

Presence of the liver nematode parasites and diet of shorthorn sculpin (*Myoxocephalus scorpius*) from Polish waters

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Fig. 1. Sampling area marked with asterix.



Fig. 2. The shorthorn sculpin (Photo KN-A)

OBJECTIVES

The studies focused on the shorthorn sculpin (*Myoxocephalus scorpius*) from the **Baltic Sea** are of little interest, especially in terms of parasitological aspects. Shorthorn sculpin characterizes by a relatively sedentary lifestyle, and therefore has been previously used as a model species for assessment of the accumulation rate of the sealworm population in local waters. To date, presence of the nematodes in the muscle tissue of shorthorn sculpin and Baltic cod (*Gadus morhua*) have been studied in fish collected along the Swedish coast a few years ago, but no attention was paid to nematodes observed on or in the intestines or livers. In general, sculpin were less infected than cod, taking into account the abundance and prevalence of parasites. The current level of cod infection with Anisakidae nematodes in Polish waters is well known, but no studies focused on shorthorn sculpin were conducted in the southern Baltic Sea. In case of predatory fish the main way of its infection with nematode parasites is via eating the infected preys. To explore and better understand the dynamics of parasite spreading in environment the studies should include wide variety of species that compose local ecosystem, including their trophic characteristics. The aim of our study was to assess the presence of Anisakidae nematodes in the livers as well as diet composition of **shorthorn sculpin** from north-west Polish waters.

MATERIAL & METHODS

Samples have been collected during survey in November 2020. Standard ichthyological analyses of 37 fish were performed onboard and livers were frozen for further parasitological investigation. Thawed livers were digested in artificial digestive juice. All parasites were collected and identified on the base of anatomomorphological features.

RESULTS & DISCUSSION

LIVER PARASITE

Contracaecum sp. nematode parasites have been detected in 13.5% of investigated fish.



Fig. 3. *Contracaecum sp.* (Photo KN-A)

DIET COMPOSITION

Diet composition was studied on the basis of stomach content analysis. Among food items the

most abundant were **Crangon crangon**, **Bylgides sarsi** and **Gammarus sp.** (Fig. 4 a,b,c) All found preys were parasitologically inspected for the presence of nematodes. Due to our best knowledge, the present study is the first attempt to describe the current status of parasitological infection with Anisakidae nematodes and diet of shorthorn sculpin in Polish waters.



Fig. 4a. *Crangon crangon* (Photo KN-A)



Fig. 4b. *Bylgides sarsi* (Photo M. Kędra & S. Gromisz)



Fig. 4c. *Gammarus sp.* (Photo JP)