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## New or Little-Known Isometopinae from Taiwan (Hemiptera: Miridae) **【Research report】**

### 臺灣產樹蝽亞科 (半翅目：盲蝽科) 之一新種與一新組合 **【研究報告】**

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#### Abstract

One new species, *Isometopidea yangi* n. sp. and one new combination, *Astroscopometopus formosanus* (Lin) comb. nov. are reported. A key to the species of Isometopinae from Taiwan and figures of the male genitalia are included.

#### 摘要

本文描述臺灣產樹蝽亞科之一新種 (*Isometopidea yangi* Lin, n. sp.)，與一新組合 (*Astroscopometopus formosanus* (Lin) comb. nov.)，並附臺灣產樹蝽亞科種檢索表及雄蟲外生殖器圖。

**Key words:** Hemiptera, Miridae, Isometopinae, new species, new combination

**關鍵詞:** 半翅目、盲蝽科、樹蝽亞科、新種、新組合

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## New or Little-Known Isometopinae from Taiwan (Hemiptera: Miridae)

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### ABSTRACT

One new species, *Isometopidea yangi* n. sp. and one new combination, *Astroscopometopus formosanus* (Lin) comb. nov. are reported. A key to the species of Isometopinae from Taiwan and figures of the male genitalia are included.

**Key words:** Hemiptera, Miridae, Isometopinae, new species, new combination

The members of the Isometopinae can easily be distinguished from the other mirid subfamilies by having paired ocelli between the compound eyes. There are about 140 species in 30 genera worldwide (Schuh, 1995) and appear to be predaceous, inhabiting trunks, bark, or branches of broadleaf trees (Yasunaga and Hayashi, 2002). The Taiwanese isometopine fauna has been represented by 15 species in 6 genera (Poppius 1915; Lin and Yang, 2004; Lin, 2004). A recently described species, *Isometopidea formosana* Lin, found to be incorrectly placed in *Isometopidea* and so combined into the genus *Astroscopometopus*, and one new species are described in this paper. All measurements are given in millimeters. The examined materials in this study, including types, are deposited in the National Museum of Natural Science (NMNS), Taichung, Taiwan.

### Key to species of the Isometopinae from Taiwan

1. Clavus narrowed posteriorly, extending to or slightly beyond apex of scutellum, barely forming distinct commissure----- 2  
Clavus parallel-sided or slightly widened posteriorly, always produced beyond apex of scutellum, usually forming distinct commissure----- 7
2. Lower face carinate and gently sinuate-----  
-----*Isometopus hasegawai* Miyamoto  
Lower face not carinate and sinuate 3
3. Face with a large black spot----- 4  
Face without a large black spot ----- 5
4. Hemelytra semitransparent -----  
-----*Isometopus renae* Lin  
Hemelytra not semitransparent -----  
-----*Isometopus nigrosignatus* Ren

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5. Face with a black band from ocelli to clypeus-----*Isometopus lini* Lin  
Face without a black band from ocelli to clypeus -----6
6. Face underneath eye enlarged, lateral with a white band-----  
-----*Isometopus bipunctatus* Lin  
Face underneath eye not enlarged, lateral without a white band -----  
-----*Isometopus yehi* Lin
7. Pronotum 1/2 as long as or longer than width at base -----8  
Pronotum less than 1/2 as long as width at base-----14
8. Second antennal segment thickened or expanded, wider than hind-femur-9  
Second antennal segment not thickened or expanded, not wider than hind-femur-----11
9. Second antennal segment laminately incrassate, widening gradually from base -----  
---*Sophianus formosanus* Lin & Yang  
Second antennal segment not laminately incrassate, widening abruptly from base -----10
10. Hemelytra reaching tip of abdomen ---  
-----*Alcecoris fraxinusae* Lin  
Hemelytra not reaching tip of abdomen -----  
-----*Alcecoris formosanus* Lin
11. Pronotum with complete lateral carina -----12  
Pronotum without lateral carina-----  
-----*Totta ruficornis* Lin & Yang
12. Pronotum with a black band -----  
-----*Isometopidea yangi* Lin, n. sp.  
Pronotum without a black band ----13
13. Hemelytra heavily punctate, not semitransparent -----  
-----*Isometopidea lieweni* Poppius  
Hemelytra moderately punctate, semitransparent ----*Astroscometopus formosanus* (Lin), comb. n.
14. Eyes red (dried specimen) -----  
-----*Myiomma zhengi* Lin & Yang  
Eyes fuscous (dried specimen)-----15
15. Scutellum with a white spot-----  
-----*Myiomma choui* Lin & Yang  
Scutellum without a white spot -----

