Scientific Name: *Salmincola lotae* Olsson, 1877

Common Name: parasitic copepod

Taxonomy: available through ITIS

Identification: This stout and square parasitic copepod is found in the oral cavities of its host fish. It exhibits a maxilliped with subchela that ends as a solid claw. The claw is associated with a long papilla. The copepod possesses a large, flat, and round bulla associated with two maxillary arms. The bulla is typically implanted near bone or cartilage of the host fish. At the termination of the antennae, there are hook-like processes on the endopods. The 2nd maxilla is relatively long and is implanted up to 2/3rds of its length in cavities of 5–8 mm in host tissue (Lasee et al. 1988; Hudson et al. 2003).

Size: Female *S. lotae* range in length from 5.5–6.5 mm (Hudson et al. 2003).

Native Range: *S. lotae* is native to Eurasia and has been recorded in the Palearctic region in Sweden, Finland, and northern Russia (Bagge and Hakkari 1982; Hudson and Bowen 2002; Grigorovich et al. 2003; Hudson et al. 2003).

See Remarks section for discussion of uncertainties regarding native range.

Nonindigenous Occurrences: *S. lotae* was recorded from the Apostle Islands region of Lake Superior in 1985 in host burbot (*Lota lota*) (Lasee et al. 1988).

Means of Introduction: Unknown.

Status: Reported from Lake Superior. See Remarks.

Ecology: *S. lotae* infects the oral cavity of the gadid fish known as burbot (*L. lota*) in North America and Eurasia. It probably feeds on mucous and epithelial cells, shredding its host's epidermis. In Finland, it occurs in *L. lota* at depths of 50–100 m in Lake Paijanne (Bagge and Hakkari 1982; Lasee et al. 1988; Hudson et al. 2003).

Impact of Introduction

A) Realized: In Lake Superior *S. lotae* has been known to cause relatively large lesions in the mouth of *L. lota* where the bulla is implanted. Around 56% of the host species in the Apostle Islands region have been infected at a given time with on average 3.6 parasites per fish. Most often, *L. lota* in Lake Superior have exhibited infection in the roof of the mouth behind the vomerine teeth (Lasee et al. 1988; Hudson et al. 2003).

B) Potential: Unknown.

Remarks: This species has also been recorded in burbot from the Northwest Territories, Canada (Stewart and Bernier 1983, 1999), although there is some question over the validity of records (McDonald and Margulis 1995; Hudson et al. 2003). In spite of this,

some experts have recently begun to consider that *S. lotae* may actually be native to the Nearctic region and thus could be native to Lake Superior (J. W. Reid and P. L. Hudson, unpublished data).

S. lotae is synonymous with *Lernaeopoda lotae*.

Voucher Specimens:

References:

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Lasee, B. A., D. R. Sutherland, and M. E. Moubry. 1988. Host-parasite relationships between burbot *Lota lota* and adult *Salmincola lotae* (Copepoda). Canadian Journal of Zoology 66(11):2459-2463.

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Stewart, D. B. and L. M. J. Bernier. 1999. Common parasites, diseases and injuries of freshwater fishes in the Northwest Territories and Nunavut. Prepared by Arctic Biological Consultants for the Canada Department of Fisheries and Oceans, Central and Arctic Region, Winnipeg. 41 pp.

Other Resources:

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Group: Crustaceans – All

Lake(s): Lake Superior

Genus: *Salmincola* (synonymous with *Lernaeopoda*)

Species: *lotae*

Common Name: parasitic copepod

Status: Reported: cryptogenic

Freshwater/Marine: Freshwater

Pathway: Unknown

Exotic/Transplant: Unknown – may be native