
INSECTS

WESTERN RED DAMSEL AT PETTURSON'S RAVINE IN SASKATOON SASKATCHEWAN IN 2013

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A breeding population of Western Red Damsels (*Amphiagrion abbreviatum*) was found on 10 July 2013, and observed again on 28 July and 3 August 2013 in the fen area at Petturson's Ravine, Silverspring Prairie, Saskatoon, Saskatchewan (N 52.16764 W 106.60111). Paulson¹ described the Western Red Damsel as a 24–28 mm long, red and black to red-brown or orange damselfly with a prominent hairy tubercle (bump) under the thorax. The male has a red abdomen with black markings on the basal and middle segments, the thorax is black. Females are similar in colour to males, though the thorax can also be dull brown to orange-brown.

The taxonomy of the Red Damsels is challenging.^{1,2} Currently two species are recognized within the genus, with the Western Red Damsel (*Amphiagrion abbreviatum*) typically occurring west of the Northern Great Plains, and the Eastern Red Damsel

(*Amphiagrion saucium*) occurring to the east. In addition to the east/west distributions, morphological differences also exist. The Eastern Red Damsel is slightly smaller, with a more slender abdomen than the Western Red Damsel, and the tubercle under the thorax is smaller in the Eastern Red Damsel. In the area of overlapping ranges between the two Red Damsel species (an area which includes Saskatchewan), there could be intermediates or possibly, they could be one clinal species. The individuals found at Petturson's Ravine fit the description for Western Red Damsel, having a large thoracic tubercle (Figure 1). Several mating pairs of Western Red Damsels (Figure 2) as well as single individuals (Figure 1) were observed. We estimated the total number of flying adults at fewer than 20 individuals. There are no other red damselflies likely to occur in Saskatchewan.^{1,2}

Occurrences of this damselfly

are sparse on the northern plains, and apparently it is only observed very locally in suitable habitat.^{1,2,3} The fen at Petturson's Ravine is similar to published descriptions of suitable habitat. Cool water seeps out of the east bank from the Forestry Farm Aquifer.⁴ It has a pH of approximately 7.6 (G. van der Kamp personal communication) and is high in calcium, magnesium and sulfates. The fen covers an area of about 200 m² and consists of many small (one to a few m²) soft bottomed marl ponds surrounded by short vegetation including sedges (Figure 3). The clear water was flowing in some areas. Nearby, there are two remnant beaver ponds with open

water (Figure 4) enlarging the size of the wetland area to about half a hectare. The fen drains into the South Saskatchewan River approximately 400m to the west.

Western Red Damsel is a weak flier. They were frequently observed flying less than 30 cm high off the ground or water surface or in the low vegetation. They usually perched on vegetation near water or on the mats of vegetation in the water. When disturbed they often dropped down into vegetation to escape detection. Males were more conspicuous than females and flew quickly at a greater height, 1 to 1.5 m, when



Figure 1. Western Red Damsel male 10 July 2013 - L. Duczek.



Figure 2. Western Red Damselfly mating pair ovipositing on submerged vegetation 28 July 2013 - P. Taylor.

chasing other males or when moving between ponds. Mating pairs were observed and some were ovipositing in shallow ponds on submerged green algae mats of *Chara* sp. (Figure 2). Ovipositing on floating vegetation agrees with other reports.^{1,3} In Alberta they have been seen from the end of May to the end of July³ while in Montana their flight period is May to September.¹

Known sightings of Western Red Damselfly have occurred in Saskatchewan in the southeast and the southwest. Four specimens of Western Red Damselfly, in the collection of Royal Saskatchewan Museum, were

collected at Roche Percee in the southeast by Ronald Hooper, two on May 29, 1980 and two on June 29, 1980 (Dr. Cory Sheffield, Curator of Invertebrate Zoology, Royal Saskatchewan Museum, personal communication). There are sightings from two locations south of Maple Creek in the southwest made prior to 2005 (www.odonta.central.org). In Alberta this species has been reported at many locations,^{1,3} with the northernmost sighting near the Saskatchewan border east of Red Deer. The range map in Paulson¹ suggests this damselfly is present in the southern halves of Alberta and Manitoba while being virtually absent from Saskatchewan. We



Figure 3. Small shallow fen ponds - P. Taylor.

believe this reflects a lack of data rather than a true representative of range.

On 29 July 2013 the fen area at the north end of Last Mountain Lake National Wildlife Area just west of the Wetland Trail was surveyed but no Western Red Damsels were found. Superficially this fen is similar to the Petturson's Ravine fen.

The small fen seep area at Petturson's Ravine could be damaged by foot traffic so an extensive survey of the Western Red Damsel population was

not conducted. Given that this unique and fragile habitat could be destroyed in just minutes by heavy equipment, it is daunting to realize just how vulnerable this small group of damselflies is.

Acknowledgements

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Figure 4. Fen seep area at Petturson's Ravine - L. Duczek.

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