

A new synonym of *Paragnetina flavotincta* (McLachlan, 1872) (Plecoptera: Perlidae) with notes on *Paragnetina lacrimosa* Klapálek, 1921

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Abstract

Holotypes of two earlier described species of *Paragnetina* Klapálek, 1907 known from China, *P. neimongolica* Yang & Yang, 1996 and *P. lacrimosa* Klapálek, 1921 were re-examined and re-illustrated. We consider *P. neimongolica* a subjective junior synonym of *P. flavotincta* (McLachlan, 1872).

Key words: Stonefly, Perlidae, *Paragnetina*, new synonym, China

Introduction

The genus *Paragnetina* Klapálek, 1907 belongs to the subfamily Perlinae Latreille, 1802 and currently includes 25 species worldwide (DeWalt *et al.* 2025), recent contributions to the knowledge of *Paragnetina* have been made by Du & He (2001), Judson & Nelson (2012), Sivec *et al.* (1988), Stark & Szczytko (1981), and Zwick (1988). Currently, 14 species of *Paragnetina* are known from China (Yang & Li 2018). Among these species, *P. indentata* Wu & Claassen, 1934 and *P. insignis* Banks, 1939 were redescribed in detail by Qian *et al.* (2019) and Mo *et al.* (2024), respectively, however, most of the Chinese species are still inadequately known.

In this paper, we re-examine the holotype of *Paragnetina neimongolica*, propose it as a junior synonym of *P. flavotincta* (McLachlan, 1872) and reported it from Jilin Province for the first time. Additional information is provided on a pinned male of *P. lacrimosa* Klapálek, 1921.

Materials and methods

The holotype of *P. neimongolica* was stored in an ethanol tube and deposited in the Entomological Museum of China Agricultural University (CAUC). The male of *P. lacrimosa* was in the pinned collection of the United States National Museum of Natural History (USNM). The terminalia were removed from the abdomen and soaked in 10% NaOH. The color photographs of *P. neimongolica* were made with the aid of Imaging Source CCD attached to a Leica M205FA dissecting microscope. Morphological terminology follows that of Sivec *et al.* (1988).

Results

Paragnetina flavotincta (McLachlan, 1872)

(Figs. 1–2)

Perla flavotincta McLachlan, 1872: 54, pl. 1, Fig. 9;
Paragnetina ocellata Klapálek, 1921: 61, **syn. nov.** in Zwick, 1973: 153, Figs. 7–10;
Paragnetina flavotincta: Zhiltsova, 1967: 852, Figs. 8–9;
Paragnetina flavotincta: Kimmins, 1970: 342;
Paragnetina flavotincta: Zhiltsova & Teslenko, 1988: 14, Figs. 1–8;
Paragnetina flavotincta: Zhu, Zhang & Wang, 2006: 548, Fig. 2;
Paragnetina flavotincta: Surenkhorloo, 2009: 710;
Paragnetina flavotincta: Judson & Nelson, 2012: 38, Figs. 224–227;
Paragnetina flavotincta: Teslenko, 2024: 109, Figs. 76–82.
Paragnetina neimongolica Yang & Yang, 1996: 115, Fig. 1. **syn. nov.**

Material examined. Holotype male (CAU): CHINA, Inner Mongolia, Xing'an League, 1983.VII.13, leg. Long Zhang.

Additional materials: 1 female, China, Jilin Province, Antu County, Songjiang River before Baixi hotel, 42.0564° N, 127.5983° E, 9.VII.2015, leg. Zehui Kang; 1 male and 1 female, Russia, Amurskaya Oblast, Amur R. Basin, Kasatkino village, Ganukan River, mouth, 48.95639° N 130.12199° E, 13.08.2003, leg. T. Tiunova.

Distribution. This species is widespread in the Eastern Palearctic. It occurs in China (Inner Mongolia, Jilin Province, Xinjiang), the Korean Peninsula, Mongolia, and in Russia (East Siberia and south of the Far East).

Remarks. Yang & Yang (1996) did not evert the aedeagus of *P. neimongolica* Yang & Yang, 1996 in the original species description. They merely noted that it is externally similar to *P. indentata* Wu & Claassen, 1934. Upon examination of the holotype, the dissected penis of *P. neimongolica* was almost indistinguishable from that of *P. flavotincta* (Figs. 1, 2). Some minor differences were noted in the shape of the apex in the anterior hemitergal process on tergum 10 (Fig. 1b, Fig. 2c) and the fork of the penial tube lobes of both species (Fig. 1c-e, Fig. 2d-e). We considered both species conspecific with *P. neimongolica* being regarded as a subjective junior synonym of *P. flavotincta* (McLachlan, 1872) **syn. nov.**

Paragnetina lacrimosa Klapálek, 1921

Paragnetina lacrimosa Klapálek, 1921: 62.
Paragnetina lacrimosa: Wu, 1938: 81, Fig. 75, Fig. 2;
Paragnetina lacrimosa: Claassen, 1940: 130, catalog;
Paragnetina lacrimosa: Illies, 1966: 281, 284, catalog;
Paragnetina lacrimosa: Kimmins, 1970: 344, checklist;
Paragnetina lacrimosa: Sivec *et al.*, 1988: 20, 23, Fig. 8;
Paragnetina lacrimosa: Du, 1999: 307, Fig. 25-6;
Paragnetina lacrimosa: Du *et al.*, 1999: 61, checklist;
Paragnetina lacrimosa: Yang & Li, 2018: 33, catalog.

Examined material. 1 male (USNM), labeled “Fukien, South China, Cha-go-hui, Kien-yang District, May 10-18, 1933, D. C. Ngu and “*Paragnetina lacrimosa* Det. B. Stark 2008”.

