

**Adaptive Behavioral Responses of Native Prey to Invasive Predators in Lake Michigan**  
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Many prey perceive the presence of predators and respond adaptively by modifying their phenotype to reduce predation risk. However, prey may be unable to perceive novel risk posed by invasive predators or perceive the risk but respond maladaptively, and this naïveté could profoundly influence the nature of invasive-predator-prey interactions. Here we tested the naïveté of Lake Michigan zooplankton prey towards the invasive invertebrates, *Bythotrephes longimanus* and *Cercopagis pengoi*, that were introduced into the lake 20 and 6 years ago, respectively. In three laboratory experiments, we measured the vertical migratory response of native zooplankton prey species of varying sizes that were exposed to kairomones (i.e., waterborne chemical cues) of *Bythotrephes* and *Cercopagis* and to kairomones of the native predator species, *Perca flavescens*, *Leptodora kindtii*, *Polyphemus pediculus*, and *Mysis relicta*. In general, we found that induced migration depended on size differences, and not co-evolutionary histories, between predator and prey. We also found that the prey's behavioral response to the invasive invertebrate predators were more similar to that induced by a native vertebrate predator than that by native invertebrate predators, suggesting that prey are not employing a general response to invertebrate predation risk. Although native prey in aquatic systems are thought to be prone to naïveté, zooplankton in our study appear to perceive the nature and magnitude of risk posed by invasive predators through kairomones and respond in ways that reduce predation risk. These findings help us better understand the effects of *Bythotrephes* and *Cercopagis* on zooplankton in Lake Michigan, as well as inform expectations of the role prey naïveté plays in invaded aquatic systems.