



# Formosan Entomologist

Journal Homepage: [entsocjournal.yabee.com.tw](http://entsocjournal.yabee.com.tw)

## The Genus *Zanchius* Distant (Hemiptera: Miridae) of Taiwan 【Research report】

### 臺灣產平盲蝽屬 (半翅目: 盲蝽科) 【研究報告】

Cheng-Shing Lin  
林政行

\*通訊作者E-mail: [cslin@mail.nmns.edu.tw](mailto:cslin@mail.nmns.edu.tw)

Received: 2005/03/18 Accepted: 2005/09/29 Available online: 2005/09/01

#### Abstract

Four species of *Zanchius* Distant from Taiwan are recognized. One new species, *Z. formosanus* Lin, n. sp., and two new records, *Z. marmoratus* Zou, 1987, and *Z. tarasovi* Kerzhner, 1987 from Taiwan are reported. A description of the male and re-description of the holotype female of *Z. apicalis* Poppius are included. A key to the species of *Zanchius* Distant of Taiwan and figures of the male genitalia are included. The type series are deposited in the National Museum of Natural Science (NMNS) and Taiwan Agricultural Research Institute (TARI), both of Taichung, Taiwan.

#### 摘要

本文描述一新種：臺灣平盲蝽 (*Zanchius formosanus* Lin, n. sp.)。發現兩新記錄種 (綠斑平盲蝽 *Z. marmoratus* Zou, 1987、紅點平盲蝽 *Z. tarasovi* Kerzhner, 1987)。並附臺灣產平盲蝽屬之檢索表及雄蟲外生殖器圖。

**Key words:** Miridae, new species, new record

**關鍵詞:** 盲蝽科、新種、新記錄

Full Text: [PDF\(0.97 MB\)](#)

下載其它卷期全文 Browse all articles in archive: <http://entsocjournal.yabee.com.tw>

## The Genus *Zanchius* Distant (Hemiptera: Miridae) of Taiwan

**Cheng-Shing Lin** Department of Zoology, National Museum of Natural Science, 1 Kuan-Chien Road, Taichung 404, Taiwan

### ABSTRACT

Four species of *Zanchius* Distant from Taiwan are recognized. One new species, *Z. formosanus* Lin, n. sp., and two new records, *Z. marmoratus* Zou, 1987, and *Z. tarasovi* Kerzhner, 1987 from Taiwan are reported. A description of the male and re-description of the holotype female of *Z. apicalis* Poppius are included. A key to the species of *Zanchius* Distant of Taiwan and figures of the male genitalia are included. The type series are deposited in the National Museum of Natural Science (NMNS) and Taiwan Agricultural Research Institute (TARI), both of Taichung, Taiwan.

**Key words:** Miridae, new species, new record

### Introduction

*Zanchius* was established by Distant (1904) as a new genus, which is distinguished by the following characteristics: "elongate ovate; head broad, deeply channeled near inner margins of eyes, in front of which it is vertically deflected, eyes moderately exerted and situated nearer to the insertion of antennae than base of head; rostrum reaching the posterior coxae; antennae long, basal joint about as long as head, second nearly four times longer than first, third and fourth almost subequal in length; pronotum somewhat strongly constricted before middle, lateral margins nearly straight, basal margin sinuate, mesonotum exposed; scutellum subtriangular; corium with a distinct cell-like process at apex; cuneus

longer than broad; legs somewhat long and slender, posterior femora moderately thickened."

About nine species in China and 37 species in the world have been recorded. There is only one species, *Z. apicalis*, which was described by Poppius (1915) according to one female specimen collected from Takao, Formosa (Kaoshiung, Taiwan) by Sauter. Carvalho (1980) examined and gave some notes of the mirid type series when he visited the Hungarian Natural History Museum (HNHM), Budapest. In this study, types were loaned from HNHM for further comparison. One new species, and two new records from Taiwan are reported in this paper. The type series and examined specimens are deposited in the National Museum of Natural Science (NMNS), Taichung, Taiwan

\*Correspondence address  
e-mail: cslin@mail.nmns.edu.tw

and Taiwan Agricultural Research Institute (TARI), Taichung, Taiwan. Methods of dissection and terminology followed Zheng and Liu (1993).

