

{rokbox title=|Nacra (*Pinna nobilis*) :: Foto: Salud Deudero (COB-IEO)|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-salud-deudero-pinna-nobilis-antioxidantes-sureda-et-al-2013-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-salud-deudero-pinna-nobilis-antioxidantes-sureda-et-al-2013.jpg{/rokbox}

Sureda A, Natalotto A, Alvarez E, **Deudero S.**, (2013). [Increased antioxidant response and capability to produce ROS in hemocytes of *Pinna nobilis* L. exposed to anthropogenic activity](#)
. Environmental Pollution. Volume 181, October 2013, Pages 321–324.

Abstract: Environmental pollutants exert immunotoxic effects on aquatic organisms. The aim was to determine the antioxidant response, markers of oxidative damage and reactive oxygen species production in hemocytes of *Pinna nobilis*, the largest endemic bivalve in the Mediterranean Sea, under anthropogenic pressure.

P. nobilis

individuals were collected from two locations along Mallorca Island waters attending to different degree of human impact and the hemocytes were obtained. Specimens from the impacted area showed increased activities of the antioxidant enzymes - catalase, superoxide dismutase, glutathione peroxidase and glutathione reductase -, myeloperoxidase activity and reduced glutathione levels. No differences in oxidative damage markers - malondialdehyde and carbonyl index - were evidenced between the pristine and polluted areas. Hemocytes from the polluted area presented increased capability to generate reactive oxygen species and nitrite/nitrate when activated. In conclusion, the human activities primed hemocytes for oxidative burst and increased the antioxidant mechanism without evidence of oxidative damage.

Keywords: Antioxidant enzyme, Balearic Islands, Biomarker, Oxidative stress, Pollution