

## FIRST RECORD OF THE GENUS *CHOPRALLA* (EPHEMEROPTERA: BAETIDAE) FROM CHINA, AND DESCRIPTION OF A NEW SPECIES

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**ABSTRACT.** – A new species, *Chopralla fusina* (Ephemeroptera: Baetidae), is described and illustrated based on larval and adult specimens from Hong Kong, China associated by laboratory rearing. This new species is the first report of the genus *Chopralla* from China.

**KEY WORDS.** – Ephemeroptera, mayfly, Baetidae, *Chopralla fusina*, new species, China.

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### INTRODUCTION

*Chopralla* Waltz & McCafferty is known only from the Oriental region (Waltz & McCafferty, 1987) and includes the type species *Chopralla ceylonensis* (Müller-Liebenau, 1983) and *C. similis* (Müller-Liebenau, 1983) from Sri Lanka, *C. pusilla* (Müller-Liebenau, 1984a) from East Malaysia, Genus No. 2 sp. 1 (Müller-Liebenau, 1984b) from Peninsular Malaysia, and *C. liebenauae* (Soldán, Braasch & Luu, 1987) and *C. colorata* (Soldán, Braasch & Luu, 1987) from Vietnam. *Chopralla* resembles larvae of the genus *Cloeodes* but is easily distinguished from the latter by having tarsal claws with two rows of denticles (claws are edentate in *Cloeodes*), apically rounded gills (gills are broadly pointed in *Cloeodes*), and long, fine tibial seam setae (absent in *Cloeodes*). In this study, larval and adult stages of a new species of *Chopralla* are described based on material collected from Hong Kong Special Administrative Region, China, and associated by laboratory rearing.

Abbreviations used for deposition of type specimens are as follows: the Insect Collection of the Department of Entomology, South China Agricultural University, Guangzhou, P. R. China (SCAU); the Zoological Reference Collection of the Raffles Museum of Biodiversity Research, National University of Singapore, Republic of Singapore (ZRC).

### TAXONOMY

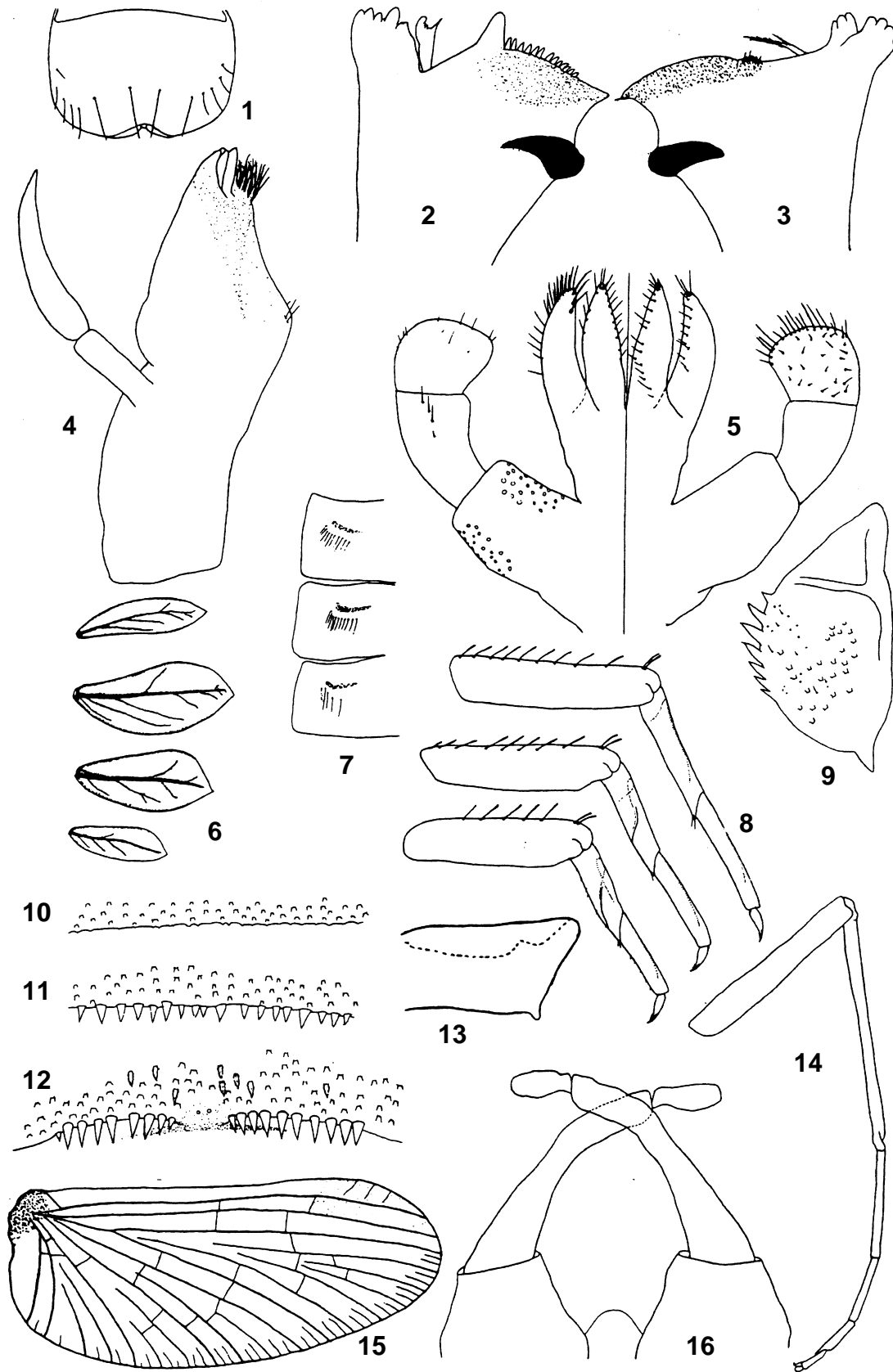
#### *Chopralla fusina*, new species (Figs. 1-16)