#### Key to species of Genus *Zanchius* Distant of Taiwan

1. Vertex with 2 impressed fasciae-----  
----- *Z. apicalis* Poppius  
Vertex without impressed fasciae-----2
2. Small areole with a black dot-----  
----- *Z. formosanus* Lin, n. sp.  
Small areole without a black dot-----3
3. Second antennal segment with a black ring-----  
----- *Z. marmoratus* Zou  
Second antennal segment without a black ring-----  
----- *Z. tarasovi* Kerzhner

#### *Zanchius apicalis* Poppius, 1915 (Figs. 1A, B, 2A-C)

*Zanchius apicalis* Poppius, 1915: 60.

*Zanchius apicalis* Poppius: Carvalho, 1980: 658.

*Zanchius vitellinus* Zou, 1989: 328, 331.

*Zanchius apicalis* Poppius: Liu and Zheng, 1994: 307.

#### Female (Holotype)

Body small, oblong, straw-yellow, pubescence sparse, hairs pale. Vertex flat, with 2 impressed fasciae, pubescence sparse with erect pale hairs. Eye prominent, situated at anterior corner of head. Rostrum straw-yellow. First antennal segment (I) straw-yellow, apical ventral with a large red spot, almost equal to head length; segment II straw-yellow, apex with a red ring, long, slender, and straight, almost 3× head length; segment III straw-yellow, basal and apical tip with a pink or red ring, slender and moderately curved, 2× as long as head length.

Pronotum trapezoidal, pale brownish-yellow, pubescence sparse with erect and semi-erect, pale hairs, width 2× its length, anterior pronotal margin medially slightly concave, posterior margin broadly concave. Mesoscutum exposed. Scutellum smooth,

straw-yellow with 3 corners pale yellowish, length almost equal to width. Legs pale yellowish, tibia long, slender, with semi-erect pale hairs and some tiny erect spines, apical 1/2 of tarsus slightly darker. Ventral surface pale yellowish.

Remarks: Type specimens are well preserved by fixing on a small piece of cardboard, but antennal segment IV and hemelytra are missing. Measurement (in mm): Body length 4.1 (♀), 3.6 (♂). Head length 0.4, width 0.65. Interocular space width 0.25, eye width 0.2. Antennal segment lengths 0.3: 1.4: 1.1: 0.6. Rostrum length 1.5. Pronotum length 0.4, width 0.85. Scutellum length 0.3, width 0.4. Forewing length 3.4, width 0.25.

#### Male

Body small, oblong, straw-yellow, pubescence sparse, hairs pale. Vertex flat, with 2 impressed fasciae. Eye prominent, situated at anterior corner of head. Rostrum brownish-yellow, reaching metacoxae. First antennal segment stout, brownish-yellow with semi-erect pale black hairs, lateral orange, apex with a red spot; segment II long, slender, 5× segment I length, brownish-yellow with semierect pale black hairs, apex red; segment III thinner than II, almost 2/3× segment II length, brownish-yellow; segment IV, gray, 1/2× segment III length.

Pronotum trapezoidal, pale brownish-yellow, anterior pronotal margin medially slightly concave. Mesoscutum exposed, smooth, slightly tumid. Scutellum smooth, triangular. Hemelytra pale yellowish, semitransparent. Legs slender, brownish-yellow, femur strong, tibia long and slender, covered with dense semierect hairs, apical 1/3 of tarsus gray. Body beneath brownish-yellow. Dorsal pygofer with a finger-like protrusion.

Male genitalia. Left paramere broad, hyposis elongate and slender, apical portion slightly curved, slender, with a blunt end. Right paramere small and vesica as shown in Fig. 2A-C.

