



The second species of *Leuctra* Stephens, 1836 (Plecoptera: Leuctridae) from China

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Abstract

A new species of Leuctridae (Plecoptera) from Jiu Hua Mountain in the Anhui Province of China, *Leuctra jiuhuashana* sp. nov., is described and illustrated. This is the first discovery of *Leuctra* Stephens, 1836 in the whole of East China and suggests a broader distribution range of this genus in the northern part of the Oriental region.

Key words: Plecoptera, *Leuctra*, new species, China

Introduction

Leuctra Stephens, 1836 is the most widely distributed genus of Leuctridae, with 229 species found throughout the Palaearctic and eastern Nearctic regions (Dewalt *et al.*, 2025). Only *Leuctra fusca* (Linnaeus, 1758), however, is known from China. *Leuctra tergostyla* Wu, 1973 was the first *Leuctra* species recorded solely from China. Muranyi & Hwang (2017) subsequently demoted *L. tergostyla* as a subspecies of *L. fusca*, a decision that has likewise been endorsed by Chen (2020).

Specimens of *Leuctra* reported previously from China have been found mainly in higher montane environments of the Palaearctic region of the country, whereas the new species described herein was collected from a clear, slow-moving stream on Mt. Jiu Hua under 1000 m in Anhui Province. This province is located in the far eastern portion of China bordering Zhejiang, Jiangsu, Hubei, Henan, and Jiangxi provinces. This area lies in the transitional zone between the Palaearctic and Oriental regions as recognized for China (Yang 1937; Zhang 1999). Recently, we examined stonefly collections from southern Anhui Province. In this paper, we describe and illustrate a new species of *Leuctra* from Anhui Province. This is the first discovery of *Leuctra* in the whole of East China and suggests a broader distribution range of this genus in the northern part of the Oriental region.

Material and methods

Specimens were collected by hand and preserved in 75% ethanol. Morphological details were examined with a Leica MZAPO microscope. Color illustrations were taken with a KEYENCE VHX-5000. All specimens used in this study are deposited in the Insect Collection of Yangzhou University (ICYZU), Jiangsu Province, China. The morphological terminology follows that of Vinçon & Sivec (2001).

Results

Leuctra jiuhuashana Du, Yang & Qian, sp. nov.

Figs. 1–5

Male. Body length 7.5 mm, forewing length 8 mm, hindwing length 7.6 mm (n=1). Head brown, wider than pronotum; ocelli pale light brown; antennae and palpi light brown. Pronotum brown, trapeziform, all angles rounded. Legs brown. Wings hyaline and veins light brown. (Figs. 1A–B).

