

# Cuttlefish buoyancy control in response to food availability and ocean acidification

Eve Otjacques <sup>1\*</sup>, Tiago Repolho <sup>1</sup>, José Ricardo Paula <sup>1</sup>, Silvia Simão <sup>1</sup>, Miguel Baptista <sup>1</sup>, Rui Rosa <sup>1</sup>

<sup>1</sup> MARE – Marine and Environmental Sciences Centre, Laboratório Marítimo da Guia, Faculdade de Ciências, Universidade de Lisboa, Av. Nossa Senhora do Cabo, 939, 2750-374 Cascais, Portugal

\* Correspondence: ebotjacques@fc.ul.pt

## Dataset: explanation of the columns

Tank	<u>Replicate of CO<sub>2</sub> treatment</u> : 5 control, 5 high CO <sub>2</sub> . Each tank contained 18 vials, with one egg each
Color	<u>Feeding treatment</u> : <b>GY</b> : Non-fed cuttlefish with the respective cuttlebone sampled up to 2 days after hatching; <b>R</b> : Non-fed cuttlefish with the respective cuttlebone sampled once the animal started floating; <b>G</b> : Fed cuttlefish with the respective cuttlebone sampled at the same time as a cuttlefish from the previous treatment started floating; <b>W</b> : Fed cuttlefish with the respective cuttlebone sampled after 25 to 30 days; <b>E</b> : unhatched cuttlefish.
Label	Number of the cuttlefish, regarding the feeding treatment
ID	ID of the cuttlefish, regarding the tank and the feeding treatment
Treatment	<u>CO<sub>2</sub> treatment</u> : <b>A</b> : High CO <sub>2</sub> <b>C</b> : Control
Hatching	<b>1</b> : hatched cuttlefish <b>0</b> : unhatched cuttlefish
Hatching_date	Date of hatching
Days_until_hatching_trt	Exposure time of the eggs to the respective CO <sub>2</sub> treatment until hatching
Sampling_date	Date of the cuttlebone sampling
Days_until_sampling	Exposure time of the newborns to the respective CO <sub>2</sub> treatment after hatching and until sampling
Floating	<b>1</b> : floater <b>0</b> : sinker
Feeding	<b>1</b> : fed <b>0</b> : non-fed
Weight	Weight of the cuttlebone in mg
Area	Area of the cuttlebone in mm <sup>2</sup>
Density	Density of the cuttlebone obtained by the equation Weight/Area, represented in mg/mm <sup>2</sup>

## *Data\_general*

This dataset was used to analyse the hatching success.

### ***Data\_GY***

This dataset was used to analyse the density of the cuttlebone at hatching.

Dataset derived from data\_general, containing only non-fed cuttlefish with the respective cuttlebone sampled up to 2 days after hatching (feeding treatment: **GY**).

Four individuals were removed from this dataset to perform the analysis as they were unusable for the density, due to the poor cuttlebone state after the sampling.

### ***Data\_without\_E\_GY***

This dataset was used to study the cuttlebone density of the newborns and the floating rate.

Dataset derived from data\_general:

- excluding feeding treatment **GY**: this was not in the interest of the test;
- excluding of **E**: unhatched cuttlefish

### ***Data\_feed\_without\_E\_GY***

This dataset was used to study the cuttlebone density of the newborns regarding the floating response of the cuttlefish according to the CO<sub>2</sub> treatment.

Dataset derived from data\_general:

- excluding feeding treatment **GY**: this was not in the interest of the test;
- excluding of **E**: unhatched cuttlefish
- only **fed** cuttlefish were used: as there was no non-floater cuttlefish when non-fed.