The spiny water flea found in Oneida Lake.

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The spiny water flea, *Bythotrephes longimanus*, a predatory zooplankton species native to lakes in Europe, has been found for the first time in Oneida Lake this week. The species was first noted in samples collected from Oneida Lake by Cornell researcher Kristen Holeck conducting a Cornell Field Biology class on Saturday, September 16 and the presence of the species was subsequently confirmed by additional sampling.

Standard sampling of Oneida Lake conducted by biologists at the Cornell Biological Field Station at Shackelton Point on Thursday, September 19 detected the spiny water flea at densities of 20 to 140 per cubic meter. This is comparable to densities in Lakes Erie and Ontario.

The spiny water flea was first found in this region in Lake Ontario in 1982 and had spread to all the Great Lakes and many smaller lakes in Canada, Michigan, Minnesota and Wisconsin within a decade. In New York State, this species was found in Great Sacandaga Lake beginning in 2008, Lake George in 2012, and Lake Champlain in 2014. Despite the fact that the species has been common in Lake Ontario since 2005, it is more likely that the species spread to Oneida Lake from the east through the Erie Canal.

The spiny water flea is about 1 cm (0.5 inches) long with more than half of its body length consisting of a spine to deter predators. It feeds on smaller species of zooplankton in lakes. Fish will feed on this animal, although small fish may have a hard time dealing with the spine. Even so, this year’s young yellow perch (60 mm long, or 2.5 inches) caught Wednesday night in Oneida Lake were full of the spiny water flea. Young white perch and emerald shiners from the lake had also consumed the spiny water flea.

This species is known as a food web disruptor in the Great Lakes system because of its ability to decrease the abundance of other zooplankton, in particular *Daphnia* – an important food source for planktivorous fish like alewife and the young fish of other species. A dietary shift in young fish could cause a decline in their growth rates. A decline in *Daphnia*, an important grazer of phytoplankton, could also cause declines in water clarity in Oneida Lake, a result observed in several other lakes invaded by spiny water flea. However, in Oneida Lake the presence of zebra and quagga mussels also increases water clarity, and these species are unlikely to be directly affected by the presence of the spiny water flea.

Therefore, how the presence of *Bythotrephes* in Oneida Lake will affect the lake ecosystem is something Cornell researchers will continue to monitor.

Anglers may see spiny water flea on fishing lines, although it does not form large clumps on lines and nets like the related fish-hook water flea (*Cercopagis pengoi*), another invasive that is in some lakes in NYS but has NOT been detected in Oneida Lake.

Because invasive species can travel on boats and fishing gear, as always, be vigilant when moving equipment and boats across systems. Boaters should be sure to drain all water holding compartments before leaving a water body. Methods to clean and disinfect fishing gear can be found at [www.dec.ny.gov/animals/50121.html](http://www.dec.ny.gov/animals/50121.html). The likelihood that the species will continue to spread to the New York’s Finger Lakes is now high.
Information is available on https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=162

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Known distribution of the spiny water flea in 2018 from