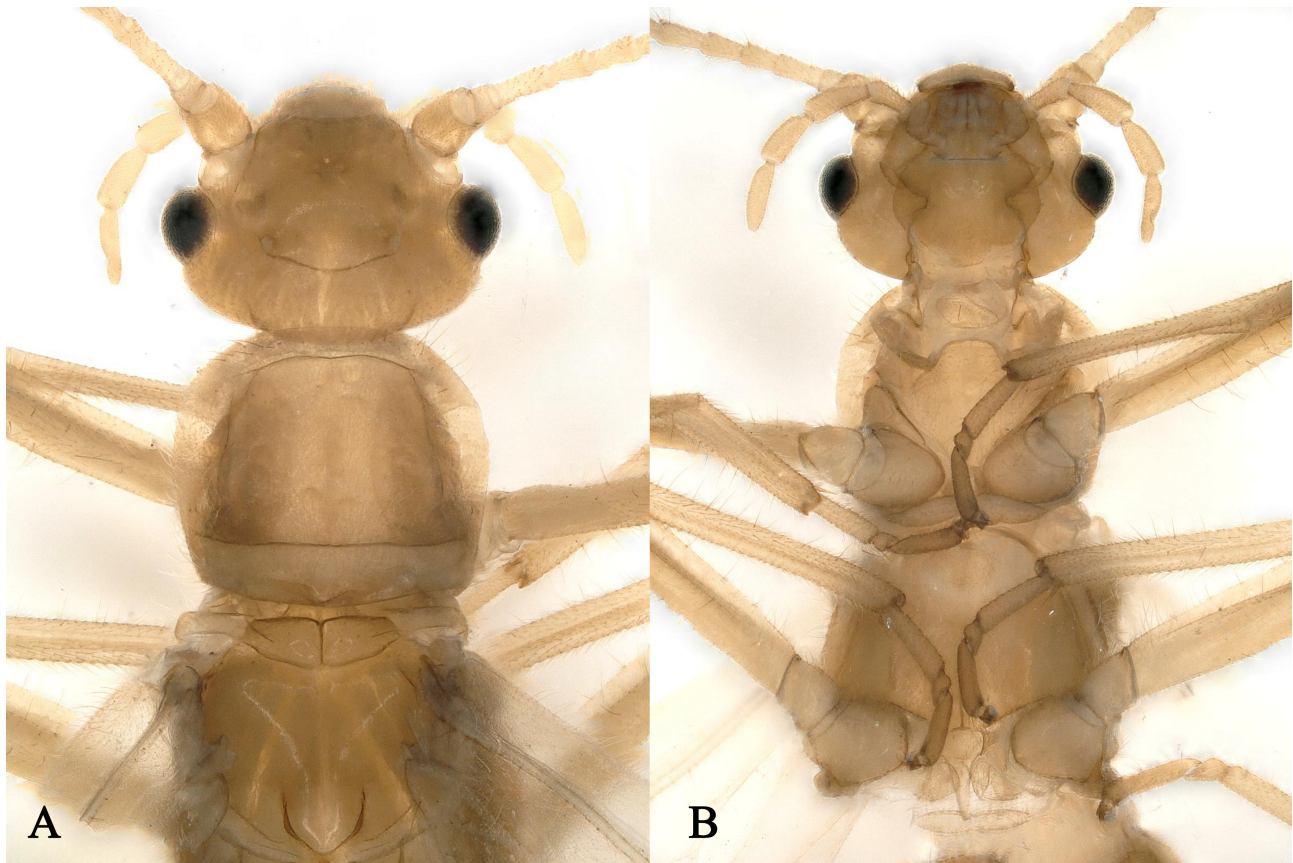


FIGURE 1. *Leuctra jiuhuashana*, sp. nov., holotype male. A. Head and pronotum, dorsal view. B. Head and pronotum, ventral view.

Terga I–VI simple. Tergum VII with a bilobed dorsal process projected posteriorly along nearly the same plane as the abdomen; lobes are triangular with a slightly concave medial region; lobes are distinctly darker apically (Figs. 2A–C, 3A–B). Tergum XIII simple, lacking a dorsal process, with a less sclerotized medial region (Fig. 2A). Tergum IX with a quadrate, weakly sclerotized plate (Fig. 2A). Sternum 9 basally with small subcircular vesicle bearing dense hairs (Fig. 2C). Epiproct strong, mushroom-shaped, with a short stalk. Subanal lobes with two pairs needles, basal connective, end of curve. The middle one slightly longer than the sides (Fig. 4). Cercus simple (Figs. 2A, 2C). Specilla nearly straight, wider at base and gradually tapering to apex (Fig. 4B). Styles broadly triangular at base, darkened along anterior and lateral margins; tapering markedly in basal half and curved upward (Fig. 4B).

Female and larva. Unknown

Type material. Holotype ♂, China: Anhui Province, Jiuhua Mountains, 30°30'28"N, 117°48'46"E, 2002-V-8, leg. Du Yu-Zhou.

Etymology. This species is named after Jiuhua Mountain, Anhui Province, the first and only known locality for this species.

Diagnosis. This species is closely related to *L. braueri* Kempny, 1889, *L. juliettae* Vinçon & Graf, 2011 and *L. muranyii* Vinçon & Graf, 2011, the three members of the *Leuctra braueri* subspecies group (Vinçon *et al.*, 2011). The male differs mainly in the longer styles of the dorsal process of tergum VII and by the shape of sclerotized

plate of tergum IX. Tergite IX of *L. muranyii* have the median membranous field carries a trapezoidal pigmented sclerite with two less pigmented anterior spots. Tergite IX of *L. juliettae* have two connected dark triangular spots in posteromedian position. Tergite IX of *L. braueri* have two less pigmented spots medially. In *L. jiuhuashana*, here are no obvious spots in tergite IX. Additionally, the dorsal process of the new species is significantly longer than that of these three species (Fig. 4).