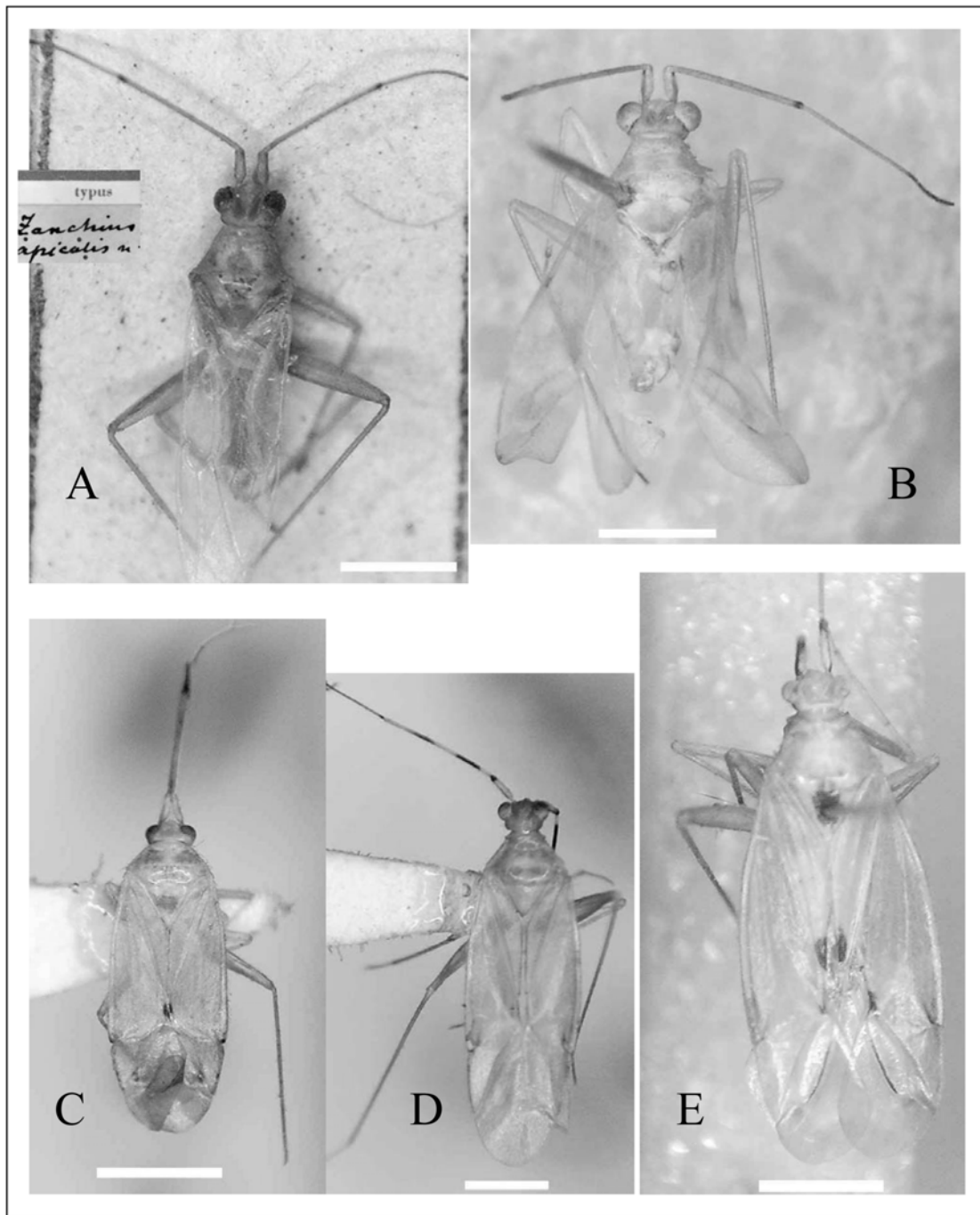


Fig. 1. A. Female (holotype) of *Zanchius apicalis* Poppius; B. Male of *Z. apicalis* Poppius; C. Male of *Z. formosanus* Lin, n. sp.; D. Male of *Z. marmoratus* Zou; E. Male of *Z. tarasovi* Kerzhner (Scale bar = 1 mm).

Measurements (in mm). Body length 3.8. Head length 0.4, width 0.7. Interocular

space width 0.3, eye width 0.2. Antennal segment lengths 0.4: 1.1: 0.8: missing.

