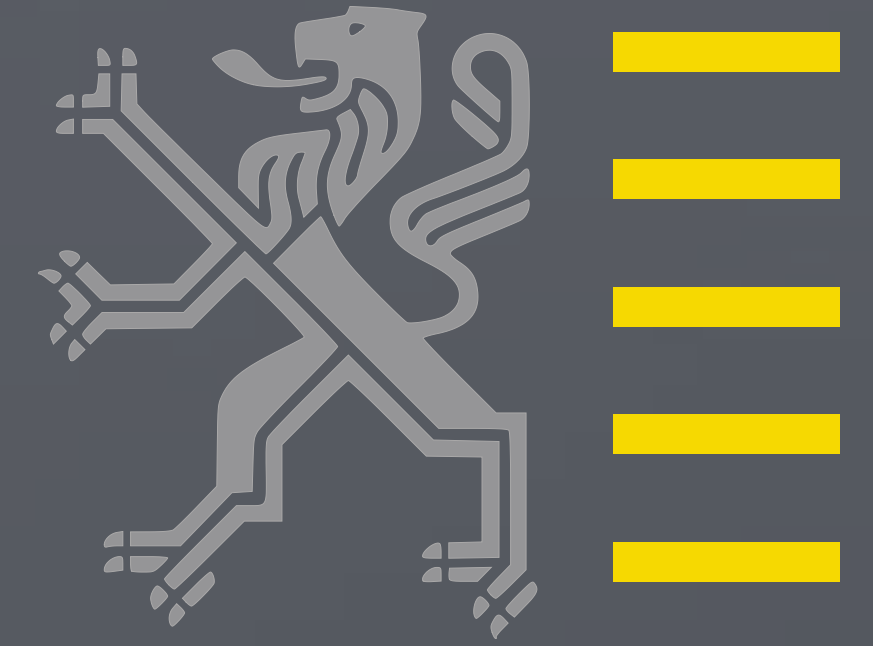


The Procedure Of Determining Age In Fish



Zenner Annemie, Torreele Els, Moerman Martine and Maertens Ilse

Institute for Agricultural and Fisheries Research, Unit Animal Sciences - Fisheries
Ankerstraat 1, B-8400 Oostende, Belgium



The European Commission Regulations

The European Commission requires a huge set of data supplied by all member states with an active fishing sector. This data collection is described in the Data Collection Framework (DCF) EC no. 199/2008.

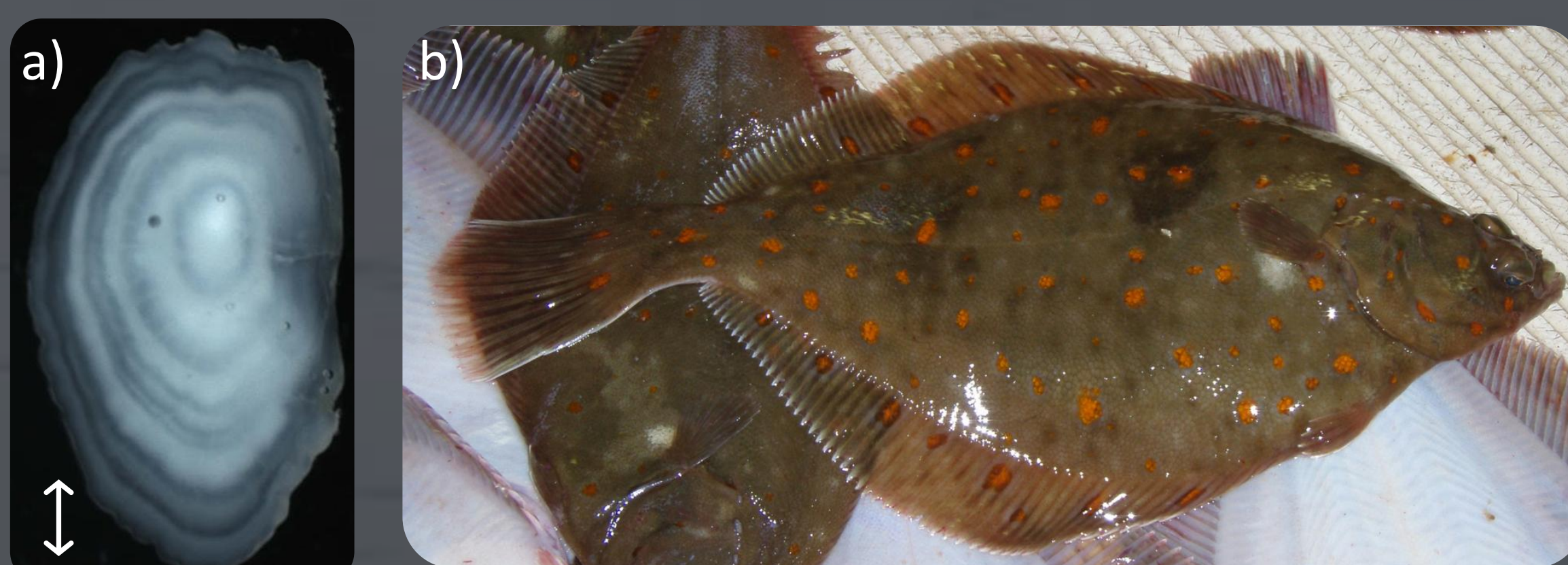
The Belgian data collection program is designed on the basis of this DCF and requires the analysis of about 25 000 otoliths a year in the otolith lab of ILVO.

