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ENALLAGMA ANNA, A DAMSELFY NEW TO THE GREAT LAKES
REGION (ODONATA: COENAGRIONIDAE)

Mark F. O'Brien¹ and Paul D. Pratt²

ABSTRACT

Enallagma anna, a predominantly western North America damselfly, is now recorded from southwestern Michigan and southwestern Ontario for the first time.

Enallagma anna Williamson, the River Bluet, is a striking blue and black coenagrionid damselfly first described by Williamson (1900) from Wyoming. Most records are from the United States, where the species ranges from the north-central plains states west to California, Arizona, and Oregon. Westfall and May (1996) also lists Illinois, Wisconsin and the province of Alberta, which updates Walker (1953), as he did not list this species for Canada. Westfall and May (1996) describe *E. anna* as a "... very robust species, mostly from relatively arid western highlands." Provansha (1975) provided behavioral notes from Utah, and found larvae in small to medium streams with moderate flow at elevations of 4200 – 7000 ft.

We report on the discovery of two new populations of *E. anna* from Cass County, Michigan and Essex County, Ontario (Canada) during fieldwork conducted in 1998. The Ontario record extends the known range of *E. anna* by 380 km eastward.

The first author collected *E. anna* in Cass Co., MICHIGAN on 21 June 1998 in vegetation bordering the Dowagiac River upstream from McKenzie Hwy. (41.997°N × 85.982°W). A total of four males and one female were collected along the river, which is a slow-flowing clear stream about 6 m wide at the point of collection. The bottom substrate is gravelly/sandy with areas of siltation in the aquatic weedbeds. The bright blue abdomen of the robust (ca. 33 mm) male is quite noticeable against vegetation and over the water.

The second author collected *E. anna* in Essex Co., ONTARIO on 21 June 1998 from emergent vegetation in Big Creek in Amherstburg (41.1101°N × 83.0825°W). Despite a lengthy search only a single male was found along this narrow, slow flowing, muddy stream. *Enallagma civile* (Hagen) was the most common damselfly noted at this location.

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DISCUSSION

It is unknown how long *E. anna* has been a resident of Michigan or Ontario. However, the species has not been reported from Ohio, and that state has been actively surveyed for the past decade (Glotzhober 1995). Kormondy (1958, 1962) did not list the species for Michigan, and it has not appeared in any publications on the Indiana fauna. According to the Illinois State Museum's web site, *E. anna* is known from Boone, Cook, JoDavies, and McHenry Counties (http://www.museum.state.il.us/research/entomology/od_cnty4species.html). Cook Co., Illinois would therefore harbor the closest known population to Cass Co., MI.

The population along the Dowagiac River seemed to be substantial, as numerous adults that were also probably *E. anna* were seen along a 100 m segment of the river. Whether these populations are indicative of recent sporadic founding events or slow range expansion as the result of changing climatic patterns or changes in water quality and quantity is less clear.

Although an eastern species, *E. civile* has been less common in the north-eastern United States and Canada. Catling (1996) has documented that species' expansion into southern Ontario, where it has become the common *Enallagma* in southwestern Ontario within the last 30 years. At the Amherstburg site, *E. civile* is an associate of *E. anna* and is very similar in color pattern and size, and therefore, *E. anna* could easily be overlooked from a distance.

In contrast, *Enallagma basidens* Calvert has been gradually extending its range into the northeast from the southwest, and this has been well-documented over the past 70 years (O'Brien 1997). However, *E. basidens* prefers lentic habitats that are man-made or disturbed, not clear streams, and disturbed habitats have certainly increased during this century, thereby favoring species (such as *E. basidens* and *E. civile*) that can take advantage of those situations.

We are certain that as surveys of the fauna of the Great Lakes region become more systematic and intensified, new records of this sort are more likely to appear.

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