

# Sea urchin–seagrasses interactions: trophic links in a benthic ecosystem from a coastal lagoon

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**Abstract** Seagrasses could constitute a major component of lagunal ecosystems. Generally, in seagrass beds, consumer control is strong. In coastal lagoons, where seagrass beds are particularly extensive, there is only scarce data on seagrass herbivory. In Mediterranean coastal lagoons, *Paracentrotus lividus* populations are extensive and consume *Cymodocea nodosa* beds. In this study, we monitored a *P. lividus* population during 18 months in order to analyse changes in population density and structure. On the basis of results of previous studies (i.e. biomass, density, production and nutrition parameters), we assessed the importance of *P. lividus* with respect to *C. nodosa* herbivory in a Mediterranean coastal lagoon. The results show that this sea urchin, when its density is low, is estimated to consume about 0.6–18.9% of the seagrass production. However, active movement of consumers among adjacent habitats influences nutrient fluxes. During sea urchin migration,

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