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Nationality: Spanish

Orientation: Sustainable use of marine resources

Specialization Area: Aquaculture

Research Line: 2.13 Pathology and immunology of marine organisms

PhD project: Proteomic study of the immune system of the european flat oyster *Ostrea edulis* and its interaction with parasitos *Bonamia* spp.

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Summary: Recovery and maintenance of wild populations of the European flat oyster *Ostrea edulis* should be recognized as a priority for habitat management and conservation of this species, which is close to functional extinction throughout European coasts. Diseases, particular bonamiosis, have contributed to oyster decline and are important constrains for oyster recovery. Understanding oyster immune system should contribute to design effective strategies to fight oyster diseases.

This study reports a proteomic approach envisaged to investigate differences in haemolymph protein expression between oysters infected with either *Bonamia ostreae* or *B. exitiosa* and non-infected oysters, and between haemolymph cells (granulocytes and hyalinocytes) mainly involved in defense. The results contribute to understand host-parasite interaction in the context of oyster bonamiosis, to identify differential roles of each haemocyte type and to better understand the oyster immunity mechanisms, which could have direct implications in the organism integrity preservation.

