

Opossum Shrimp

Mysida

By Makeila Yancey and Alan Vinzant



Native and Introduced Species

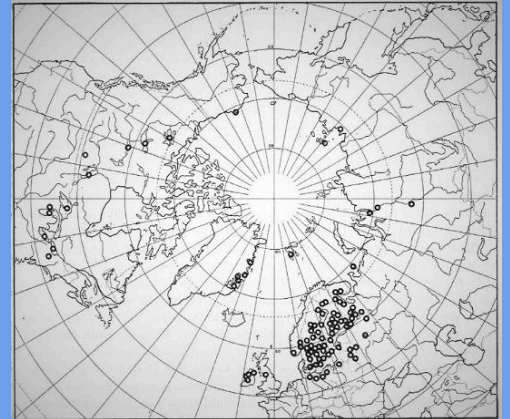
- An order of crustaceans containing over 1200 species
- Global distribution in cold-water lakes
- Native species in North America's Great Lakes and lakes in Central Canada
- Non-native species like *Mysis relicta* introduced to California and Nevada, including Lake Tahoe

Image: *Hemimysis anomala*. Microphotograph by S. Pothoven, GLERL, December 2006.
 Obtained from http://www.glerl.noaa.gov/pubs/photogallery/Waterlife/index_3.html Category: Malacostraca

Introduction

- Introduced through human activities
- Deliberately added to coldwater lakes and fisheries as a food source for farmed fish and sport fish (eg. trout, salmon)
- Transported accidentally in ships' ballasts
- Transferred between ships via moving equipment and gear

Image: The distribution of *Mysis relicta* in 1959. Holmquist (1959). Obtained from enviro-history.com/visualizations/mysis/



Invasive Characters

- High Reproductive Rate
- Adaptability to New Habitats and Multiple Trophic Levels
- Wide Tolerance of Environmental Factors
- Effective Feeding Strategy
- Competition with Native Species & Lack of Natural Predators
- Prolific Growth in Artificial Environments

Image: Captive bred Mysids. Photo posted to Reef2Reef by Lucie on November 27, 2017. <https://www.reef2reef.com/threads/mysis-so-many-species.338994/#post-4234848>



Ecological Impacts

- Disrupt local food webs, like predator-prey relationships
- Compete with local species
- Alter primary productivity
- Alter water quality

Economic Impacts

- Negatively impacts on sport fishing and commercial fisheries
 - Eutrophication
 - Water quality issues
- Diminished tourism appeal
- Increased costs to mitigate negative effects

Control Efforts

- Multifaceted approach necessary
- Mechanical, biological, and ecosystem management practices
- Long-term monitoring and prevention efforts
- Early detection, public education, and collaboration among local stakeholders to limit damage



Image from "A Beginners Guide to Mysis Shrimp" by greg.chernoff. <https://www.algaebarn.com/blog/live-foods/mysis-shrimp/a-beginners-guide-to-mysis-shrimp/>