# Supplementary data

**Otolith morphogenesis during the early life stages of fish is temperature-dependant: validation by experimental approach applied to European Seabass (*Dicentrarchus labrax*)**

K. Mahé1, F. Clota², M.O. Blanc3, G. Bled Defruit1, B Chatain3, H. de Pontual4, R. Amara5, B. Ernande3,6

1IFREMER, Centre Manche Mer du Nord, Laboratoire ressources halieutiques, BP 699, 62321 Boulogne-sur-mer, France

2 INRA, Unit 0558, Dept. PHASE, 37380 Nouzilly, France

3MARBEC, Univ. Montpellier, Ifremer, CNRS, IRD, Montpellier, France.

4IFREMER, Centre de Bretagne, Sciences et Technologies Halieutiques, Z.I. Pointe du Diable, CS 10070, 29280 Plouzané, France

5Université Littoral Côte d'Opale, UMR 8187, LOG, Laboratoire d'Océanologie et de Géosciences, F 62930 Wimereux, France

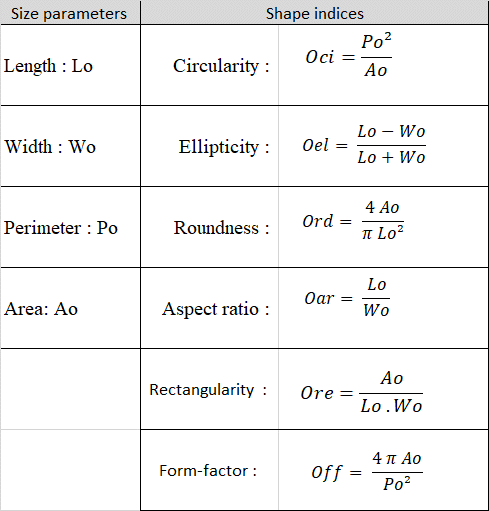
6Evolution and Ecology Program, International Institute for Applied Systems Analysis (IIASA), Luxemburg, Austria.

***Corresponding author :*** K. Mahé, kelig.mahe@ifremer.fr

Supplementary Information Table 1: Fish number sampled by GDD values and days number at 16°C and 21°C. Total length characteristics (mean ± SD) are given for each sample.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **N** | **TL (mm)** | **GDD (°C.day)** | **Nb Days at 16°C** | **Nb Days at 21°C** |
|
| 130 | 14.92±1.37 | 688 | 43 | - |
| 156 | 18.66±2.34 | 1152 | 72 | - |
| 160 | 22.47±3.45 | 1376 | 86 | - |
| 72 | 22.35±5.39 | 1600 | 100 | - |
| 96 | 81.31±6.39 | 3712 | 232 | 0 |
| 36 | 88.04±5.88 | 3817 | 211 | 21 |
| 170 | 97.47±7.81 | 3962 | 182 | 50 |
| 148 | 111.15±7.66 | 4107 | 153 | 79 |

Supplementary Information Table 2: Size dimension parameters and shape indices of otolith used to describe seabass otolith outline.



Supplementary Information Table 3: Average percentage of non-overlapping surface by degree.day between the two reconstructed otolith shapes at the different levels of GDD.

