Biology of the Baltic smelt (Osmerus eperlanus L.)

Biology of the Baltic smelt was studied in 1968-91 in order to find out the position of the smelt in the Baltic food chain. Material was collected from various parts of the Baltic Sea but mainly from the Tvarminne area. The problems focused upon are:

(1) Food habits and consumption: In the Tvarminne area the most important food species are Mysis mixta and Pontoporeia affinis, but several other crustaceans (including planktonic species), Harmothoe sarsi and small fishes (including smelt) are also eaten.

(2) Parasites and diseases: In all, 27 species of parasites have been recorded from Baltic smelts, but only the following eight species have been registered regularly: Glugea hertwigi, Echinorhynchus salmonis, E. gadi, Corynosoma semerme, Hysterothylacium aduncum and Cystidicola farionis (the last-mentioned from the swimbladder of every adult smelt).

(3) Predators: Fishes like Salmo salar, S. trutta, Gadus morhua, Esox lucius and Stizostedion lucioperca feed on smelts regularly in the Tvarminne area. In the spawning area many smelts are taken by gulls (Larus spp.).

(4) Spawning and development of fry and fingerlings: Smelt spawn intensively in river mouths or shallow waters during a short period in early spring. During the
spawning they do not eat at all, but shortly afterwards they turn even to cannibalism. After hatching young smelts grow rapidly. At the beginning they mostly feed on plankton but as they grow larger they prefer greater prey.

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