

A new species in the Oriental delphacid genus *Miranus* Chen & Ding (Hemiptera: Fulgoroidea) from China

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Abstract: A new species in the Oriental delphacid genus *Miranus* Chen et Ding, *M. serrulatus* sp. nov. is described and illustrated. A key to all species of this genus is presented. The specimens examined are deposited in the Entomological Museum, Northwest A & F University (NWAUFU). The terminology used in this paper follows that of Ding (2006).

Key words: Hemiptera; Delphacidae; *Miranus* Chen & Ding; new species; China

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中国奇臀飞虱属一新种记述（半翅目：蜡蝉总科）

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摘要: 记述采自中国云南省的奇臀飞虱属 *Miranus* Chen et Ding 一新种：齿缘奇臀飞虱 *M. serrulatus*, sp. nov., 对其特征作了描述，提供了成虫形态及雄性外生殖器特征图及该属已知种的检索表。研究标本保存在西北农林科技大学昆虫博物馆。

关键词: 半翅目；飞虱科；奇臀飞虱属；新种；中国

Introduction

The Oriental delphacid genus *Miranus* Chen & Ding, 2001 was established to accommodate 4 species, *M. varians* (Kuoh, 1981), *M. kuohi* Chen et al. (2001), *M. circus* Chen & Ding (2001) and *M. spinaphallus* Guo & Liang (2005), which was later assigned to the tribe Delphacini within the subfamily Delphacinae (Ding, 2006). This paper describes the fifth species, *M. serrulatus* sp. n., from Yunnan Province, and a key to all species of the genus is provided.

Key to species of *Miranus* Chen & Ding (males)

1. Laterodistal processes of male anal segment symmetrical.....2
- Laterodistal processes of male anal segment asymmetrical.....4
2. Laterodistal processes of male anal segment short, not reaching the ventral margin of pygofer.....3

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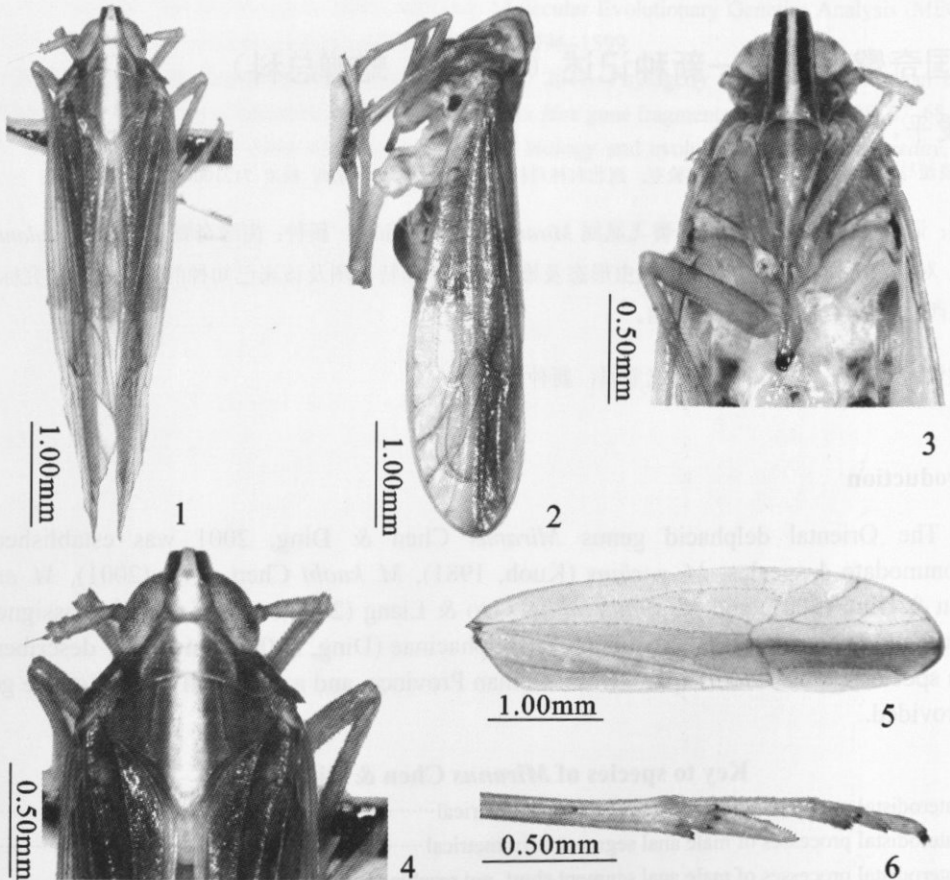
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- Laterodistal processes of male anal segment fairly long, reaching the ventral margin of pygofer..... *M. varians* Kuoh
- 3. Paramere with inner margin sinuate in caudal view; aedeagus without spinous processes near apex *M. circus* Chen & Ding
- Paramere with inner margin straight in caudal view; aedeagus with spinous processes near apex *M. spinaphallus* Guo & Liang
- 4. Aedeagus ventrally serrated near apex *M. serrulatus*, sp. nov.
- Aedeagus ventrally smooth near apex *M. kuohi* Chen & Li

