

NOTE

New Synonym of *Procloeon texanum* McCafferty and Provonsha
(Ephemeroptera: Baetidae)

The systematics of some Nearctic *Procloeon* Bengtsson species (Ephemeroptera: Baetidae) have been revised recently (e.g., Wiersema and McCafferty 2004). However, comparisons of type specimens and reared material are needed for many of the so-called long-clawed small minnow mayflies, and their geographic distribution and morphological diversity remain poorly known.

For example, *Procloeon texanum* McCafferty and Provonsha was described from southeastern Texas, USA, based on one male adult that had been reared from a larva collected from the Navasota River (McCafferty and Provonsha 1993). One female subimago also was examined by them. Unfortunately, the associated exuviae were lost, and a description of the larval stage was not possible. Subsequently, one adult specimen of the species was reported without a collection date from one locale in Oklahoma, USA (Baumgardner and Kennedy 1999), and several adults were reported from one locale in Kansas, USA (McCafferty and Jacobus 2008).

Another poorly known species, *Procloeon distinctum* Wiersema, based on one male adult, four female adults, and associated exuviae, also was described from southeastern Texas (Wiersema 1999). This material was collected from the Blanco and San Gabriel rivers. Wiersema (1999) noted putative differences between his new species and *P. texanum*, with respect to the general color of eyes, thoracic nota and abdominal sterna, and the maculation of the abdominal terga. He noted a presumed

difference between the shapes of the species' subgenital plates (McCafferty and Provonsha 1993: Fig. 14; Wiersema 1999: Fig. 16). No direct comparisons of type specimens were made.

We examined the type material of *P. distinctum* (Texas: Hays Co.: Blanco R at Post Rd near Kyle; 5-V-1997) and *P. texanum* (Texas: Brazos Co.: Navasota R at Highway 6; 10-VIII-1969), both deposited in the Purdue University Entomological Research Collection, West Lafayette, Indiana, USA. We observed that the genitalia of the *P. texanum* holotype match those of the *P. distinctum* holotype (Wiersema 1999: Fig. 16). Apparently, the shape of the subgenital plate was exaggerated in the original illustration of *P. texanum* (McCafferty and Provonsha 1993: Fig. 14). Furthermore, some coloration differences given by Wiersema (1999) for *P. distinctum* were not apparent. For example, specimens of *P. distinctum* had thoracic nota that were lighter in color than those of the *P. texanum* holotype, rather than darker.

We examined additional reared *Procloeon* material reported recently from near Lawrence, Kansas (McCafferty and Jacobus 2008, as *P. texanum*: two male adults, four female adults, associated exuviae, two larvae, 15-IX-1982; deposited in the Snow Museum, University of Kansas, Lawrence, Kansas). The forewings of these individuals ranged in size from 3.9–4.3 mm. We observed variations in abdominal maculation and coloration that encompass the described concepts of *P. distinctum* (Wiersema 1999: 32) and *P. texanum* (McCafferty and Provonsha 1993: 67, Fig. 13). These

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specimens have been together in the same vial and thus subject to the same storage conditions, eliminating the possibility that observed variation was an artifact of preservation. The larvae associated with these adults are faded and very pale, but they match the morphological concept of *P. distinctum* (Wiersema 1999, Wiersema et al. unpublished).

The only remaining difference between the nominal types is the time of adult emergence, with *P. distinctum* emerging during spring and *P. texanum* emerging during summer. Other *Procloeon* species exhibit multivoltinism (Landa 1968, Jazdzewska 1971, Sowa 1975, Elliott and Humpesch 1983, Chandler et al. 2006) and asynchronous larval development (Salas and Dudgeon 2003, Chandler et al. 2006). The three- to four month interval between nearby emergences of *P. distinctum* and *P. texanum* is adequate to represent different generations of a single, multivoltine species.

Wiersema (1999) remarked that *P. distinctum* and *P. texanum* might be equivalent. We conclude that this is the case, based on their morphological similarities, their shared geographic ranges, and the biological attributes of *Procloeon* species. Therefore, we propose a new junior, subjective synonym for *Procloeon texanum* McCafferty and Provonsha, 1993 (= *Procloeon distinctum* Wiersema, 1999, **new synonym**).

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