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WILLIAMSONIA LINTNERI (ODONATA: CORDULIIDAE)—A FIRST
MICHIGAN RECORD WITH ADDITIONAL NOTES ON *W. FLETCHERI*

Stephen Ross¹ and Mark F. O'Brien²

ABSTRACT

Williamsonia lintneri is newly recorded for Michigan, and additional Michigan sites are given for *W. fletcheri*. Both species appear to be bog/fen-obligate inhabitants, and adults may appear as early as late April in Michigan. In addition, the North American distributions of both species are summarized.

The genus *Williamsonia* contains two bog-obligate corduliid species found primarily in eastern North America. *Williamsonia fletcheri* Williamson (the ebony bog-haunter), known from Manitoba eastward (Walker and Corbet 1975), and *Williamsonia lintneri* Hagen (the ringed bog-haunter), formerly characterized as a NE North American species, with records from New England and the Atlantic Provinces of Canada (Howe 1923, Carpenter, 1993, and summary below). Until quite recently, the larva of *W. fletcheri* was unknown (Charlton and Cannings 1993), while the larva of *W. lintneri* was described earlier (White and Raff 1970). These two enigmatic species have been sporadically collected anywhere in their range, and have been characterized as "rare" by most authors.

In 1998, *W. lintneri* was photographed in Wisconsin (Legler, et al. 1998), and in late April 1999 members of the Michigan Odonata Survey (MOS) were alerted to search for *Williamsonia* in bog habitats.

On 2 May 1999, the senior author (SR) searched a potential bog habitat in Sheridan Twp., Mecosta Co. After searching among the leatherleaf (*Chamaedaphne calyculata*), SR proceeded down a two-track path through an aspen growth slightly elevated above the surrounding cedar-woodland wetland. The area then opened up into a shrubby wetland with a path cut through it, apparently illegally (on State land) by someone with an off-road type vehicle. This path led through the swamp for more than a quarter mile. SR searched the length of this path before coming to private land. On return, near the end of the path shortly before re-entering the woodland, a small dragonfly—one of only a few seen in this habitat—was observed sunning itself on a discarded pallet. This specimen turned out to be *Williamsonia lintneri*, a **new Michigan record** (Fig. 1). The specimen was preserved and sent to the junior author for verification, and has been deposited in the Univ. of Michigan Museum of Zoology (UMMZ) (#MOS0020630). Subsequently, three other individuals were observed near the same location, two on 9 May

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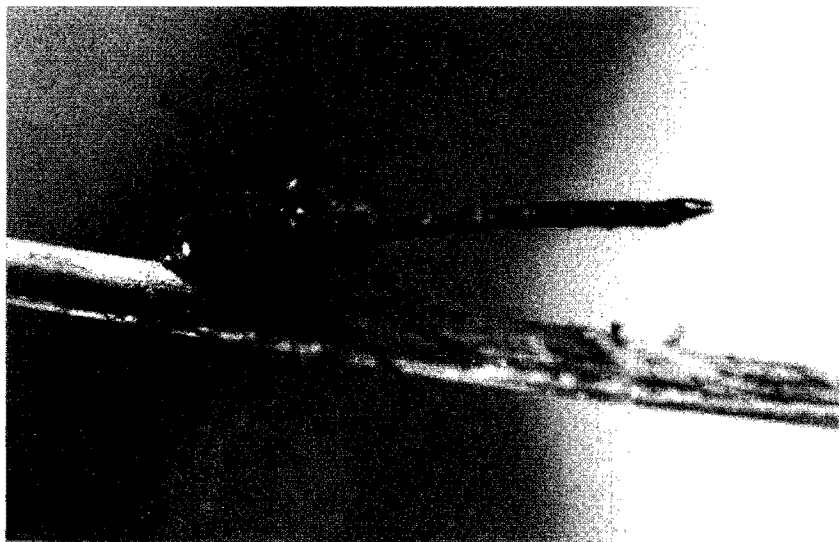


Figure 1. *Williamsonia lintneri* male. Photograph by Stephen Ross.

in a sandy two-track about 0.5 miles from the original site and one on 11 May very near the original site of discovery.

On several visits afterward no other *W. lintneri* were found. However, on 9 May, one *Williamsonia fletcheri* (Fig. 2) was collected in the wetland area near the site of the original location for *W. lintneri*. On 11 May three more were found in the same sandy two-track and one more *W. fletcheri* was found nearly a mile away on a gravel road amid numerous teneral *Leucorrhinia intacta* (Hagen). The *W. fletcheri* was easily recognized from the yellow-spotted *Leucorrhinia* by its distinctive three light rings on a black abdomen. Both taxa were easily approached while sunning to dry their still shiny wings from recent emergence.

The site where *Williamsonia* was found contributes to the headwaters of the east branch of the Little Muskegon River by seepage through the large area of approximately seven sections of wetland in northeastern Martiny and northwestern Sheridan Townships of Mecosta Co. In the immediate area of wetland where *W. lintneri* was found the following plants were noted: *Sphagnum* spp. moss, both in standing water and on hummocks; the ferns *Onoclea sensibilis*, *Osmunda regalis* and *O. cinnamomea*; *Spirea alba*, *Viola renifolia*, *Caltha palustris* and several *Carex* spp. Larger species of plants include the predominant (about 50%) *Vaccinium corymbosum* and *Ilex verticillata*, with *Cornus stolonifera*, *Alnus rugosa*, *Populus tremuloides*, *Acer rubrum*, *Betula papyrifera*, *Salix* sp., and *Larix laricina* comprising the remaining woody plants.

