Documents

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Cryptic effects of biological invasions: Reduction of the aggressive behaviour of a native fish under the influence of an "invasive" biomolecule
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Abstract
The invasive green alga Caulerpa cylindracea has become an important component of the diet of the Mediterranean white seabream Diplodus sargus. As a consequence of this "exotic diet", the algal bisindolic alkaloid caulerpin accumulates in the fish tissues. Although the compound shows structural similarity to endogenous indolamines that modulate animal behaviour, the potential impact of caulerpin on fish behaviour still remains unexplored. In this report, behavioural experiments both on groups and on single fish responding towards a mirror were performed under different doses of dietary caulerpin. Differences between treated and control groups for each behaviour and for the overall aggressive pattern during the different experimental phases showed that the aggressiveness of D. sargus decreased with the administration of caulerpin. These results call the attention to a still unexplored potential ability of bioactive metabolites from marine invasive species, to alter the behaviour on native species, with putative negative effects on patterns of fish growth and population dynamics. © 2017 Magliozzi et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

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