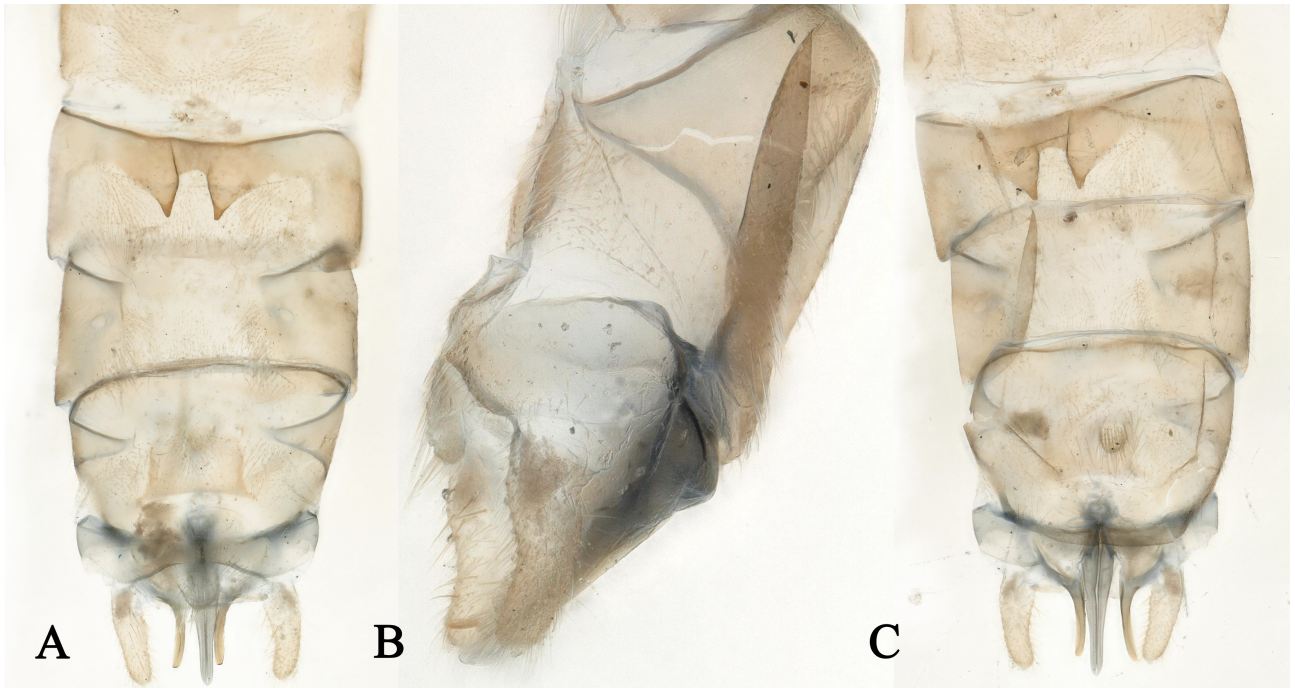


FIGURE 2. *Leuctra jiuhuashana*, **sp. nov.**, holotype male. A. Terminalia, dorsal view; B. Male terminalia, lateral view; C. Male terminalia, ventral view.



FIGURE 3. *Leuctra jiuhuashana*, **sp. nov.** A. Male tergum VII, dorsal view; B. Male Tergum VII, lateral view.

Remarks. More than half of China is positioned in the Palearctic region. Despite this much land area, only one species of *Leuctra* had previously been reported here. The discovery of *L. jiuhuashana* **sp. nov.** reinforces the possibility that there are more *Leuctra* species in China (Fig. 5). Some taxa of Plecoptera, widely distributed in the Palearctic region, are also found near the Oriental region (or transitional zone) (Huo *et al.*, 2022; Huo & Du, 2023), which provides some material for the exploration of the boundary between Oriental and Palearctic regions.

