

# A NEW MINNESOTA LOCALITY FOR DEEPWATER SCULPIN (*MYOXOCEPHALUS THOMPSONII*)



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I have held a very long fascination for the little known deep denizens of Lake Superior (i.e., Deepwater Sculpin (*Myoxocephalus thompsonii*), Spoonhead Sculpin (*Cottus ricei*), and Pygmy Whitefish (*Prosopium coulterii*)). However, I once erroneously believed I'd never collect any of them (Schmidt 1991). That is until 1986 when Dr. David Etnier (Ets) discovered the first Deepwater Sculpins outside of Lake Superior in Saganaga Lake, Cook County, MN (catalog# UT 129.247) using bottom-set gill nets for his cisco research (Etnier and Skelton 2003). Ets invited me to tag along and I photographed my first Deepwater Sculpins in 1989. Dave Neely later reported a 2003 Fisheries and Oceans survey of Ontario's Lake Nipigon where the species was collected using both minnow traps "baited" with glow sticks and gillnets (Steinhilber and Neely 2006). I followed with a minnow trap survey of several northeastern Minnesota lakes from 2009–2011 (Schmidt 2013). I found many new localities for Slimy Sculpin (*Cottus cognatus*), but just one new locality for Deepwater Sculpin in Knife Lake, Lake County (UT 129.968). Minnesota Department of Natural Resources (MDNR) Fisheries lake surveys reported the first occurrences in Snowbank, Lake County (UT 129.874) and Sea Gull, Cook County (Figure 1).

During the week of September 18, 2017, Jeff Eibler and Jeff Mueller (MDNR Tower Area Fisheries Office) flew into the Boundary Waters Canoe Area Wilderness (BWCAW) to survey Kekekabic Lake in Lake County. The last survey of this lake was done in 1988. Jeff Eibler had contacted me in August about doing a "little extra" effort using minnow traps with glow sticks for sculpin. He had minnow traps (Figure 2), but needed the "bait" so I mailed him several glow sticks. Kekekabic was one lake I had hoped to include in my sculpin surveys. However, at that time Kekekabic's surface area at 1,689 acres was less than half the size of the smallest known Deepwater Sculpin lake (i.e., Sea Gull at

4,032 acres). I reluctantly threw in the towel due to Kekekabic's location deep inside the BWCAW, which would have required several canoe portages, and for me, simply a "bridge too far" to reach.

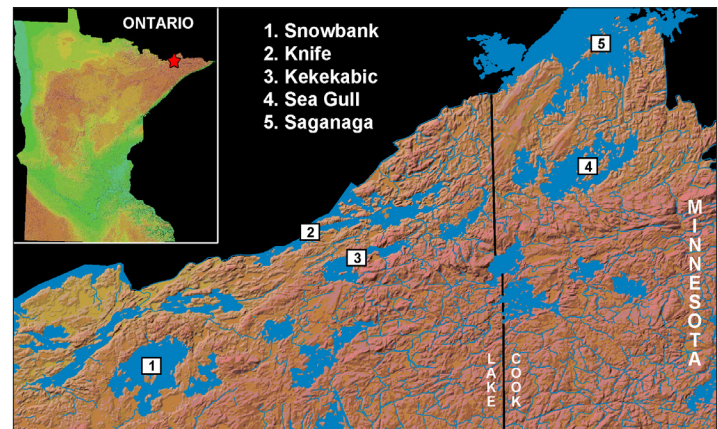


Figure 1. Known distribution of Deepwater Sculpin in Minnesota inland lakes.

