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First Record of the Plant Bug Subfamily Psallopinae (Heteroptera: Miridae) from Taiwan and China, with Descriptions of Three New Species of the Genus Psallops Usinger 【Research report】

首次記錄臺灣及中國大陸產薩盲蝽亞科(半翅目：盲蝽科)，並描述三新種【研究報告】

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Abstract

The plant bug subfamily Psallopinae Schuh is reported from Taiwan and China for the first time. Three new species, *Psallops formosanus* Lin, n. sp. and *P. leeae* Lin, n. sp., from Taiwan and *P. chinensis* Lin, n. sp., from China mainland are described. Photographs and male genitalia are provided to distinguish the three species.

摘要

本文首次記錄臺灣及中國大陸產薩盲蝽亞科，並描述三新種：臺灣產的臺灣薩盲蝽 (*Psallops formosanus* Lin, n. sp.) 及李氏薩盲蝽 (*Psallops leeae* Lin, n. sp.) 和中國大陸產中國薩盲蝽 (*Psallops chinensis* Lin, n. sp.)。並附新種及其雄性外生殖器圖。

Key words: Hemiptera, Miridae, Psallopinae, new species

關鍵詞: 半翅目、盲蝽科、薩盲蝽亞科、新種

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First Record of the Plant Bug Subfamily Psallopinae (Heteroptera: Miridae) from Taiwan and China, with Descriptions of Three New Species of the Genus *Psallops* Usinger

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ABSTRACT

The plant bug subfamily Psallopinae Schuh is reported from Taiwan and China for the first time. Three new species, *Psallops formosanus* Lin, n. sp. and *P. leae* Lin, n. sp., from Taiwan and *P. chinensis* Lin, n. sp., from China mainland are described. Photographs and male genitalia are provided to distinguish the three species.

Key words: Hemiptera, Miridae, Psallopinae, new species

Introduction

The plant bug subfamily Psallopinae was established by Schuh (1976) and is characterized by "head nearly spherical in frontal view; tarsi 2-segmented; claws with a subapical tooth; parempodia setiform; membrane with a single cell". Currently there are seven known species of *Psallops* Usinger in the world (Schuh, 1995; Yasunaga, 1999): *P. grandoculus* Linnarvuori and Alamy, 1982 from Saudi Arabia; *P. oculatus* Usinger, 1946 from Guam and the Mariana Is., Saipan; *P. ponapensis* Carvalho, 1956 and *P. yapensis* Carvalho, 1956 from the Caroline Is.; and *P. myiocephalus* Yasunaga, *P. nakatani* Yasunaga, 1999, and *P. yaeyamanus* Yasunaga, 1999 from Japan. Their habits are unknown, and all known specimens have been collected with lights (Schuh

and Slater, 1995) and from *Quercus acutissima* (Fagaceae) (麻櫟) as reported by Yasunaga (1999). There were no previous records of Psallopinae from Taiwan or China. In this paper, two new species of Psallopinae from Taiwan and one new species from China are described.

***Psallops formosanus* Lin, n. sp. (Figs. 1A, B, 2A, B, E)**

Male

Head ferruginous, genae reddish brown with silky, suberect setae. Rostrum reddish brown. First segment of antenna club-shaped, basally narrow, wider at apex, brown with sanguineous spots, pubescent with erect silky hair about 0.5 mm long, 2nd segment long slender yellowish brown, pubescent with

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blackish silky suberect hairs, 3rd segment reddish brown, narrower than the 2nd, pubescent with blackish silky hairs, 4th segment reddish brown, tail-shaped, pubescent with silky hair.