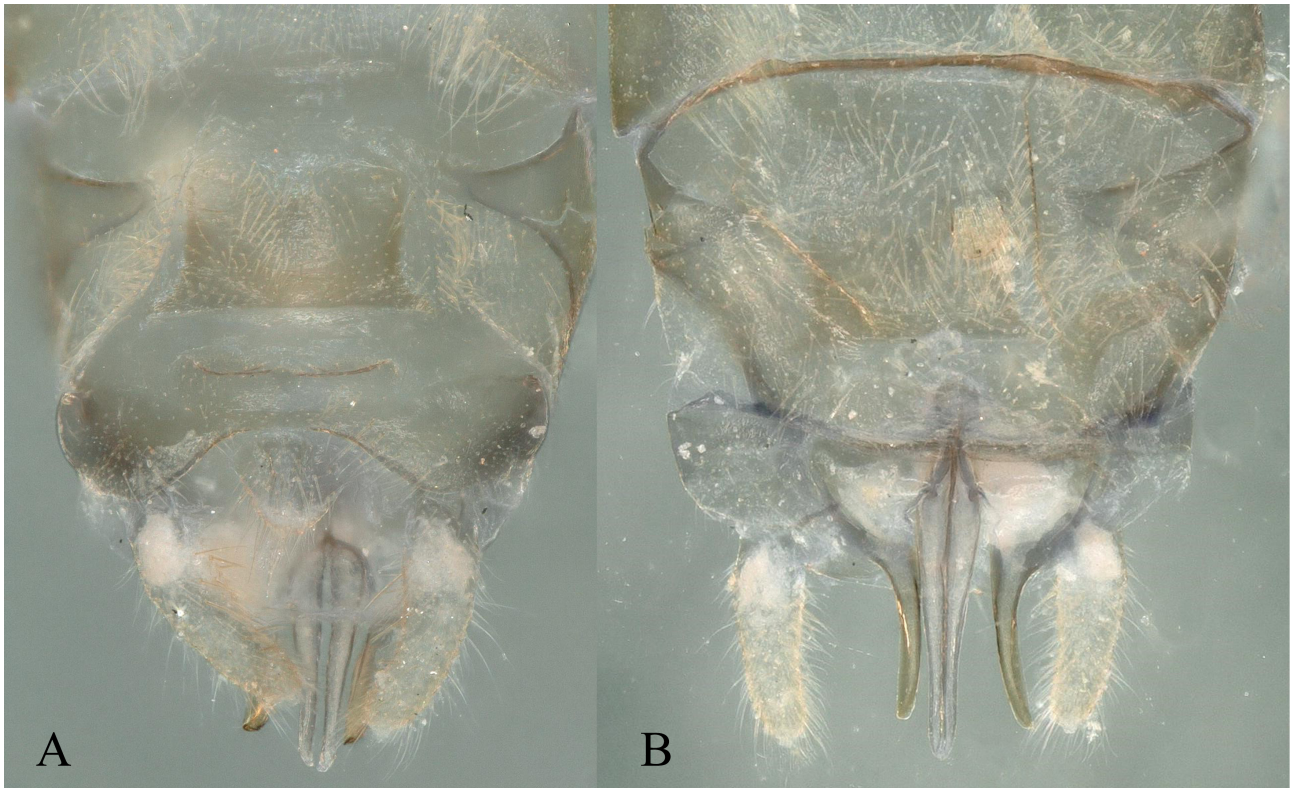


FIGURE 4. *Leuctra jiuhuashana*, **sp. nov.** A. Male tergum X, dorsal view; B. Male Tergum VII, ventral view.

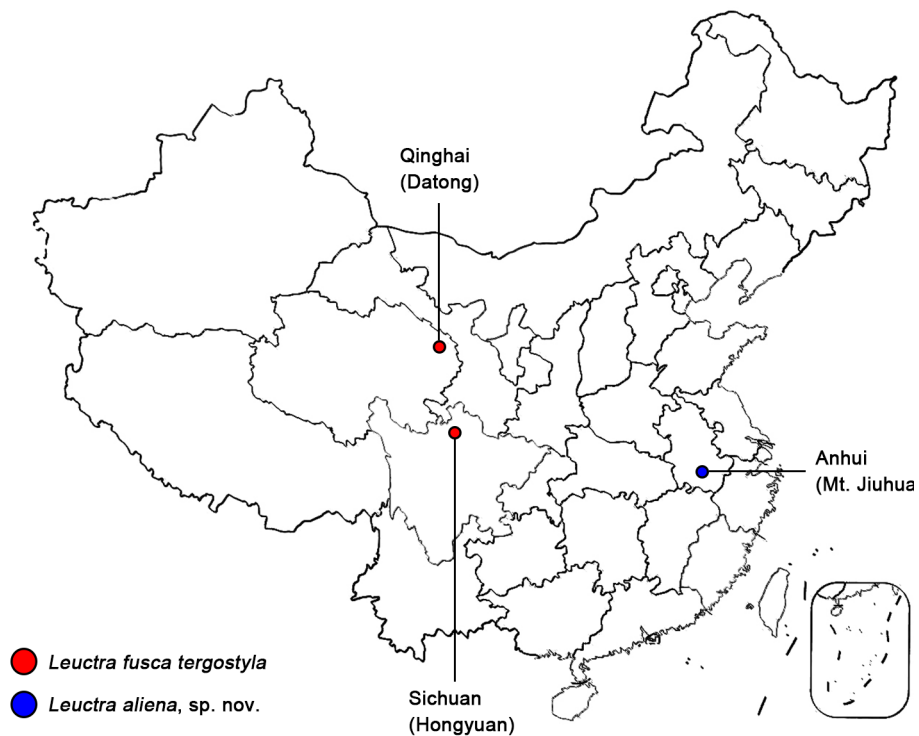


FIGURE 5. Distribution of *Leuctra* Stephens, 1836 in Anhui, Qinghai, and Sichuan provinces, China.

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