

Supplementary material

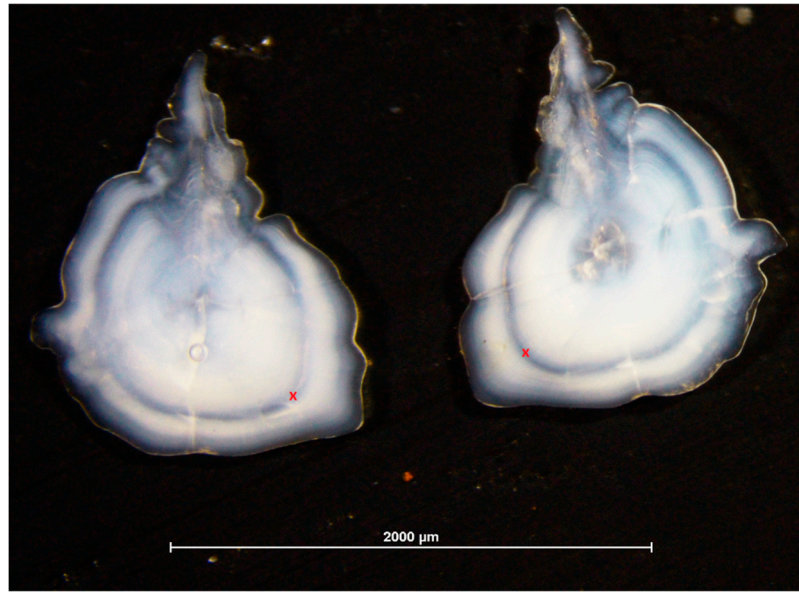


Figure S1. Image of one pair of sagitta otoliths of a specimen of *M. muelleri* captured on September 10th, 2020 in the Bay of Biscay. SL of fish 44 mm, Age 1. The “x” in red marks the first annual ring.

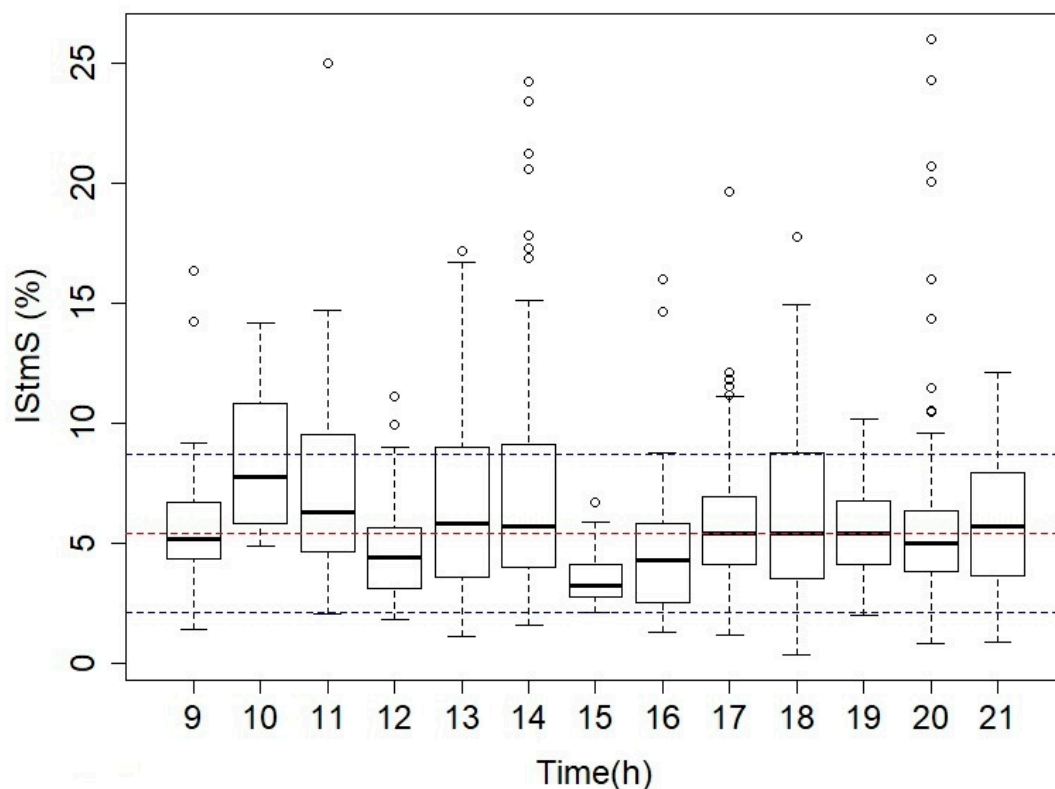


Figure S2: Boxplot of the hourly pooled stomach index across the day in the Bay of Biscay for the 2019 and 2020 data combined. The dashed red line shows the overall mean value and the dashed black line is the standard deviation.

