. varius* Matsumura, in habitus. However, it is peculiar in the following characters of the male genitalia: apical serration on outer margin of processes of connective; small preapical lobe and wide apophyses of style; long, straight shaft of aedeagus; and so on. The etymology of this species name is based on the serrated processes of the connective.

***Scaphoideus aurantius* sp. nov.**

(Figs. 7, 51–57)

Description. *Coloration & external morphology.* Head slightly narrower than pronotum; vertex roundly prominent, pale with transverse wide bright orange band between eyes and transverse black narrow band near anterior margin, without apical black spot; medial length of vertex 1.2 times as long as length next to eyes and 0.4 times as long as width of head, frontoclypeus pale with 4 narrow blackish stripes anteriorly; clypellus, gena and lorum pale and immaculate. Pronotum 2.2 times as wide as long, slightly longer than mesonotum, brownish orange with wide pale band at center; mesonotum orange at apical half and pale at posterior half. Fore wing brownish semitransparent; ventral surface of thorax, legs and abdominal segments pale. Caudal margin of female 7th abdominal sternite produced caudally and not incised medially.

Male genitalia. Pygofer rather long and gradually tapered apically in lateral view, with a tuft of very long macrosetae apically (missing in this specimen figured) and a few shorter macrosetae subapically, without pygofer process. Subgenital plate triangular and very long, as long as 4/5 length of pygofer, provided with row of 3 macrosetae subbasally. Style slender; preapical lobe triangularly prominent; apophysis (apical process) very slender, long, weakly curved laterally. Connective with pair of long processes; processes somewhat wide, 1.2 times as long as connective, immediately tapered at apically; arms apart to each other. Aedeagus small and robust; shaft short, as long as basal apodeme, with small tooth on dorsal margin preapically; gonopore apical on posterior surface.

Body length (mean). ♂, 4.0–4.1 mm (4.0 mm); ♀, 4.7 mm.

Type material. *Holotype:* ♂, Funaura, Iriomote Is., Ryukyus, Japan, 25. VI. 1996, M. Hayashi *et al.* *Paratypes:* 1♂, same data as holotype except 11. XI. 1997 (light trap) (SUU); 1♂, same data as holotype except 12. XI. 1997 (light trap) (SUU). The holotype is deposited in Saitama University, Japan (SUU).

Distribution. Japan (Ryukyus: Iriomote Is.).

Remarks. This leafhopper is peculiar in having a bright orange transverse band on the vertex, the long apophysis of the style, and the connective with processes parallel sided and without serration on the outer margin. The etymology of this species name refers to the bright orange band between the eyes.

