



Formosan Entomologist

Journal Homepage: entsocjournal.yabee.com.tw

【Research report】

台灣薊馬之2新記錄及2新種(繆翅目：錐尾亞目)【研究報告】

王清玲

*通訊作者E-mail :

Received: Accepted: 1993/05/07 Available online: 1993/09/01

Abstract

摘要

本文描述臺灣錐尾薊馬之兩新記錄種：細腰兇薊馬 (*Franklinothrips vespiformis* (Crawford))、青木額突薊馬 (*Astrothrips aucubae* Kurosawa)、及兩新種：側偽混薊馬 (*Pseudodendrothrips lateralis* sp. nov.)、斑棍薊馬 (*Dendrothrips guttatus* sp. nov.)。

Key words:

關鍵詞: 繆翅目、錐尾亞目、分類、台灣。

Full Text:  [PDF\(0.24 MB\)](#)

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

Two New Records and Two New Species of Thrips (Thysanoptera, Terebrantia) of Taiwan

Chin-Ling Wang Department of Applied Zoology, Taiwan Agricultural Research Institute
189, Chung-cheng Road, Wufeng, Taichung, Taiwan, R.O.C.

ABSTRACT

This is a report of two new records and two new species of terebrantia thrips of Taiwan; they are *Franklinothrips vespiformis* (Crawford), *Astrothrips aucubae* Kurosawa, *Pseudodendrothrips lateralis* sp. nov. and *Dendrothrips guttatus* sp. nov..

Key words: Thysanoptera, Terebrantia, taxonomy, Taiwan.

台灣薊馬之 2 新記錄及 2 新種(纓翅目：錐尾亞目)

王清玲 台灣省農業試驗所應用動物系 臺中縣霧峰鄉中正路 189 號

摘 要

本文描述臺灣錐尾薊馬之兩新記錄種：細腰兜薊馬(*Franklinothrips vespiformis* (Crawford))、青木額突薊馬(*Astrothrips aucubae* Kurosawa)，及兩新種：側偽棍薊馬(*Pseudodendrothrips lateralis* sp. nov.)、斑棍薊馬(*Dendrothrips guttatus* sp. nov.)。

關鍵詞：櫻翅目、錐尾亞目、分類、台灣。

Introduction

The earliest list of thrips in Taiwan, by Takahashi (1936), includes 17 genera and 46 species of terebrantia thrips. Further species were added to the list through the work of foreign and native entomologists; at present there are over 90 species of terebrantia thrips known in Taiwan (Wang, 1993); most are phytophagous and some are considered serious agricultural pests.

Our recent research revealed a richer fauna of thrips. Here we record species new to Taiwan and describe species newly recognized. One predaceous thrips—*Franklinothrips vespiformis* (Crawford), and 3 phytophagous thrips—*Astrothrips aucubae* Kurosawa, *Pseudodendrothrips lateralis* sp. nov. and *Dendrothrips guttatus* sp. nov., are reported here. All specimens were collected by the author unless otherwise stated. The type specimens of new species are deposited in the Department of Applied Zoology, Taiwan Agricultural Research Institute.

Franklinothrips vespiformis (Crawford)

Aeolothrips vespiformis Crawford, 1909. Pomona Journ. Ent., 1(4): 109–110.

Frankliniella vespiformis (Crawford) Back, 1912. Ent. News, 23(2): 75.

Specimens examined: 2♀, Central Taiwan: Nantou, on *Piper kadsura*, 20–IX–1991; 1♀, Central Taiwan: Wufeng, on *Codiaeum variegatum*, 6 III–1991; 21♀, same data as above but 10–XII–1992; 2♀, Southern Taiwan: Kendin, on leguminous weeds, 1–II–1991; 2♀, same data as above but on *Crinum asiaticum*; 3♀, same data as above but on *Mallotus japonicus*; 2♀, same data as above but on *Albizia*

julibrissin.

Other distribution: USA, Central and South America, Fiji.

This species is predaceous and quite common in Taiwan. The adults are dark brown and the larvae are red and yellow. The rapidly running larvae and adults feed on small insects such as immature whiteflies, and other thrips. The larvae have a special behavior of making a thin and sparse cocoon during pupation.

Key to the species of *Franklinothrips* of Taiwan

1. Antennal segments I–II dark brown; forewing with 2 white spots; abdominal tergites I–IV dark brown *suzuki* Okajima
- Antennal segments I–II light yellow; forewing with 3 white spots; abdominal tergites I–IV light yellow *vespiformis* (Crawford)

Astrothrips aucubae Kurosawa

Astrothrips aucubae Kurosawa, 1932. Kontyu, 5(5): 230–234.

