



## REDESCRIPTION OF *NEMOURA COCHLEOCERCIA* (PLECOPTERA: NEMOURIDAE) FROM CHINA

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### ABSTRACT

*Nemoura cochleocercia* is reillustrated and redescribed based on the type and a small collection of new specimens from the type locality. The species is distinguished by its spoon-shaped cerci each with a prominent upcurved spine at the proximal margin.

**Keywords:** Plecoptera, Nemouridae, China, *Nemoura cochleocercia*, redescription

### INTRODUCTION

*Nemoura* Latreille 1796 is one of the largest genera of Nemouridae and has more than 100 known species from the Holarctic and Oriental regions. In recent years, 22 new species have been recognized by Du *et al.* (2008), Li & Yang (2006, 2007, 2008a, b), Sivec (1981), Wang & Du (2008), Wang *et al.* (2006), and Zhu & Yang (2003), but the old species of Chu (1928) and Wu (1938, 1939, 1962, 1973) still need to be defined. We recently found specimens of *Nemoura cochleocercia* in a small collection from several sites near the type locality in Yunnan. Because the characteristics of this species are still only known from the paper by Wu (1962), we present redescrptions and reillustrations herein, based on the type and our material. Most of the material is deposited in the Entomological Museum of China Agricultural University (CAU) but the type material of *N. cochleocercia* remains in the Institute of Zoology, Chinese Academy of Sciences (IZCAS), Beijing. All the specimens are preserved in 75% alcohol. The morphological terminology follows that of Baumann (1975).

### RESULTS AND DISCUSSION

#### *Nemoura cochleocercia* Wu, 1962.

(Figs. 1-4)

*Nemoura cochleocercia* Wu, 1962:141. Holotype ♂ (IZCAS), Jingdong [Yunnan Province], China.

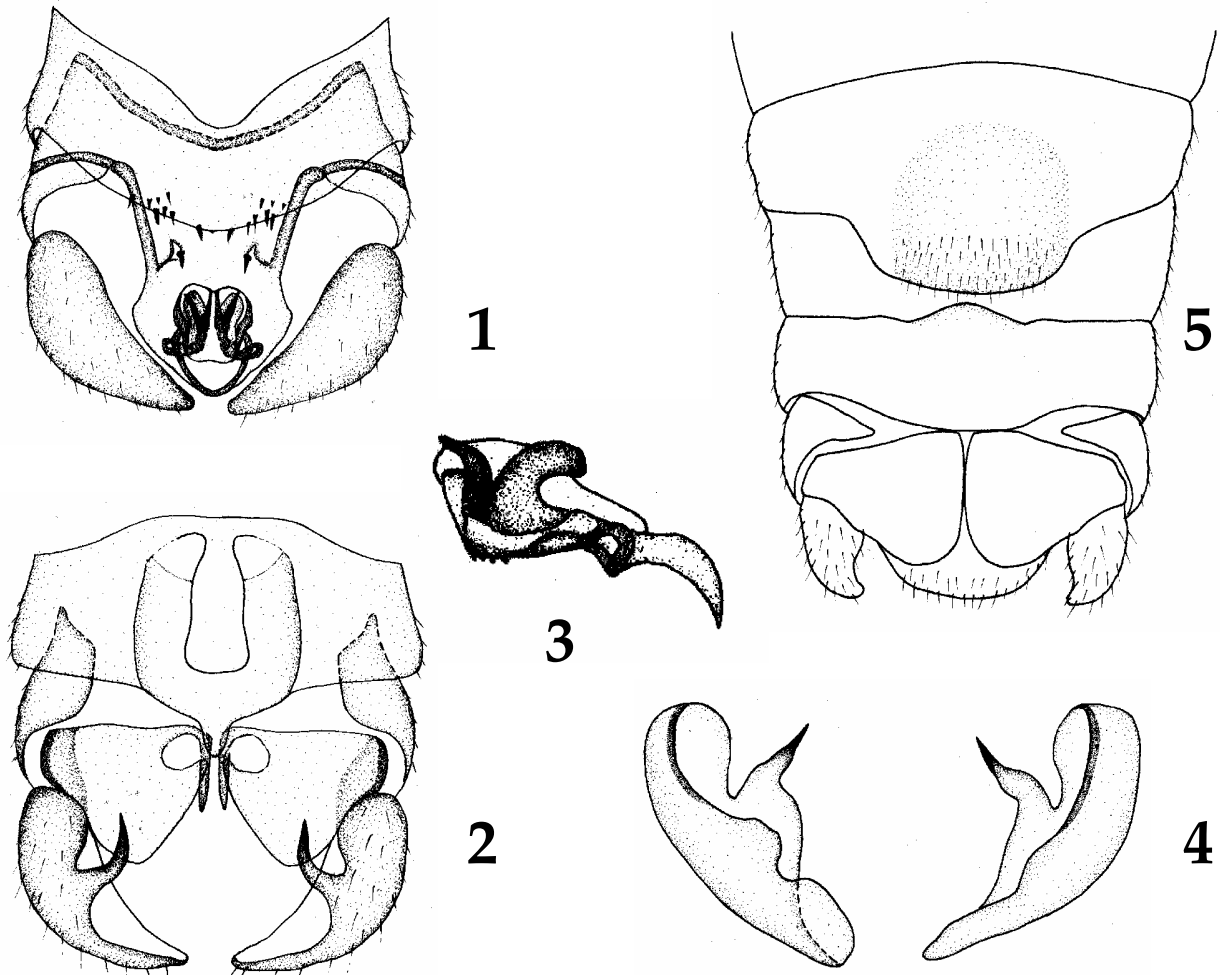
**Material examined.** China: Yunnan, Jingdong, 1200 m, 24°26' N, 100°50' E, 27 April 1955, Клейтон пусть (Kleyton pust) Sinofsky, ♂(IZCAS) (Holotype). Yunnan, Dulongjiang, 27°73' N, 98°35' E, 2100 m, 20 May 2007, Xingyue Liu, 1♂(CAU). Yunnan, Hushui, Yaojiaping, 25°59' N, 98°49' E, 25 May 2006, Yajun Zhu, 1♂(CAU). Yunnan, Gongshan, Danzhu, 1500 m, 27°73' N, 98°65' E, 18 May 2007, Xingyue Liu, 1♂, 1♀(CAU). Yunnan, Tengchong, Dahaoping station, 2000 m, 25°01' N, 98°51' E, 22 May 2006, Yajun Zhu, 1♂, 2♀(CAU).