-----*Myiomma samuelsoni* Miyamoto

## Description of New Taxa

*Astroscometopus formosanus* (Lin)  
**comb. nov.** (Figs. 1A-C, 2A-C)

*Isometopidea formosana* Lin, 2004,  
Formosan Entomol. 24: 319 (syn. nov.).

Male. Body elongate oval, grayish-brown, widely punctate; dorsal surface shiny, with uniformly distributed, long pale or black setae. Head yellowish-brown, tinged with dark brown below eyes; frons somewhat rounded; vertex dark brown around ocelli. Antenna yellowish-brown; segment I short, enlarged, barrel-shape, segment II long, slender, with long suberect or erect setae. Rostrum yellowish-brown. Pronotum fuscous, rectangular, punctate, uniformly covered with long pale hairs. With semitransparent lateral carina; collar narrow, brown with darkened posterior margin; scutellum tumid, concave longitudinally in middle, anterior portion milky-white, lateral darkened, posterior end with a creamy-white dot. Hemelytra flattened, gray and shiny; clavus dark brown, moderately elevated and punctate, corium gray, marginal vein fuscous, with a circular, creamy spot mesially; embolium white, impunctate, with long semierect setae; cuneus triangular, inner basal angle of pale, posterior portion gray, covered with long dark setae; membrane shiny gray, semitransparent, with elongate closed cell. Leg pale brown with fuscous band, coxae pale yellow. Body underneath thorax and abdomen dark yellowish-brown, punctate, and fuscous on genital segment. Male genitalia with curved anterior portion of left paramere and a pointed end, base enlarged, broad, narrowing to end; right paramere more slender, anterior portion duck-head-shaped, neck narrow, slender, basal moderately enlarged and then narrowing. Vesica simple, weakly sclerotized