Specimens examined: 1♀ & 1♂, Southern Taiwan: Kendin, swept from unknown weeds, 1–II–1991.

Other distribution: Japan, Philippines.

Other host plants: *Aucuba japonica*, *Thalictrum minus*.

The only previously known species of this genus in Taiwan is *A. chisinliaoensis* Chen (Chen, 1980). The newly recorded species are separable from the old one by the existence of a row of long brown comb-like spines on the posterior margin of the first abdominal tergite and the pointed setae on tergite X, whereas *A. chisinliaoensis* lacks such posterior spines on tergite I and setae on tergite X expanded at tip.

Pseudodendrothrips lateralis sp. nov.
Fig. 1

Female (macropterous): Head and thorax orange brown, abdomen mainly yellow, lateral two thirds of tergites II-VIII with dark grey areas, which are darker on posterior margin of II-VII, microtrichia dark; antennal segments I-III yellowish brown, IV-IX greyish brown, with base of IV-VI paler; all femora and tibiae mostly brown, base and subapex of tibiae yellow; all tarsi pale yellow, brown apically; forewing shaded, with base and scale paler, fringe hairs brown; major setae pale brown.

Head much wider than long, projecting between bases of antennae; antecellar setae minute; one pair of short and stout interocellar setae situated between anterior half of two posterior ocelli; vertex with irregular striae between eyes; maxillary palpi 2-segmented. Antenna 9-segmented; III and IV with forked sense cone; a long sense cone on inner base of VI and outer base of VIII, the latter surpassing IX; (the right antenna of one paratype is normal, left antenna with only a long sense cone on outer base of VII, reaching the middle of IX); III-VI with microtrichia.

Prothorax wider than long; pronotum

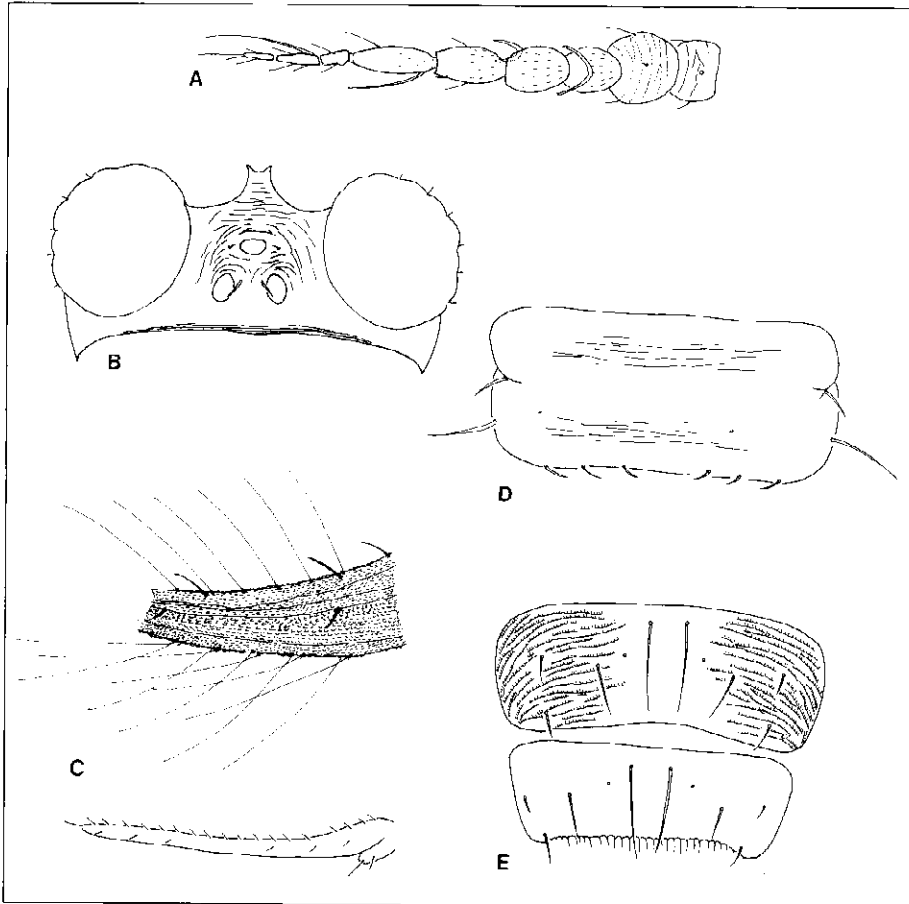


Fig. 1. *Pseudodendrothrips lateralis* sp. nov. (♀): A, right antenna; B, head; C, forewing with enlarged portion (upper) and setae pattern (lower); D, pronotum; E, abdominal tergites VII, VIII.

