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# Coping with antidepressants in a changing ocean: behavioural implications in juvenile meagre (*Argyrosomus regius*) exposed to venlafaxine

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## Preferred type of presentation – Oral presentation

Anthropogenic activities have contributed to great environmental challenges: remarkable chemical contamination and dramatic climate change. Both factors strongly affect marine ecosystems and are expected to worsen in the future, threatening marine species' welfare and survival. Yet, information on how fish will cope with the presence of chemical contaminants in the future is still extremely limited. The presence of pharmaceuticals in the aquatic environment still lacks regulation, though their elimination during conventional wastewater treatment is known to be rather limited. Thus, assessing ecological consequences of these contaminants becomes imperative, especially considering the expected effects of climate change. Hence, the present work aimed to assess the synergistic effects between climate change (i.e. ocean warming and acidification) and the exposure to the widely and massively used antidepressant venlafaxine on different fish behavioural cues, i.e. anxiety, swimming activity, social behaviour and lateralization, using juvenile *Argyrosomus regius* as biological model. Data evidenced that synergistic effects of climate change, particularly of acidification, combined with venlafaxine exposure led to changes in fish behaviour, affecting the time to adapt to a novel environment and to visualize the fish shoal, suggesting great biological challenges to marine vertebrate populations in the NE Atlantic coastal ecosystems in the ocean of tomorrow.

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