

On the acanthocephalan infection in some glacial relict crustaceans in Finland

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About 16 000 *Pontoporeia affinis*, 1 700 *P. femorata*, and 430 *Mysis relicta* were studied for acanthocephalan larvae from the Bothnian Bay, Bothnian Sea and Gulf of Finland areas of the Baltic sea in 1984–1986. In addition about 7 300 *P. affinis* specimens were dissected from three sites in the Bothnian Bay between 1970 and 1983. A study of 12 500 *M. relicta* collected in July 1985 from Lake Pulmankijärvi in the northernmost part of Finland was also undertaken. The waters of this lake flow into the Arctic Ocean via the rivers Pulmankijoki and Tenojoki.

The cystacanth larvae of two acanthocephalan species were found and these had strong host specificity: *Echinorhynchus salmonis* were located only in the haemocoeloma of *P. affinis* and *E. gadi* in *P. femorata* in the sea and in *M. relicta* in the lake.

The prevalence of *E. salmonis* at the northernmost site of the Bothnian Bay (C VI) varied in most cases between 0.25% and 1% when 15 successive samples in the years 1970–1986 were studied. In only three cases were higher prevalences (1.2, 2.8 and 6.8%) found and in two samples no acanthocephalans at all were encountered. Neither was there any great variation in the prevalence of *E. salmonis* infection among the other sites studied, in the Bothnian Bay or in the Bothnian sea, where the range of prevalences was 0.7–1.4% in three of the four samples studied. No *E. salmonis* larvae were found in the samples ($n=4850$) collected off the coast of Tvärminne in the Gulf of Finland. In *P. femorata* from the same samples the prevalence of *E. gadi* infection on average was 0.6% in 1984 and 1985, but as high as 12.8% in May 1985.

The highest prevalences of acanthocephalan infections were found in *M. relicta* from Lake Pulmankijärvi; in four contemporaneous samples collected in July 1985, *E. gadi* prevalences varied between 3.2 and 11.2%, the lowest value being from the deepest part of the lake.

Some measurements of the two acanthocephalan species in their intermediate hosts are given, as well as male/female ratios of each species. Both acanthocephalan species mature in the intestines of fish. Their role as indicators of e.g. feeding and migrating habits in their definitive hosts and the possible mechanisms when recruiting to fish are discussed, as well as their influence on their intermediate hosts.