

## A new species of *Merochlorops* Howlett (Diptera: Chloropidae) from China

Xiaoyan LIU<sup>1</sup>\*, Emilia P. NARTSHUK<sup>2</sup>, Ding YANG<sup>3</sup>

1. Hubei Insect Resources Utilization and Sustainable Pest Management Key Laboratory, College of Plant Science and Technology, Huazhong Agricultural University, Wuhan, Hubei 430070, China

2. Zoological Institute, Russian Academy of Sciences, St. Petersburg 199034, Russia

3. Department of Entomology, China Agricultural University, Beijing 100193, China

**Abstract:** A new species, *Merochlorops campanulatus* sp. nov., is described from Yunnan Province. A key to the known species of the genus *Merochlorops* from China is given.

**Key words:** Cyclorrhapha; Carnoidea; taxonomy; key

### 台秆蝇属一新种记述（双翅目：秆蝇科）

刘晓艳<sup>1</sup>\*, Emilia P. NARTSHUK<sup>2</sup>, 杨定<sup>3</sup>

1. 华中农业大学昆虫资源利用与害虫可持续治理湖北省重点实验室, 湖北 武汉 430070; 2. Zoological Institute, Russian Academy of Sciences, St. Petersburg 199034, Russia; 3. 中国农业大学昆虫系, 北京 100193

**摘要:** 记述台秆蝇属 *Merochlorops* 1 新种: 铃须台秆蝇 *Merochlorops campanulatus* sp. nov., 编制了中国台秆蝇属种类检索表。

**关键词:** 环裂亚目; 鸟蝇总科; 分类; 检索表

### Introduction

The genus *Merochlorops* was erected by Howlett (1909). It belongs to the *Thaumatomyia* genus group of the subfamily Chloropinae (Andersson 1977), with the following characters: body stout; head higher than long; eyes naked, with vertical long axes; gena narrow to linear; ocellar triangle large, occupying most of frons, smooth and flattened; scutum highly convex; scutellum flattened with apical scutellar setae on its ventral edge; cephalic and thoracic setae and setulae absent or poorly developed; abdomen short and broad (Kanmiya 1983; Cherian 1991).

This genus is a fairly large genus known from the Oriental, Palearctic, Australian and Afrotropical Regions with a total of 22 species known worldwide (Sabrosky 1977; Spencer 1986; Cherian 1991). So far, 17 species were known from the Oriental Region (Sabrosky 1977; Cherian 1991), of which 4 species are distributed in China. One species occurs in mainland China (Becker 1911; Kanmiya 1983; Yang & Yang 1996).

In this paper, one species, *Merochlorops campanulatus* sp. nov., is described as new to

science. A key to the known species of *Merochlorops* from China is given.

## Material and methods

Specimens were studied and illustrated with a ZEISS Stemi 2000-c. Genitalic preparations were made by macerating the apical portion of the abdomen in warm 10% NaOH for 17–20 min. After examination, it was transferred to fresh glycerine and stored in a microvial pinned below the specimen. Specimens are deposited in the Entomological Museum of China Agricultural University (CAU), Beijing.

## Taxonomy

### Key to species of *Merochlorops* from China

1. Scutum entirely smooth, predominantly bare..... 2
- Scutum thickly clothed with fine setulae..... 4
2. Ocellar triangle yellow or rusty yellow, broad with obtuse apex; scutellum yellow; legs entirely yellow..... 3
- Ocellar triangle black, narrow with pointed apex; scutellum yellow except for basal 1/3 black; legs black except for knees and tarsi yellow with fore tarsomeres 3–5, mid and hind tarsomeres 4–5 black.....  
..... *M. luces* (de Meijere)
3. Scutum yellow bearing 5 yellowish orange longitudinal stripes, three middle stripes broad and coalescent.....  
..... *M. campanulatus* sp. nov.
- Scutum black to brown except for postpronotum, notopleural and postalar regions yellow.....  
..... *M. cinctus* (de Meijere)
4. Scutum black with large triangular yellow spot on region between postpronotum and wing base; legs yellow except for femora black..... *M. gigas* (Becker)
- Scutum yellow with 5 coalescent black stripes; legs entirely yellow..... *M. ochracea* (Becker)

### 1. *Merochlorops campanulatus* sp. nov. (Figs. 1–6)

Diagnosis. Ocellar triangle yellow, shiny, with obtuse apex. Scutum yellow bearing 5 yellowish orange longitudinal stripes, three middle stripes broad and coalescent. Scutellum yellow. Legs all yellow.

Description. Male. Body length 3.3 mm, wing length 3.4 mm.

