

Distribution and abundance of *Cymodocea nodosa* meadows and *Pinna nobilis* populations in the Mar Menor coastal lagoon (Murcia, SE of Spain)

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The Mar Menor (135 km²) is one of the most important hypersaline coastal lagoons in the Western Mediterranean Sea, its bottoms were originally colonized by monospecific meadows of the seagrass *Cymodocea nodosa*. However, since the 1970's, drastic hydrographic changes caused by various human activities has seen the expansion of a number of species common in the adjacent Mediterranean waters, of which development had been limited up to now due to high salinities and temperatures. Among these species, the seaweed *Caulerpa prolifera* and the endangered fan mussel *Pinna nobilis* are those experiencing a broader spread in the lagoon and with a great potential to interact through both bottom-up and top-down processes have, as a result of which they have become key species of the lagoon ecosystem. In fact, previous maps of benthic vegetation suggest a huge decline of seagrass populations as *C. prolifera* has expanded. Moreover, both the algae and the filter feeder could play a key role in the control of planktonic communities, which development in the lagoon waters could have been accelerated in the last decades due to the great enhancement of eutrophication and pollution processes. Therefore, quantification of benthic vegetation communities, in particular *C. nodosa* meadows, and *P. nobilis* populations are crucial for the understanding of the Mar Menor ecosystem, but overall for the management of human activities and the implementation of conservation actions given its current protection status and the urgent need to obey European Directives (Habitats, Water Framework and Marine Strategy). In this context, precise maps of the distribution and abundance of benthic vegetation and *P. nobilis* in the Mar Menor was obtained during the spring-summer of 2014 by means of direct measurements (macrophytes cover, density and biomass and *P. nobilis* density) performed on 57 sampling points and qualitative observations (presence/absence) performed on 189 additional points as well as on 155.5 km of lineal transects using a trawled videocamera. Data obtained suggests that seagrass abundance in the lagoon is much higher than that reported in some previous studies and does not support the hypothesis of a long-term decline. *P. nobilis* has spread over a surface area 56.8% of the lagoon seafloor with a mean density of 2.17 ind.·100 m⁻² and maximum values (up to 22.5 ind.·100 m⁻²) located in the northern part of the lagoon under the maximum influence of the Mediterranean waters.