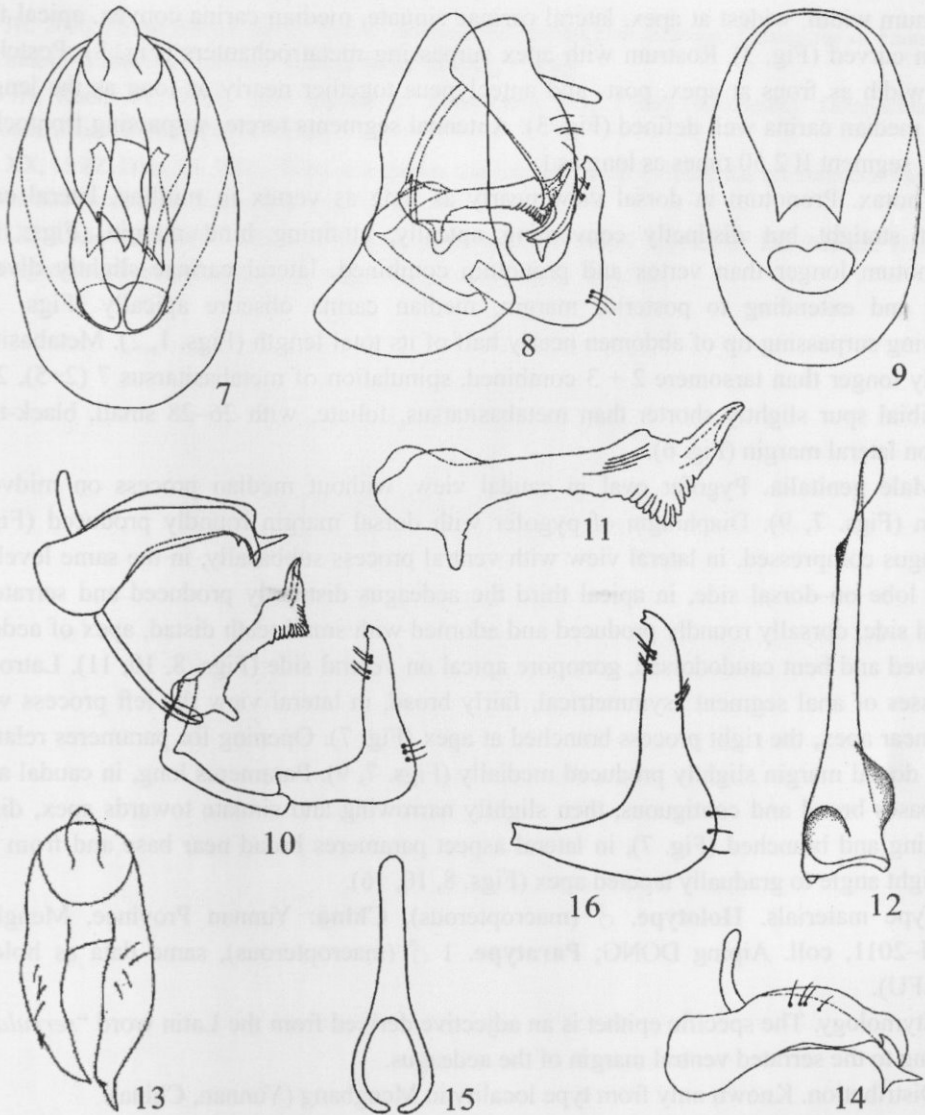
***Miranus serrulatus*, sp. nov.** (Figs. 1–16)

Description. Body length (macropterous): male 2.84–2.92 mm, female 3.53–3.63 mm. Total length (macropterous, including tegmen): male 4.96–5.17 mm, female 5.15–5.25 mm.

