

## عنوان مقاله:

Biomarker response of climate change induced ocean acidification and hypercapnia studies on brachyurian crab  
Portunus pelagicus

## محل انتشار:

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## خلاصه مقاله:

A laboratory level microcosm analysis of the impacts of ocean acidification on the environmental stress biomarkers in Portunus pelagicus (Linneaus 1758) exposed to a series of pH regimes expected in the year 2100 (pH 7.5 and 7.0) and leakage from a sub-seabed carbon dioxide storage site (pH 6.5 - 5.5) was carried out. Levels of the antioxidant enzyme catalase, the phase II detoxification enzyme, glutathione S. transferase, the lipid peroxidation biomarker, malondialdehyde, lipid peroxidase, acetylcholinesterase, reduced glutathione and were estimated in the tissues of the exposed animals to validate these enzymes as biomarkers of Hypercapnia. The integrated biomarkers indicated a stress full environment in all animals except those exposed to the control seawater (pH 8.1). The reducing pH was also observed to be highly lethal to the animals exposed to lower pH levels which were obvious from the rate of mortality in a short term of exposure. The present study substantiates the role of biomarkers as early warning of ocean acidification at a sub-lethal level.

## کلمات کلیدی:

Microcosm; CO<sub>2</sub>; Hypercapnia; Portunus pelagicus; Sublethal

## لینک ثابت مقاله در پایگاه سیویلیکا:

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