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PRELIMINARY STUDIES ON BONE FLUORIDE CONTENT IN THE ARCTIC CHARR, *SALVELINUS ALPINUS* (L.) FROM THE HORNSUND RE GION

WSTĘPNE BADANIA ZAWARTOŚCI FLUORU W KOŚCIACH GOLCA, *SALVELINUS ALPINUS* (L.) Z REJONU HORNSUNDU

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Fluoride contents were determined in vertebrae of the Arctic charr in the Hornsund region, using the zirconium-eriochrome cyanine technique. The fluoride contents were found to range within 27.5–150.6 $\mu g \cdot g^{-1}$, i.e within a natural range.

INTRODUCTION

Fluoride is one of the microelements indispensable for organisms to perform their regular functions. Fluoride contents that produce positive effects, however, span a very narrow range.

Fluoride in fish body occurs mostly in bones, although considerable contents were also found in internal organs (Protasowicki and Zarębski, 1985).

The present work was aimed at a preliminary determination of bone fluoride levels in fishes of the Hornsund region.

MATERIALS AND METHODS

The study materials consisted of vertebrae of 10 Arctic charr [*Salvelinus alpinus* (L., 1758)] individuals caught in August 1988 from River Revelva in its mouth area and obtained courtesy of Dr Piotr Głowacki. The vertebrae from the middle part of the backbone were used for assays. Fluoride was determined with zirconium-eriochrome cyanine technique (Marczenko, 1979). The contents reported are expressed in $\mu g\ F \cdot g^{-1}$ wet weight.

RESULTS AND DISCUSSION

The fluoride contents found in the vertebrae are summarized in Table 1.

Table 1

Fluoride contents ($\mu g \cdot g^{-1}$ wet weight) in vertebrae of the Arctic charr, *Salvelinus alpinus* (L.)

Fish individual No.										$\bar{x} \pm S_x$
1	2	3	4	5	6	7	8	9	10	
98.5	27.5	150.6	62.4	60.0	48.9	48.2	62.4	62.4	48.9	67.0 ± 34.4

Unfortunately, the lack of basic morphometric data on the individuals yielding the vertebrae does not allow to analyze the results in terms of relationships between fluoride contents and fish body parameters.

In the light of the author's previous studies on fluoride contents in freshwater and Baltic fishes (Protasowicki and Zarębski, 1985), the contents found in the Arctic charr vertebrae should be regarded as regular, which is also confirmed by a comparison with data for Antarctic fishes (Manthe, 1980).

It would be interesting to compare fluoride contents in the Arctic charr living in the marine and riverine habitats.

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