

Invasive hydroid may strain food source of young fish

As if Lake Michigan fish don't have enough competition for resources. An Illinois-Indiana Sea Grant study has found that the diet of an invasive freshwater hydroid includes organisms that are an important food source for young-of-the-year and bottom-dwelling fish.

"*Cordylophora caspia* typically eats larval zebra and quagga mussels," said Nadine Folino-Rorem, Wheaton College biologist. "However, when those sources are not readily available, the hydroid can feed on other invertebrates, which potentially affects prey availability for fish." Folino-Rorem, along with Martin Berg, a Loyola University Chicago biologist, studied the distribution and diet of *C. caspia* in Lake Michigan.

The hydroid lives in freshwater, brackish, or slightly salty habitats. The freshwater colonial hydroid is na-

fact, the population of the freshwater hydroid is growing in Lake Michigan. Folino-Rorem speculates that this may be due in part to street salts washing into the lake and changing water quality. "*C. caspia* thrives in higher salinity," she explained.

The researchers also found that the freshwater hydroid can eat organisms—chironomids—that are two to three times its size. "This was often accomplished by working together," said Folino-Rorem. "When one polyp gets a hold of a chironomid, the organism can continue to thrash about until another polyp latches onto it too. The two polyps engulf the chironomid, sometimes meeting in the middle."

C. caspia is limited in its range due to its need to colonize on hard surfaces—Lake Michigan's muddy bottom does not provide a hospitable habitat. However,

the recent spread of quagga mussels may increase the amount of available substrate for attachment. Unlike zebra mussels, quagga mussels can colonize the soft, muddy bottoms found in deeper areas. According to Tom Nalepa, a NOAA biologist at the Great Lakes Environmental Research Laboratory, 99 percent of what his team finds when sampling offshore in southern Lake Michigan waters is quagga mussels.



Courtesy of Nadine Folino-Rorem

C. caspia colonizes on hard surfaces, such as the shells of quagga mussels.

tive to the Caspian and Black Seas. *C. caspia* colonies consist of several polyps approximately one millimeter long that are interconnected by their gastrovascular cavities. Colonies grow on hard surfaces; in southern Lake Michigan, *C. caspia* can be found in harbors on rocks, piers, pilings, and on clusters of zebra and quagga mussels.

The researchers found *C. caspia* in all eight Chicago harbors sampled as well as at two offshore sites. In

"They are more efficient than zebra mussels in using food resources," he said. "And they tolerate cooler temperatures. We found that the number of quagga mussels in deep and in shallow waters far exceeds zebra mussel numbers even at their peak."

For *C. caspia*, the spread of quagga mussels may prove beneficial in terms of expanding their range to offshore waters. For fish populations, this may prove to be more bad news.