

# Seasonal Changes in the Biochemical Composition of the Edible Sea Urchin *Paracentrotus lividus* (Echinodermata: Echinoidea) in a Lagoonal Environment

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With 4 figures

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**Abstract.** Monthly soluble and insoluble protein, carbohydrate, lipid and ash levels and energetic content were measured in tissues of *Paracentrotus lividus* adults living in a lagoonal environment over a 1-year period to increase our understanding of resource allocation to the different tissues. The biochemical composition of *P. lividus* individuals in this environment is similar to that observed in other environments. The gonad and gut contained a high level of proteins (soluble or insoluble), a lesser amount of lipids and, finally, a low level of carbohydrates. The main component of the test was ash, followed by protein levels. The lipid and carbohydrate levels in the test were very low. Seasonal variability in the biochemical composition of the different body parts was observed. In the gonad, an increase in the level of lipids was recorded concomitant to an increase in gonad weight. The lipids and carbohydrates, after an initial increase, decreased with the maturation of the gonad. The biochemical variations observed in the gut seem to be linked to both the reproductive cycle and the sea urchin's trophic activity. Variability in the test was low and irregular for all of the observed biochemical components. As *P. lividus* is an important member of the benthic community in the Urbinu lagoon, this echinoid represents an important store of materials and energy within this lagoonal environment.