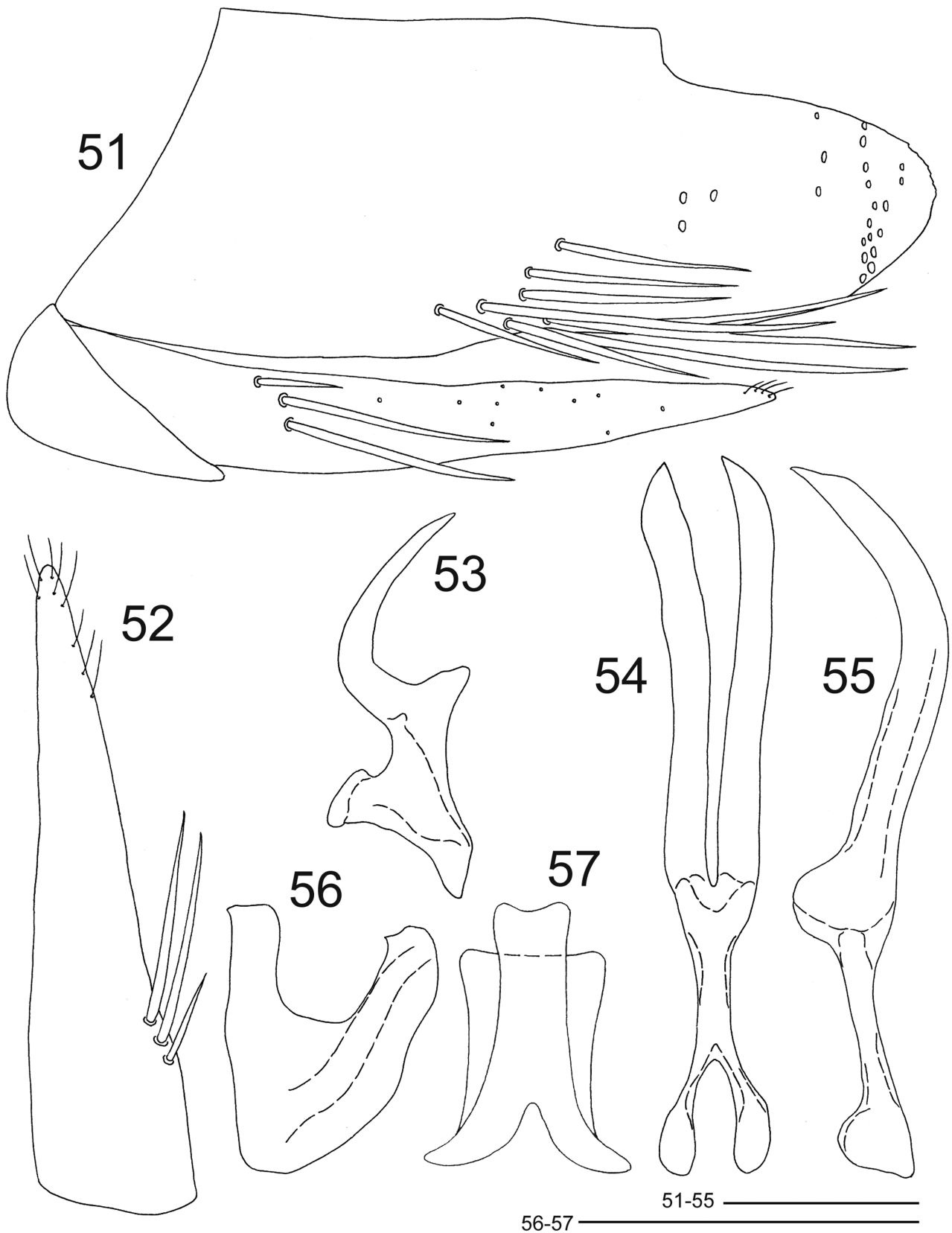
***Scaphoideus brevistylus* sp. nov.**

(Figs. 8, 58–64)