**Material examined.** – Holotype - mature larva (SCAU, in alcohol), Sam A Shui Tsuen, Lantau Is., Hong Kong, China, coll. Tong Xiaoli, 25 Mar.1998.

Paratypes – 1 male subimago (ZRC.6.20098, in alcohol), Shing Mun, Hong Kong, China, coll. Tong Xiaoli, 2 Oct.1996; 1 larva (ZRC.6.20099, in alcohol), Tai O Road, nr. Ling Ying Temple, Lantau Is., Hong Kong, China, coll. Tong Xiaoli, 18 Dec.1996; 1 male and 1 female adults (SCAU, in alcohol), Ma Po Mei section, nr. Lam Kam Road, Lam Tsuen River, Hong Kong, China, coll. Tong Xiaoli, 29 Oct.1997; 1 larva (SCAU, in alcohol), Pak Tan Chung, Hong Kong, China, coll. Tong Xiaoli, 5 May.1998; 1 larva (SCAU, in alcohol), Tai Shui Hang, Ma On Shan, Hong Kong, China, coll. Tong Xiaoli, 27 Apr.1999.

**Description.** – Larva: Body length 3.5-5.0 mm. Cerci length 1.3-1.7 mm. General coloration brown.

Head capsule brown, with off-white or cream areas between antennal bases and at base of labrum. Antennae slightly longer than length of head capsule; scapes pale, pedicels and flagella pale brown. Labrum (Fig. 1) approximately 1.4 times wider than long, clearly cleft anteromedially, with dorsal submedial pair of long, robust setae and anterior submarginal row of 4 long, robust setae. Incisors of left mandible (Fig. 2) with 6-7 denticles, and with stout, blunt triangular thumb. Incisors of right mandible (Fig. 3) separated apically, with 6 (3+3) denticles. Maxillary palps 2 segmented and subequal



