

# A new species of *Ctenothrips* Franklin, 1907 (Thysanoptera: Thripidae) from China

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**Abstract:** *Ctenothrips dissimilis* sp. nov. is described and illustrated in detail. This new species can be readily distinguished by its 7-segmented antennae and inconspicuous reticulations on the abdominal segments. The male of this species is very similar to *C. niger* which has short rounded pore plates on sternites III and IV, but can be distinguished from the latter by the elongate elliptical pore plates. The number and the color pattern of antennal segments are also different. Type specimens are deposited in the Entomological Museum of Northwest A&F University (NWAFU).

**Key words:** Terebrantia; Thripidae; Thripinae; taxonomy

**CLC number:** Q969.34<sup>+</sup>1

**Document code:** A

**Article ID:** 2095-8609(2014)04-0261-06

## 中国梳蓟马属一新种（缨翅目：蓟马科）

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**摘要:** 记述中国梳蓟马属 1 新种: *Ctenothrips dissimilis* sp. nov.。该新种触角 7 节、腹部网状刻纹较浅, 可明显区别于本属内其它种; 雄虫和 *C. niger* 很相似, 但 *C. niger* 腹部 III-IV 节腹板腺域为短圆形, 该新种腺域为长椭圆形, 同时触角节数和颜色也不同。模式标本保存于西北农林科技大学昆虫博物馆。

**关键词:** 锯尾亚目; 蓟马总科; 蓟马亚科; 分类

## Introduction

The subfamily Thripinae is represented by more than 1650 species worldwide, and includes some of the most economically important thrips (Mound & Ng 2009). Genus *Ctenothrips* is a small genus of Thripinae, and was erected by Franklin in 1907 based on *Ctenothrips bridwelli* as type species. Until now 14 *Ctenothrips* species have been described

Received 7 July 2014. Published 25 December 2014

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in the world (Takahashi, 1937; Bhatti, 1976; Kudo, 1977; Chen, 1979; Tong & Zhang, 1992; Feng *et al.*, 2003; Haga & Okajima, 1989; Han, 1997; Hu & Feng, 2011; Xie *et al.* 2011, 2013; Tyagi *et al.* 2014; Keele University, 2014). In the present paper, an additional new species is described and illustrated, which brings the total species in this genus to 15 species worldwide.

## Material and methods

Preserved slide specimens were used in this study. Slides were prepared following the method of Zhang *et al.* (2006). Specimens were observed with the help of an EVOS digital inverted microscope; photographs were taken using a Nikon Y-IDT microscope with a Q-image CCD; images were produced using the software Synoptic Automontage. Specimens studied are from the following collections: Entomological Museum, Northwest A&F University, Yangling, Shaanxi Province (NWAUFU); Department of Entomology, South China Agricultural University, Guangzhou, Guangdong Province (SCAU); and the National Zoological Museum of China, Institute of Zoology, Chinese Academy of Sciences, Beijing (NZMC). All measurements described in this paper are in micrometers ( $\mu\text{m}$ ).

Type specimens of the new species are deposited in the Entomological Museum of Northwest A&F University (NWAUFU), Yangling, Shaanxi, China.

## Taxonomy

### Genus *Ctenothrips* Franklin, 1907

*Ctenothrips* Franklin, 1907. *Entomological News*, 18: 247; Stannard, 1968. *Bulletin of the Illinois Natural History Survey*, 29 (4): 274, 302. Type-species: *Ctenothrips bridwelli* Franklin.

Diagnosis. Female macropterous or brachypterous. Antennae usually 8-segmented (7-segmented in *C. dissimilis* sp. nov.), uniformly brown with some segments lighter (uniformly brown in *C. niger* Kudo, *C. smilax* Bhatti), segment I without dorsal apical setae, segments II–VI with transverse rows of microtrichia, segments III and IV with forked sensoria. Maxillary palpi 3-segmented. Fenna undivided in the middle, prospinasternum complete. Ocellar setae I usually absent (present in *C. niger* Kudo, *C. smilax* Bhatti, and *C. dissimilis* sp. nov.)

Prothorax weakly striate to almost smooth. Mesonotum sculptured with transverse reticulations or hexagonal reticulations. Metanotum with hexagonal reticulations. All tarsi 2-segmented. Both veins of fore wings with many evenly spaced setae.

Abdominal tergites and sternites with hexagonal reticulations. Sternites III–VII with 3 pairs of marginal setae while sternite II with only 2 pairs. Posterior margin of tergite VIII with microtrichia comb complete. Segment X stout, tube-like, completely split on dorsum. Sternites without discal setae.

Male. Macropterous or brachypterous, similar to female, but smaller. Sternites with pore plates.

Distribution. Palaearctic Region; Nearctic Region; Oriental Region.