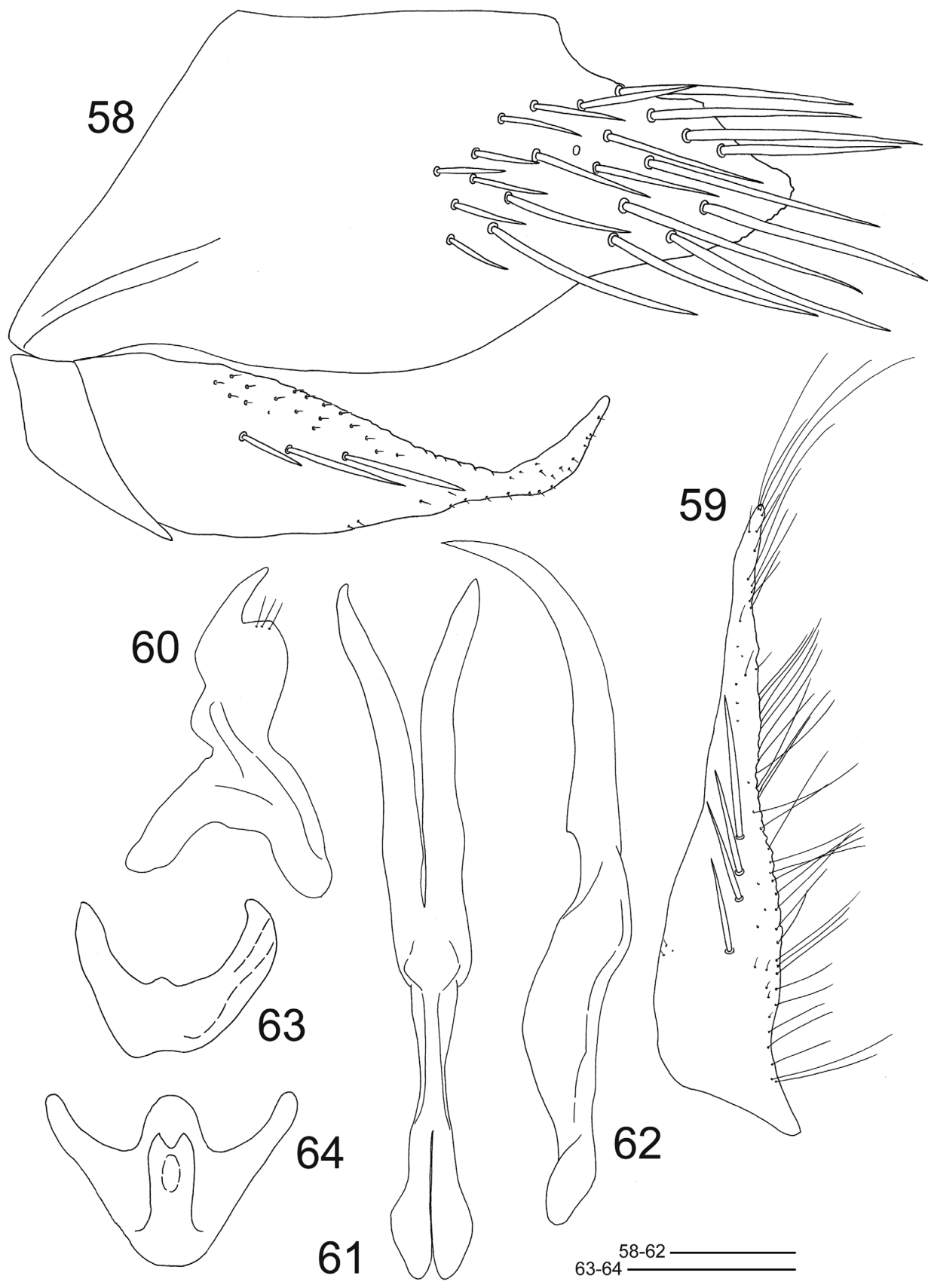
Description. *Coloration & external morphology.* Head as wide as pronotum; vertex triangularly prominent, pale with black spot at apex and transverse wide orange band between ocelli; medial length of vertex 1.3 times as long as length next to eyes and 0.4 times as long as width of head, frontoclypeus pale with narrow brownish stripe near anterior margin; clypellus, gena and lorum pale and immaculate. Pronotum 2.2 times as wide as long, longer than mesonotum, brownish orange with wide pale band at center; mesonotum orange at apical half and pale at posterior half. Fore wing pale brownish semitransparent; ventral surface of thorax, legs and abdominal segments pale. Caudal margin of female 7th abdominal sternite produced caudally and not incised medially.

Male genitalia. Pygofer rather short and gradually tapered apically in lateral view, with long and shorter macrosetae on apical half of pygofer lobe, without pygofer process. Subgenital plate triangular and very long, as long as 3/4 length of pygofer, provided with row of 4 macrosetae near base. Style robust; preapical lobe small and rounded; apophysis (apical process) very short, nearly straight, with 3 short hairs. Connective with pair of long processes; processes as long as connective, somewhat wide; arms nearly parallel. Aedeagus small and robust; shaft short, slightly longer than basal apodeme, weakly hooked apically; gonopore apical on posterior surface.

Body length (mean). ♂, 5.0–5.6 mm (5.4 mm); ♀, 5.4–6.4 mm (6.1 mm).



FIGURES 51–57. *Scaphoideus aurantius* sp. nov., ♂ genitalia (51–57). — 51, ♂ pygofer in lateral view; 52, right subgenital plate in ventral view; 53, left style in dorsal view; 54, connective in dorsal view; 55, connective in lateral view; 56, aedeagus in lateral view; 57, aedeagus in caudal view. Scales; 0.1 mm.



FIGURES 58–64. *Scaphoideus brevistylus* sp. nov., ♂ genitalia (58–64). — 58, ♂ pygofer in lateral view; 59, right subgenital plate in ventral view; 60, left style in dorsal view; 61, connective in dorsal view; 62, connective in lateral view; 63, aedeagus in lateral view; 64, aedeagus in caudal view. Scales; 0.1 mm.

