

## New Host and Distribution Records for the Amphibian Leech *Desserobdella picta* (Rhynchobdellida: Glossiphoniidae) from Nebraska and Wisconsin

### ABSTRACT

The leech, *Desserobdella picta* is reported for the first time from Nebraska. We found *D. picta* on five species of amphibians (larvae *Ambystoma tigrinum mavortium*, tadpoles of *Bufo woodhousii*, *Rana blairi*, and *R. pipiens*, and adult *R. catesbeiana*) from two eastern counties and one western county in Nebraska. We also observed this leech feeding on adult *Hyla chrysoscelis* and *B. americanus* in southeastern Wisconsin. *Bufo woodhousii*, *H. chrysoscelis* and *R. blairi* are new host records. Additionally, we report the first record of this leech feeding on a human host.

Moser (1991) reviewed the leeches of Nebraska, and reported three families and 10 species from the state but did not include the amphibian leech *Desserobdella picta* (Verrill 1872, Barta and Sawyer 1990). *Desserobdella picta* is an aquatic leech that is widely distributed in North America and Canada being reported from 21 states and six provinces (Watermolen 1996). It is typically found inhabiting ponds containing amphibians (Sawyer 1986, Briggler et al. 2001). This leech is commonly found during late winter and early spring, which is believed to be related to the arrival of breeding amphibian hosts (Sawyer 1972, Klemm 1991). After feeding on adult amphibians, leeches breed and their young use larval amphibians as hosts (Sawyer 1986). *Desserobdella picta* has been reported to feed on four species of salamanders and 11 species of anurans. Additionally, this leech has been found feeding on the common snapping turtle (*Chelydra serpentina*), the white sucker (*Catostoma commersonni*), and the yellow perch (*Perca flavescens*), in Wisconsin (Watermolen 1996, Briggler et al. 2001).

During 2000-2003, *Desserobdella picta* was collected from adult and larval amphibians from three Nebraska counties (Cass, Keith, and Lancaster). Hosts included an adult bullfrog (*Rana catesbeiana*) and larval barred tiger salamander (*Ambystoma tigrinum mavortium*) from Nevens Pond, Keith Co. (41.207010, -101.40850), northern leopard frog (*Rana pipiens*) tadpoles from Cedar Creek, Keith Co. (41.18639, -101.36276), Woodhouse's toad (*Bufo woodhousii*) tadpoles from Pawnee lake, Lancaster Co. (40.84310, -96.85700), and plains leopard frog (*Rana blairi*) tadpoles collected from Nickol Pond, Cass Co. (40.81412, -96.46000). Additionally a single leech was removed from a 22 year old female human at Beckius Pond, Keith Co., (41.20835, -101.61777). All leeches were placed in petri dishes with aged pond water, examined using a dissecting microscope, and identified using keys by Klemm (1985, 1991) and descriptions provided by Barta and Sawyer (1990).

Recent studies on the parasitism by *D. picta* on six amphibian hosts in northwest Arkansas indicates that this leech may show a strong preference for adult American toads (*Bufo americanus*) during the spring and ranid tadpoles during the summer (Briggler et al. 2001). These authors suggest that American toads may also influence the dispersal of this leech to small pasture ponds during the spring were these and other amphibians commonly breed. We have similar unpublished observations on this leech from Wisconsin were it was observed feeding on adult *Bufo americanus* and Cope's gray treefrogs (*Hyla chrysocelies*; a previously undocumented host) which were migrating to and breeding in ephemeral ponds located in Waukesha Co., (see Bolek and Coggins,

1998, 2000). More interestingly, during 2000-2003 we sampled over 500 adult amphibians of six species including ranids (*R. blairi*, *R. catesbeiana*, and *R. pipiens*), bufonids (*B. woodhousii*), and hylids (*Acris crepitans*, *Pseudacris triseriata*, *H. chrysocelies*), most during their breeding season from these same locations in eastern and western Nebraska, and have only encountered one *D. picta* attached to an individual adult bullfrog collected in a permanent pond during July of 2000 (Bolek et al. 2003). Although American toads are rarely found in Nebraska (Hudson 1942), our data suggests that the movement of *D. picta* leeches to ponds may be effected by the amphibian community assemblage and the regional environmental conditions, particularly when considering the aquatic nature of this leech and the dry conditions of Nebraska compared to Arkansas and Wisconsin.

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