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The genus *Anisocentropus* McLachlan (Trichoptera, Calamoceratidae) in Japan

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Abstract

We reviewed the Japanese species of *Anisocentropus* McLachlan (Trichoptera, Calamoceratidae) and confirmed 3 species, *Anisocentropus* (*Anisocentropus*) *kawamurai* (Iwata, 1927), *A.* (*A.*) *pallidus* (Martynov, 1935) and *A.* (*A.*) *magnificus* Ulmer, 1907. The last species is recorded from Japan for the first time. For clear comparisons, adult and immature stages of the three species are described based on associations established by rearing larvae. The male, female and pupa of *A.* (*A.*) *kawamurai*, female and pupa of *A.* (*A.*) *pallidus* and female and immature stages of *A.* (*A.*) *magnificus* are newly described. *Anisocentropus* (*A.*) *minutus* (Martynov, 1930), known from southeastern Asia, is synonymized with *A.* (*A.*) *kawamurai* (Iwata, 1927).

Key words: male, female, pupa, larva, variation, new record, new synonym, Asia

Introduction

Anisocentropus McLachlan is a diverse genus of Calamoceratidae and is distributed in the Oriental (about 50 species), Australasian (about 25), Afrotropical (5), Neotropical (3), Nearctic (1) and East Palearctic (2) regions (Morse 2010; Oláh & Johanson 2010; Malicky 2011; Oláh & Malicky 2011).

In Japan, three taxonomic problems remained: (1) only the larval stage of *A. kawamurai* (Iwata 1927) was described, *i. e*., (i) Kawamura (1918) very briefly described a larva of '*Phryganea* sp.' with figures of lateral aspect of larva and ventral aspect of its case from Kizaki-ko, Nagano, Honshu, (ii) Iwata (1927a) named the larva of '*Phryganea* sp.' as '*Kizakia kawamurai* n. sp.' (Molannidae)' with brief description and reference to Kawamura (1918), (iii) Ulmer (1951) synonymized '*Kizakia*' under *Anisocentropus*; (2) males of '*A. kawamurai*' from Hokkaido (Oláh & Johanson 2010) were identified without an accurate basis for the association; and (3) unidentified *Anisocentropus* larvae with peculiar characters have been obtained on the Nansei Islands, a southernmost region of Japan (Tanida 1997, 2003).

To solve these taxonomic problems, we first redescribe and resurrect *A. kawamurai* (Iwata 1927). We could not find the larval type specimens of this species in the Iwata Collection at The Kyoto University Museum. However, since Kawamura's (1918) figures clearly indicate characteristic color patterns on the head and thoracic legs of the larvae, we obtained larval specimens which match Iwata's description of *A. kawamurai* from collections throughout Japan. We used these specimens to provide a redescription of the *A. kawamurai* larva. We also provide descriptions of adults obtained by rearing the larvae at 5 localities including the type locality.

Second, we describe or redescribe adults and immature stages of 2 other species discovered in the course of studies on *A. kawamurai* in Japan; one from Hokkaido and Honshu, and another from the Nansei Islands.

Third, we compare *A. kawamurai* with *A. minutus* (Martynov, 1930), known from southeastern Asia, and propose a new synonym. We also summarize and briefly discuss the distribution and biology of these 3 species.

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