



## Review of the planthopper genus *Ommatissus* Fieber (Hemiptera: Fulgoromorpha: Tropiduchidae) with descriptions of three new species from China

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### Abstract

The tropiduchid planthopper genus *Ommatissus* Fieber, 1875 is reviewed to include six species in China: *O. binotatus* Fieber, 1875 (Taiwan), *O. chinsanensis* Muir, 1913 (Hong Kong, Macao, Guangdong), *O. fuscus* **sp. nov.** (Guizhou, Yunnan, Hunan), *O. lateralis* **sp. nov.** (Yunnan, Guizhou), *O. lofouensis* Muir, 1913 (Guizhou, Shandong, Shanxi, Hunan, Zhejiang, Fujian, Taiwan) and *O. trimaculatus* **sp. nov.** (Yunnan). Except *O. chinsanensis* and *O. binotatus*, four species are described or redescribed and illustrated. The generic characters are redefined. A checklist and key to all species in the genus are provided.

**Key words:** planthoppers, new species, Oriental region, taxonomy

### Introduction

The tropiduchid planthopper genus *Ommatissus* was established by Fieber (1875) for *O. binotatus* as the type species. *Ommatissus* is currently placed in the tribe Trypetimorphini Melichar (Fennah, 1982). Muir (1913) recorded two species *O. chinsanensis* and *O. lofouensis* from South China. Muir (1931) described one species *O. bimaculatus* from India. Linnavuori (1973) reported another two species from Sudan and Morocco. Asche & Wilson (1989) described and illustrated ten species in *Ommatissus* s. str. and one species in the subgenus *Opatissus*. Asche (1994) described one species from Zaire. Some species in the genus are associated with palm (Asche & Wilson, 1989). Prior to this study, twelve species were recorded in this genus, and three of them are recorded in China.

While sorting and identifying Tropiduchidae from materials in the Institute of Entomology, Guizhou University, Guiyang, China (IEGU), the authors found four species of genus *Ommatissus* from China. In this paper we describe and illustrate three new species from Guizhou, Yunnan and Hunan provinces. The generic characters are redefined. A checklist and key to the species of genus *Ommatissus* are also provided.

### Materials and methods

Dry specimens were used for the descriptions and illustrations. External morphology was observed under a stereoscopic microscope and dimensions of characters were measured with an ocular micrometer. Measurements are given in millimeters (mm); body length is measured from the apex of the head to the tip of the forewing in repose. The genital segments of the examined specimens were macerated in 10% KOH, washed in water and transferred to glycerine. Illustrations of the specimens were made with a Leica MZ 12.5 stereomicroscope. Photographs of the specimens were taken with a KEYENCE VHX-1000C. The digital images were then imported into Adobe Photoshop 8.0 for labeling and plate composition.

***Ommatissus trimaculatus* sp. nov.**

(Figs 2, 16–25)

**Description.** Body length (from apex of vertex to tip of forewings): male 4.4–5.4 mm (N=6), female 5.2–5.7 mm (N=4).

General colour brown to pitchy, abdomen dark brown. Vertex, pronotum and mesonotum pale yellow to brown (Figs 10–12). Frons with two pairs of dark markings: one pair round in upper part; other pair oval near postclypeal suture, medially almost fused, looking like one circular patch; all forming obvious three dark patches. Postclypeus dark brown, anteclypeus stramineous with pale yellow median callus, genae pale yellow, lorae diffusely dark brownish (Fig. 11). Forewings transparent, tips of spines on hind tibiae and tarsi black (Fig. 10).

Vertex (Fig. 45) shorter in middle than widest breadth (1:1.3). Frons (Fig. 47) longer in middle than widest breadth (1.7:1.0). Pronotum (Fig. 45) broader than long (4.1:1.0). Forewings (Fig. 48) form about seven apical cells. Hind tibia with 2 distinct lateral spines, spinal formula of hind leg 7–7–2.

Male genitalia. Pygofer (Fig. 50) symmetrical, high and narrow, anterior margin and posterior margin paralleled. Anal tube (Figs 50, 53) short, anal style not surpassing anal tube. Gonostyli (Figs 50–52) bilaterally symmetrical, in lateral view about 1.7 times as long as broad, sickle-like, apical 1/3 broad, middle concave, apex with strong hook-like process arising from laterodorsal margin, acute tip bent lateroventrad, with triangular process arising from base of dorsal margin, apical part with a tooth-like process arises from the inner dorsal margin in side view. Aedeagus (Figs 50, 54–55) elongate and tubular; shaft slender in lateral view, base very broad, then becoming narrow, tip nozzle-shaped, phallosome apically exposed. Periandrium (Figs 50, 54–55) surrounding penis at base, dorsally connected with ventrobasal margin of anal tube, ventral projection well developed, with asymmetrical lobate process, subapical part with one tooth-like process pointed to outer side in left view, ventral margin with 2 teeth.

**Type Material.** Holotype ♂, Lanping (26°30'N, 99°16'E), Yunnan, China, 12 Aug. 2000, X.-S. Chen. Paratypes: 2♂♂, 1♀, same data as holotype; 4♂♂, 4♀♀, Lanping, Yunnan, 5 Aug. 2012, J.-K. Long and Y.-G. Xiao.

**Host plant.** Unknown.

**Distribution.** China (Yunnan).

**Etymology.** The specific name is a combination of the Latin words “*tri*” (three) and “*maculatus*” (marking), meaning that its frons with three dark brown markings.

**Remarks.** This species is similar to *O. fuscus* sp. nov., but can be distinguished from the latter by the frons with two pairs of dark markings: one pair round in upper part; other pair oval near postclypeal suture, looking like one circular patch; all forming obvious three dark patches; gonostyli sickle-like, apical 1/3 broad, middle part concave, apical part with strong hook-like process arising from laterodorsal margin in side view; subapical part of periandrium with one tooth-like process pointed to outer side in left view.

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