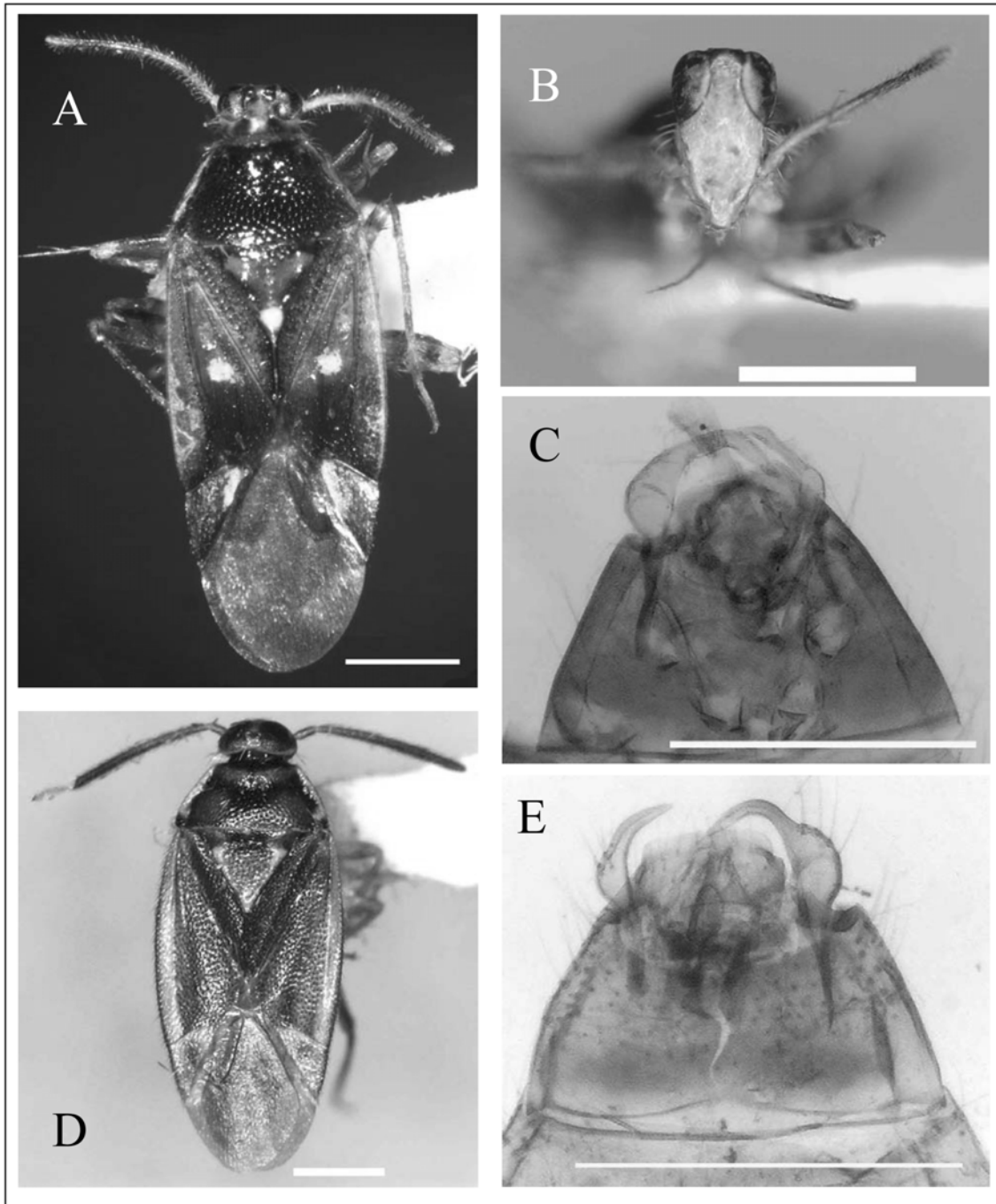


Fig. 1. A. Dorsal view of *Astroscopometopus formosanus* (Lin) comb. nov.; B. Frontal view of head of *A. formosanus* (Lin) comb. nov.; C. Genitalia of *A. formosanus* (Lin) comb. nov.; D. Dorsal view of *Isometopidea yangi* Lin, n. sp.; E. Genitalia of *I. yangi* Lin, n. sp. (scale bar = 1 mm).

at apical portion.

Measurements (in mm): Body length 4.1, width 1.6; head length 0.3, width 0.65, face length 1.1, width 0.6; vertex width 0.2, ocelli width 0.1; rostrum length 2.0; antennal segments: 0.2, 1.3, III and IV, broken; pronotum length 0.9, basal width 1.4; scutellum length 0.6, width 0.7; cuneus length 0.6; commissure length 0.4.

Female. Unknown.

Distribution: Taiwan.

Materials examined: NANTOU: Chunyang, 11-VI~9-VII-2002, 1 ♂, C. S. Lin and W. T. Yang (Malaise trap). PINTUNG: Hengchun, Kenting National Park, 10-III~14-IV, 2005, 1 ♂, C. S. Lin & W. T. Yang (Malaise trap).

Remarks: This species is similar to *Astroscometopus gryllocephalus* (Miyamoto *et al.*, 1996) collected at Ishigake Is. (Ryukyus), Japan. Both immature and mature of this mirid were found to inhabit the bark of the subtropical ash, *Fraxinus griffithii* C. B. Clarke (Oleaceae) (Yasunaga and M. Hayashi, 2002). This species can be distinguished from *A. gryllocephalus* by the scutellum and the inner basal angle of cuneus not being creamy-white, and by the lack of long setae on the left paramere.