General colour of male body orange-brownish, with whitish median stripe from vertex anteriorly to end of scutellum (Figs. 1, 4). Vertex sublaterally with blackish stripes extending nearly to end of frons (Figs. 1, 3). Eyes reddish brown. Ocelli reddish black. Frons with whitish longitudinal stripe along midline (Fig. 3). Macropterous forewings with longitudinal brownish band along inner margin (Figs. 2, 5).



Figures 1–6. *Miranus serrulatus*, sp. n. 1. Male habitus, dorsal view; 2. Same, left lateral view; 3. Head, ventral view; 4. Head and thorax, dorsal view; 5. Right forewing; 6. Distal end of metatibia and metatarsus.



Figures 7–16. *Miranus serrulatus*, sp. n. 7. Male genitalia, caudal view; 8. Same, left lateral view; 9. Male pygofer, caudal view, anal segment, aedeagus and parameres removed; 10. Anal segment, aedeagal complex and parameres, left lateral view; 11. Aedeagus, left lateral view; 12. Same, dorsal view; 13. Anal segment, caudal view; 14. Same, left lateral view; 15. Suspensorium, caudal view; 16. Paramere, left lateral view.

Head including eyes narrower than pronotum (about 0.75 : 1) (Figs. 1, 4). Vertex trapeziform, slightly longer medially than wide at base (about 1.10 : 1), anteriorly transverse, slightly produced in middle, apparently projecting in front of eyes, lateral carinae slightly converging anteriorly, posterior margin slightly incised medially (Figs. 1, 4), in lateral view meeting lateral carinae of frons with almost right angle at fastigium (Fig. 2), Y-shaped carina distinct, basal compartment wider at base than greatest length (about 1.70 : 1) (Figs. 1, 4),

submedian carinae uniting at base of frons (Fig. 3). Frons carinae 2.50 times longer than its maximum width, widest at apex, lateral carinae sinuate, median carina convex, apical frontal margin curved (Fig. 3). Rostrum with apex surpassing metatrochanters (Fig. 3). Postclypeus same width as frons at apex, post- and anteclypeus together nearly as long as the length of frons, median carina well defined (Fig. 3). Antennal segments terete, surpassing frontoclypeal suture, segment II 2.50 times as long as I.

Thorax. Pronotum in dorsal view nearly as long as vertex in midline, lateral carinae almost straight but distinctly converging apically, attaining hind margin (Figs. 1, 4). Mesonotum longer than vertex and pronotum combined, lateral carinae slightly diverging distad and extending to posterior margin, median carina obscure apically (Figs. 1, 4). Forewing surpassing tip of abdomen nearly half of its total length (Figs. 1, 2). Metabasitarsus slightly longer than tarsomere 2 + 3 combined, spinulation of metabasitarsus 7 (2+5), 2nd 4. Post-tibial spur slightly shorter than metabasitarsus, foliate, with 26–28 small, black-tipped teeth on lateral margin (Fig. 6).

Male genitalia. Pygofer oval in caudal view, without median process on midventral margin (Figs. 7, 9). Diaphragm of pygofer with dorsal margin roundly produced (Fig. 9). Aedeagus compressed, in lateral view with ventral process subbasally, in the same level with round lobe on dorsal side, in apical third the aedeagus distinctly produced and serrated on ventral side, dorsally roundly produced and adorned with small teeth distad, apex of aedeagus narrowed and bent caudodorsad, gonopore apical on ventral side (Figs. 8, 10, 11). Latrodistal processes of anal segment asymmetrical, fairly broad, in lateral view the left process with a tooth near apex, the right process branched at apex (Fig. 7). Opening for parameres relatively small, dorsal margin slightly produced medially (Figs. 7, 9). Parameres long, in caudal aspect with bases broad and contiguous, then slightly narrowing and sinuate towards apex, distally diverging and branched (Fig. 7), in lateral aspect parameres broad near base and from there with right angle to gradually tapered apex (Figs. 8, 10, 16).

Type materials. **Holotype**. ♂ (macropterous), **China**: Yunnan Province, Mengbang, 1–VIII–2011, coll. Aiping DONG; **Paratype**. 1 ♂ (macropterous), same data as holotype (NWAUFU).

Etymology. The specific epithet is an adjective derived from the Latin word “*serrulatus*”, referring to the serrated ventral margin of the aedeagus.

Distribution. Known only from type locality in Mengbang (Yunnan, China).

Remarks. *Miranus serrulatus* sp. n. is similar to *M. kuohi* Chen *et* Ding (2001), but differs from the latter by the compressed aedeagus which is serrated on the ventral margin and dorsally roundly produced subapically (in *M. kuohi* the aedeagus is compressed apically only and not serrated ventrally).

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