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臺灣灰腹綠錦蛇的初次描述

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2000年我們在臺東縣卑南鄉發現一條剛遭車輛碾斃的灰腹綠錦蛇（*Elaphe frenata*），兩年後，我們在花蓮縣卓溪鄉又採集了一條活蛇及另一條剛遭車輛碾斃的個體。從1996年起在臺灣共有四次關於這種蛇分佈記錄的報告及出版品，但是這些報告及出版品從未做任何形態上的描述。回顧灰腹綠錦蛇的分佈資料，臺灣的族群似乎是本種蛇唯一分佈於島嶼的族群。在本篇報告中我們將描述臺灣灰腹綠錦蛇的鱗片、顏色、半陰莖特徵及形值測量。

關鍵詞：中國樹蟾，灰腹綠錦蛇，臺灣，樹棲傾向，攝食。

Description of Four New Species of the Deltocephalinae from Taiwan (Homoptera: Cicadellidae)※

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Abstract. In this paper, four new species of the Deltocephalinae are described from Taiwan: *Yamatotettix nigrilineus* sp. nov., *Xestocephalus spinestyleus* sp. nov., *Phlogotettix nigriveinus* sp. nov., and *Sorhoanus binotatus* sp. nov.. The type specimens are deposited in the National Museum of Natural Science (NMNS), Taichung, Taiwan, the Department of Entomology, Chung Hsing University (DECHU), Taichung, Taiwan, and the Institute of Entomology, Guizhou University (IEGU), Guizhou, China.

Key words: Cicadellidae, Deltocephalinae, Homoptera, New species, Taiwan.

INTRODUCTION

The leafhopper Deltocephalinae (Homoptera, Cicadellidae) contains a large group of mainly food-plants insects. Until now, more than 3000 species were described in the world. Some species are the important pest on farming and forestry and industrial crop, and some are well known as a virus transmitter. So it is important academically and economically.

TAXONOMY

1. *Yamatotettix nigrilineus* Li et Dai sp. nov. (Fig. 1).

Body length (*incl. tegmen*): Male 3.8-4.0 mm.

Head slightly wider than pronotum; ocelli located on anterior margin of vertex, visible dorsally; vertex sloping to face, more or less smooth, anterior margin broadly rounded in dorsal aspect. Face wider than long, flattened ventrally; frontoclypeus broad, lateral frontal sutures extending to corresponding ocelli; clypellus elongate, sides converging slightly towards apex. Pronotum 1.2 times length of vertex, sides moderately long, obscurely rugose. Forewings elongate; appendix wide, inner subapical cell open, outer subapical cell absent.

Male genitalia: Pygofer side broadly round posteriorly, without process, posterior sub-margin with setae; genital valve broadly triangular; subgenital plates elongate-triangular, its lateral margin with a single discontinuous row of setae; aedeagus with shaft expanded over basal 2/3 in lateral aspect, apical 1/3 narrow, curved; arms of connective closely apposed, converging apically, its stem elongate and fused to aedeagus; apical 1/2 of styles narrowed and curved, with a few fine setae.

Vertex, pronotum, and scutellum pale yellow with 2 pale fuscous longitudinal fasciae; middle of pronotum with a pale black fine longitudinal line, forewings pale fuscous, transparent, veins pale, apical part of posterior margin of clavus and middle of anterior margin of forewings dark brown; face, segmental venters, and legs pale yellow.

Holotype: ♂ (NMNS), Taiwan: Nantou, Nov. 24, 2002, coll. by Zi-Zhong Li.

Paratype: *1* ♂ (IEGU), data same as for holotype.

Remarks: This new species resembles *Yamatotettix nigromaculatus* Ishihara, but there are 2 pale fuscous longitudinal fasciae on the vertex, pronotum, and scutellum; vertex without a single brown spot on each side of the middline apically; the middle of pronotum with a pale black longitudinal; and the base of aedeagus is right-angle.

