On the biology of the Baltic smelt (Osmerus eperlanus L.) [Abstract]

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1982

Tvärminne Studies 2: 19.

http://hdl.handle.net/1975/470

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On the biology of the Baltic smelt (*Osmerus eperlanus* L.)

The material for a comprehensive study on the biology of the smelt (*Osmerus eperlanus* L.) has been collected by trawl and gillnets mainly from the waters around Tvärminne but also from several other parts of the Baltic during the period 1968-77. The following aspects are being dealt with:

1. Systematics and distribution of the smelt.
2. Anatomical comparison of the Baltic smelt and the Baltic herring (*Clupea harengus* var *membran L.*) which are sympatric in several parts of the Baltic.
3. Age and growth of the smelt.
4. The spawning of the smelt and the development of fry and fingerlings. The best studied spawning locality on the SW coast of Finland is Leksvall in the Ekenäs archipelago, N of Tvärminne. Fry and fingerlings have mainly been studied from the material caught east of Tvärminne.
5. Food habits and consumption of the smelt. In the Tvärminne area adult smelts seem to have great seasonal changes in their food habits. The most important food species are *Mytilus mixtus* and *Pontoporeia affinis*, but several other crustaceans, *Harmathoe sarsi* and small fishes are also eaten.
6. Parasitological studies have been made from the whole material. The nematode *Cysticola farionis*, living in the swimming bladder of the smelt, has infested practically every adult individual all over the Baltic Sea, and is the most common parasite also in the Tvärminne area. Several additional nematode, trematode, cestode and acanthocephalan species, as well as bivalvian glochidians, are also found.
7. Seasonal alterations in the storage of fat and the development of the gonads of the smelt.