



# Article

## A new rare species of *Arcynopteryx* (Plecoptera: Perlodidae) from the basin of Lake Baikal (Russia)

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### Abstract

A new species of Plecoptera *Arcynopteryx angarensis* sp. n. is described, illustrated and compared with congeners. *Arcynopteryx angarensis* is known only from historical records at the source of the Angara River (Lake Baikal Basin). It has not been collected since 1930.

**Key words:** Plecoptera, Perlodidae, *Arcynopteryx*, Russia, Angara River, Lake Baikal

### Introduction

The genus *Arcynopteryx* was erected by Klapálek (1904), and is characterized by an erect knob on the male hemitergal lobes; a well sclerotized, slender and needle-like stylet of the epiproct; a median and two adjacent lateral sclerotized bands inside the cowl; both adults and nymphs with submental gills; abdominal segments 1–3 divided by pleural folds; and the serrate mandibular cusp of nymphs. The arms of the mesosternal ridge meet the anterior corners of the furcal pits. The eggs are ovoid with a collar on low shoulders, and the chorion is covered with hexagonal follicle-cell impressions (FCIs); the flat floors contain punctations (Ricker 1952, Stark & Szczytko 1988, Zwick 2004). According to recent study (Teslenko 2012) the type species of *Arcynopteryx* is fixed (under Article 70.3.2 of the Code) as *Arcynopteryx dichroa* (McLachlan, 1872), misidentified as *Arcynopteryx compacta* (McLachlan, 1872) in the original designation by Klapálek (1912).

Four species of *Arcynopteryx* are currently recognized: *A. dichroa* (McLachlan, 1872), *A. amurensis* Zhiltzova & Levanidova, 1978, *A. polaris* (Klapálek, 1912), and *A. sajanensis* Zapekina-Dulkeit, 1960. Three of them inhabit exclusively the Eastern Palearctic: *A. polaris* extends to the Altai and the Russian Far East, including Wrangel Island, as well as in Mongolia, China and Korea (Zhiltzova & Zapekina-Dulkeit 1986, Teslenko 2006, Zwick 2010); *A. amurensis* is confined to the south of the Magadan and Khabarovsk territories (Zhiltzova & Zapekina-Dulkeit 1986); *A. sajanensis* is restricted to the Altai (the Mongolian Altai also), Sayan and Khमार-Daban mountains (Zhiltzova & Varykhanova 1984, Teslenko *et al.* 2010). Only *A. dichroa* is Holarctic and is the most variable of all the *Arcynopteryx* species, with distribution in the northern latitudes of Europe, North America, and Asia including Mongolia, Siberia and the Russian Far East (Illies 1955, Ricker 1964, Zhiltzova 1966, Lillehammer 1974, Stewart & Stark 2002, Zwick 2004, Stewart & Oswald 2006). Herein, the description and illustrations of a new rare species *A. angarensis* is presented.

### Material and methods

The material consists of dry and alcohol-preserved specimens, collected in the upper part of the Angara River in early June and July 1924, 1925, and 1930 deposited in the Zoological Institute, Russian Academy of Sciences, St. Petersburg. Male genitalia were illustrated after KOH treatment. Aedeagus and egg structures were described