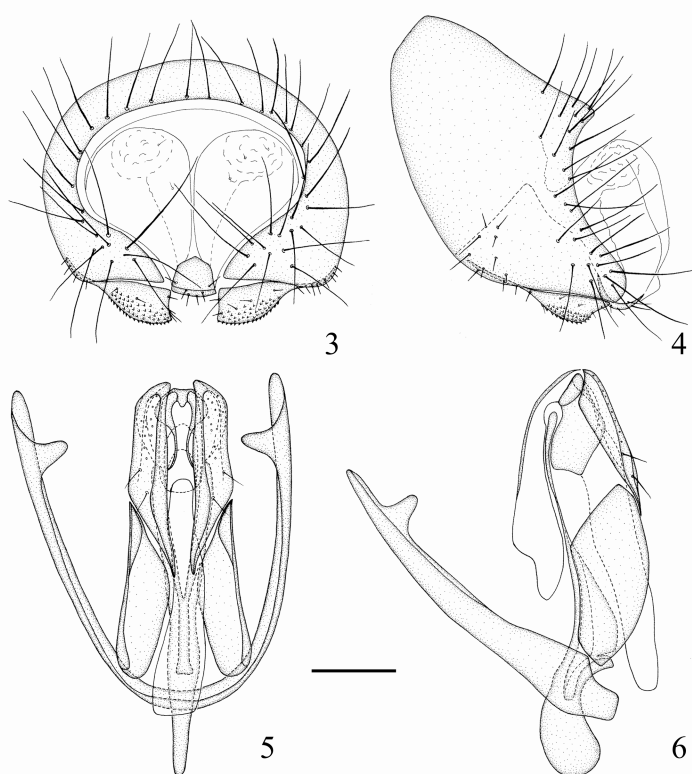
Head yellow without microtomentum, 0.6 times as long as high, 1.1 times as wide as thorax; frons as long as wide, projecting slightly in front of eye; gena linear, ventral margin black; parafacial indistinct. Ocellar triangle yellow, smooth, shiny, reaching anterior margin of frons, with obtuse apex; ocellar tubercle brown. Occiput black. Cephalic setae and setulae yellow. Antenna yellow; postpedicel as wide as long; arista brown, basal segment yellow, naked. Proboscis yellow with yellow setulae; palpus yellowish orange with brown setulae.

Thorax yellow, smooth, shiny. Scutum as long as wide, bearing 5 yellowish orange longitudinal stripes except for anterior portion of medial stripe black, three middle stripes broad and coalescent with indistinct demarcations, extending to scutoscutellar suture, outer lateral stripes short and narrow. Thoracic pleuron shiny, without microtomentum except for ventral 1/3 of anepisternum black, anepimeron, ventral 3/4 of katepisternum and ventral 2/3 of katepimeron yellowish orange. Postnotum black. Scutellum yellow, triangular with flat disc,

0.8 times as long as wide; apical scutellar setae short and approximated, standing on ventral edge of scutellum. Setae and setulae on thorax brown. Legs all yellow. Hind tibia with long tibial organ. Setulae on legs brown. Wing 2.5 times as long as wide, hyaline, veins brown. Relative lengths of 2nd : 3rd : 4th costal sections = 5 : 2.2 : 1; r-m at basal 0.45 of discal cell. Halter pale yellow on knob, brownish yellow on stem.



Figures 1, 2. *Merochlorops campanulatus* sp. nov., ♂. 1. Body, dorsal view; 2. Body, lateral view. Scale bar = 1 mm.



Figures 3–6. *Merochlorops campanulatus* sp. nov., ♂. 3. Epandrium, posterior view; 4. Epandrium, lateral view; 5. Hypandrium and phallic complex, ventral view; 6. Hypandrium and phallic complex, lateral view. Scale bar = 0.1 mm.

Abdomen shiny yellow except for tergites 1+2 with small brown lateral spot; venter yellow. Setulae on abdomen brown.

Male genitalia (Figs. 3–6). Epandrium yellow, short tubular; surstylus basally broad with short spinous setulae, distally narrowed, attached to epandrium anteroventrally. Mesolobus bell-like in posterior view. Gonites arranged in a row; postgonite gradually narrowed distad and slightly convergent, basal 1/3 obviously narrowed, with sensory setulae; pregonite as long as postgonite, basally broad and round, distally narrowed; basiphallus longer than wide, cylindrical; distiphallus cylindrical, longer than basiphallus, beyond lower margin of hypandrium, membranous; phallapodeme long with basal stalk broad in lateral view. Hypandrium narrow.

Female. Unknown.

**Holotype.** ♂, China, Yunnan, Xishuangbanna, Menglun, 22-IV-2010, Yan LI.

Distribution. China (Yunnan).

Remarks. The new species is somewhat similar to *M. ochracea* (Becker), but can be separated from the latter by the following features: palpus yellowish orange; scutum bearing 5 yellowish orange longitudinal stripes, 3 middle stripes broad and coalescent, outer lateral stripes short and narrow; ventral 2/3 of katapisternum yellowish orange. In *M. ochracea*, the palpus is black; the scutum has 5 black longitudinal stripes which are entirely coalescent; the ventral 1/2 of katapisternum is black (Becker 1911).

