

{rokbox title=|Graphical abstract :: Image: Authors|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-oxidative-stress-induction-invasive-sponge-paraleucilla-magna-growing-peyssonnelia-squamaria-algae-julio-diaz-et-al-2019-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-oxidative-stress-induction-invasive-sponge-paraleucilla-magna-growing-peyssonnelia-squamaria-algae-julio-diaz-et-al-2019.jpg{/rokbox}

Eleonora Guzzetti, Eduardo Salabery, Pere Ferriol, **Julio A. Díaz**, Silvia Tejada, Caterina Faggio, Antoni Sureda, 2019.

[Oxidative stress induction by the invasive sponge *Paraleucilla magna* growing on *Peyssonnelia squamaria* algae.](#)

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Abstract: The introduction of invasive species can lead to significant adverse effects on the colonized areas. The aim of the present research was to determine if the invasive behavior of *Paraleucilla magna* could induce the activation of the antioxidant defences in the native red algae, *Peyssonnelia squamaria*. Individuals of isolated *P. squamaria* and individuals epiphytized by *P. magna*, both growing on rocky bottoms, were collected. The activity of the antioxidant enzymes - catalase, superoxide dismutase, glutathione peroxidase and glutathione reductase – and the levels of the malondialdehyde were significantly higher in the algae of the epiphytic group compared to the control group, while the detoxifying enzyme glutathione S-transferase did not show significant differences. The levels of reduced glutathione and total polyphenols were higher in the algae affected by the sponge. In conclusion, the arrival of the species *P. magna* induces an adaptative antioxidant response in *P. squamaria* determined by the use of biomarkers.

Keywords: Antioxidants, Invasive species, Oxidative stress, Mediterranean sea, *Paraleucilla magna*