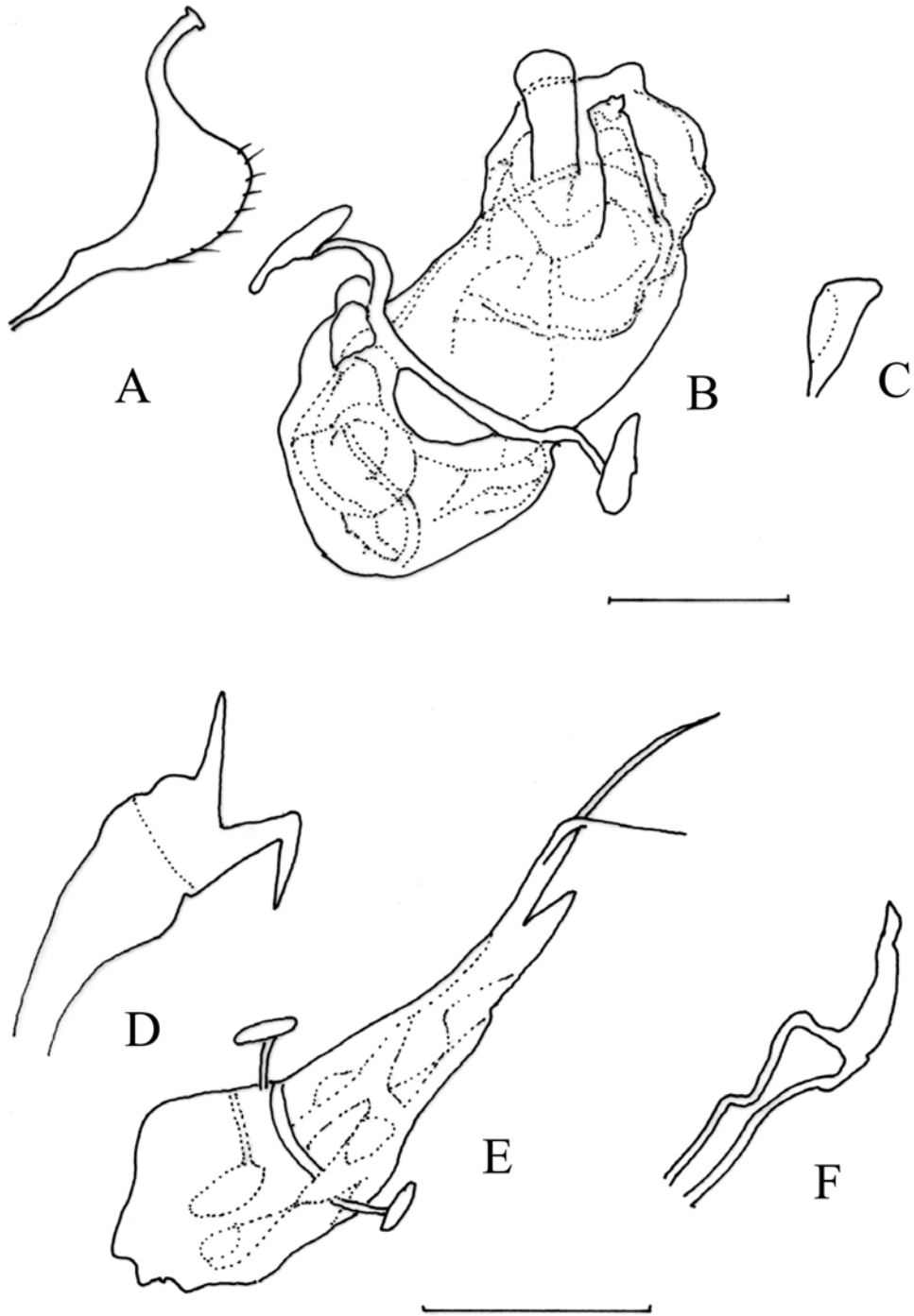


Fig. 2. A–C. Male genitalia of *Zanchius apicalis* Poppius (A. left paramere, B. vesica, C. right paramere); D–F. Male genitalia of *Z. formosanus* Lin, n. sp. (D. left paramere, E. vesica; F. right paramere) (Scale bar = 0.1 mm).

Pronotum length 0.5, width 1.0. Scutellum length 0.4, width 0.5. Forewing missing.

Materials examined: TAICHUNG: Kukang, 8-V-1984, 1 ♂, C. S. Lin. HUALIEN: Fuli, 9-XI-1982, 3 ♀, K. C. Chou and S. P. Huang. NANTOU: Hueishun, 20-II-1990, 1 ♀, C. S. Tseng (light trap).

Distribution: China (Yunnan), and Taiwan.

***Zanchius formosanus* Lin, n. sp. (Figs. 1C, 2D-F)**

**Male**

Body small, oblong, pale yellowish, covered with pale hairs. Head constricted behind eyes, pale yellowish. Eyes large, at anterolateral angle of head. First antennal segment stout, pale brownish-yellow, covered with long pale hairs; segment II long, slender, 4× segment I length, brownish-yellow, apical 2/3 with a red ring, covered with semierect pale hairs; segment III slender, 1/3 of segment II length, greenish-yellow, apex and base with a black ring; segment IV almost equal to segment III, gray. Rostrum pale yellowish, reaching to metacoxae.

