

## Supplementary data

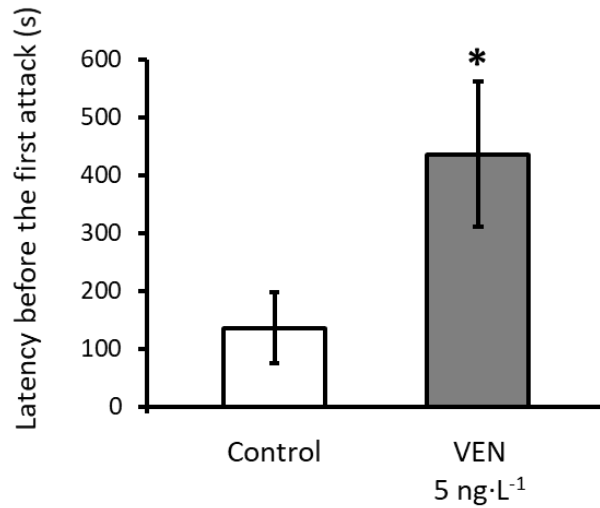
### Material and methods

Eggs of wild cuttlefish (*Sepia officinalis*) were collected in the English Channel in spring 2013 and hatched as described in the main text body. At hatching, cuttlefish were randomly split into three treatment groups: (1) carbon-filtered seawater (control), or (2) 5 ng·L<sup>-1</sup> VEN alone (VEN5) made from stock solutions at 1 g·L<sup>-1</sup> of VEN hydrochloride (CAS number 99300-78-4, KEMPROTEC, Middlesbrough, UK) dissolved in filtered seawater (Millipore, pore size 0.2 µm). Hatchlings were kept in separate aquaria (118×112×13 cm) with groups of 5-6 individuals kept in 96×69×30mm plastic tanks inside each treatment aquarium at a maximum of 8 groups/tank. Each closed-loop-system was supplied with 70 L of natural seawater filtered through activated charcoal in order to remove organic and inorganic contaminants. The VEN concentrations were replenished every two days following a 60% water change.

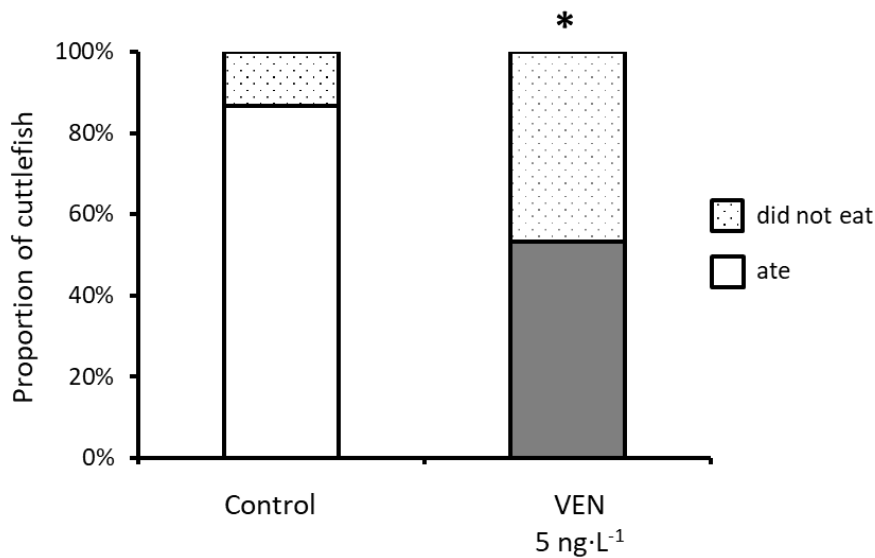
The predatory behavior test was conducted on day 9 post-hatching (n=10-13 per treatment group) for each cuttlefish. Juvenile cuttlefish were collected from their home tank at 9-11 am and carefully transferred to the testing apparatus consisting of a PVC tube (20×5 cm) longitudinally cut in half and blocked at both ends with a grey PVC plate. Experiments were conducted in a shaded environment lit by artificial lamps. Behaviour was recorded for 20 minutes with a Canon<sup>®</sup> XM1 digital video camera (Canon Camera Co. Inc., Tokyo, Japan) placed 90 cm above the behavioural test apparatus filled with water from their home tank to avoid any stress related to water change. Cuttlefish were not fed for 24 hours prior to the behavioral test to ensure feeding motivation. At the beginning of the test, individual cuttlefish were placed at one end of the tube facing the opposing end. After 5 minutes, two shrimps were placed equidistantly at the opposite end of the apparatus. Cuttlefish were discriminated between cuttlefish that ate or did not eat during the test. For each cuttlefish that did attempt to capture a shrimp, the latency before the first attack, the number of successful and unsuccessful attack at the prey and the time elapsed between the first attack and the successful capture of the prey were recorded. The success rate of capture was calculated according to the following formula: successful capture rate (%) = (successful prey captures / total number of attempts) x 100.

All statistical tests were performed using <https://biostatgv.sentiweb.fr/> which uses R script. As data did not meet the assumptions of normality and homogeneity of variance, we used non parametric tests. The latency before the first attack was analysed between the two groups with a Wilcoxon-Mann Whitney test. The proportion of successful attacks between groups was analysed with a Fisher's exact test.

### Results



**Figure S1.** Latency before the first attack of juvenile cuttlefish towards the prey over a 20 min predation test. Cuttlefish, from control group and group exposed to 5 ng·L<sup>-1</sup> of venlafaxine (VEN), were tested at 9 days post-hatching (n=13-10/group). \* indicates significant difference between groups (p<0.05) (Wilcoxon-Mann Whitney test)



**Figure S2.** Proportion of cuttlefish which ate and did not eat the prey (shrimps) during the predation test (20 min) in control group or exposed to venlafaxine (VEN) at 5 ng·L<sup>-1</sup> at 9 days post-hatching. Mean ± SEM (n=13-10/group). \* indicates significant difference between groups (p<0.05) (Fisher's exact test)

## **Acknowledgments**

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