Pronotum fuscous, with black uniformly distributed, suberect setae; mesoscutum reddish brown; scutellum reddish brown with whitish apical 1/2. Hemelytra mostly whitish brown, with somewhat-brownish scattered small spots, corium obscure at apical part, mesially with a pale brownish marking continuing to mesial embolium; clavus with obscure spot mesially, cuneus reddish brown with white apical spot, membrane grayish brown. Pleura reddish brown, ostiolar peritreme reddish brown, abdomen venter reddish brown with 3 fuscous apical segments. Coxae yellowish-white, legs reddish brown, with yellowish-brown apical parts of metafemur, and with apical 1/2 of tibiae and all tarsi brownish; lengths of metafemur, tibia and tarsus 1: 1.8: 0.4. Left paramere of male genitalia with a sickle-like extension, then enlarged with a broad basal portion (Fig. 2A), right paramere with a pointed end and broad basal portion (Fig. 2B); vesical spines elk-horn shaped, 1 with knife-shaped portion, middle having extension, basal attached to the other long broad, pointed spine (Fig. 2E).

Measurements (in mm): male: length 3.3, width 1.2; head: length 0.1, width 0.7, vertex 0.2; antennae: 0.3: 1.0: 0.6: 0.4; pronotum: length 0.5, width at base 1.1; rostrum: length 1.3.

Female

Head brown, genae fuscous, with brownish silky suberect setae. First segment of antennae long club-shaped, fuscous, pubescent with suberect silky brown hair, 2nd segment fuscous with yellowish-brown apical 1/8, pubescent with silky hairs, 3rd segment with basal 1/2 fuscous and distal 1/2 yellowish-brown, pubescent with short suberect silky hairs,

4th segment fuscous with short silky hairs, at apical part slightly enlarged. Rostrum reddish brown.

Pronotum fuscous with brownish silky suberect setae; mesoscutum fuscous; scutellum reddish brown with pale yellowish-brown apical 1/3; pleura mostly brown, ostiolar peritreme yellowish brown. Hemelytra mostly yellowish brown, with uniformly distributed small fuscous spots; corium with large brownish marking; apical clavus with large brownish marking; cuneus brown, with silky suberect fine setae; membrane pale yellowish brown. Coxae pale yellowish brown, each femur fuscous, all tibiae and all tarsi yellowish brown; lengths of metafemur, tibia, and tarsus 1.3: 2.1: 0.4.

Measurements (in mm): female: length 3.5, width 1.4; head: length 0.1, width 0.6, vertex 0.3; antennae: 0.3: 1.0: 0.6: 0.4; pronotum: length 0.5, width at base 1.3; rostrum: length 1.8.

Holotype: ♂, NANTOU: Lienhauchih (650 m), VI-1984, K. S. Lin and K. C. Chou (malaise trap). Paratype: 1 ♀, X-1984, K. S. Lin and K. C. Chou (malaise trap).

Remarks. This new species resembles *Psallops ocular* Carvalho, but it is easily distinguished by the different coloration on the scutellum and hemelytra (see Carvalho, 1956).

Etymology. Named for the locality where it was found.

***Psallops leae* Lin, n. sp. (Figs. 1C, D, 2C, D, F)**

Male

Head fuscous with silky suberect setae, eyes large, fuscous surrounded by red ring. First segment of antennae brown, long club-shaped, pubescent with long erect silky hairs, 2nd segment brown pubescent with long silky hairs, 3rd and 4th segments fuscous. Rostrum shiny reddish brown.