Pronotum trapezoidal, pale yellowish, covered with long pale hairs, callus area slightly raised, posterior margin broadly concave. Mesoscutum exposed, smooth. Scutellum triangular, smooth. Hemelytra, pale greenish-yellow, right below the commissure suture with 2 black spots and in the small areole with a black spot. Legs greenish-yellow, femur strong, tibia slender, brownish-yellow.

Male genitalia. Vesica with 2 slender and elongate spiculi. Right paramere as in Fig. 2F, with long, slender protrusion, left paramere with beak-like extension as in Fig 2D.

Measurements (in mm). Body length 3.4 (♀), 3.3 (♂). Head length 0.3, width 0.55. Interocular space width 0.2, eye width 0.18. Antennal segment lengths 0.3: 1.0: 0.5: 0.5. Rostrum length 0.7. Pronotum

length 0.3, width 0.6. Scutellum length 0.3, width 0.4. Forewing length 2.5, corium length 1.5, cuneus length 0.6, width 0.3.

Holotype. 1 ♂. TAITUNG: Painan, Chihpen, 14-I-1998, C. S. Lin and W. T. Yang (sweep net) (NMNS-Ent 2757-332, 338). Paratype, 1 ♀, data same as for holotype; Chihpen, 11-I-1989, 1 ♀, K. W. Huang (sweep net) (NMNS-ENT 428-287). NANTOU: Nanshanshi, 25-XI-2002, 1 ♂, 1 ♀, W. T. Yang (sweep net) (NMNS-Ent 3973-848, 849); Hueishun, 20-II-1990, 1 ♂, C. S. Tseng (light trap). IIAN: Wufangshi, 16-X-1990, 1 ♂, 3 ♀, C. C. Chiang (sweep net). CHIAYI: Tingpinglin, 16-XII-1998, 1 ♂, K. W. Huang (sweep net). TAICHUNG: Wanfeng, XI-1984, 1 ♂, VIII-1984, 2 ♀, K. S. Lin & K. C. Chou (Malaise trap); Chiapaotai (750 m), 14~18-X-1980, 1 ♂, K. S. Lin & C. H. Wang. TAIPEI: Chutzuhu, 26-V-1983, 1 ♂, K. C. Chou. TAOYUAN: Fuhsing, 1 ♂, 10~11-VII-1988, K. C. Chou. HUALIEN: Antung, 14~17-II-1984, 1 ♂, K. C. Chou and C. H. Yang.

Etymology. Named for the type locality.

Remarks. This species is similar to *Z. apicalis*, but can be separated by the small areole with a black dot and the left paramere with beak-like extension.

***Zanchius marmoratus* Zou, 1987 (Figs. 1D, 3A-C)**

*Zanchius marmoratus* Zou, 1987: 297, 299

*Zanchius zoui* Zheng & Liu, 1993: 17, 18

*Zanchius marmoratus* Zou: Liu & Zheng, 1994: 304

*Zanchius marmoratus* Zou: Schuh, 1995: 206

**Male**

Body oblong, yellowish-brown, covered with long pale hairs, slightly shiny. Head yellowish-brown. Eyes large, as wide as interocular width, longer than postocular length. Antennal segment I pale yellowish-