*Isometopidea yangi* Lin, n. sp. (Figs. 1D, E, 2D-F)

Male. Body elongate oval, fuscous, covered with dark setae. Head vertical, pale yellowish-brown; eyes large, fuscous, occupying most of head and confluent with each other along median line in front of vertex, posterior margin sparse with long (about 0.2 mm) black setae, frons yellowish-brown, with a black line in middle; face long, oval, black; ocelli distinct. Antennae originating from lower lateral; antennal segment I small, short, fuscous; segment II long slender, larger than I, basal 1/2 yellowish-brown, apical 1/2 fuscous; pubescent with long semierect

yellow setae; segment III short, slender, smaller than II, pale yellow, covered with long semierect silky setae; segment IV short, pale yellow, covered with semierect silky setae. Rostrum yellowish-brown, with tip reaching 2nd abdominal segment.

Pronotum fuscous, rectangular, punctate, pubescent with long dark hairs, lateral margin with narrow semitransparent extension; collar narrow, brown, covered with long hairs; a curved, transverse black band behind calli; disk pronotum convex, lateral margin with a black band; mesonotum not visible; scutellum heart-shaped, elevated and flat, covered with semierect black hairs, both lateral margins milky-white, posterior end with a milky-white dot; hemelytra flattened and punctate, with moderately elevated and punctate clavus; corium smooth, shiny, lightly punctate and covered with some long black hairs; membrane shiny gray, with elongate closed cell; cuneus triangular, gray, covered with long dark hairs. Legs yellowish-brown, meta-femur pale yellowish with a black band. Body underneath yellowish-brown, genital segment fuscous.

Male genitalia. Left paramere basal broad, enlarged, anterior portion curved, narrowing to end, with pointed end; right paramere slender, curved, narrowing to end, anterior portion pointed; vesica with 2 pointed spinuli.

Measurements (in mm): Body length 4.2, width 1.7; head length 0.3, width 0.7, face length 1.0, width 0.4; vertex width 0.1, ocelli width 0.1; rostrum length 2.0; antennal segments: 0.2, 1.5, 0.3, 0.2; pronotum length 0.6, basal width 1.3; scutellum length 0.6, width 0.6; cuneus length 0.7, width 0.3; commissure length 0.5.

Holotype. 1 ♂. TAITUNG: Peinan Panchiu Station, 19-XI~16-XII-2004, C. S. Lin & W.T. Yang (Malaise trap). Paratypes, 2 ♂, 2 ♀, data same as for holotype; 7-X~19-XI-2004, 1 ♀, 16-XII-2004~17-II-2005, 3 ♂, 1 ♀, C. S. Lin & W. T. Yang (Malaise