2. *Xestocephalus spinestyleus* Li et Dai sp. nov. (Fig. 2).

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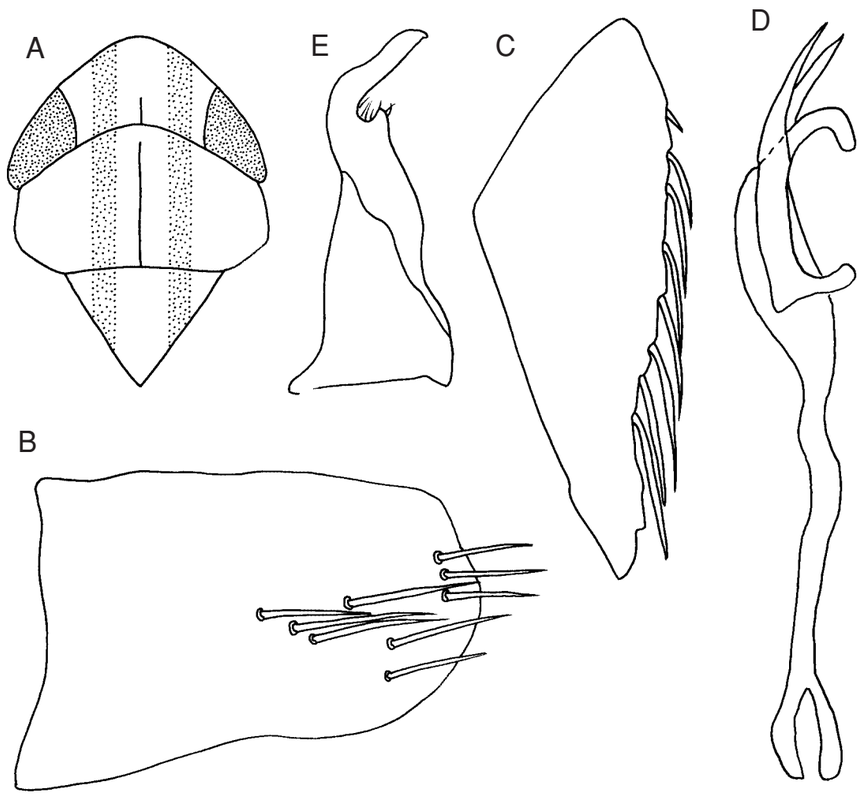

Fig. 1. *Yamatotettix nigrilineus* Li et Dai sp. nov. A. Dorsal view of head and thorax (♂); B. lateral view of pygofer side; C. subgenital plate; D. lateral view of connective and aedeagus; E. style

Body length (incl. tegmen): Male 3.8-4.0 mm.
Head slightly narrower than pronotum, in frontal view about as wide as long; vertex produced anteriorly and rounded, lateral margin in a line with eyes; eyes small. Pronotum longer than vertex, strongly deflected on each lateral area, anterior margin rounded, posterior margin truncated in front of scutellum. Forewings considerably longer than abdomen, its costal margin moderately rounded, with 3 apical cells.

Male genitalia: Pygofer side broader at base and narrowing posteriorly, its posterior area with long setae; subgenital plate curved, lateral area with setae; aedeagus recurved and tapered at apex; style slender, with scythe-shaped apex, tooth near apex, apex with thorns; connective Y-shaped.

Vertex yellowish-ochre, its apical margin with 2 large black spots, near anterior margin of eye with a minute black spot; eyes black; ocelli whitish. Pronotum yellowish ochre with indistinct whitish markings at anterior margin. Scutellum yellowish-ochre, middle and base angle tinted with black. Forewings pale ochreous cloudy markings brownish, especially at apical area and costal margin, part of vein whitish. Pectoral plate and venter blackish, legs pale brown.

Holotype: ♂ (DECHU). Taiwan: Meifeng, Nantou, Apr. 19~21, 1983, coll. by K.C. Chou and S. P. Huang.

