
Research Article

Zooplankton diel vertical migrations in lakes of contrasting food webs

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Abstract. Zooplankton diel vertical migration (DVM) is a defense mechanism used in planktivory avoidance. We evaluated zooplankton DVM in two lakes of contrasting food webs in Michigan's Upper Peninsula, USA to test the hypothesis that zooplankton follow normal DVM in the presence of a vertebrate zooplanktivore: Pumpkinseed sunfish, *Lepomis gibbosus*, and reverse DVM in the presence of an invertebrate predator; *Chaoborus* spp. We found normal DVM in *Daphnia* spp., cyclopoid copepods, and copepod nauplii populations in the vertebrate zooplanktivore dominated lake. In contrast, cyclopoid copepods and calanoid copepods exhibited reverse DVM in an invertebrate predator dominated lake. Although the magnitude of DVM was minimal in both lakes, our analysis demonstrated that large cladoceran zooplankton are more responsive to vertebrate predation while small size copepod zooplankton are more responsive to invertebrate predation.
