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Genus *Rubrocuneocoris* Schuh (Hemiptera: Miridae) of Taiwan **【Research report】**

臺灣產紅楔盲蝽屬 (半翅目: 盲蝽科) **【研究報告】**

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Abstract

The genus *Rubrocuneocoris* Schuh is reported from Taiwan for the first time, with description of four new species: *R. falcis* sp. nov., *R. maculosus* sp. nov., *R. nodus* sp. nov., and *R. trifidus* sp. nov. Key to species, photographs and drawings the male genitalia are provided to distinguish the four species. Photographs of three holotypes deposited in the Bishop Museum, Honolulu, HI are also included for comparison.

摘要

本文首次記錄臺灣產紅楔盲蝽屬 (*Rubrocuneocoris* Schuh) , 並描述四新種: 鎌紅楔盲蝽 (*R. falcis* sp. nov.)、斑紅楔盲蝽 (*R. maculosus* sp. nov.)、棒紅楔盲蝽 (*R. nodus* sp. nov.) , 及三叉紅楔盲蝽 (*R. trifidus* sp. nov.)。並附臺灣產紅楔盲蝽屬之檢索表及雄外性生殖器圖。

Key words: Hemiptera, Miridae, *Rubrocuneocoris*, new species, Taiwan

關鍵詞: 半翅目、盲蝽科、紅楔盲蝽屬、新種、臺灣

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Genus *Rubrocuneocoris* Schuh (Hemiptera: Miridae) of Taiwan

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ABSTRACT

The genus *Rubrocuneocoris* Schuh is reported from Taiwan for the first time, with description of four new species: *R. falcis* sp. nov., *R. maculosus* sp. nov., *R. nodus* sp. nov., and *R. trifidus* sp. nov. Key to species, photographs and drawings the male genitalia are provided to distinguish the four species. Photographs of three holotypes deposited in the Bishop Museum, Honolulu, HI are also included for comparison.

Key words: Hemiptera, Miridae, *Rubrocuneocoris*, new species, Taiwan

Introduction

Rubrocuneocoris Schuh was established as a unique genus in 1984 by Schuh. The characteristics are listed as follows: "Head concave behind, single type of dorsal vestiture, enlarged metafemora, long second antennal segment, reddish coloration, presence of red spots at the apex of the corium and cuneus, vesica in the male usually forming a coil, secondary gonopore subapical, and apex of the vesica attenuated" (Schuh, 1984).

This genus currently comprises only five species, of which three species (*R. acuminatus* Schuh, 1984, *R. bifidus* Schuh, 1984 and *R. spiculatus* Schuh, 1984) are known from Pacific islands, and those type series are preserved in the Bishop Museum, Honolulu, HI (photographs shown in Fig. 1A-C); *R. quercicola* Josifov, 1987 is from the Korean Peninsula and Russian Primorskij, and *R. albescens*

Yasunaga, 2001 was found in Japan. During this study, four additional species were recently found in Taiwan. The type series and examined specimens are deposited in the National Museum of Natural Science (NMNS), and Taiwan Agricultural Research Institute (TARI), Taichung, Taiwan. Methods of dissection and terminology followed Schuh (1984).

Key to species of Taiwanese *Rubrocuneocoris* Schuh

1. Body brown, with scattered small black spots-----*R. maculosus*
Body yellowish-brown, with scattered red or gray spots ----- 2
2. Body with scattered red spots, basal cuneus without red band-----*R. falcis*
Body with scattered gray spots, basal cuneus with red band ----- 3
3. Left paramere with a knob-shaped projection-----*R. nodus*