transversely striated, one pair of major setae on posterolateral margin, 3 pairs on posterior margin. One spur on hind tibia, tarsi 2-segmented, hind tarsus (10 μm) longer than fore and mid tarsi, with 2 spurs. Forewing with 6 widely separated stout setae on fore vein, no setae on hind vein, 19–25 setae on costal margin, 2 setae on scale, anterior fringe absent in the basal quarter and apical ninth.

Abdominal tergites II–III each with 4 pairs of setae, median pair of seta situated anteriorly, gradually becoming longer from II to VIII; submedian seta shorter, situated lateromedially; tergites II–VII with rows of microtrichia laterally, those on II and V–VII more distinct than on III and IV; II–VII with faint reticulations medially; posterior margin of VIII with complete comb; 3 pairs of major setae on posterior margin of IX, median pair longest; one pair of major setae on X. Sternites without accessory setae.

Measurements of holotype (μm):

Body L 950; head mid-dorsal L 50, W cross cheeks behind eyes 140; interocellar setae L 14; shortest distance between hind ocelli 22. Antennal segment (L/W) I (17/22), II (30/25), III (22/17), IV (15/17), V (25/14), VI (30/10), VII (11/6), VIII (15/5), IX (15/3).

Pronotum L 87, W 156; seta on posteriolateral angle 48; pterothorax W 250; forewing L 680. Abdomen L 580; L of median setae on tergite II, 22; on IV, 30; on VIII, 50; on IX, 45; on X, 30.

Male: Body L 670 μm ; similar to female but abdomen slender; head, thorax and lateral sides of abdominal segments I–II orange brown, the rest of abdominal segments whitish yellow with lateral sides of tergites VI–VIII grey; one pair of testis on significant orange color.

Type data. Holotype ♀: Central Taiwan: Taichung City, on Mulberry (*Morus* sp.), 1–III–1991. Allotype ♂: Southern Taiwan: Kendin, on *Acacia confusa*, 13–IV–1993. Paratypes 5♀: same data as holotype, but 10–IX–1991. 2♀ 3♂:

same data as allotype.

Mulberry is preferred by many component species of *Pseudodendrothrips*. Including this new species, there are in total 10 species in genus *Pseudodendrothrips*, of which half are found on mulberry plants; they are *P. bhattii* Kudo from Japan, *P. mori* (Niwa) from Japan, mainland China, and Taiwan, *P. ornaticissimus* Schmutz from Ceylon and Burma, *P. fumosus* Chen and *P. lateralis* sp. nov. from Taiwan.

Key to the species of *Pseudodendrothrips* on mulberry

1. Body white to yellowish white; antenna 8-segmented 2
- Body golden yellow to brownish yellow; antenna 9-segmented 3
2. Forewing pale, concolorous with body; antennal segments I and II paler or as dark as IV–VIII *mori* (Niwa)
- Forewing grey; antennal segments I and II distinctly darker than IV–VIII *bhattii* Kudo
3. Antennal segments IV–VI subequal, VII longer than II *ornaticissimus* Schmutz
- Antennal segments VI longer than IV or V, segment VII shorter than II 4
4. Vertex and Pronotum with delicate longitudinal lines between transverse striae; 2 major setae on posterior angle of pronotum; abdominal sternites II–VI with transverse lines and microtrichia *fumosus* Chen
- Vertex and pronotum without lines between transverse striae; one major setae on pronotum situated laterally; abdominal sternites II–VI lacking transverse lines or microtrichia *lateralis* sp. nov.

