Abstract of a Doctoral Dissertation titled:
“The ecological role of mussel farming facilities in the establishment of alien species of ascidians and other bioeroders”

Ascidians are among the most important biofoulants in anthropogenic facilities and by extension in aquaculture, creating additional and significant problems in the production process. The specific preparation of a doctoral thesis aims to capture the size of the problem, to map the species of invasive non-endemic ascidians and other biofoulants and the seasonality of their appearance. Furthermore, to investigate best management practices (win to win) that combine the reduction of economic impacts on the units with an increase in the level of control of these populations.

For the implementation of the above, the following actions were planned.

1. A questionnaire was designed and distributed to shellfish producers in the territory concerning the seasonal occurrence of ascidians, the species, their impact on the production process, the cost of management or avoidance, the applied treatment methods, the losses in farmed species due to their presence and the possible determination of the total cost in the production process.

2. A series of collectors were placed in a floating oyster farming unit, determining the season of appearance for each species of ascidian. At the same time, the physicochemical factors were recorded.

3. In a mussel farming unit, farmed mussels in rafts were allowed to be “infected” with ascidians and treatment methods reported by producers and the available literature and which could be applicable on a production scale were applied for a period of 5 months (June – November).

Seven species of ascidians adhered to the collectors with variation in the time of appearance. Temperature, salinity and chlorophyll-a were associated with their appearance. The appearance of ascidians has been more intense in recent years in the territory. Their presence affects up to 50% of production costs. The species Clavelina oblonga, which occurs at elevated temperatures, causes the most significant impacts and its treatment by washing with seawater, exposure to air, immersion in a solution of increased salinity and the combination of these methods can mitigate their impact on the production process.