Paratypes: 2 ♂♂ (DECHU), data same as for holotype.

Remarks: The new species is allied to *Xestocephalus japonicus* Ishihara, but can be distinguished from the latter by the 4 black spots on the vertex; the yellowish-ochre scutellum , the black middle and base angle; and the thorns on the apex of the aedeagus.

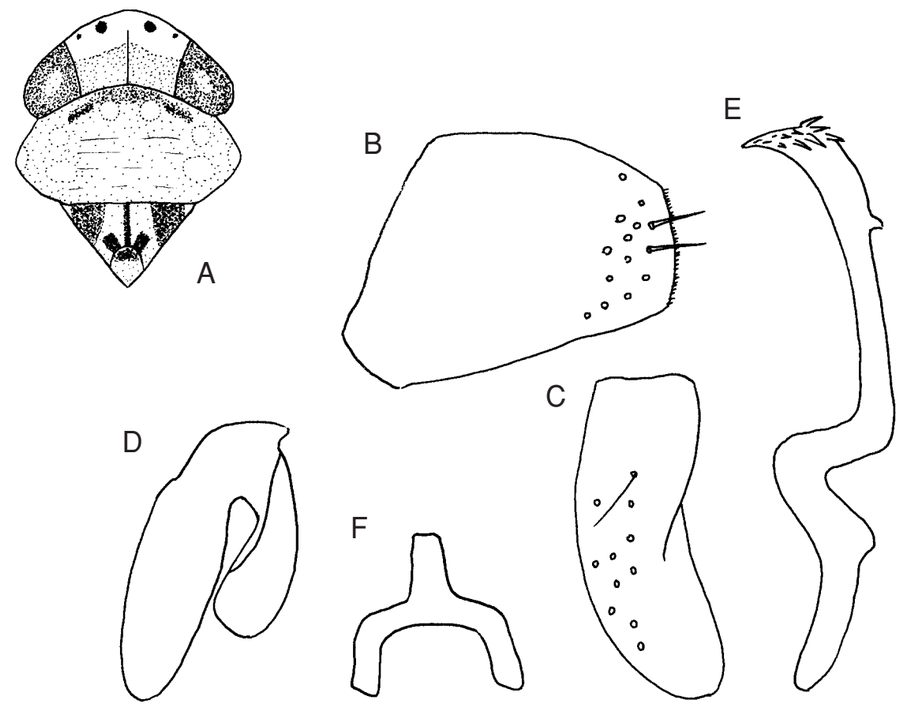

Fig. 2. *Xestocephalus spinestyleus* Li et Dai sp. nov. A. Dorsal view of head and thorax (♂); B. lateral view of pygofer side; C. subgenital plate; D. lateral view of aedeagus; E. style; F. connective.

3. *Phlogotettix nigriveinus* Li et Dai sp. nov.
(Fig. 3).

Body length (incl. tegmen): Male 4.8-5.0 mm, female 5.2-5.5 mm.
Head slightly narrower than pronotum; anterior margin of vertex broadly rounded in dorsal aspect, median length slightly less than 1/2 width between eyes; ocelli located on anterior margin of vertex, near eyes; frontoclypeus distinctly longer than wide, transclypeal suture distinct; clypeus narrow, slightly widened apically; lorum broad. Pronotum much longer than vertex, anterior margin shallowly convex, posterior margin nearly truncate in front of scutellum. Forewings elongate, transparent, veins distinct, appendix long.

Male genitalia: Pygofer side broader at base and narrowing posteriorly, its posterior area with long setae; caudoventral process smoothly curved; subgenital plate blade-like, narrowing posteriorly, with much longer setae; aedeagus simple, its apex branched, ventral margin with a long process near middle; style with well-developed apical process ; connective Y-shaped, its arms longer than stem.