Pronotum fuscous, with uniformly

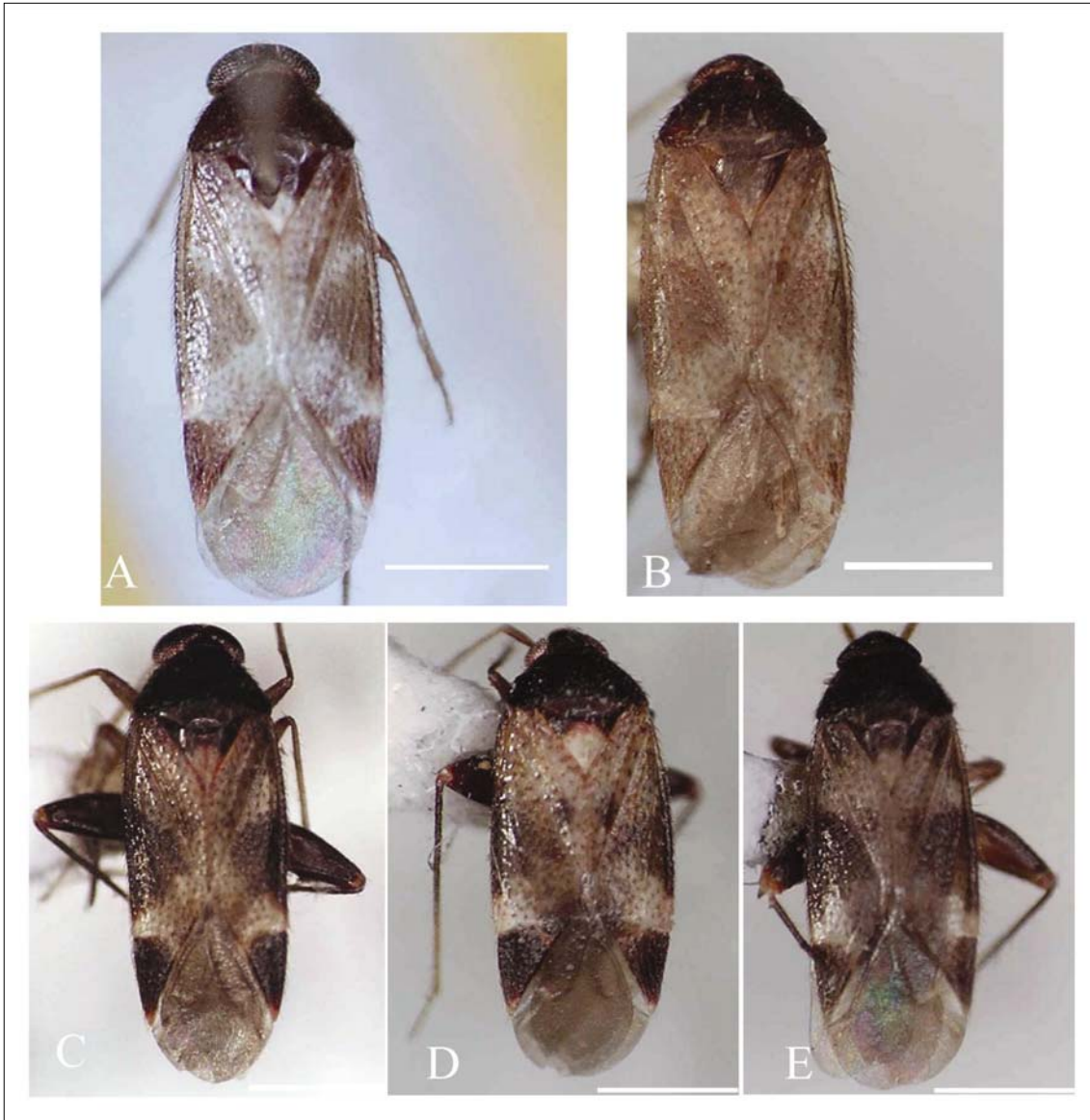


Fig. 1. Adults of *Psallops* spp. A, *P. formosanus*, holotype ♂; B, *P. formosanus*, paratype, ♀; C, *P. leeeae*, holotype ♂; D, *P. leeeae*, paratype ♀; E, *P. chinensis*, holotype ♀. Scale lines = 1 mm.

distributed suberect setae, basal 1/3 fuscous and the other portion silky white; mesoscutum reddish brown; scutellum fuscous, 1/2 yellowish white; pleura mostly reddish brown; ostiolar peritreme red. Hemelytra widely yellowish white, with small uniformly distributed fuscous

spots; corium mesial with large triangular fuscous marking continuing to mesial embolium; clavus mesial with large fuscous marking; cuneus fuscous with red apex; membrane grayish brown. Coxae yellowish white; legs brown, basal parts of profemur and midfemur yellowish brown;

metafemur fuscous, basal part red and yellow; metatibia basal 1/2 reddish brown distal 1/2 yellowish brown, tarsus yellowish brown; lengths of metafemur, tibia and tarsus 1.2: 2.0: 0.4. Genitalia very similar to *P. formosanus*, but can be identified by the basal portion of the left paramere more deeply concave than in *P. formosanus* (Fig. 2C), and dorsal aspect of basal portion of right paramere not as concave as in *P. formosanus* (Fig. 2D); vesical spines with 1 long, broad stout, the other 5 short, slender and pointed (Fig. 2F).

