



Chinese damselflies of the genus *Coenagrion* (Zygoptera: Coenagrionidae)

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Abstract

We review and update species of *Coenagrion* recorded from China, including distributional information. A key to the males is provided including figures of the genital ligula and caudal appendages. A distributional record of *Coenagrion armatum* is excluded from China. *Coenagrion bifurcatum* Zhu & Ou-yan, 2000, is assigned as a junior synonym of *Coenagrion johanssoni* (Wallengren, 1894). *Coenagrion chusanicum* Navás, 1933 is assigned as a junior synonym of *Paracercion hieroglyphicum* (Brauer, 1865). *Coenagrion dorothea* Fraser, 1924 is newly combined as *Paracercion dorothea* (Fraser, 1924) comb. nov. *Coenagrion impar* Needham, 1930 and *Cercion yunnanensis* Zhu & Han, 2000 are both treated as junior synonyms of *Paracercion dorothea*. *Coenagrion holdereri* (Förster, 1900) is redescribed here based on fresh specimens.

Key words: *Coenagrion*, review, China, new synonyms & combination

Introduction

Forty-two species of *Coenagrion* are recorded globally (Schorr *et al.*, 2009) fourteen of which have been recorded from China, namely *C. aculeatum* Yu and Bu, *C. armatum* (Charpentier), *C. bifurcatum* Zhu and Ou-yan, *C. chusanicum* Navás, *C. dorothea* Fraser, *C. ecornutum* (Selys), *C. glaciale* (Selys), *C. hastulatum* (Charpentier), *C. holdereri* (Förster), *C. hylas* (Trybom), *C. johanssoni* (Wallengren), *C. lanceolatum* (Selys), *C. lunulatum* (Charpentier) and *C. tengchongensis* Yu and Bu. Förster (1900) described *C. holdereri*, a Chinese endemic from Nanshan, China. Fraser (1923) described *C. dorothea* from Yunnan China. Needham (1930) recorded nine *Coenagrion* species from China, which were all transferred to *Paracercion* (Weekers & Dumont, 2004) except for *C. convalescens* Bartenev and *C. dorothea* Fraser. *Coenagrion convalescens* is considered a synonym of *C. johanssoni* (Tsuda, 1991). Navás (1933) described four species, *C. chusanicum*, *C. trilineatum*, *C. admirationis* and *C. needhami*, from Chusan China. According to Chao (1962) *C. trilineatum* and *C. admirationis* are the same species, and both have subsequently been treated as synonyms of *Cercion sexlineatum* (Selys, 1883) by Davies & Tobin (1984), and then Dumont (2004) treated *C. sexlineatum* as synonym of *Paracercion melanotum* (Selys, 1876). Davies & Tobin (1984) assigned *C. needhami* as a synonym of *Ischnura forcipata* Morton. Sui & Sun (1986) listed five species, all of which, except for *C. convalescens*, have subsequently been transferred to *Paracercion*. Yang (1998) provided a key to Coenagrionidae from northern China including six species of *Coenagrion*: *C. concinnum*, *C. hylas*, *C. lanceolatum*, *C. ecornutum*, *C. vernale* and *C. armatum*. According to Wallengren (1894) *C. concinnum* is a primary homonym created by Johanson (1859) who then renamed it *C. johanssoni*. *C. vernale* is the same species as *C. lunulatum* (Mielewczyk, 1974). Zhu & Ou-yan (2000) described *C. bifurcatum* from Heilongjiang, China. Hua (2000) listed fourteen species of *Coenagrion* from China, of which eight are now considered valid, comprising *C. armatum*, *C. chusanicum*, *C. dorothea*, *C. ecornutum*, *C. glaciale*, *C. hylas*, *C. lanceolatum*, and *C. lunulatum*. Dumont (2003) provided a list of Odonata from Inner Mongolia, China, including three species: *C. ecornutum*, *C. lanceolatum* and *C. lunulatum*. Yu & Bu (2007) described *C. aculeatum* and *C. tengchongensis* from southwest China.