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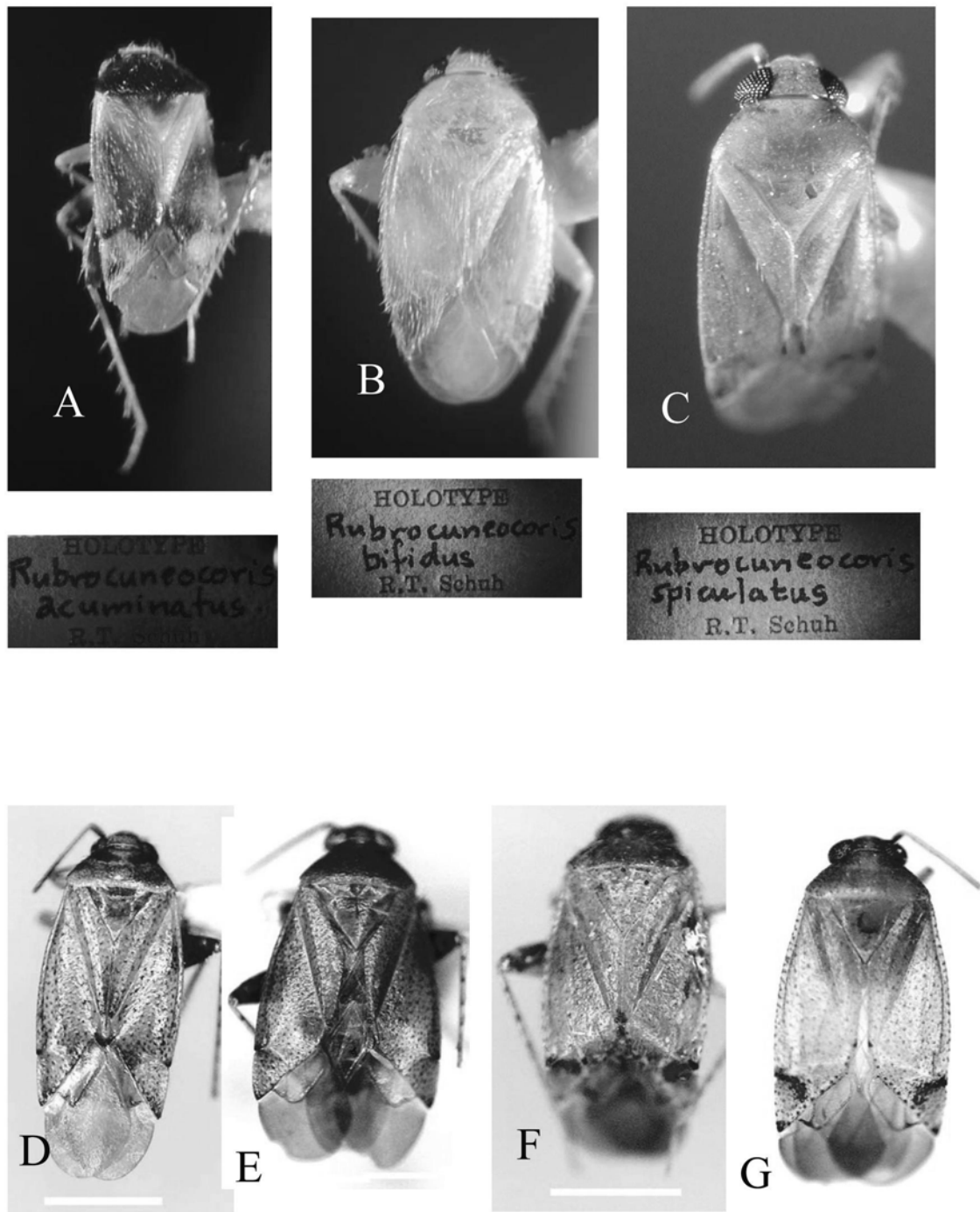


Fig. 1. Holotypes of *Rubrocuneocoris* spp. A. *Rubrocuneocoris acuminatus*, Schuh; B. *R. bifidus* Schuh; C. *R. spiculatus* Schuh; D. *R. falcis* sp. nov.; E. *R. maculosus* sp. nov.; F. *R. nodus* sp. nov.; G. *R. trifidus* sp. nov. (scales = 1 mm).

Left paramere without a knob-shaped projection-----*R. trifidus*

***Rubrocuneocoris falcis* sp. nov.**

Male

Body small, dorsal surface dull, coloration of dorsum pale brown, with scattered small reddish spots and pale-yellow suberect setae. Head fuscous, transverse, concave behind; frons and eyes evenly convexly rounded in dorsal view; eyes large, dark reddish-brown; first antennal segment short, pedunculate, fuscous, covered with long suberect setae, segment II long, slender, anterior 1/3 fuscous and basal 2/3 yellowish-brown, segments III and IV fuscous. Rostrum pale yellowish-brown with brown apical portion reaching abdomen.

Pronotum evenly convexly rounded, calli not developed, lateral margins evenly convexly rounded, posterior margin nearly straight; mesoscutum narrowly exposed, reddish-brown; scutellum flat, brown, covered with suberect silky setae; hemelytra pale yellowish-brown, covered with small red spots and suberect silky setae; lateral corial margins weakly convexly rounded; cuneal fracture strongly angled anteromesially, cuneus apical and veins of membrane bright red. Thorax and abdomen brown, metafemora mostly reddish-brown.

