

EARLY LIFE HISTORY AND CONSERVATION STATUS OF THE MONKEYFACE, *THELIDERMA METANEVRA* (MOLLUSCA: BIVALVIA) IN MINNESOTA AND WISCONSIN

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ABSTRACT

Conservation and restoration of freshwater mussel species requires an understanding of current and historical distributions as well as key aspects of life history. Most freshwater mussels (Unionoida) depend on particular species of host fish for the development and dispersal of the parasitic glochidia larvae. The degree of host specificity varies and is not well known for many mussel species. We tested 90 fish species in 18 families as potential hosts for the Monkeyface mussel (*Theliderma metanevra*), determined its brooding period, and assessed its distribution and current status in Minnesota and Wisconsin. *Theliderma metanevra* brood embryos and glochidia from late April-early August in the St. Croix River. In laboratory experiments, glochidia metamorphosed on 21 cyprinid species (11 genera) but not on other taxa, confirming the host association between *Theliderma* spp. and minnows. The historical and recent distribution of *T. metanevra* in the upper Midwest reflects geological dispersal barriers as well as its apparent sensitivity to a range of human disturbances. These results contribute to an understanding of the evolutionary diversification of the tribe Quadrulini and inform efforts to conserve this regionally threatened species.

KEY WORDS *Quadrula metanevra*, freshwater mussels, host fish, minnows, distribution, brooding