Which otoliths are studied at ILVO?

At our otoliths laboratory, the age of **individual** fish is determined for 7 **commercially** important species for the Belgian fisheries. Plaice and sole are the main target species for the Belgian fleet.

The age reading procedure is **species specific** but follows a general basic principle: counting the annual rings on the otoliths.

Otoliths of **plaice** are read in whole after soaking in water overnight.



a) Otolith of European plaice (*Pleuronectes platessa*; NI: schol), the arrow is 0.1 mm and the fish was 5 years; Copyright ILVO - Martine Moerman. b) Specimen of European plaice Copyright ILVO

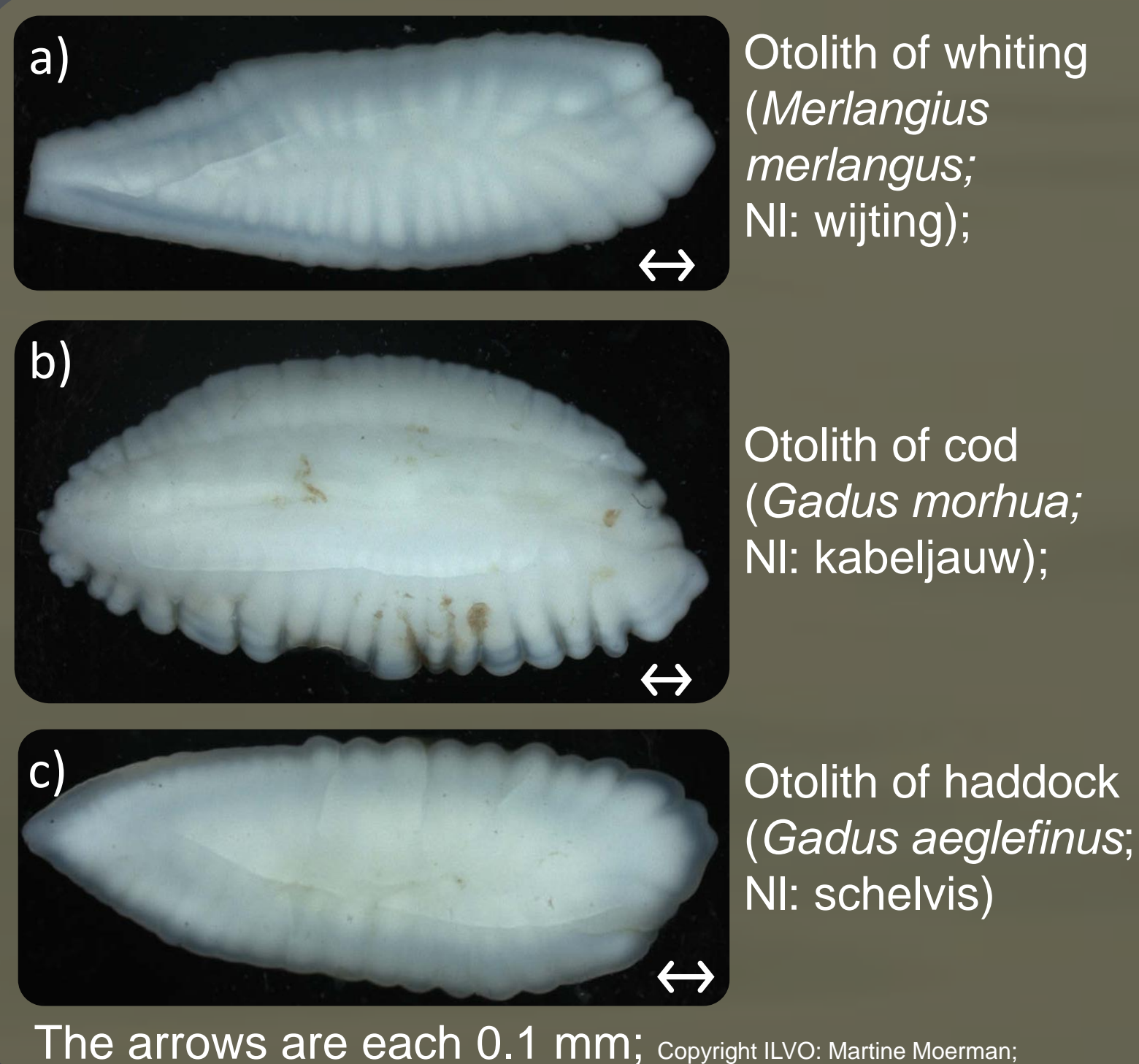