***Dendrothrips guttatus* sp. nov. Fig. 2.**

Female (macropterous): Head and thorax yellowish brown; abdomen whitish yellow, side of tergites II and VII–VIII with greyish brown areas, tergites of III–VI each with 3 pairs of grey spots; antenna light yellow, apex of segment V

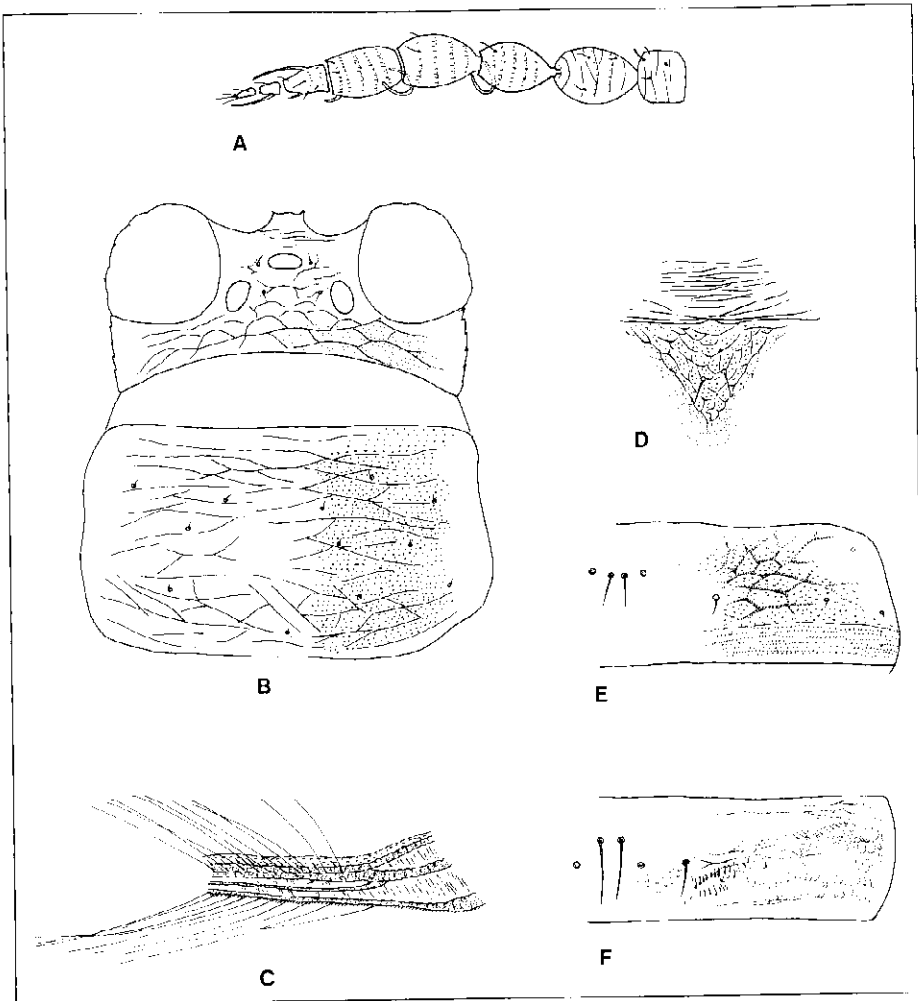


Fig. 2. *Dendrothrips guttatus* sp. nov. (♀): A, left antenna; B, head and pronotum; C, portion of left forewing; D, median portion of meso- and metascutum; E, abdominal tergite II, with right half complete; F, abdominal tergite V, with right half complete.

and VI-VIII brown; fore and mid legs greyish brown, hind femur brown with base light yellow, hind tibia and tarsus light yellow with median part of tibia greyish brown; forewing basal tenth hyaline, remainder greyish with middle and subbase lighter; major setae pale brown.

Head much wider than long, projecting between bases of antennae; cheeks serrate; ocellar setae minute; vertex reticulated irregularly and with internal granules; maxillary palpi 2-segmented.

Antennae 8-segmented, III, IV with forked sense conc, III-VI with microtrichia.

Prothorax wider than long, pronotum granulate, without prominent setae, sculptured with reticulations, reticules transverse in the anterior portion, somewhat irregular in the posterior; mesoscutum with dense and transverse striae; metascutum reticulate in middle triangle, with granules among reticules. Forewing without uniform cover of microtrichia, vein setae minute.

Abdominal tergites II–VIII reticulate laterally, smooth medially; reticles distinct and with granules among them on II–III and VII–VIII, indistinct and strongly transverse and forming a vesicular pattern on IV–VI; median pair of setae gradually becoming longer from II to VIII, the pair on VI closely situated; VIII with complete comb on posterior margin; IX with 2 pairs of major setae near posterior margin, X complete.

Male: unknown.

Measurements of holotype (μm): Body L 890; head mid-dorsal L 50, W cross cheeks behind eyes 130; distance between eyes 52. Antennal segment (L/W) I (18/20), II (27/23), III (31/18), IV (28/18), V (28/17), VI (18/11), VII (7–8/5), VIII (7 8/4).

