

## Orientation Behavior of Hermit Crab (Heller, 1865) (*Diogenes avarus*) in Response to Visual Stimulus and Exposure to Pb

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### Abstract

In this study, the assumption was that the samples of *Diogenes avarus* are oriented to the empty shell of Gastropods based on visual information, and exposure to Pb pollutant, affects this ability. So, the orientation behavior towards the lateral and reverse sides of empty shells of four species of gastropods was studied in two groups of hermit crab, *D. avarus*, exposed to Pb and unexposed to Pb (Healthy) in a round environment. Healthy samples showed a significant orientation to the lateral and reverse side of Gastropod *Umbonium vestiarium*. While exposed samples showed the same orientation as the control group. Therefore, Pb pollutant has affected the behavior of visual orientation in samples. These observations may be due to the neurotoxin property or loss of energy by effect of detoxification and survival in conditions of stress.

Keywords: *Hermit crab Diogenes avarus*, *Lead (II) Nitrat*, *Chemical cues*, *Orientation behavior*, *Behavioral indicator*.

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