Female: Seventh sternum in ventral aspect distinctly longer than 6th sternum, posterior margin wavy.

Vertex pale brown, with some irregular black spots; ocelli dirty yellow; eyes black; antennae pale-brown; face fuscous with pale-brown transverse streaks. Pronotum and scutellum pale brown with fuscous spots. Forewings yellowish-ochre, transparent, veins black, legs fuscous. Pectoral plate and venter blackish.

Holotype: ♂ (NMNS), Taiwan: Kaohsiung, Nov. 19, 2002. coll. by Zi-Zhong Li and Mao-Fa Yang.

Paratypes: 2 ♂♂, 3 ♀♀ (IEGU), data same as for holotype.

Remarks: This new species is very similar to *Phlogotettix monozoneus* Li et Wang in appearance, but the vertex is pale brown, with some irregular black spots; the veins of forewings are blackish; and the subgenital plate is blade-like and narrows posteriorly.

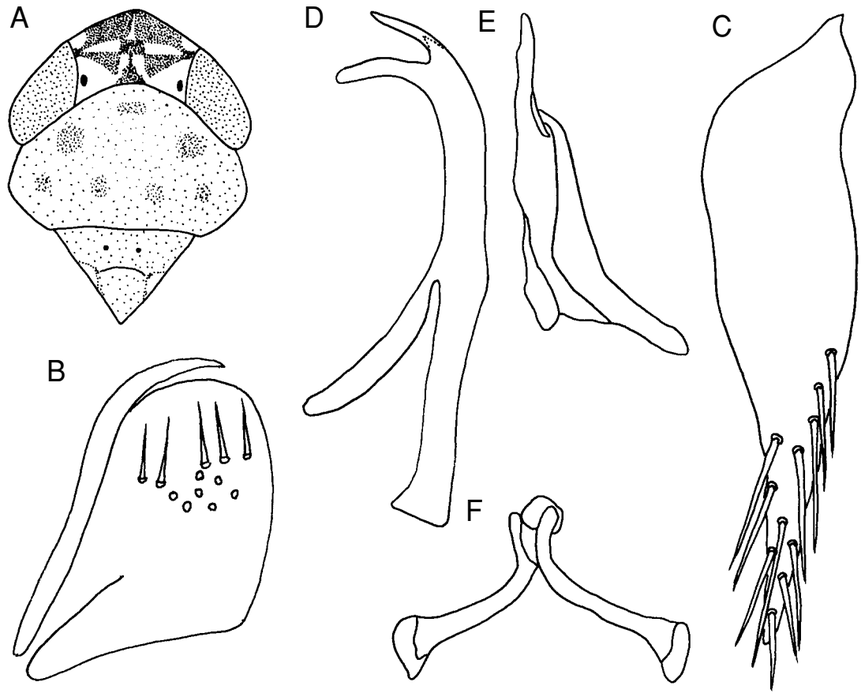

Fig. 3. *Phlogotettix nigriveinus* Li et Dai sp. nov. A. Dorsal view of head and thorax (♂); B. lateral view of pygofer side; C. subgenital plate; D. lateral view of aedeagus; E. style; F. connective

4. *Sorhoanus binotatus* Li et Dai sp. nov.
(Fig. 4).

Body length (incl. tegmen): Male 4.8-5.0 mm.
Head slightly narrower than pronotum; anterior margin of vertex very obtuse; ocelli located on anterior margin of vertex, near eyes, visible dorsally; frontoclypeus distinctly longer than wide, transclypeal suture distinct; clypeus narrow, slightly widened apically. Pronotum longer than vertex, lateral margin rounded, anterior margin shallowly convex, posterior margin lightly concave. Scutellum large, triangular, transverse depression indistinct. Forewings elongate, transparent, veins distinct, 4 apical cells, appendix long.