Etymology. The specific epithet is from Latin *campanulatus* (“bell-like”), referring to the shape of the mesolobus.

## 2. *Merochlorops cinctus* (de Meijere, 1916)

*Formosina cincta* de Meijere, 1916: 54. Type locality: Sumatra (Sinabang).

*Formosina cincta*: Duda, 1934: 149; Sabrosky, 1977: 309; Kanmiya, 1978: 196, 1983: 233.

*Formosina tumida* Becker, 1916: 441. Type locality: China (Taiwan).

*Merochlorops cinctus* Sabrosky, 1984: 713.

*Merochlorops cinctus*: Cherian, 1991: 56.

Diagnosis. Ocellar triangle rusty yellow, broad with obtuse apex, extending to anterior margin of frons. Postpedicel reddish yellow. Scutum black to brown except for postpronotum, notopleural and postalar regions yellow. Scutellum yellow. Legs entirely yellow. Abdomen yellow except for tergite 3 largely black.

Distribution. China (Taiwan); India; Indonesia; the Philippines; Japan.

## 3. *Merochlorops gigas* (Becker, 1911)

*Formosina gigas* Becker, 1911: 79. Type locality: China (Taiwan).

*Formosina gigas*: Sabrosky, 1977: 310.

*Merochlorops gigas* Sabrosky, 1984: 713.

Diagnosis. Ocellar triangle reddish yellow, broad with a shallow median sulcus, with pointed apex, extending to anterior margin of frons. Antenna reddish yellow. Palpus black. Scutum black with large triangular yellow spot on region between postpronotum and wing base. Scutellum yellow. Legs yellow except for femora black. Abdomen black except for two sides of tergite 1 and distal margin of tergite 5 yellow.

Distribution. China (Taiwan).

#### 4. *Merochlorops lucens* (de Meijere, 1908)

*Chloropisca lucens* de Meijere, 1908: 169. Type locality: Indonesia (Java).

*Formosina lucens* Becker, 1911: 80.

*Formosina lucens*: Becker & de Meijere, 1913: 284; de Meijere, 1916: 95; Becker, 1916: 441; Frey, 1923: 78; Duda, 1930: 297, 1934: 151; Sabrosky, 1977: 310; Kanmiya, 1978: 196; Yang & Yang, 1996: 554.

*Formosina adolscens* Becker, 1916: 441. Type locality: China (Taiwan).

*Merochlorops lucens* Sabrosky, 1984: 713.

*Merochlorops lucens*: Cherian, 1991: 56.

Diagnosis. Ocellar triangle black, narrow with a broad median sulcus, with pointed apex, extending to anterior margin of frons. Antenna yellow except for dorsodistal margin of postpedicel yellowish brown. Palpus black. Thorax black except for scutum prominently marked on notopleuron and anepisternum by oblique, wide, yellow stripe. Scutellum yellow except for basal 1/3 black. Legs black except for knees and tarsi yellow with fore tarsomeres 3–5, mid and hind tarsomeres 4–5 black. Abdomen black except for tergites 1+2 with 2 oblong yellow spots, tergites 4 and 5 yellow.

**Specimens examined.** China, Yunnan, 2♂, Mengla, Yaoqu, 06-VIII-2006, Weihai LI; 2♂ 1♀, Mengla, Bubeng, 09-V-2009, Tingting ZHANG; 2♂ 1♀, Mengla, Bubeng, 10-V-2009, Tingting ZHANG; 1♂ 1♀, Mengla, Bubeng, 11-V-2009, Tingting ZHANG; 3♂ 4♀, Mengla, Bubeng, 13-V-2009, Tingting ZHANG; 1♀, Menglun, No. 55 region, 06-V-2009, Guoquan WANG; 1♂, Mengla, Bubeng, 08-V-2009, Guoquan WANG; 2♂, Mengla, Bubeng, 10-V-2009, Guoquan WANG; 1♂ 1♀, Yaoqun, Xiaopubu, 06-VIII-2010, Hui YU.

Distribution. China (Sichuan, Yunnan, Taiwan); India; Indonesia; Malaysia; the Philippines; Mauritius; Reunion; Rodriguez; Seychelles.

#### 5. *Merochlorops ochracea* (Becker, 1911)

*Formosina ochracea* Becker, 1911: 81. Type locality: China (Taiwan).

*Formosina ochracea*: Sabrosky, 1977: 310; Yang & Yang, 1996: 554.

*Merochlorops ochracea* Sabrosky, 1984: 713.

Diagnosis. Ocellar triangle yellow, broad with pointed apex, extending to anterior margin of frons. Antenna yellow. Palpus black. Scutum yellow with 5 coalescent black stripes. Thoracic pleura yellow except for ventral 1/2 of katepisternum, ventral portions of anepisternum and anepimeron black. Scutellum yellow. Legs entirely yellow. Abdomen yellow except for tergite 4 black.

Distribution. China (Taiwan).

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