Measurements (in mm): male: length 3.5, width 1.3; head: Length 0.2, width 0.7, vertex 0.25; antennae: 0.4: 1.1: 0.6: 0.4; pronotum: length 0.4, width at base 1.1; rostrum: length 1.7.

Female

Similar to the male, but can be separated by the following: First segment of antennae reddish brown, long, club-shaped, pubescent with silky hairs, 2nd segment brown, pubescent with silky hairs, basal portion narrower, apical portion gradually enlarging. Scutellum reddish brown, with at least basal 2/3 white. Lengths of metafemur, tibia and tarsus 0.8: 1.5: 0.4.

Measurements (in mm): female: length 3.0, width 1.2; head: length 0.1, width 0.65, vertex 0.3; antennae: 0.3: 0.9; pronotum: length 0.5, width at base 1.0; rostrum: length 1.6.

Holotype: ♂, PINTUNG: Hengchun, Kenting Park, 7~8-IV-2004, C. S. Lin and W. T. Yang (UV light trap) (NMNS ENT 4388-365). Paratype: 2 ♂, data same as for holotype, 1 ♀, Chufungshan, 17~19-I-1994, C. S. Lin and W. T. Yang (UV light trap) (NMNS ENT 4388-371, 4388-372, 1720-71).

Remarks. The new species is similar to *P. formosanus*, but can be distinguished by the different coloration of the hemelytra and by the genitalia.

Etymology. Named in honor of Dr.

Wen-Yung Lee, Entomologist, Institute of Zoology, Academic Sinica, Taipei, Taiwan.

Psallops chinensis Lin, n. sp. (Fig. 1E)

Female

Head fuscous with suberect silky setae. Rostrum reddish brown. First segment of antennae brown, long, club-shaped, pubescent with short brownish hairs, 2nd segment long slender, yellowish brown, pubescent with brownish hairs, 3rd segment fuscous pubescent with brownish hairs, 4th segment fuscous pubescent with brownish hairs.

Pronotum fuscous with uniformly distributed, dark golden-yellowish suberect setae; mesoscutum reddish brown with suberect setae with dark basal 1/2 and golden-yellowish distal 1/2; scutellum reddish brown, with basal 1/2 pale yellowish white; pleura mostly dark brownish; ostiolar peritreme brown. Hemelytra mostly whitish brown, with scattered small brown spots; corium mesially with dark, triangular, large marking continuing to mesial and upper embolium; clavus obscure spot apically and mesially; cuneus totally dark brown; membrane pale grayish brown. Coxae unicolorously yellowish white; leg dark brown, all of femur dark brown, with orange apical part of metafemur, all tibia and tarsi brown, but metatibia fuscous, lengths of metafemur, tibia and tarsus 1.2: 2.0: 0.4. Venter of abdomen fuscous.

Measurements (in mm): female: length 3.4, width 1.2; head: length 0.2, width 0.5, vertex 0.2; antennae: 0.3: 1.0: 0.5: 0.3; pronotum: length 0.5, width at base 1.0; rostrum: length 1.7.

Holotype: ♀, CHINA: Tianjin, M. Jixian Co. Pahsienshan, 8~11-IX-2001, C. S. Lin (sweep net) (NMNS ENT 3711-1005).