Type material. *Holotype*: ♂, (ELKU No. 3323), Anbô / Yodogô, Yakushima Is., Kagoshima Pref., Kyushu, Japan, 27. VIII. 2004 (light trap), S. Kamitani. *Paratypes*: [Honshu] 1♀, Osugi, Tanabe, Wakayama Pref., 13. IX. 1989, S. Goto (SUU). [Kyushu] 11♂ 20♀, same data as holotype. [Ryukyus] 3♀, Shinmura, Sumiyô, Amami-Oshima Is., 18. VII. 1993 (light trap), M. Hayashi *et al.* (SUU); 1♀, Arangachi, Uken, Amami-Oshima Is., 21. V. 1993 (light trap), M. Hayashi *et al.* (SUU); 1♀, Kominato, Naze, Amami-Oshima Is., 19. V. 1993, M. Hayashi *et al.* (SUU); 2♂, Kinsakubaru, Naze, Amami-Oshima, 18. V. 1993 (light trap), M. Hayashi *et al.* (SUU); 2♀, same locality, 19. V. 1993, M. Hayashi *et al.* (SUU); 1♂, Mt. Nishime-dake, Kunigami, Okinawa Is., 15. V. 1993, M. Hayashi *et al.* (SUU); 33♂, Mt. Terukubi, Kunigami, Okinawa Is., 4. V. 1991, M. Hayashi *et al.* (SUU); 4♂ 1♀, same data except 5. V. 1991; 1♂ 2♀; same data except 18. VI. 1994; 3♂ 3♀, same locality, 15. V. 1993 (light trap), M. Hayashi *et al.* (SUU); 3♀, same data except 4. VII. 1993; 4♀, same data except 1. VII. 1996; 1♀, Hiji, Kunigami, Okinawa Is., 15. V. 1993, M. Hayashi *et al.* (SUU); 1♂, Mt. Oppa-dake, Nakijin, Okinawa Is., 7. IV. 1991, M. Hayashi *et al.* (SUU); 1♂, Mt. Yonaha-dake, Kunigami, Okinawa Is., 28. VI. 1992, M. Hayashi *et al.* (SUU); 4♂ 2♀, same data except 15. V. 1993; 3♂ 2♀, Yona, Kunigami, Okinawa Is., 4. IV. 1991, M. Hayashi *et al.* (SUU); 4♂ 1♀, same data except 5. IV. 1991; 4♂, same locality, 14. IV. 1996, M. Hayashi *et al.* (SUU); 1♂, Mt. Yae-dake, Motobu, Okinawa Is., 1. V. 1991, M. Hayashi *et al.* (SUU); 1♂, Kyoda, Nago, Okinawa Is., 30. IV. 1991 (light trap), M. Hayashi *et al.* (SUU); 1♂, Ôura, Nago, Okinawa Is., 2. V. 1991, M. Hayashi *et al.* (SUU); 1♂ 1♀, Mt. Omoto, Ishigaki Is., 6. V. 1991 (light trap), M. Hayashi *et al.* (SUU); 2♂ 7♀, same locality, 7. V. 1993, M. Hayashi *et al.* (SUU). The holotype is deposited in the Kyushu University, Japan (ELKU).

Distribution. Japan (Honshu, Kyushu, Ryukyus).

Remarks. This widespread species has been confused with *S. festivus* Matsumura, because the coloration is very similar. However, it is easily distinguished by the parallel-sided processes of the connective. The apophysis of the style is distinctly shorter than that of the preceding species, *S. aurantius* sp. nov. The etymology of this species name is based on the small style of the male genitalia.

Key to Japanese species of the genus *Scaphoideus*

1. Vertex pale yellow with pair of blackish spots; pronotum brown with wide longitudinal pale stripe; aedeagal shaft long to rather short. 2
- Vertex orange to brown band between eyes; pronotum brownish orange to brown without longitudinal stripe; aedeagal shaft short. 4
2. Aedeagal shaft rather short and wide, hooked dorsad in lateral view; style with long apodeme *S. albovittatus*
- Aedeagal shaft slender, with pair of apical processes and usually with pair of subapical processes; style with short apodeme . 3
3. Aedeagus with apical processes directed dorsally; style small; connective with processes widest at apical half *S. kumamotonis*
- Aedeagus with apical processes directed ventrally; style large; connective with processes narrow *S. ryukyensis* sp. nov.
4. Pronotum and mesonotum pale yellow, with longitudinal orange stripes. *S. rubroguttatus*
- Pronotum brown uniformly brownish orange to brown 5
5. Processes of connective distinctly widest at apical 1/3. *S. festivus*
- Processes of connective not distinctly widened preapically 6
6. Processes of connective slightly widest at apical 1/4 and serrate at outer margin *S. pristiophorus* sp. nov.
- Processes of connective not widened and without serration on outer margin. 7
7. Apophysis of style long. *S. aurantius* sp. nov.
- Apophysis of style very short *S. brevistylus* sp. nov.

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