A uniform quality control system

In the process of establishing a uniform quality control system and implementing the ISO norm 10725, protocols are developed per species in order to optimize the technique of preparation as well as the analysis of ages.

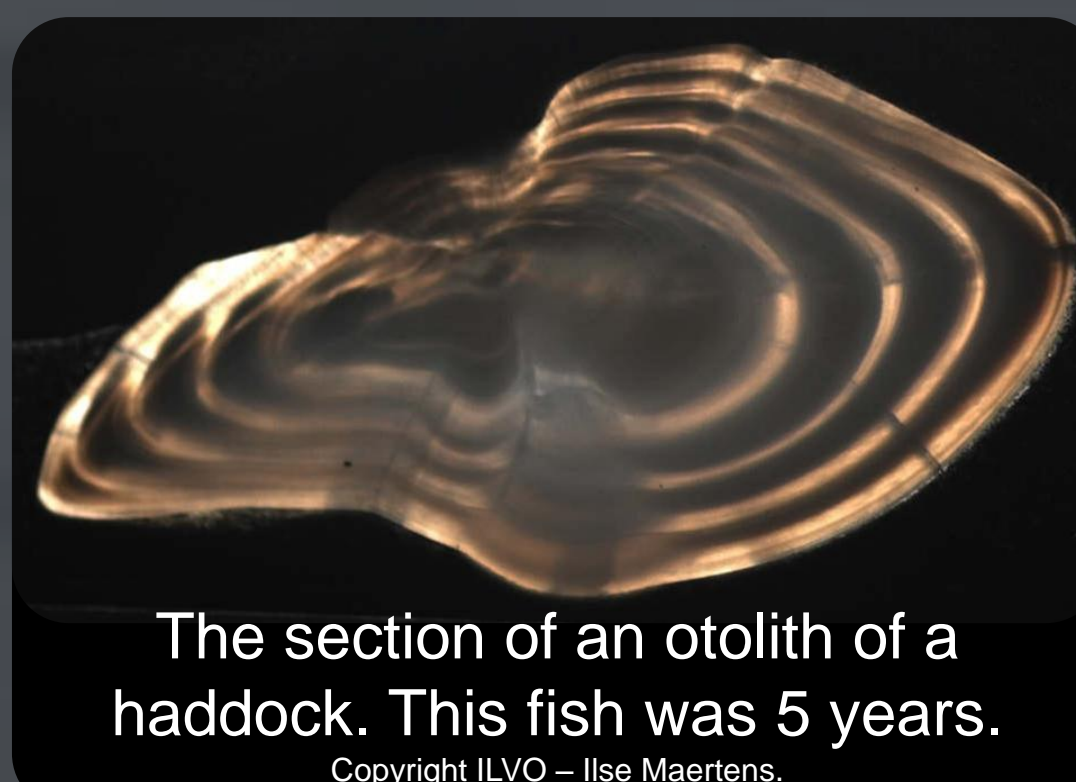
Otoliths of **sole**, **brill** and **turbot** are read after sectioning, and staining with neutral red. The winter rings take up the dye and become dark pink.



The stained section of an otolith of a sole caught in August. This fish was 4 years.



Otoliths of **cod**, **haddock** and **whiting** are read after sectioning, without staining. The winter rings then come up bright when illuminated from below.



