

New Jurassic Tanyderidae (Diptera) from Asia with first find of larvae

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Abstract

New species of Tanyderidae are described from the Jurassic beds of Asia (Kubekovo, Karatau and Shar Teg localities), viz. *Praemacrochile ansorgei* n. sp., *Praemacrochile kaluginae* n. sp., *Protanyderus invalidus* n. sp., *Protanyderus savtchenkoi* n. sp. and *Protanyderus nebulosus* n.sp. Mesozoic species of *Praemacrochile* and *Protanyderus* are keyed and illustrated. Fossil tanyderid larvae tentatively attributed to ?*Protanyderus* sp. are described for the first time.

Key words: Diptera, Tanyderidae, larva, fossil, Jurassic, Asia, new taxa

Introduction

The Tanyderidae is a small recent family represented by 37 extant species in 10 genera with very disjunctive distribution areas, mostly in the Southern Hemisphere with a half of them being reported from New Zeland and Australia (Alexander 1927, 1981). In the Palaearctic a single Holarctic genus *Protanyderus* Handlirsch, 1909 is recorded with nine species known from the Far East, Central Asia and Himalaya (Peus 1958; Savchenko 1971, 1974; Krzemiński & Judd 1997). In the eastern Palaearctic (Europe) tanyderids are not known, and, possibly, absent altogether (Savchenko 1978).

The family Tanyderidae is a very “palaeontological” one, not because it was more widespread in the Mesozoic compared with its modern distribution, but also because of a historical casus. The first member of the family to be described was *Nemopalpus* Macquart, 1838 in the Psychodidae, which was later placed in the subfamily Bruchomyiinae as a member of Tanyderidae Alexander (1920). Later, Alexander (1928) regarded this group—like other authors—as a member of Psychodidae. So the extinct *Macrochile spectrum* Loew, 1850 from Eocene Baltic amber appears to be the first described genus of the family (Osten-Sacken 1880; Alexander 1927). Truly, later palaeontological records of tanyderids were unknown for more than a century, and only last 25 years have been fruitful for understanding the family history. For example, the second tanyderid species from the Baltic amber, *Macrochile baltica* Podenas, 1997, was described only a century and a half after the first Loew’s description (Podenas 1997).

The Tanyderidae are often considered to be the most ancient extant dipteran family with a plesiomorphic venation. However, up to now there is no evidence of the tanyderid existence in the Triassic; although several other extant families are found in Triassic beds (see review in Blagoderov et al. 2007). The most ancient finds of Tanyderidae are known from the Toarcian of Germany (Ansorge 1994; Ansorge & Krzemiński 2002). The members of this family are uncommon but occur regularly in Jurassic Asian localities (Kalugina & Kovalev 1985; Kalugina 1988, 1992; Krzemiński