Male genitalia with relatively long, slender vesica, as a single coil, secondary gonopore subapical, well developed, apex of vesica strongly attenuated, subtended by a few spicules, apex long; phallosome with a strong right-angle bend, left paramere with a pointed basal protrusion.

Measurements (in mm). Body length 3.0. Head length 0.1, width 0.6. Interocular space width 0.3, eye width 0.15. Antennal segment lengths 0.15: 0.9: 0.3: 0.3. Rostrum length 0.5. Pronotum length 0.4, width 1.0. Scutellum length 0.3, width 0.3. Forewing length 2.5, corium length 2.2, cuneus length 0.3, width 0.3.

Female is very similar to male, but

can be identified by the brown pro-coxae.

Holotype. 1 ♂, HUALIEN: Tayulin (2560 m), 10~15-IX-1980, K. S. Lin and C. H. Wang (Malaise trap). Paratypes. 1 ♂, data same as for holotype; 1 ♀, 6~9-IX-1983, L. Y. Chou and K. C. Chou, deposited in the Taiwan Agricultural Research Institute (TARI), Taichung, Taiwan.

Distribution: Taiwan.

Etymology: Named for the elongate, sickle-shaped apex of the vesica.

Remarks: The new species is similar to *R. albescens* Yasunaga, 2001, but can be separated by the pale-brown coloration and by it being covered with small red spots; the latter species is distinct in having creamy coloration and longer antenna.

***Rubrocuneocoris maculosus* sp. nov.**

Male

Body small, dark brown, with small, scattered black spots. Head brown, eye red, first antennal segment short, dark reddish, II segment long, almost 5x longer than I, basal 1/3 brown, apical 2/3 fuscous, pubescent with pale yellowish-brown suberect setae, segments III and IV almost equal in length. Rostrum yellowish-brown, almost reaching abdomen.

Pronotum dark brown, mesoscutum narrowly exposed, separated from scutellum by a finely impressed, nearly straight line; scutellum flat; hemelytra brown, covered with small black spots, cuneal fracture strongly angled anteromesially, membrane vein and anterior tip red; legs yellowish-brown, meso- and meta-femurs blackish-brown, anterior tip with bright-red ring. Body ventral fuscous.

Male genitalia: Vesica relatively long, slender, as a single coil, secondary gonopore subapical, well developed; left paramere boat-shaped, with extended posterior portion, anterior with 2 small projections.

Measurements (in mm). Body length 3.1. Head length 0.2, width 0.7.

