



A new species of *Amphinemura* (Plecoptera: Nemouridae) from China

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A new species of the subfamily Amphinemurinae, *Amphinemura hainana* sp. nov., is described based on several collections from Palearctic and Oriental China. The species is diagnosed by a pair of large dorsolateral projections on male tenth tergum, terminal costal crossveins reduced or absent, and a pair of vaginal lobes with a thickened inner portion of the female subgenital plate. The new species is compared with other *Amphinemura*.

The genus *Amphinemura* is the largest and most widespread genus in the family Nemouridae with more than 140 known species from the Holarctic and Oriental Regions. Presently, 56 species of *Amphinemura* are known from China and have been described by Wu (1935, 1938, 1949, 1962, 1973), Zhu and Yang (2002, 2003), Li and Yang (2005, 2006, 2007, 2008), Li *et al.* (2005), Yang *et al.* (2005a), Yang *et al.* (2005b), Du and Wang (2007), Du *et al.* (2007), Wang *et al.* (2006), and Wang *et al.* (2007). Recently, we studied several aquatic insect collections from Inner Mongolia, Hainan, Guangxi, and Yunnan provinces of China and discovered a distinct new species. The material studied is deposited in the Entomological Museum of China Agricultural University (CAU) and all of the specimens are preserved in 75% ethanol. The morphological terminology follows that of Baumann (1975).

Amphinemura hainana sp. nov.

(Figs. 1–11)

Diagnosis. Males of this species are characterized by a pair of large, falcate, dorsomedially curved projections on the tenth tergum. In both sexes, the terminal costal crossveins of the forewing are usually reduced or absent and the stigma is usually darkened. Female subgenital plate lobes are thickened on their anterolateral surfaces and the lobes cover the median notch of the subgenital plate.

Male. Small, body length 2.7–3.2 mm, forewing length 3.4–3.8 mm, hindwing length 2.8–3.2 mm. Head (Figs. 2a & b) brown, ocellar triangle more darkly pigmented, usually radiating into a cross-shaped marking, sometimes head evenly dark in older specimens. Head slightly wider than pronotum; compound eyes dark; antennae yellowish brown at basal 1/3 and gradually forming dark distal flagellum; mouthparts brownish except labrum dark brown. Thorax dark; pronotum (Fig. 3) pale brown, subquadrate angles bluntly rounded, shallow curved groove along anterior margin and two groups of lightly colored rugosities scattered in irregular patches on each side of midline; 2 highly branched cervical gills of nearly equal length present, 1 on each side of lateral cervical sclerite, inner gills forming 5 branches and outer gills 7 branches. Legs uniformly brown. Wings (Figs. 1a & b) subhyaline with discontinuous brown pigmentation along costal margin, terminal costal crossveins usually reduced or absent, where absent the proximal margin of the dark stigma aids in discrimination of the typical nemourid “X” pattern. Abdomen brown with hairs mostly pale.

Terminalia (Figs. 5–11): Tergum 9 weakly sclerotized except anterior margin which is heavily sclerotized, a medial sclerotized area bears several tiny black spines and hairs posteriorly. Sternum 9 with a shallow anterior emargination, vesicle slender, slightly enlarged medially; hypoproct basally broad and nearly rectangular, gradually tapering toward tubular tip. Tergum 10 mostly sclerotized but with large, longitudinal membranous area along midline under epiproct with two groups of tiny spines at anterolateral margins; a pair of large, falcate, dorsolateral projections curved dorsomedially. Cercus sclerotized, with narrow basal bar, much longer than wide. Epiproct rectangular with a round tip; dorsal sclerite broad at base and expanding dorsolaterally, with darkly sclerotized lateral margins incurved apically; ventral sclerite sclerotized, broad at base and narrowing toward tip, sometimes slightly extending beyond tip of dorsal sclerite,