

Liver nematodes and diet of salmon (*Salmo salar*) from Polish waters, southern Baltic Sea

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Fig. 1. Atlantic salmon (*Salmo salar*) (Photo AL)

DIET COMPOSITION



Fig. 2a. Sprats (Photo KN-A)



Fig. 2b. The three-spined stickleback (Photo KN-A)



Fig. 2c. *Mysis mixta* (Photo JP)

LIVER PARASITES



Fig. 3a. *C. osculatum* (Photo KN-A)



Fig. 3b. *C. osculatum* - head (Photo KN-A)



Fig. 3c. *C. osculatum* - tail (Photo KN-A)

INTRODUCTION

Atlantic salmon (*Salmo salar*) is at the top of the trophic pyramid in the Baltic Sea, in areas without sea mammals. It is also important species for Baltic sea fisheries, willingly chosen by consumers. However, the occurrence of potentially zoonotic nematodes arouse the food safety and human health concerns. The level of Baltic salmon infection with Anisakidae parasites is unknown. The high level cod (*Gadus morhua*) (also piscivorous, predatory fish) infection with these zoonotic parasites is recently observed in the Baltic Sea area. Diet of fish is not only the source of nutrients, but may show the way of infection with parasites. Therefore the aim of our studies was to check the presence of Anisakidae nematodes in the livers and diet of Baltic salmon from Polish sea waters.

MATERIAL & METHODS

Samples have been collected during 2020. Standard ichthyological analyses of 120 fish were performed and livers were frozen for further parasitological investigation. Thawed livers were digested in artificial digestive juice. All parasites were collected and identified on the basis of anatomo-morphological features. A subsample of parasites have been identified using molecular methods.

RESULTS & DISCUSSION

Diet composition was studied on the basis of stomach content analysis. Among food items the most abundant were fish: sprat *Sprattus sprattus* and three-spined stickleback *Gasterosteus aculeatus* (Fig. 2a, b), while invertebrates were represented only by *Mysis mixta* (Fig. 2c). *Contracaecum osculatum* nematode parasites have been detected in 13.33% of investigated fish (Fig. 3a, b, c). Baltic Sea sprat have been previously found infected with *Contracaecum osculatum*, therefore it is probably the main source of salmon infection with that nematode parasite.

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