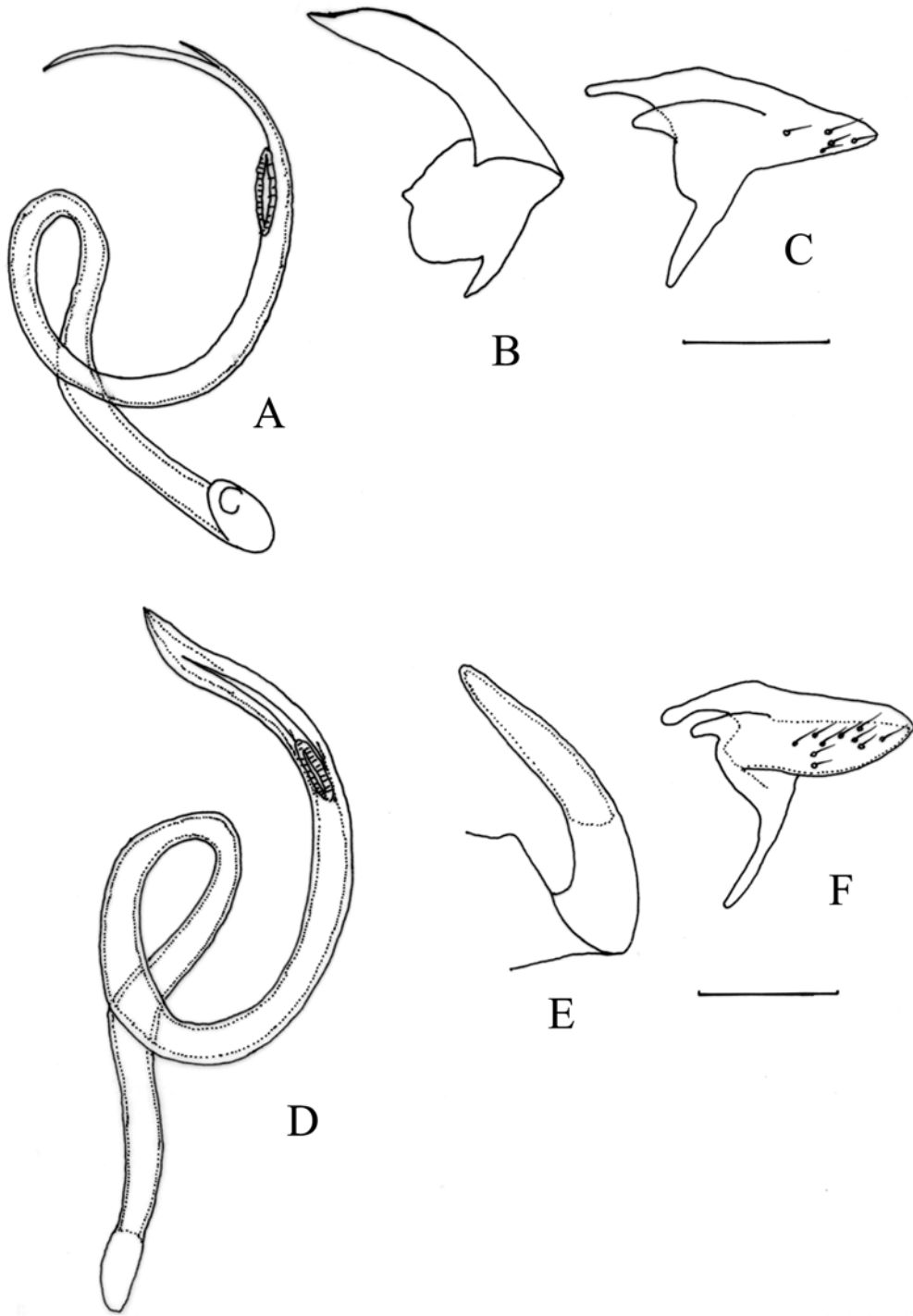


Fig. 2. A. Vesica of *Rubrocuneocoris falcis* sp. nov. ; B. phallotheca of *R. falcis* sp. nov.; C. left paramere of *R. falcis* sp. nov.; D. vesica of *R. maculosus* sp. nov.; E. phallotheca of *R. maculosus* sp. nov.; F. left paramere of *R. maculosus* sp. nov. (scales = 0.1 mm).

Interocular space width 0.3, eye width 0.2. Antennal segment lengths 0.2: 1.0: 0.3: 0.3. Rostrum length 0.5. Pronotum length 0.4, width 1.1. Scutellum length 0.3, width 0.35. Forewing length 2.5, corium length 1.5, cuneus length 0.3, width 0.3.

Female is very similar to male, but apical of 1/3 of antennal segment II black and basal 2/3 yellowish-brown.

Holotype. 1 ♂, ILAN: Fushan, 28~29-V-2004, C. S. Lin and W. T. Wang (UV light) (NMNS-ENT4507-569). Paratypes, 2 ♂, 4 ♀, data same as for holotype (NMNS-ENT 4507-568, 570, 571, 572, 574, 613). TAICHUNG: Shieshanken, 18-IV-1992, 1 ♂, C. C. Chiang (sweep net). MIAOLI: Taian, 20-XII-1989, 1 ♀, K. W. Huang (sweep net) (NMNS-Ent 1113-101).

Distribution: Taiwan.

Etymology: Named for the spotted dorsal surface of the body.

Remarks: The new species is similar to *R. falcis*, but can be distinguished by the dark brown body with scattered black spots; the latter species is distinct in having a pale-brown body with scattered red spots.

***Rubrocuneocoris nodus* sp. nov.**

Male

Body small, dark brown, with small, scattered gray spots. Head brown, eyes scarlet-red, vertex and frons covered with similar rather-long, recumbent pubescence; antennal segment I short, scarlet-red, segment II slender and long, 5x of segment I, fuscous, segments III and IV about 1/2 diameter of segment II, subequal in length. Rostrum reddish-brown, almost reaching hind coxa.

Pronotum fuscous, covered with suberect, pale brown or black setae; mesoscutum narrowly exposed, separated from scutellum by a finely impressed, nearly straight line; scutellum flat; hemelytra yellowish brown, with small, scattered black spots, cuneal fracture

strongly angled anteromesially, membrane vein red, basal cuneus with red band; legs fuscous, posterior meso- and meta-femora with a bright-red ring, body ventral reddish-brown.