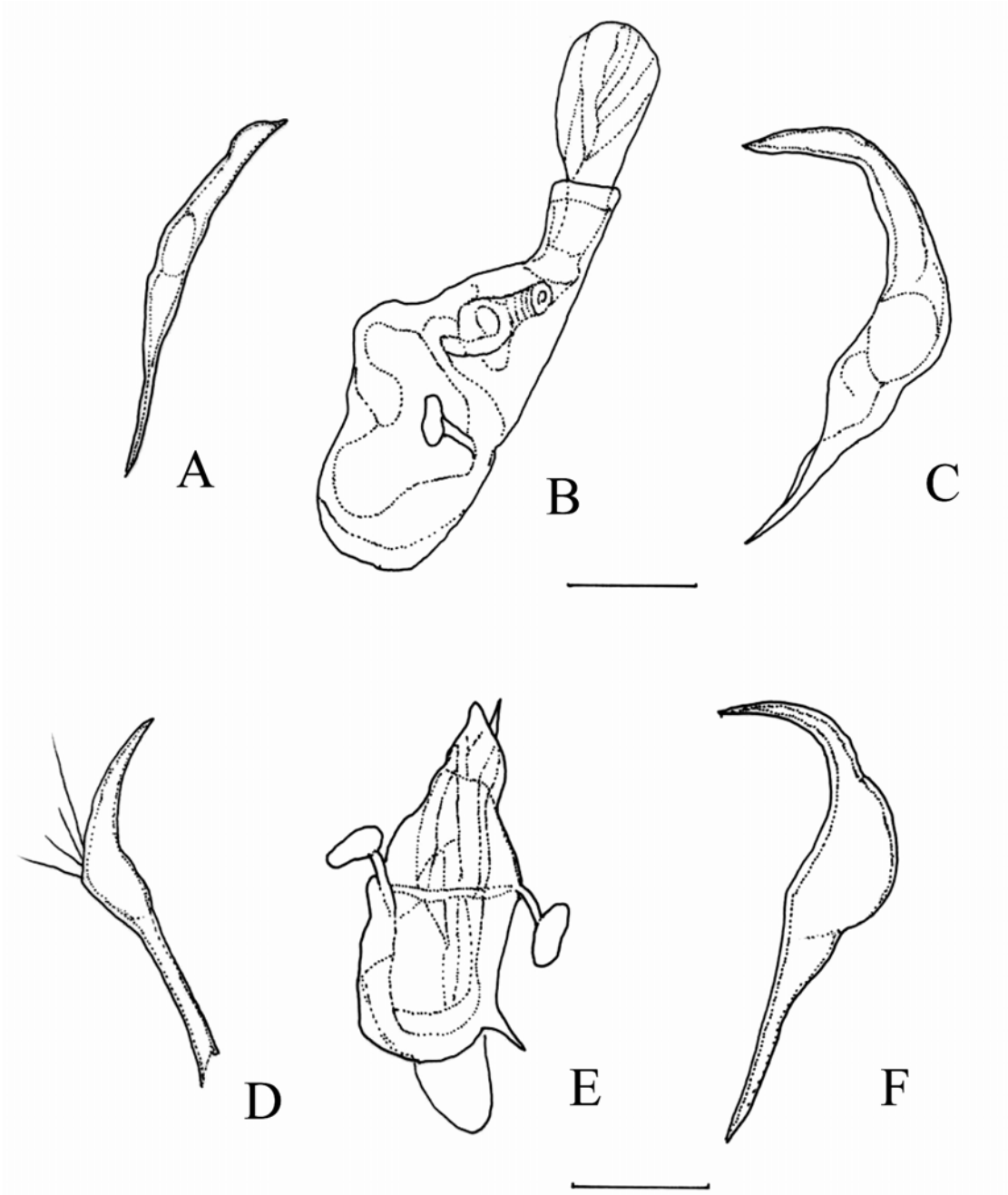


Fig. 2. A. Right paramere of *Astroscopometopus formosanus* (Lin) comb. nov.; B. Phallus of *A. formosanus* (Lin) comb. nov.; C. Left paramere of *A. formosanus* (Lin) comb. nov.; D. Right paramere of *Isometopidea yangi* Lin, n. sp.; E. Phallus of *I. yangi* Lin, n. sp.; F. Right paramere of *I. yangi* Lin, n. sp. (scale bar = 0.1 mm).

trap).

Etymology. Named in honor of Prof. C.T. Yang, Department of Entomology, Chung-Hsing University, Taichung, Taiwan, as a master researcher of Hemiptera in Taiwan.

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# 臺灣產樹蟥亞科（半翅目：盲蟥科）之一新種與一新組合

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## 摘 要

本文描述臺灣產樹蟥亞科之一新種 (*Isometopidea yangi* Lin, n. sp.)，與一新組合 (*Astroscopometopus formosanus* (Lin) comb. nov.)。並附臺灣產樹蟥亞科種檢索表及雄蟲外生殖器圖。

**關鍵詞：**半翅目、盲蟥科、樹蟥亞科、新種、新組合。