Distribution. Fujian of China.

Remarks. The holotype is from “Kualun, N.W. Fokien” (Klapálek, 1921), and the present male is from Jianyang District of Nanping City, apparently not the holotype. Sivec *et al.* (1988) provided excellent illustrations of both genders of the species, but did not mention the collection data of the specimens. The male we examined agrees well with their illustrations, indicating they may refer to the same male. However, we did not find the co-occurred female illustrated by Sivec *et al.*, (1988).

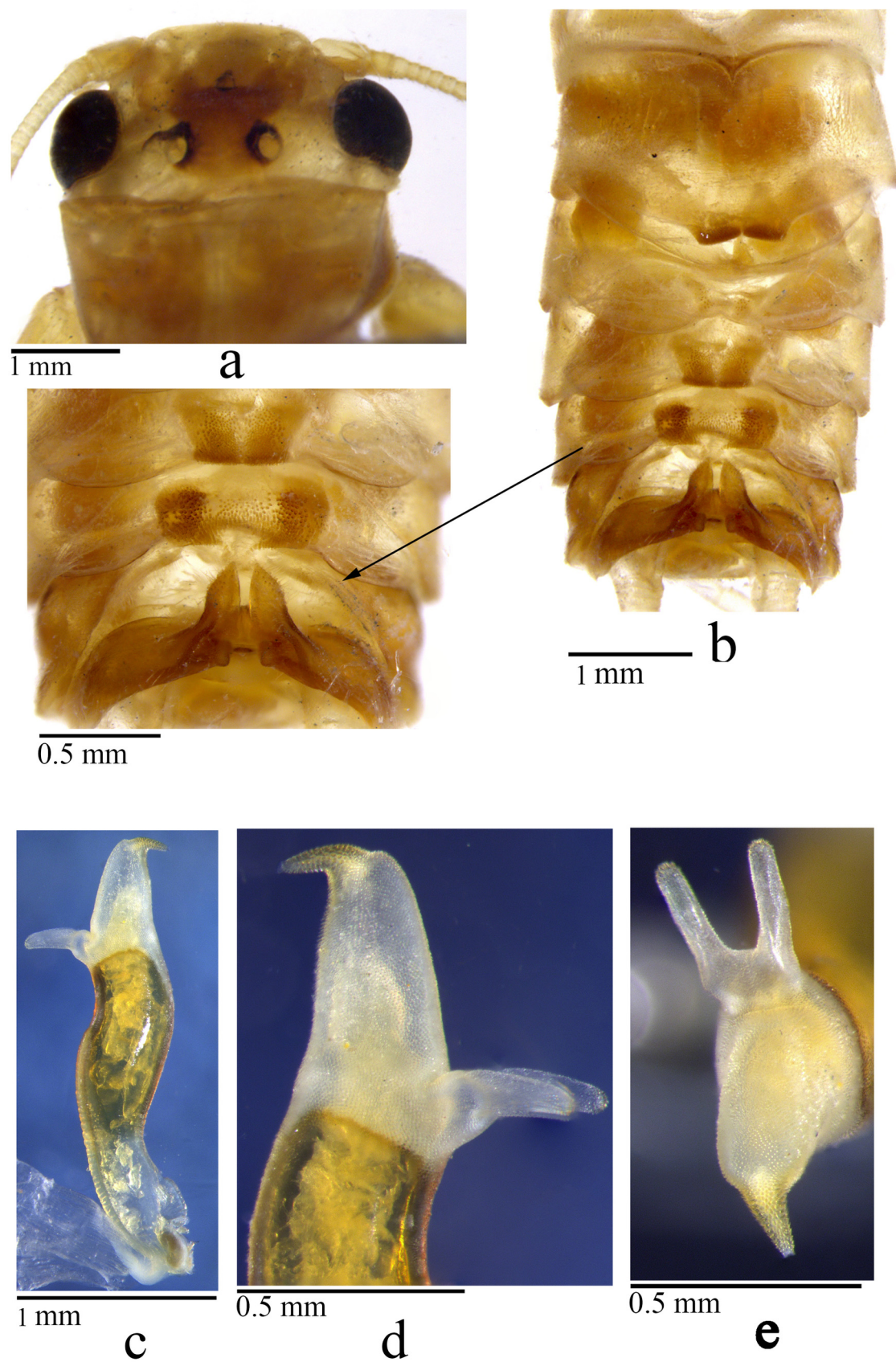


FIGURE 1. *Paragnetina neimongolica* Yang & Yang, 1996, **syn. nov.** (holotype male). a: head and pronotum, dorsal view; b: terminalia, dorsal view; c: everted aedeagus, lateral view; d: lobes of aedeagus, lateral view. e: lobes of aedeagus, top view.



1 mm a



0.5 mm



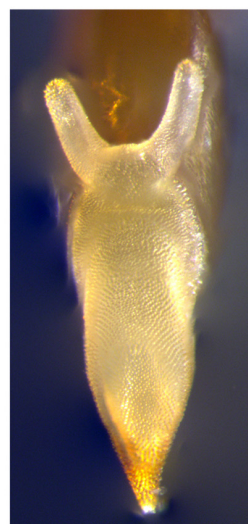
0.5 mm c



0.5 mm d



1 mm b



0.5 mm e

FIGURE 2. *Paragnetina flavotincta* (McLachlan, 1872) (male). a: head and pronotum, dorsal view; b: terminalia, dorsal view; c: hemitergal lobes, dorsal view; d: everted aedeagus, lateral view; e: lobes of aedeagus, top view.

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