Remarks. This genus is closely related to *Ayyaria* Karny in Thripinae, but can be easily distinguished from the latter by the combination of the following characters: maxillary palpi

3-segmented (vs. 2-segmented in *Ayyaria*), pronotum without one pair of long anteromarginal setae (vs. *Ayyaria* with one pair of long anteromarginal setae), and both veins of fore wing with many evenly spaced setae (vs. fore wing first vein with unevenly spaced setae, second vein with only few, widely spaced setae in *Ayyaria*).

***Ctenothrips dissimilis* sp. nov.** (Figs. 1–9)

Description. Female (macropterous). Uniformly brown to dark brown; fore tibiae and all tarsi pale brown; antennal segments brown except III and IV pale brown; major setae dark brown; fore wing pale brown with basal part lighter (Fig. 1).

Head. Head wider than long, dorsal surface with irregular transverse reticulations, but nearly smooth between eyes; cheeks not serrated; three pairs of ocellar setae present, pair III inside of the ocellar triangle, placed between hind ocelli; six pairs of postocular setae, pair IV the longest (Fig. 3); antennae 7-segmented, pedicel on segment III simple; mouth cone reaching 3/4 of the prosternum.

Thorax. Pronotum nearly smooth, anterior part with fine transverse lines, smooth in median part; anterior margin with 2 pairs of setae; 2 pairs of posteroangular setae well-developed, inner pair longer than outer; posterior margin with two pairs of setae between posteroangular setae (Fig. 2); meso- and metanota hexagonally reticulated; median pair of mesonotal setae far away from posterior margin (Fig. 4); median pair of metanotal setae placed far behind anterior margin, one pair of campaniform sensilla at the posterior part (Fig. 5); mesofurcal spinula present, metafurca without spinula; fore wing shaded with a paler area at the basal part, apex pointed; both veins almost regularly lined with setae, fore vein with almost complete row of setae but usually with a short subapical gap followed by 2 distal setae, hind vein with 10–12 setae, clavus with 5 veinal setae, costal vein with 25 setae; posterior fringe hairs wavy.

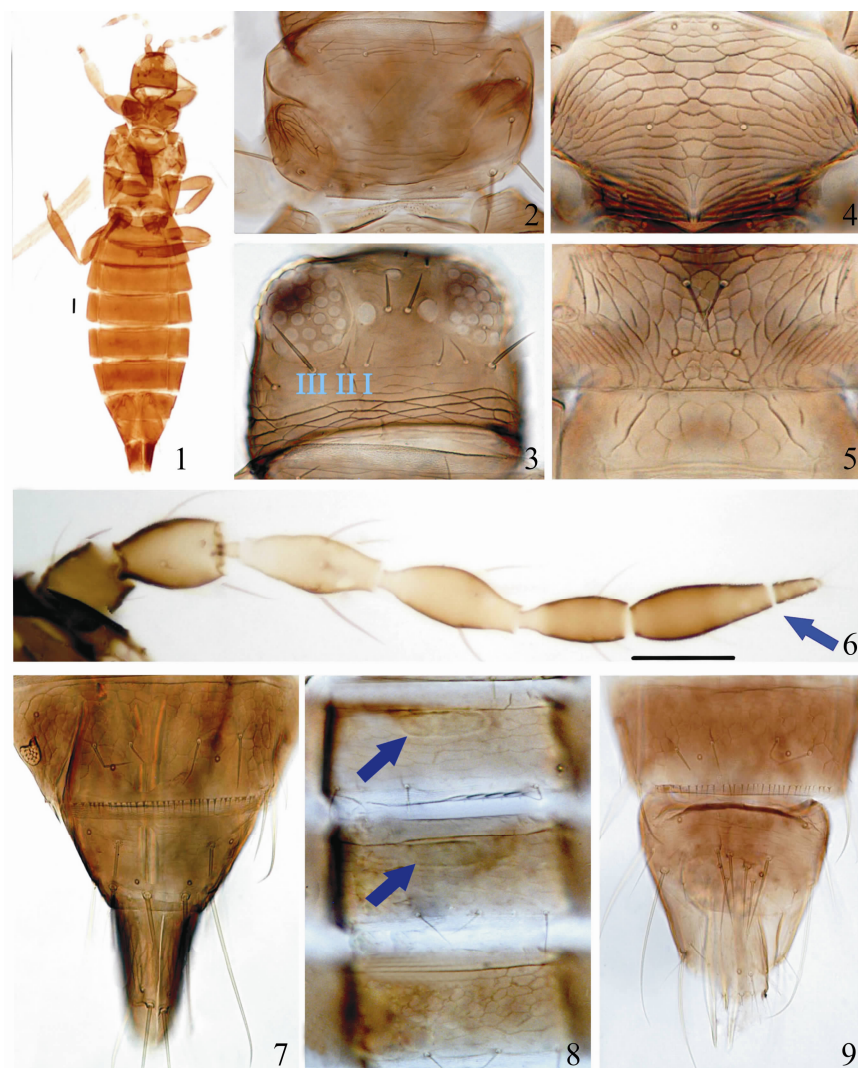
Abdomen. Abdominal tergites without craspedium or ctenidia; tergites and sternites hexagonally reticulated, with reticulations on sternites less conspicuous than on tergites; anterocentral and bilateral of tergum VIII with reticulations; median setae on tergites II–VII placed anteromedial of the discal pore; posterior margin of tergite VIII with a complete comb of microtrichia which are not very long; tergite IX without any reticulations, with two pairs of campaniform sensilla; segment X tube-like, sculptured with big longitudinal reticulations, completely split (Fig. 7); median and submedian setae of sternite VII far away from posterior margin, median setae in front of submedian setae.