Pronotum L 87, W 150; forewing L 600, median W 37; median seta on abdominal tergite VIII 40, submedian seta 20; median seta on tergite IX 35, submedian seta 30.

Type data. Holotype ♀: Southern Taiwan: Kendin, on *Aleurites moluccana*, 13-I-1993.

Strassen (1968) reviewed this genus and made a key for the 32 species. This genus now contains more than 40 species worldwide. There are 4 *Dendrothrips* species in Japan (Nonaka and Okajima, 1991); one species in mainland China (Zhang and Tong, 1988); 15 species in India (Bhatti, 1990). Each area has distinct species and *D. minowai* Priesner is the only common species that exists in Japan and Taiwan.

D. guttatus is similar to *D. jasminum* (Ram. & Marg.) and *D. mendax* Bhatti in India by having forewing with uniform cover of microtrichia, reticles on pronotum with granules, sides of abdominal tergites IV–VI with sculpture forming a vesicular pattern. It differs from *D. jasminum* by having 8-segmented antenna, with 3 pairs of greyish spots on either side of abdominal tergites III–VI, whereas *D. jasminum* has 7-segmented

antenna, and only one minute spot on the sides of abdominal tergites III–VII. *D. guttatus* differs from *D. mendax* by yellowish body color, whereas the latter species is vividly colored with brown and yellow.

D. guttatus is the third species in this genus of Taiwan; the other 2 species are: *D. minowai* Priesner (Priesner, 1935) and *D. multimaculatus* Nonaka & Okajima (Nonaka and Okajima, 1991). The number of spots in abdominal tergites makes this new species readily distinguishable.

Key to the species of *Dendrothrips* of Taiwan

1. Body mostly brown; forewing brown with distinct transparent bands.....2
- Body yellow; forewing transparent with greyish spots; forewing without uniform covering of microtrichia; reticles on sides of abdominal tergites IV–VI forming vesicular pattern; 3 pairs of greyish spots on tergites III–VI.....
.....*guttatus* sp. nov.
2. Antennal segments III and IV with simple sense cone; forewing uniformly covered with microtrichia; base of forewing including scale transparent followed by a brown area.....
.....*minowai* Priesner
- Antennal segments III and IV with forked sense cone; forewing without uniform cover of microtrichia; base of forewing including scale brown followed by a transparent area.....
.....*multimaculatus* Nonaka & Okajima

Acknowledgments

I thank Dr. S. Okajima, Tokyo Agricultural University for lending material for comparison of this study; Dr. L. A. Mound, Natural History Museum, London for reading the manuscript and give suggestions.

References

- Bhatti, J. S.** 1990. Catalogue of insects of the order Terebrantia from the Indian subregion. *Zoology*, 2: 224-225.
- Chen, L. S.** 1980. Thrips associated with mulberry plant (*Morus* spp.) in Taiwan. *Proc. Natl. Sci. Council., ROC*, 4: 169-182.
- Nonaka, T., and S. Okajima**, 1991. Descriptions of two new species of the genus *Dendrothrips* Uzel (Thysanoptera, Thripidae) from Japan and Taiwan. *Bull. Biogeogr. Soc. Japan* 46: 110-113.
- Okajima, S.** 1979. Notes on the Thysanoptera from southeast Asia V. A new species of the genus *Franklinothrips* Back (Aeolothripidae). *Kontyu* 47: 399-401.
- Priesner, H.** 1935. New or little-known oriental Thysanoptera. *Philip. Journ. Sci.* 57: 351-375.
- Takahashi, R.** 1936. Thysanoptera of Formosa. *Philip. Journ. Sci.* 60: 427-458.
- Wang, C. L.** 1993. Catalogue of Suborder Terebrantia (Thysanoptera) from Taiwan. *Journ. Agric. Res. China* 42 (in press).
- Zhang W., and X. Tong**, 1988. The Chinese species of tribe Dendrothripini with descriptions of two new species. *Entomotaxonomia*, 10: 275-282.
- Zur Stresen, R.** 1968. Tabellarische arten-übersicht der fransenflugler-gattung *Dendrothrips* Uzel 1895 (Thysanoptera: Thripidae). *Journ. Ent. Soc. S. Afr.* 31: 213-220.

*Received for publication March 26, 1993;
revised manuscript accepted May 7, 1993.*