Figs. 1-16. *Chopralla fusina*, new species, larva and adult. 1. Labrum; 2. Left mandible, dorsal view; 3. Right mandible, dorsal view; 4. Left maxilla; 5. Labium (left: dorsal; right: ventral); 6. Gills 1 (top), 3, 5 and 7 (bottom); 7. Larval abdominal sterna III-V; 8. Legs of larva, pro- (top), meso-, metathoracic (bottom); 9. Paraproct; 10. Posterior margin of larval abdominal tergum III; 11. Posterior margin of larval tergum VII; 12. Posterior margin of larval tergum IX; 13. Right half of larval metanotum; 14. Foreleg of male adult; 15. Forewing of male adult; 16. Genital forceps.

to galealaciniae in length (Fig. 4). Labium (Fig. 5) with glossae subequal to paraglossae in length; glossae with 10-11 long, stout inner marginal setae; paraglossae with 6-7 ventral submarginal setae; labial palps 3 segmented, segment II with 2 long, robust dorsal setae apicomediaally.

Thorax uniformly brown with few pale smudges on pro- and mesonotum. Pronotum smooth without tubercles. Hindwing pads absent or with tiny vestige (Fig. 13). Legs (Fig. 8) densely covered with trapezoidal elongate pointed scales. Dorsum of femora with single large pale brown marking submedially; tibiae cream with brown dorsally and distally; tarsi cream with brown proximally; femora with row of long, stout, clavate setae dorsally; tarsi with row of long, fine, simple setae dorsally. Tarsal claws with two rows of 3-4 denticles.

Abdominal terga I-VII and IX-X brown with several pale spots and diffuse smudges, tergum VIII light yellow-brown with brown posterior margin; all terga densely covered with trapezoidal elongate, pointed or bluntly pointed scales, with median length approximately 2.5-3.5 times basal width. Posterior marginal spines absent on terga I-IV (Fig. 10), and present on terga V-X (Fig. 11), but tergum IX lacking marginal spines medially (Fig. 12). Abdominal sterna II-V with setal tufts (Fig. 7). Gills on segments I-VII, asymmetric and simple (Fig. 6). Paraprocts (Fig. 9) with numerous trapezoidal, elongate and broadly pointed scales on the surface, and margins with stout, pointed spines. Cerci pale yellow-brown, median caudal filament subequal to cerci in length.

Male adult: Body length 3.2-3.8 mm. Forewing length 3.6 mm. Cerci length 7.5 mm. Antennae approximately 1.2 times length of head capsule, scapes pale, pedicels and flagella light brown. Turbinate eyes dark yellow on tall stalks. Thorax light yellow-brown. Forewings (Fig. 15) hyaline, with longitudinal veins and paired marginal intercalaries; pterostigmal areas translucent with 2-3 veinlets. Forelegs (Fig. 14) off-white with light yellow-brown foretarsi; order of tarsal segments by decreasing length: 2, 3, 4, 5, 1. Abdominal segments I-VI off-white and translucent; segments VII-IX light red-brown, segment X pale; terga I-III and V-VIII with single transverse streak posteriorly. Genitalia as in Fig. 16. Cerci off-white.

Female adult: Body length 5.0 mm. Forewing length 6.1 mm. Cerci broken in examined material. Vertex plain off-white to cream. Antennae as in male. Thorax cream tinged with light yellow-brown laterally. Abdominal segments I-X pale pink due to the presence of eggs. Other characters as in male, except for usual sexual differences.

**Etymology.** – The epithet *fusinus* is from the Latin meaning spindle-like and referring to larval habitus, which looks slightly spindle-like.

**Remarks.** – The larva of *Chopralla fusina*, new species, can be distinguished from other species of *Chopralla* by the following combination of characteristics: (1) hindwing pads absent or vestigial (Fig. 13); (2) posterior marginal spines on terga V-X, but tergum IX lacking marginal spines medially (Figs. 11, 12); and, (3) setal tufts on abdominal sterna II-V (Fig. 7). The male adults of this new species can be separated from those of *Chopralla liebenauae* (Soldán, Braasch & Luu, 1987) which is the only species known adult stage of the genus by the following features: (1) turbinate eyes dark yellow; (2) pterostigmal areas of forewing translucent and possessing 2-3 cross-veins; (3) segment 3 of the forceps shorter than that of *C. liebenauae* and the length is nearly as long as 1/4 of segment 2.

**Distribution.** – Hong Kong (China).

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