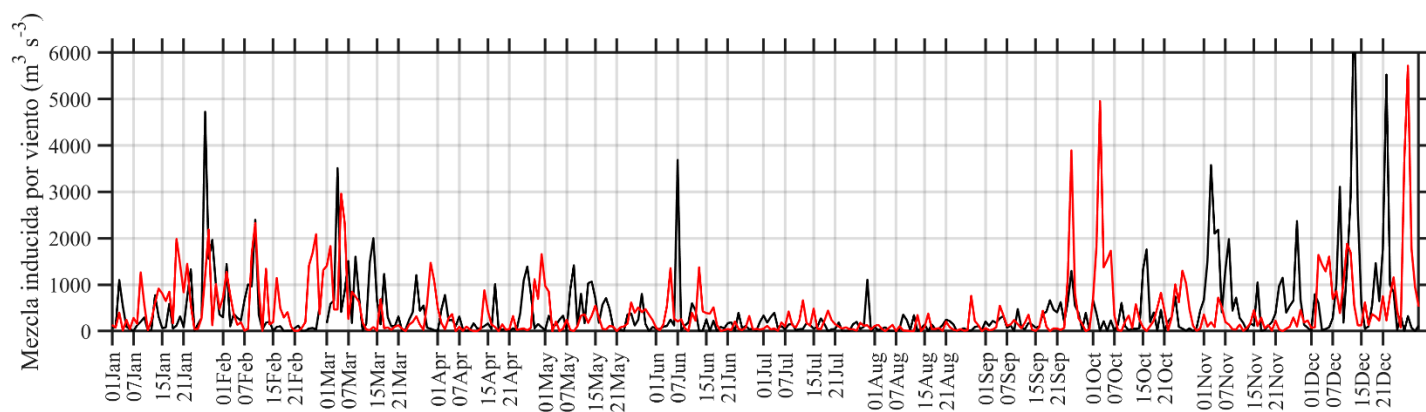


Figure S3: The wind-induced mixing in 2019 and 2020 at 45°N, 2.5 °W. The wind-induced turbulent mixing was calculated as the cube of the surface wind speed obtained from the NCEP/NCAR Reanalysis 1 project.

Table S1. Main biological characteristics of *M. muelleri* collected during the surveys carried out in the Bay of Biscay. UNDET = undetermined.

Bay of Biscay						
Year	Month	Sex	N	TL range	SL (mm)	TW(g)
2019	April	UNDET	3	47-52	40-44	0.63-0.85
		1	6	44-49	37-41	0.55-0.83
		2	53	44-63	37-53	0.55-1.94

	September					
		UNDET	859	22-57	18-50	0.06-1.71
		1	10	48-55	41-47	0.91-1.31
		2	5	53-59	46-51	1.25-1.4
2020	May	UNDET	15	35-47	29-40	0.36-0.86
		1	51	41-54	35-48	0.59-1.29
		2	72	46-60	39-51	0.71-1.79

	September					
		UNDET	304	22-57	18-49	0.07-1.32
		1	104	36-64	30-55	0.27-1.73
		2	92	44-62	37-53	0.54-1.96

Table S2: Length-weight parameters for each study year for undetermined, male and female individuals. df= degrees of freedom, R^2_{adj} = Coefficient of determination adjusted

Sex/Year	2019	2020
Indeterminate	$TW = 6.25 \cdot 10^{-06} \cdot SL^{3.17}$ (df=386, $R^2_{adj}=0.93$, $p<0.001$)	$TW = 5.24 \cdot 10^{-06} \cdot SL^{3.25}$ (df=386, $R^2_{adj}=0.95$, $p<0.001$)
Male	$TW = 1.00 \cdot 10^{-05} \cdot SL^{3.02}$ (df=14, $R^2_{adj}=0.84$, $p<0.001$)	$TW = 2.47 \cdot 10^{-05} \cdot SL^{2.85}$ (df=153, $R^2_{adj}=0.86$, $p<0.001$)
Female	$TW = 3.22 \cdot 10^{-05} \cdot SL^{2.72}$ (df=56, $R^2_{adj}=0.75$, $p<0.001$)	$TW = 2.81 \cdot 10^{-05} \cdot SL^{2.79}$ (df=162, $R^2_{adj}=0.78$, $p<0.001$)