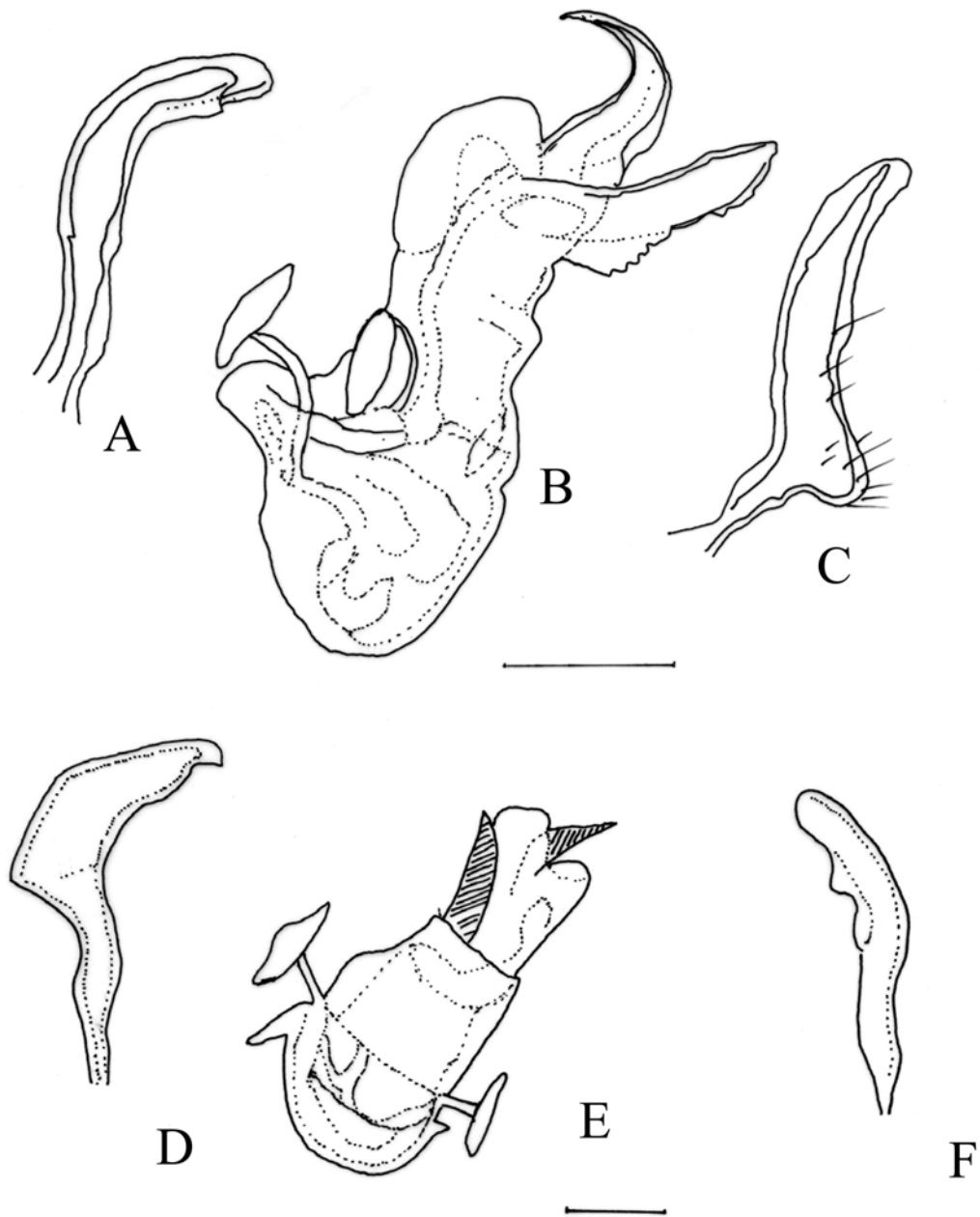


Fig. 3. A–C. Male genitalia of *Zanchius marmoratus* Zou (A. left paramere, B. vesica, C. right paramere); D–F. Male genitalia of *Z. tarasovi* Kerzhner (D. left paramere, E. vesica, F. right paramere) (Scale bar = 0.1 mm).

brown with dense semierect hairs, with a T-shaped black stripe; segment II, almost 3.5× as long as segment I, pale yellowish-brown with a short black ring at base

and in the middle with 2 black or fuscous bands, almost as long as segment I; segment III thinner and shorter than segment II, gray; segment IV, almost as

long as segment III, gray. Rostrum long, reaching base of abdomen, light yellowish-brown.

Pronotum slightly shiny; anterior margin slightly concave, posterior margin concave; hind margin of calli shallowly furrowed, calli slightly tumid; pronotal length  $0.5\times$  width. Mesoscutum largely exposed, smooth, raised. Scutellum smooth, slightly shiny, yellowish-brown. Hemelytra pale green, with or without several light-green transverse bands; cuneus  $2.0\times$  as long as wide; membrane pale, semihyaline. Legs pale yellowish-brown, covered with pale semierect hairs.

Male genitalia: Aedeagus small, vesica with 2 slender, curved, pointed speculi; hypophysis of left paramere slender, apex bent and pointed; hypophysis of right paramere curved, twisted, with pointed apex as shown in Fig. 3A-C.

