Spiny Waterflea

(Aka: spiny tailed water flea, Eurasian spiny waterflea)

Overview:
The spiny water flea is not an insect, but rather a tiny, freshwater crustacean native to northern Europe and Asia.1 Spiny water fleas were introduced to the Great Lakes via ballast water and have spread from there.1 They feed on other zooplankton, including the native Daphnia species.2 Their zooplankton feeding is in direct competition with juvenile and small fish, however water fleas are consumed by some fish species.1

The spiny water flea reproduces both sexually and by parthenogenesis (females can produce female clones).2 Asexual reproduction facilitates explosive population growth and sexual reproduction facilitates genetic diversity. Sexually reproduced eggs can go into a diapause until water temperatures are optimum for hatching. Eggs in diapause and the eggs of pregnant females consumed by fish survive passage through the digestive tract.1 This facilitates distribution.

Habitat:

The spiny water flea prefers “large, deep, clear lakes with relatively low summer bottom temperatures.” It can occupy estuarine, lake, water course and wetland habitats. It can tolerate a wide range of temperatures but it generally found between 5º and 30ºC.1

Identification:
The spiny water flea’s head is clearly defined from the abdomen and consists primarily of a large, black eye.3 The abdomen is well developed,1 has four pairs of legs2 with a long, thin caudal appendage or tail which is barbed (usually 3-4 barbs).1 Adult bodies from the Great Lakes measure 1.5 to 5 mm in length and the tail can be up to 7 mm long.1 Adult females have a brood pouch on their backs.2

Ecology:
Spiny water fleas feed on other zooplankton. Eggs in diapause begin hatching when water temperatures reach 4 ºC.2 Juveniles increase size through a series of molts.2 Hatching to sexual maturity takes about 14 days - maximum development occurs when temperatures are between 20 - 25 ºC.1 Females reproduce via parthenogenesis during warm temperatures. When water temperatures begin to cool sexual reproduction occurs. Eggs are released and enter diapause for the winter.3

Economic Impacts:
In high numbers, spiny water fleas can catch on fishing line, fish nets, and trawls.

Environmental Impacts:
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Sociological Impacts:
Loss of native plankton species and competition for the food resources of larval/small fish results in the intrinsic loss of natural capital and enjoyment of natural areas.

Prevention:
Spiny water fleas are most likely to be spread by humans via fishing and boating gear. Public awareness and proper sanitation proce-
dures can prevent spread.

**Control:**

Control of spiny water flea is only by prevention of spread to uninfested water bodies. Fishing and boating gear should be cleaned with high pressure water at least 40 °C. Boat and trailers can be towed through carwashes. Boats should be allowed to dry for more than 5 days due to the possibility of transporting eggs in diapause.

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**REFERENCES**