Male genitalia: Pygofer side broader at base and narrowing pasteriorly, posterior area with long setae; caudoventral process smoothly recurved at apex; subgenital plate triangular, its lateral area with a single discontinuous row of setae; aedeagus somewhat flat, near apex with 2 long processes, dorsal margin with very small tooth; style with a curved apical process, apical area with some very small setae.

Vertex pale yellowish-ochre, near anterior area with 2 black spots; ocelli pale yellowish white; eyes black; face pale yellowish-ochre. Pronotum pale brown with 2 black spots. Forewings pale brown, transparent, apex of claval area, middle of costal margin, and apical area of forewings with fuscous spots. Legs yellowish white. Pectoral plate and venter blackish.

Holotype: ♂ (NMNS), Taiwan: Nantou, Nov. 24, 2002, coll. by Zi-Zhong Li and Mao-Fa Yang.

Paratype: 2 ♂♂ (IEGU), data same as for holotype.

Remarks: The new species is close to *Sorhoanus maculipennis* Li et Wang in appearance, but is easily distinguished from the latter by the pronotum with 2 black spots, the aedeagus with 2 long processes, and the caudoventral process which is recurved at the apex.

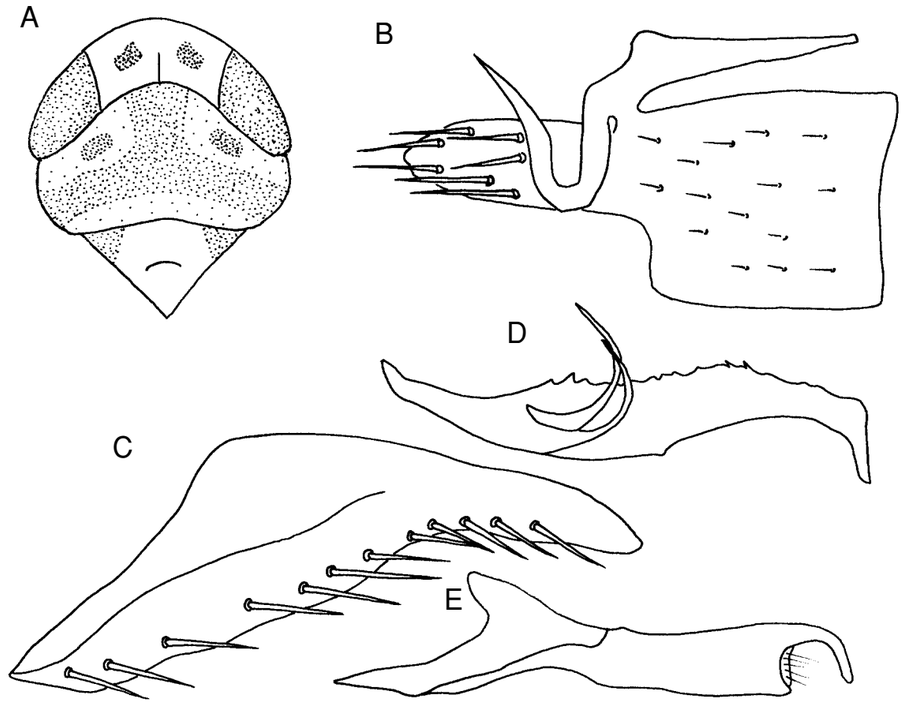

Fig. 4. *Sorhoanus binotatus* Li et Dai sp. nov. A. Dorsal view of head and thorax (♂); B. lateral view of pygofer side; C. subgenital plate; D. lateral view of aedeagus; E. style

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臺灣角頂葉蟬亞科四新種記述（同翅目：葉蟬科）

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本文描述臺灣產角頂葉蟬亞科昆蟲四新種，分別是黑線闊顏葉蟬（*Yamatotettix nigrilineus* Li et Dai sp. nov.），刺突小眼葉蟬（*Xestocephalus spinestyleus* Li et Dai sp. nov.），黑脈木葉蟬（*Phlogotettix nigriveinus* Li et Dai sp. nov.）和雙斑草葉蟬（*Sorhoanus binotatus* Li et Dai sp. nov.）。