Measurements (in mm). Body length 3.4. Head length 0.3, width 1.0. Interocular space width 0.3, eye width 0.2. Antennal segment lengths 0.4: 1.4: 0.9: 1.0. Rostrum length 0.7. Pronotum length 0.4, width 0.9. Scutellum length 0.4, width 0.5. Forewing length 2.0, corium length 1.2, cuneus length 0.5, width 0.4.

Materials examined: NANTOU: Wushe, 10-XII-2002, 2 ♂, 2 ♀, C. S. Lin (sweep net) (NMNS Ent 3973-176, 3973-175, 173, 506); Nansanshi, 24-XI-2002, 2 ♂, 1 ♀, W. T. Yang (sweep net) (NMNS Ent 3973-853, 845, 848); Yuchih, 16-XII-1999, 4 ♂ 5 ♀, W. T. Yang (sweep net) NMNS Ent 3973-192, 194, 195, 202, 204, 209, 215, 236, 237, 245); Jihuetan, 16-XII-1999, 1 ♀, C. S. Lin (sweep net) NMNS Ent-64-23); Lienhuachi, 15 ~ 16-XI-2004, 1 ♀, C. S. Lin (sweep net), 16-XII-2003 ~ 7-I-2004, 1 ♂, C. S. Lin and W. T. Yang (Malaise trap), Tongpu, 22-I-1985, 1 ♀, C. S. Lin (sweep net). CHIAYI: Alishan, 1 ♂, 5 ~ 6-XI-1997, C. S. Lin and W. T. Yang (beating); Fenchifu, 1 ♀, C. S. Lin & W. T. Yang (sweep net). TAICHUNG: Tungmaushan, 1-XI-1987, 1 ♀, I. C. Hsu (sweep net); Taken, 5-VIII-

1998, 1 ♀, Y. M. Hsu and H. T. Shih (sweep net); Wanfeng, XII-1983, 2 ♀, K. S. Lin & K. C. Chou (Malaise trap). HUALIEN: Antung, 14 ~ 17-II-1984, 10 ♂ 11 ♀, K. C. Chou and C. C. Pan, Fuli, 9 ~ 11-XI-1982, 2 ♂, 1 ♀, K. C. Chou & S. P. Huang, 16-II-1984, 1 ♂, K. C. Chou and C. C. Pan.

Distribution: China (Guandong, Guizhou, Yunnan), and Taiwan (new record).

***Zanchius tarasovi* Kerzhner, 1987 (Figs. 1E, 3D-F)**

*Zanchius tarasovi* Kerzhner, 1987: 49.

*Zanchius tarasovi* Kerzhner: Liu and Zheng, 1994: 308.

*Zanchius tarasovi* Kerzhner: Schuh, 1995: 206.

*Zanchius tarasovi* Kerzhner: Yasunaka, 1999: 167.

**Male**

Body oblong, light yellowish-brown, slightly shiny. Head light yellowish-brown. Eyes large, as wide as interocular width, longer than postocular length. Lateral postocular area with a red spot. Antennal segment I with dense semierect hairs and a few long setae among them, light yellowish-brown, with a T-shaped red stripe; segment II  $4.5\times$  as long as segment I, pale reddish-brown; segment III,  $2/3$  as long as segment II, pale yellowish-brown; segment IV as long as segment III. Rostrum long, reaching base of abdomen.

Pronotum slightly shiny, pale sulfur-yellow; anterior margin slightly concave, apical  $1/2$  of lateral margin slightly concave, posterior margin concave; calli slightly tumid; pronotal length  $0.5\times$  width. Mesoscutum largely exposed, smooth, raised. Scutellum smooth, shiny, light yellow, with or without a red spot. Hemelytra pale yellow.

Male genitalia. Vesica with 3 sclerotized spines. Left paramere hook-like, with 3 short teeth. Right paramere



curved, apical rounded, middle with 2 extension as shown in Figs. 3C-E.

Measurements (in mm). Body length 4.5. Head length 0.4, width 0.8. Inter-ocular space width 0.3, eye width 0.2. Antennal segment lengths 0.4: 1.5: 1.2: 0.6. Rostrum length 0.7. Pronotum length 0.5, width 1.0. Scutellum length 0.5, width 0.6. Forewing length 2.0, corium length 1.2, cuneus length 0.8, width 0.4.

