

Examining Fish Stomach Contents to Find a Rare Snail

by Edward J. Johannes

Examining fish stomach contents to “survey” for mollusks is not new. For example California Department of Fish and Wildlife collected stomach contents of trout killed during the 1991 derailment of a Southern Pacific Railroad tanker car that dumped an extremely toxic chemical into the upper Sacramento River at Cantara Loop, northern California. This was one line of evidence used to reconstruct the mollusk fauna that occurred in the river before the spill that was presented in the court case against the railroad to assess damages to the natural resources.

I asked Ernie Buchanan, an avid fisherman who lives in Okanogan County, Washington if he could investigate the gut contents of fish he caught in local lakes for mollusks. I was hoping he would find additional sites for the rare glacial relict snail *Amnicola* n. sp. 1 found in this region (Figure 1; see *The Dredgings* Vol. 50(6), pp. 3-5 for more information on this snail).



Figure 2. *Amnicola* n. sp. 1 and sphaeriids from the gut content of a brown trout. Ernie Buchanan photo

In April 2014 he caught a brown trout (*Salmo trutta*) from Leader Lake, Okanogan County, Washington. He found that the stomach of the fish was packed with snails and small clams (sphaeriids) and sent me a photo of the contents (Figure 2). Much to my surprise it turned out he had indeed found the very snail I was hoping he would find. With this discovery a total of five lakes in Washington are now known to have this rare species.

Robert Hershler at the Smithsonian will soon be describing this snail.

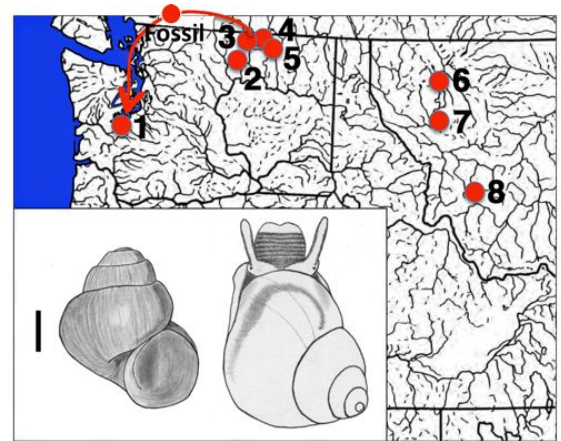


Fig. 1. Distribution of *Amnicola* n. sp. 1. Proposed Pleistocene migration route (red arrow) from the Okanogan River drainage to Pattison Lake, Lacey via the Fraser River drainage, BC. Washington: 1-Pattison Lake, Thurston Co.; 2-Leader Lake, Okanogan Co.; 3-Spectacle Lake, Okanogan Co.; 4-Bonaparte Lake, Okanogan Co.; 5-Curlew Lake, Ferry Co.; Montana: 6-McWeneger Slough, Flathead Co.; 7-Ninepipe Reservoir, Lake Co.; 8-Georgetown Lake, Granite and Deer Lodge cos.; Canada: Fossil locality-Chihil Lake, BC. Insert-Drawing of *Amnicola* shell on left and preserved specimen on right from McWeneger Slough, Flathead County, MT. Measurement line= 1 mm.