**Adult habitus.** General color brown to dark brown. Head and mouthparts brown, antennae brownish yellow, compound eyes dark. Thorax brown,

pronotum darker with rugosities; width narrower than head; Wings brownish; legs yellow. Abdomen dark brown with hairs mostly pale brown.

**Male.** Forewing length 5.6-5.8 mm, hindwing length 4.4-4.6 mm. Terminalia (Figs. 1-4): Terga 8-10 sclerotized. Tergum 9 with semicircular median incision at anterior margin. Tergum 9 with a deep triangular anterior incision and two rows of several black spines paramedially along posterior margin. Sternum 9 with claviform vesicle, slightly constricted subapically and swollen apically, slightly longer than half of hypoproct; hypoproct nearly rectangular basally and acutely tapering subapically to a small tip. Tergum 10 with anterior and posterolateral margins distinctly sclerotized, an erect membranous area present medially, bearing prominent black

spines in holotype, sometimes with two or three spines, located at lateral margin. Cerci (Fig. 4) heavily sclerotized, spoon-shaped and hollowed medially, constricted at apex, bearing a large, upcurved medial spine at proximal margin. Epiproct short and recurved, rectangular in dorsal view, with shallow indentation apically; dorsal sclerite with a pair of lateral bands, and two subapical spine-like projections; ventral sclerite distinctly sclerotized, broad basally and slightly narrowing medially, distal portion forming spine-like projection in dorsal view, with several tiny subapical spines ventrally in lateral view. Paraproct bilobed: inner lobe sclerotized, slender and strip-shaped; outer lobe slightly sclerotized for most part, sclerotized at outer margin, broad basally, with blunt tip.



Figs. 1-5. *Nemoura cochleocercia*. 1. Male terminalia, dorsal view, 2. Male terminalia, ventral view, 3. Epiproct, lateral view, 4. Cerci, oblique dorsolateral view, 5. Female terminalia, ventral view (1-3 from holotype).

**Female.** Forewing length 6.8-7.1 mm, hindwing length 5.7-5.9 mm. Terminalia (Fig. 5): pregenital plate produced to a semicircular projection at posterior margin of sternum 7, reaching anterior margin of sternum 9. Sternum 9 enlarged medially, with triangular anterior protrusion and round posterior protrusion. Cercus conical, curved inward apically.

**Distribution.** China (Yunnan, Sichuan).

**Remarks.** We checked the holotype of the species but did not find the paratypes. The holotype terminalia from which new figures were prepared is still in good condition and most features of the new material agree well with those mentioned in the original descriptions and figures. But a prominent upcurved spine located on the proximal margin of the cerci was overlooked in the original description (Wu 1962). Additionally, the features of sternum 9 and the shape of the female cerci seem constant in recent specimens.

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