Male genitalia: Vesica relatively long, slender, as a single coil, secondary gonopore subapical, well developed, apex of vesica attenuated; phallosome with a strong right-angle bend; left paramere boat-shaped, with a knob-shaped projection.

Measurements (in mm). Body length 2.7. Head length 0.2, width 0.6. Interocular space width 0.25, eye width 0.1. Antennal segment lengths 0.2: 0.8: 0.2: 0.2. Rostrum length 0.4. Pronotum length 0.4, width 0.8. Scutellum length 0.3, width 0.4. Forewing length 2.5, corium length 1.5, cuneus length 0.3, width 0.3.

Female is similar to male, can be identified by the reddish-brown abdomen.

Holotype 1 ♂, TAICHUNG: Wanfeng, V-1984, K. S. Lin and K. C. Chou (Malaise trap). Paratypes, 1 ♂, 2 ♀, XI-1984, 1 ♂, 1 ♀, VI-1984, 1 ♀, K. S. Lin and K. C. Chou (Malaise trap).

Distribution: Taiwan.

Etymology: Named for the knob-like projection of the left paramere.

Remarks: The new species is similar to *R. maculosus*, but can be identified by the smaller body size, basal cuneus with a red band, and the left paramere with a knob-shaped projection; the basal cuneus of the latter species lack red band, and the left paramere lack the knob-shaped projection.

***Rubrocuneocoris trifidus* sp. nov.**

Male

Body small; dorsal surface dull, covered with similar long recumbent, shaggy pubescence; dorsum pale brown, and covered with small, fuscous spots; thorax and abdomen red, metafemora mostly reddish; eyes red; cuneus basal and apical portion red, and veins of

