

Most of the fish stocks are assessed using age-based models, however age estimations using otoliths costs several million euros annually.



The fish age is estimated from the analysis of calcified structures. Every year, about 1 million of calcified pieces (35 000 in France) are interpreted.

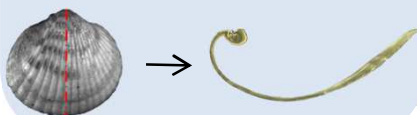
Developed in partnership between VSG (formerly Noesis) and the French institute IFREMER, the image analysis software dedicated to calcified structures (otoliths, scales, vertebrae...),



allows quantification and interpretation assistance of calcified structures, numerical storage of biological material that can be deteriorated as time goes by, easier exchange of data leading to a better age estimate and finally a decrease of the analysis costs by automation processes.



This software developed at first for fish is now used for others animals like cephalopods, molluscs...



1. Image acquisition



Microscope Binocular



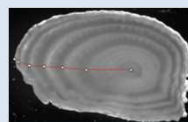
Scanner

TNPC FUNCTIONALITIES

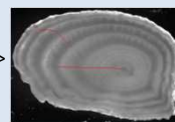
Single Acquisition or Multiple Acquisition (with stage or scanner)



2. Interactive image annotation

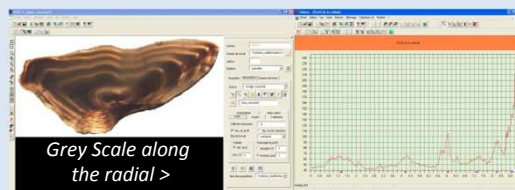


< Simple radial
Two parts radial >

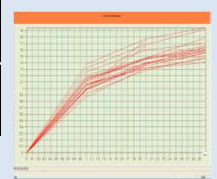
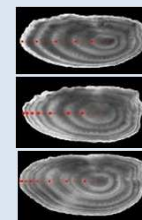


< Position of markers in the Result Viewer with an intensity profile

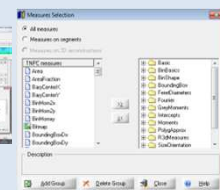
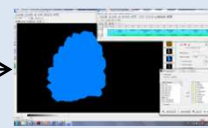
3. Interpretation



Grey Scale along the radial >



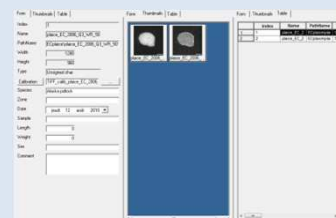
4. Shape analysis



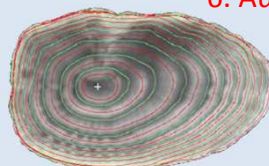
< Available Measures

5. Database

You can perform process on all the database including automatic exports of the data without any click or keyboard use.



6. Automated estimation of individual age



6. Automated estimation of age structures

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