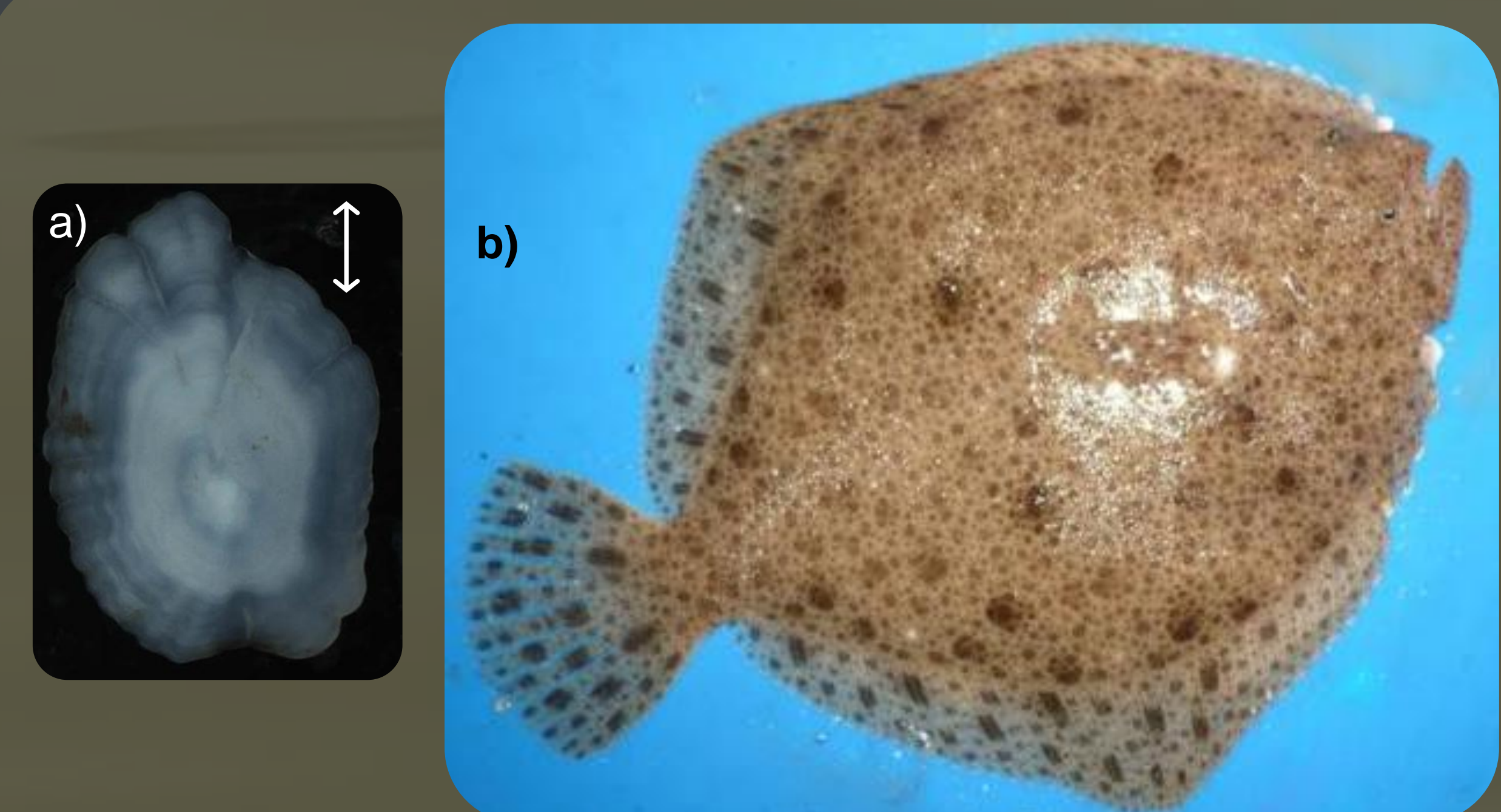
The section of an otolith of a haddock. This fish was 5 years. Copyright ILVO - Ilse Maertens.



a) Otolith of sole (*Solea solea*; NI: tong), the arrow is 0.1 mm; Copyright ILVO - Martine Moerman b) Specimen of sole; copyright ILVO



a) Otolith of brill (*Scophthalmus rhombus*; NI: griet), the arrow is 0.1 mm; b) Specimen of brill; copyright www.ilkyaz.eu.



a) Otolith of turbot (*Psetta maxima*; NI: tarbot), the arrow is 0.1 mm; Copyright ILVO. b) Specimen of turbot; copyright www.seafishingvenues.net.



a) Specimen of whiting; Copyright PINRO - Andrey Dolgov. b) Specimen of cod; Copyright NOAA - Don Fletcher. c) Specimen of haddock; Copyright ILVO

Institute for Agricultural and Fisheries Research, Animal Sciences – Fisheries
ILVO, Biological Environmental Research, Ankerstraat 1, 8400 Oostende, Belgium

+32(0)59/569848 annemie.zenner@ilvo.vlaanderen.be