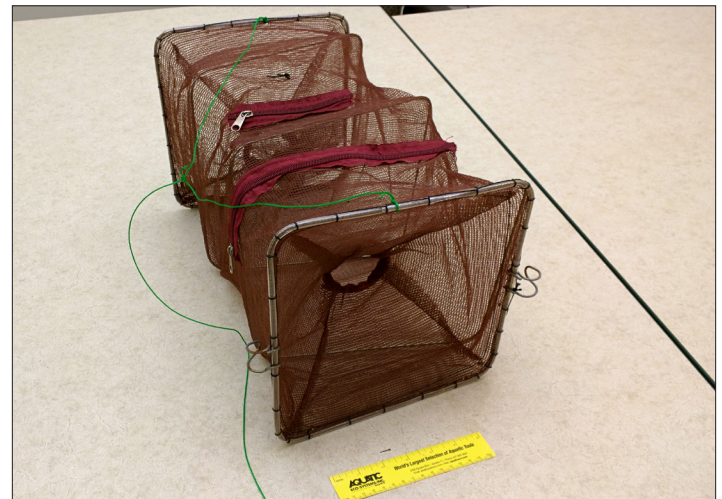


Figure 2. Double-funnel minnow trap used in Kekekabic Lake survey. (Photo by Jeff Eibler)



Figure 3. Deepwater Sculpin from Kekekabic Lake (Lake County, MN).



Figure 4. Slimy Sculpin from Kekekabic Lake (Lake County, MN).

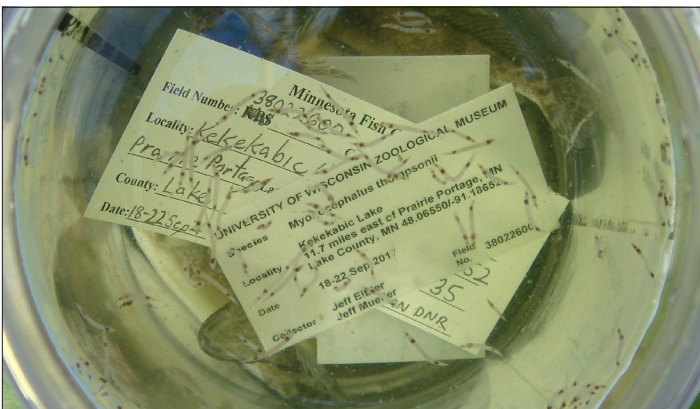


Figure 5. Phantom Midge larvae in specimen jar.



Figure 6. Deepwater Sculpin distribution in northwestern Ontario lakes.

Jeff had great news for me as soon as he returned to the office. Kekekabic does indeed have both a Deepwater and Slimy Sculpin. The two Jeffs preserved seven Deepwater Sculpins (six from minnow traps and one from a Lake Trout (*Salvelinus namaycush*) stomach (Figure 3). They also preserved three Slimy Sculpin specimens (Figure 4).

The sample jar also shed a ray of light on the sculpins' diet containing hundreds of Phantom Midge larvae (*Chaoborus* spp.) likely regurgitated when the fish were preserved in the formalin (Figure 5). This raises some questions. Does the light from the glow sticks attract sculpin or first the Phantom Midge larvae which then attract sculpin? This intriguing mystery could possibly be solved with underwater cameras and eliminate the risk of using scuba gear. Deepwater Sculpins have the unfortunate notoriety of claiming the life of one researcher, William Van Vliet, who died studying this species while scuba diving in Lake Heney, Quebec in 1968 (Scott and Crossman 1973).

I have limited data for Canadian lakes near the Minnesota border. The Royal Ontario Museum (ROM) has records from seven Ontario lakes and Fisheries and Oceans from Lake Nipigon (Figure 6). I surveyed Lake of the Woods with the assistance of the Ontario Ministry of Natural Resources, but found only Slimy Sculpins. This once again reminds me of the phrase I've heard and used countless times, "Presence is always easier to prove than absence!" I also must rethink lake size may not be as important as I once thought. Lake 310 in Ontario's Experimental Lakes Area is barely 50 acres! This record requires verification with the ROM collection data. However, if true, I suspect many more Deepwater Sculpin localities exist in Manitoba and Ontario and yes, very likely south of the border in Minnesota. I hope biologists will consider using minnow traps in future fish surveys of these deep and cold oligotrophic lakes.

#### Literature Cited

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