Remarks. The new species is similar to *P. leae* but can be identified by

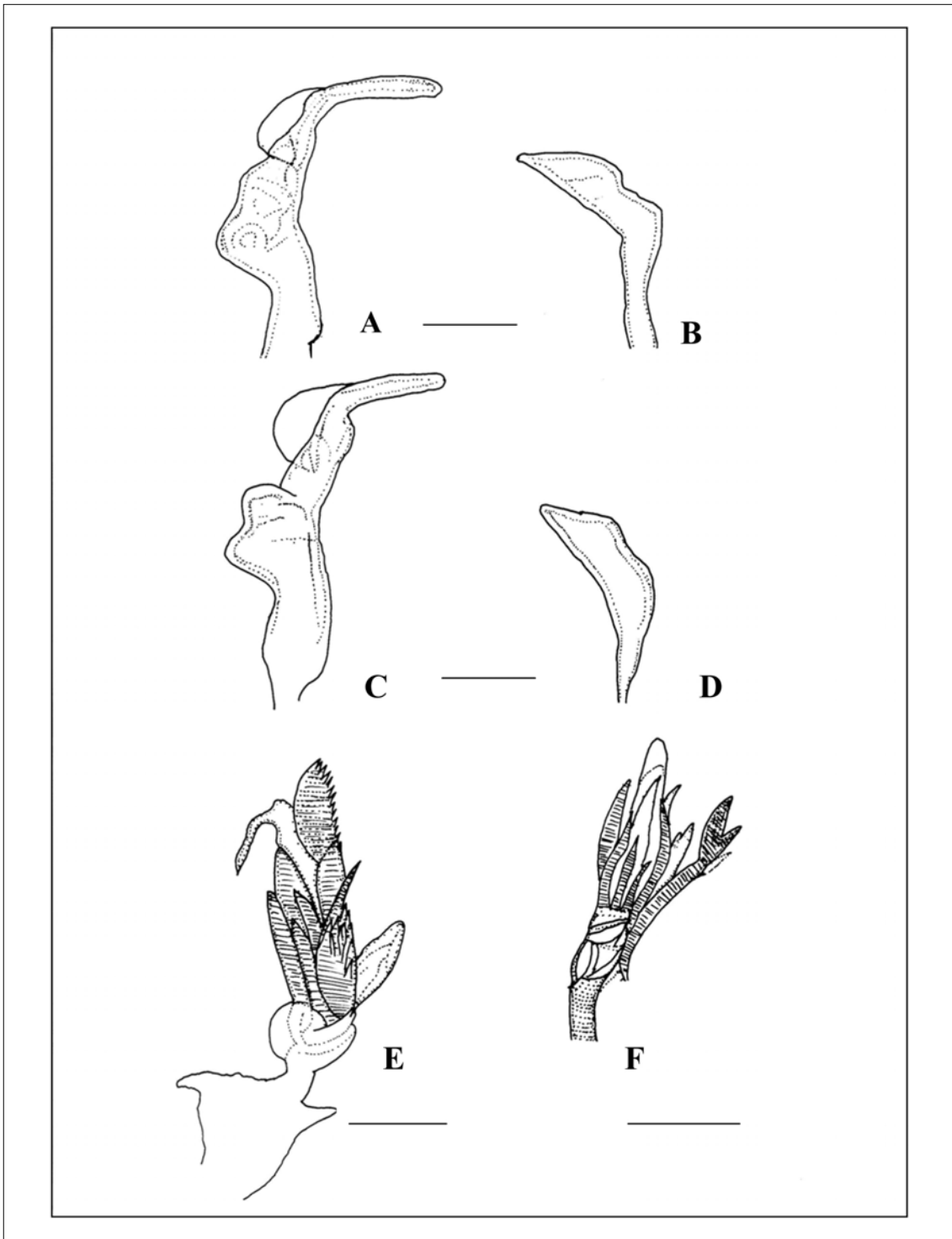


Fig. 2. Male genitalia of *Psallops formosanus* and *P. leeeae*. A, left paramere of *P. formosanus*; B, right paramere of *P. formosanus*; C, left paramere of *P. leeeae*; D, right paramere of *P. leeeae*; E, vesical spines of *P. formosanus*; F, vesical spines of *P. leeeae*. Scale lines = 0.1 mm.

the broad and short cuneus, instead of being long and narrow in *P. leae*.

Etymology. Named for the collection locality.

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首次記錄臺灣及中國大陸產薩盲蝽亞科(半翅目：盲蝽科)，並描述三新種

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摘 要

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關鍵詞：半翅目、盲蝽科、薩盲蝽亞科、新種