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## New species of *Ameletus* Eaton, 1885 and redescription of *Ameletus longulus* Sinichenkova, 1981 from the Russian Far East (Ephemeroptera: Ameletidae)

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### Abstract

*Ameletus khasanensis* **sp. nov.** is described and *Ameletus longulus* Sinichenkova, 1981 is revalidated and redescribed based on material from the Russian Far East. The structure of the penis of both species is similar to that of *Ameletus costalis* (Matsumura 1931), a description and drawings of which are also presented in this paper. The male imago of *A. khasanensis* **sp. nov.** can be distinguished from that of *A. costalis* by the absence of spinules on the dorsal surface of the fore tibia. The male imago of *A. longulus* can be distinguished from *A. khasanensis* **sp. nov.** and *A. costalis* by the color of the forewings. The larvae of *A. khasanensis* **sp. nov.** differ from *A. costalis* in the length of the denticles on the right mandible, in the absence of the group of setae on the dorsal surface at the base of fore femora and the width/length ratio of gill VII. The larvae of *A. longulus* differ from *A. khasanensis* and *A. costalis* in the form and number of the denticles of the first comb-shaped seta of the maxilla and the number of setae on the dorsal surface of the base of the fore femora.

**Key words:** Mayflies, *Ameletus*, taxonomy, morphology, egg, Asia

### Introduction

Representatives of the mayfly family Ameletidae (Ephemeroptera) are distributed in the Holarctic and Oriental Regions. Thirty-three species are currently known from North America (Zloty 1996, Zloty & Pritchard 1997), six species from Japan (Ishiwata 2001), three from Taiwan (Kang & Yang 1994), two species from northern China (Quan *et al.* 2002), two species from Korea (Bae & Yoon 1997) and eight species and two subspecies from Russia (Kluge 2007). Seven of the eight Russian species inhabit the streams of the Far Eastern region. These taxa include the East Palearctic species *Ameletus inopinatus labiatus* Sinitshenkova 1981; *A. montanus rossicus* Kluge 2007; and *A. cedrensis* Sinitshenkova 1977; the East Asian continental species *A. camtschaticus* Ulmer 1927 and *A. montanus arlecchino* Kluge 2007; the East Asian island species *A. montanus montanus* Imanishi 1930; and the East Asian continental-island species *A. costalis* (Matsumura 1931).

This study, an investigation of the mayfly fauna of the Russian Far East, resulted in the discovery of a new species, *Ameletus khasanensis* **sp. nov.** and on the revalidation of *A. longulus* Sinichenkova 1981, which are respectively described and redescribed below based on male and female imagines, larvae and eggs. *Ameletus longulus* was described based on young larva, which, like all young larvae, has gills narrower than in mature larvae (Sinichenkova 1981). Among the known species of Ameletidae in the Russian Far East, only *A. costalis* has crossveins darkened and bordered by brownish coloration in the anterior part of the forewings. Because the wings color and the penis structure in the new species most closely resemble those of *A. costalis*, it is also presented a brief description and drawings of this species.

Specimens are preserved in 75% ethanol. The material is deposited in the collection of the Institute of Biology and Soil Sciences, Far Eastern Branch, Russian Academy of Science, Vladivostok.