關鍵詞：同翅目，角頂葉蟬亞科，葉蟬科，新種，臺灣。

Eriophyoid Mites of Taiwan: Description of Four Species of Acaricalini from Hueysuen (Acari: Eriophyoidea: Phyllocoptinae)

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Abstract. In this work, the author describes and illustrates four species of Aacricalini in three genera, including three new species and one known species, from Hueysuen (in central Taiwan). They are *Schizacea chinenseae* sp. nov. (infesting *Polygonum chinense*), *Acaphyllisa shinkoensa* sp. nov. (infesting *Rubus shinkoensis*), *Acaphyllisa bracteatae* sp. nov. (infesting *Smilax bracteata* and *Schima superba*), and *Pentaconvexus taiwanensis* Huang, 2001 (infesting *Pasania hancei, Pasania harlandii*, and *Castanopsis kawakamii*). A key to the genera and species of Acaricalini from Hueysuen is provided.

Key words: Acaricalini, Eriophyoid mites, Hueysuen, Taiwan.

INTRODUCTION

This paper is the third part of a series of taxonomic work on Eriophyoid mites from Hueysuen Experimental Forest, Nantou County, central Taiwan. The mites belong to three genera of Acaricalini. Among them, one species belongs to *Schizacea*, two species to *Acaphyllisa*, and one species to *Pentaconvexus*.

The tribe Acaricalini was established by Amrine and Stasny under the subfamily Phyllocoptinae in 1994. The tribe is a medium one of the Phyllocoptinae with about 53 species in 15 genera known from different parts of the world and infesting different host plants. They are easy to recognize from all other Phyllocoptinae by the divided empodium.

Specimens are deposited in the National Museum of Natural Science (NMNS), Taichung, Taiwan. All measurement units are in micrometers (μm). The terminology and abbreviations in the diagrams follow those of Lindquist (1996) and Huang (1999).

In the text, the measurement of the oblique distance between tubercles is indicated by a back slash (\), and that of the straight distance between tubercles is indicated by a dash (-).

Key to Generea and Species of Acaricalini from Hueysuen, Taiwan

(modified from Amrine, 1996)

1. Scapular setae absent; femoral seta and opisthosomal setae d and e absent ····· ····· *Schizacea chinenseae* sp. nov.
-. Scapular setae present; femoral seta and opisthosomal setae d and e present ····· 2.
2. Prodorsal shield pentagonal ····· ····· *Pentaconvexus taiwanensis* Huang, 2001
-. Prodorsal shield normal ····· 3.
3. Shield design median line absent; empodium 4 rayed ····· *Acaphyllisa shinkoensa* sp. nov.
-. Shield design with median line; empodium 5 rayed ····· *Acaphyllisa bracteatae* sp. nov.

Schizacea chinenseae sp. nov.
(Fig. 1)

Female: Body spindle shaped, 146 long, shield 56 long, 66 wide, shield lobe present, shield design median line absent, admedian lines complete, sinuous, submedian line absent; scapular tubercles and setae absent; leg segments normal, femur with granules, fore tibial setae (1´) set at 1/2, 17 long; fore coxal area with granules; 1st coxal setae (1b) 9 long, Ct1-Ct1 30 apart, 2nd coxal setae (1a) 12 long, Ct2-Ct2 21 apart, 3rd coxal setae (2a) 27 long, Ct3-Ct3 38 apart, Ct1\Ct2 27, Ct1-Ct2 11, Ct2\Ct3 29, Ct2-Ct3 9; claw ending as small knob; empodium divided, 4 rayed.

Opisthosoma: dorsum with a central furrow, dorsally with about 24 rings, ventrally with about 49 microtuberculate rings; 1st 3 dorsal annuli 7

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