Other dragonflies in the wetland area were few, but included *Epitheca spinigera* Selys, *Epitheca canis* MacL., and several damselflies, probably *Enallagma boreale* Selys and *E. cyathigerum* (Chap.).

Additional records for *W. fletcheri* in Michigan. *Williamsonia fletcheri*, by its very nature of being a spring-emerging species, and a bog-fen

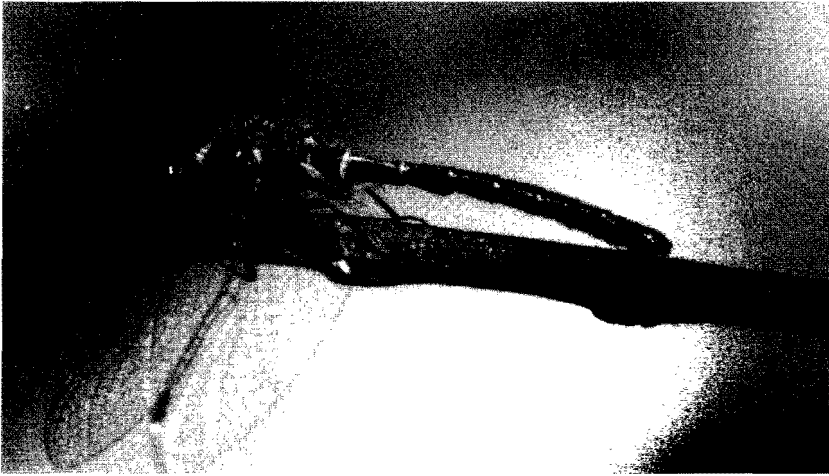


Figure 2. *Williamsonia fletcheri* male. Photograph by Stephen Ross.

inhabitant, has been collected only rarely in Michigan. Now that MOS activities have placed importance on collecting early in bog habitats, people in the field have turned up more records in the past three years. The following records are not previously recorded in the literature: **MICHIGAN: Mecosta Co.**, Sheridan Twp., 05/09–05/11/1999, S.Ross [UMMZ]. **Grand Traverse Co.**, Lost Lake Bog, SW Corner, T27N/R12W/S31, 05/11/1999, Carl Freeman, 1 ♂, [UMMZ]. **Chippewa Co.** Drummond Island-Maxton Plains, 05/30/1997, George Balogh, 1 ♂, [UMMZ]. **Chippewa Co.**, Taquemonon Falls State Park, T49N/R07W, 05/25/1995, David Cuthrell, 1 ♂, [MNFI]. **Chippewa Co.**, Betsy Lake Research Area, T49N/R7W/S09, 05/24/1967, 1[MNFI]. **Schoolcraft Co.**, Sturgeon Hole Bog, T42N/R16W/S13and14, 05/24/1964, [MNFI]. **Schoolcraft Co.**, Manistique, 05/29/1960, R.L. Fischer, 2m, 1 ♀, [MSU].

DISTRIBUTION SUMMARIES

Williamsonia fletcheri: CANADA: MANITOBA (Howe 1923, Walker and Corbet. 1975); NEW BRUNSWICK (Walker and Corbet 1975), NOVA SCOTIA (Brunelle 1997b); ONTARIO (Williamson 1923, Walker and Corbet 1975); QUEBEC (Walker and Corbet 1975, Hutchinson and Menard 1999). USA: MAINE (Montgomery 1943); MASSACHUSETTS (Howe 1923, Montgomery 1943 Nikula and Sones 1998); MICHIGAN (Gloyd 1932, Foley 1969, this paper); NEW YORK (Beatty and Beatty 1969, Donnelly 1992a, b; 1993); WISCONSIN (Smith, Vogt and Gaines 1993).

Williamsonia lintneri: CONNECTICUT (Wagner and Thomas 1999); MAINE (McCollough 1997, Brunelle 1997a); MASSACHUSETTS (Calvert 1915, Howe 1923, Davis 1940, White and Raff 1970, Nikula and Sones 1997, 1998); MICHIGAN (this paper); NEW HAMPSHIRE (White and Morse 1973); NEW JERSEY (Davis 1913, Barlow 1993); NEW YORK (Howe 1923, Donnelly 1992); RHODE ISLAND (Carpenter 1993, 1998); WISCONSIN (Legler, et al. 1998).

DISCUSSION

Based upon our observations and recent discoveries by others, it appears that *W. lintneri* is far more widespread than previously thought. Further efforts to locate additional populations of this species should concentrate in bog and poor fen wetlands with hummocks and standing water bordered by shrub-carr habitat. These fen-bog-marsh complexes may have floating sphagnum mats or hummock areas with open pools that probably contain *Williamsonia* larvae. The date of 2 May is not the earliest date for *W. lintneri*, indicating that this species may possibly be flying as early as late April in Michigan. According to L.W. Ruth (pers. comm., April 1999), *W. lintneri* started emerging on 26 April in Connecticut, and Howe (1923) gives 1 April–4 June as a range of dates for *W. lintneri*. The record of *W. fletcheri* from Mecosta Co. is the southernmost record for the state. The 9 May record is also the earliest thus far in the state. Whether these early dates are normal or a result of recent warm springs is unknown. It is obvious that only a concerted effort to survey bog and fen habitats in April and May will produce a better overall picture of the distribution and abundance of these two species in Michigan. The amount of potential habitat is indeed staggering, compared to the small sites found in New England. The fact that *W. lintneri* has escaped our notice in the upper Great Lakes region until very recently is a sign that increased attention to our Odonata fauna is resulting in many new state records and range extensions.

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