Measurements. Body length 1860; head length 151, width 203; eye length 69, width 56; ocellar setae pair I length 14, II 26, III 38; postoculars I 27, II 29, III 66, IV 23, V 25. Maxillary palpi length 26, 15, 25, respectively. Length (width) of antennal segment: I 54 (46), II 62 (48), III 88 (37), IV 83 (39), V 62 (34), VI 85 (39), VII 37 (12). Pronotum length 146, median width 250; anteromarginal setae length, inner 39, outer 20; anteroangulars, inner 32, outer 36; posteromarginals, inner 43, outer 26; posteroangulars, inner 80, outer 73. Forewing length 971, width 68 at middle; Abdominal segment X length 161; setae on segment IX, inner 114, middle 197, outer 117; on segment X, inner 170, outer 110.

Male. Similar to female, with 7-segmented antennae, but smaller; tergite VIII with complete comb (Fig. 9); each of the abdominal sternites III and IV with an elongate elliptical pore plate (Fig. 8).

Measurements. Total body length 1380; head length 124, width 157; eye length 63, width 44; ocellar setae pair I length 15, II length 19, III 3; postoculars I 16, II 17, III 53, IV 22, V 25. Maxillary palpi length 15, 9, 11, respectively. Length (width) of antennal segment: I 44 (35), II 55 (44), III 75 (34), IV 70 (34), V 54 (27), VI 79 (33), VII 31 (11). Pronotum length 124, median width 191; anteromarginal setae length, inner 28, outer 17; anteroangulars, inner 26, outer 32; posteromarginals, inner 26, outer 16; posteroangulars, inner 71, outer 57; fore wings length 759, width 64 at middle.

Etymology. The specific epithet is derived from the Latin term '*dissimilis*' which means 'different', and follows the new species with 7-segmented antennae, while others in the genus with 8-segmented antennae.



Figures 1–9. *Ctenothrips dissimilis* sp. nov. 1–7. female; 8, 9. male. 1. Whole body; 2. Pronotum; 3. Head; 4. Mesonotum; 5. Metanotum; 6. Antenna (arrow shows the sixth segmentation); 7. Abdominal tergites VIII–X; 8. Abdominal sternites III–V (arrows show the pore plates on each sternite); 9. Abdominal tergites VIII–X. Scale bar = 60  $\mu$ m.

**Holotype.** ♀, **China**, Shaanxi, Rosefinch National Forest Park, 1864 m, 10-V-2010, collected by HU Qingling from meadowsweet; **Paratypes.** 2♀, Shaanxi, Taibai Mountain, 2250 m, 15-VII-2002, collected by ZHANG Guiling from grass; 7♀2♂, same data as holotype.

**Diagnosis.** This new species can be readily distinguished from its congeners by its 7-segmented antennae and inconspicuous reticulations on the abdominal segments. The male of this species is very similar to the *C. niger* which has short rounded pore plates on sternites III and IV, but can be distinguished from the latter by the elongate elliptical pore plates; the number and color pattern of antennal segments are also different (Hu & Feng 2013).

## Acknowledgements

We are grateful to Prof. TONG Xiaoli from South China Agricultural University (SCAU), Guangzhou, China, and Prof. QIAO Gexia from the National Zoological Museum of China, and Key Laboratory of Zoological Systematics and Evolution, Institute of Zoology, Chinese Academy of Sciences (CAS), Beijing, China for helping to the first author to check type specimens. This project was supported by the National Science Foundation of China (30570205), the Visiting Scholar Foundation of the Key Laboratory of Plant Protection Resources and Pest Management of Ministry of Education, Scientific Research Project from Educational Department of Shaanxi Province Government (14JK1250), the Support Project Funds for Innovation of Science and Technology in Weinan (2013JCYJ-12), and the Open-ended Fund from the Key Laboratory for Eco-environment of Multi-River Wetlands (SXSD1405).

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