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Pupae of Mesozoic *Jurochlus* Kalugina, 1985 (Diptera: Chironomidae), with description of four new species

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Abstract

The Mesozoic chironomid genus *Jurochlus* Kalugina, 1985, known only as pupae, is reviewed. Four new species of *Jurochlus* are described from the Upper Jurassic and Lower Cretaceous deposits of Mongolia, viz. *J. trivittatus* **sp. nov.**, *J. limbatus* **sp. nov.**, *J. lineatus* **sp. nov.** (Shar Teg, J₃) and *J. adustus* **sp. nov.** (Khutel Khara, J₃/K₁). Both previously described species, *J. sibiricus* Kalugina, 1985 and *J. rigor* Kalugina, 1985, are re-described in detail based on re-examination of the holotypes. The diagnosis of the genus *Jurochlus* is emended and its systematic position (probably Podonominae or Tanypodinae) is discussed.

Key words: Diptera, Chironomidae, Tanypodinae, Podonominae, *Jurochlus*, pupae, systematics, new species, Mongolia, Upper Jurassic, Lower Cretaceous, SEM

Introduction

The present paper continues a series of descriptions of Diptera from the Upper Jurassic lacustrine deposits of Shar Teg Beds, SW Mongolia (e.g. Lukashevich 2009, 2011). For details on the geographical position of the site and the composition of its unique complex of flora and fauna, see Gubin and Sinitza (1996). The family Chironomidae is one of the most numerically abundant groups at this locality: among the total of 600 collected insect impressions, about 50 impressions of adult chironomids, 20 pupae and pupal exuviae, and several larvae have been found. Most of the numerous impressions of chironomid adults are not identifiable to subfamily due to poor or fragmentary preservation. We have described only several specimens belonging to four species of two genera, one species of *Cretaenne* Azar *et al.*, 2008 and three species of *Podonomius* Kalugina, 1985 (Lukashevich & Przhiboro 2011). The study of chironomid pupae has just begun, with only two species of *Oryctochlus* Kalugina, 1985, described so far (Lukashevich, in press). In the present paper, new species of *Jurochlus* Kalugina, 1985 are described based on pupae found at the southern Mongolian localities: Shar Teg (Gobi-Altai Aymag, SW Mongolia; J₃) and Khutel Khara (=Hara Hutul; East Gobi Aymag, SE Mongolia; J₃/K₁). Here we treat all the identifiable, relatively well preserved specimens from Shar Teg that can belong to *Jurochlus* and one specimen from Khutel Khara. For further details regarding the fossil localities, see Rasnitsyn and Quicke (2002).

Material and methods

In the present study, the type specimens of the earlier described species of *Jurochlus* are re-examined and photographs of the type species are published for the first time. The generic diagnosis is modified after Kalugina (Kalugina & Kovalev 1985).

All the fossils mentioned below are housed at the Borissiak Paleontological Institute, Russian Academy of Sciences, Moscow (PIN). Photographs of the Mesozoic pupae were taken using a Leica M165C stereomicroscope