



Article

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Species of *Neoperla* (Plecoptera: Perlidae) from Hubei, China

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Abstract

The perline genus *Neoperla* is reported from Hubei Province, China for the first time. We describe and illustrate two species with color photographs, *Neoperla hubeiensis* sp. nov., and *N. cavalieri* (Navás). The new species is compared to similar taxa.

Key words: Plecoptera, Perlidae, *Neoperla*, new species, China

Introduction

Neoperla is the largest genus in the subfamily Perlinae with at least 210 species worldwide (DeWalt *et al.* 2012, Stark & Sivec 2008) and is also one of the most species-rich stonefly genera in China with 66 described species (Du *et al.* 1999, Li *et al.* 2011, Li *et al.* 2011). The earlier studies of this genus were made by Chu (1929), Wu (1935, 1938, 1948, 1962, 1973), and Wu & Claassen (1934) and mostly focused on eastern, southwestern, and southern China. Recent studies of Du (1999, 2000 a & b), Du & Sivec (2004, 2005), Du & Wang (2005, 2007), Du *et al.* (2001), Sivec & Zwick (1987), Yang & Yang (1990, 1991), Yang & Yang (1993 a & b, 1995 a & b, 1996, 1998) have resulted from scientific surveys of insects in various geographical areas of China. In the present paper, we present the first records for *Neoperla* from Hubei Province and describe a new species: *Neoperla hubeiensis* sp. nov. Additionally, the male of *N. cavalieri* (Navás) 1922 is redescribed. All specimens are deposited in the Entomological Museum of China Agricultural University (CAU). Aedeagi were everted using the cold maceration technique of Zwick (1983) or Sivec *et al.* (1988).

Taxonomy

Neoperla hubeiensis Li & Wang, sp. nov.

(Figs. 1–5, 11–12)

Male. Forewing length 9.5–9.8 mm, hindwing length 8.6–8.8 mm. General body color brownish. Distance between ocelli nearly as wide as diameter of the ocellus. Head slightly wider than pronotum, mostly brownish and lateral margins pale, with a dark brown triangular area covering ocelli and a small triangular brownish spot on anterior portion of frons (Fig. 1); compound eyes dark; antennae brown. Thorax mostly brownish but pronotum paler with three brown longitudinal median stripes and scattered, brown markings (Fig. 1); wing membrane subhyaline, veins brown, Rs 3 branched; legs yellowish brown. Abdomen brownish, hemiterga darker.

Terminalia. Tergum 7 with posterior margin produced into a raised quadrate process, covered with dense small sensilla basiconica (Figs. 2, 4). Tergum 8 with an erect tongue-shaped process, fringed with small spines at its distal expansion (Fig. 2). Tergum 9 without sensilla patches. Sternum 9 mostly pigmented (Fig. 3). Aedeagal tube outline sinuous, darkly sclerotized, basoventral membranous area with two eye-like spots. Aedeagal sac semicircular, about half of tube length; a bifurcate spine is evident through sac cuticle (Figs 5, 11–12).