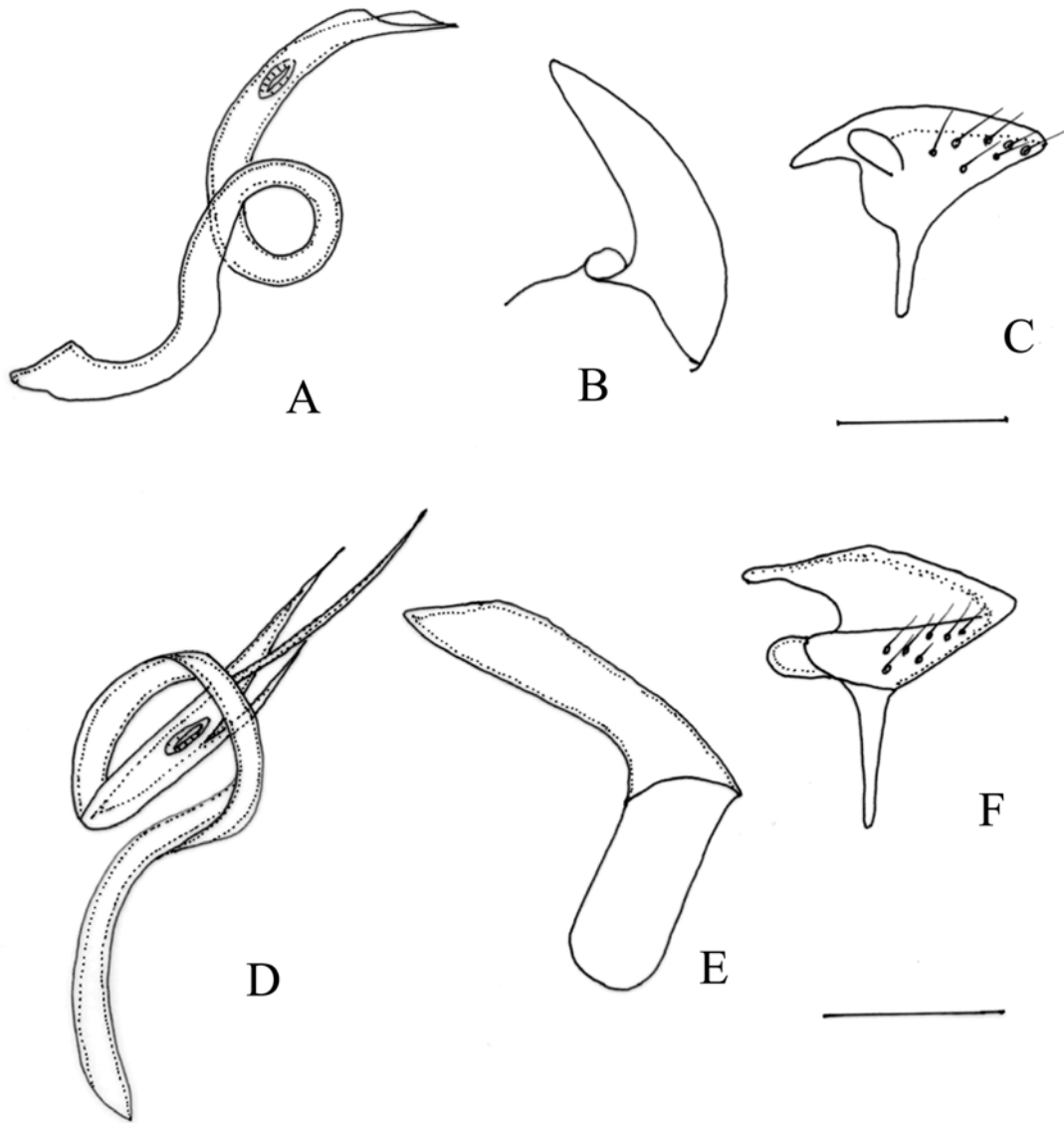


Fig. 3. A. Vesica of *Rubrocuneocoris nodus* sp. nov.; B. phallotheca of *R. nodus* sp. nov.; C. left paramere of *R. nodus* sp. nov.; D. vesica of *R. trifidus* sp. nov.; E. phallotheca of *R. trifidus* sp. nov.; F. left paramere of *R. trifidus* sp. nov. (scales = 0.1 mm).

membrane bright red. Head transverse, concave behind; frons and eyes evenly convexly rounded in dorsal view; eyes strongly emarginated at point of antennal insertion, large; first antennal segment short, pedunculate, reddish-brown, segment

II long, slender, yellowish-brown. Rostrum brown with reddish-brown apical portion. Body underneath reddish-brown.

Pronotum evenly convexly rounded, calli not developed, lateral margins evenly convexly rounded, posterior margin nearly

straight; mesoscutum narrowly exposed, separated from scutellum by a finely impressed, nearly straight line; scutellum flat; cuneal fracture strongly angled anteromesially; pro- and meso-femora elongate, more or less rectangular, metafemora strongly swollen; all tibiae nearly straight and cylindrical; claws rather strongly curved, pulvilli small, parempodia setiform.

Male genitalia with relatively long, slender vesica as a single coil, secondary gonopore subapical, well developed, apex of vesica strongly attenuated, subtended by a few spicules, apex long; phallosome with a strong right-angle bend, left paramere boat-shaped, basal protrusion rounded, not pointed.

Measurements (in mm). Body length 3.1 (♀), 2.6 (♂). Head length 0.1, width 0.6. Interocular space width 0.25, eye width 0.1. Antennal segment lengths 0.1: 0.7: missing. Rostrum length 0.5. Pronotum length 0.4, width 0.9. Scutellum length 0.25, width 0.3. Forewing length 2, corium length 1.4, cuneus length 0.3, width 0.3.

Female is similar to male, but can be identified by the fuscous abdomen and reddish-brown genital segment.

Holotype 1 ♂, NANTOU: Hweishun, 20-II-1990, C. S. Tseng (light trap) (NMNS Ent 629-7376). Paratypes 2 ♀, data same as for holotype (NMNS Ent 629-7372, 7374).

Etymology: Named for the trifid nature of the apex of the vesica.

Remarks: The new species is similar to *R. nodus*, but can be identified by the trifid nature of the apex of the vesica and left paramere with a knob-shaped projection.

Distribution: Taiwan.

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摘 要

本文首次記錄臺灣產紅楔盲蝽屬 (*Rubrocuneocoris* Schuh)，並描述四新種：鎌紅楔盲蝽 (*R. falcis* sp. nov.)、斑紅楔盲蝽 (*R. maculosus* sp. nov.)、棒紅楔盲蝽 (*R. nodus* sp. nov.)，及三叉紅楔盲蝽 (*R. trifidus* sp. nov.)。並附臺灣產紅楔盲蝽屬之檢索表及雄外性生殖器圖。

關鍵詞：半翅目、盲蝽科、紅楔盲蝽屬、新種、臺灣。