Materials examined: NANTOU: Fenghuangku, 16~18-VIII-1993, 1 ♂, C. S. Lin and W. T. Yang (UV light) (NMNS-Ent 1578-468); Howang, 1 ♂, 15~16-2002, W. T. Yang (mercury light) (NMNS-Ent 3912-165); Hueishun, 20-II-1990, 2 ♂, C. S. Tseng (light trap); Tongpu (1200 m), 1 ♀, XI-1985, K. S. Lin (Malaise trap); Wushe, 16-XI-2004, 1 ♂, 1 ♀, C. S. Lin (sweep net). TAICHUNG: Shieshanken, 19-IV-1992, 1 ♀, C. C. Chiang (sweep net) (NMNS-Ent 1449-97). HSINCHU: Shitoushen, 13-XII-1980, 1 ♀, C. T. Yang.

Distribution: China (Henan, Hebei, Shaanxi, and Gansu), Russia (Primorsk Terr.), Japan (Hokkaido, Honshu, and Shikoku), and Taiwan (new record).

### Acknowledgments

I would like to express sincere thanks to Dr. L. Y. Chou, the late Entomologist of the Taiwan Agricultural Research Institute (TARI) for kindly loaning specimens for this study. Thanks are given to Dr. Andras Orosz, Department of Zoology Hungarian Natural History Museum, Budapest for kindly loaning the *Poppius* types for study. Thanks are given to Dr. G. Q. Liu, Department of Biology, Nankai University, Tianjin, China for sending me references. Thanks are also given to two anonymous reviewers who provided valuable comments on this manuscript. This research was supported by a grant (NSC93-2621-B-178-001) from the National Science Council, Taiwan.

### References

- Carvalho, J. C. M.** 1980. *Analecta Miridologica, IV: Observations on type specimens in the National Museum of Natural History, Budapest, Hungary (Hemiptera: Miridae)*. *Rev. Brasil. Biol.* 40: 649-658.
- Distant, W. L.** 1904. *The fauna of British India, including Ceylon and Burma. Rhynchota Vol. 2, part 2, pp. 243-503.* Taylor & Francis, London.
- Kerzhner, I. M.** 1987. *New and little-known Heteroptera from the Far East of the USSR. Trudy Zool. Inst. Akad. Nauk SSSR* 52: 276-295 (in Russian).
- Liu, G. Q.** 1998. *A study on systematics of the subfamily Orthotylinae (Heteroptera: Miridae) from China. Dissertation of Nankai University, Tianjin, China.* 288 pp. (in Chinese).
- Liu, G. Q., and L. Y. Zheng.** 1994. *Genus Zanchius Distant (Hemiptera: Miridae) of China. Entomol. Sinica* 1: 307-310.
- Poppius, B.** 1915. *H. Sauter's Formosa-Ausbeute: Nabidae, Anthocoridae, Termatophylidae, Miridae, Isometopidae and Ceratocombidae (Hemiptera)*. *Arch. Naturg. H.* 80A(8): 1-80.
- Schuh, R. T.** 1995. *Plant Bugs of the World (Insecta: Heteroptera: Miridae): Systematic Catalog, Distributions, Host list, and Bibliography.* The New York Entomological Society, New York, 1329 pp.
- Yasunaga, T.** 1999. *The plant bug tribe Orthotylini in Japan (Heteroptera: Miridae: Orthotylinae)*, *Tijdschrift voor Entomol.* 142: 143-183.
- Zheng, L. Y., and G. Q. Liu.** 1993. *Two new species of genus Zanchius Distant (Hemiptera: Miridae)*. *Reichenbachia* 30: 17-20.
- Zou, H. G.** 1987. *Descriptions of two new species of Zanchius from China (Hemiptera: Miridae)*. *Acta Zootaxon. Sinica* 12: 297-300.

**Zou, H. G.** 1989. New species and new records of Miridae from China (Hemiptera: Miridae). Acta Zootaxon. Sinica 14: 327-331.

**Received: March 18, 2005**

**Accepted: September 29, 2005**

# 臺灣產平盲蝽屬（半翅目：盲蝽科）

林政行 國立自然科學博物館動物組 台中市館前路1號

## 摘 要

本文描述一新種：臺灣平盲蝽 (*Zanichius formosanus* Lin, n. sp.)，發現兩新記錄種(綠斑平盲蝽 *Z. marmoratus* Zou, 1987, 紅點平盲蝽 *Z. tarasovi* Kerzhner, 1987)。並附臺灣產平盲蝽屬之檢索表及雄蟲外生殖器圖。

**關鍵詞：**盲蝽科、新種、新記錄。