

LIFE PINNARCA

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DELIVERABLE DC8.1

REPORT WITH DATA ON THE EFFECTIVITY OF THE TREATMENTS



IMEDMAR-UCV

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Abstract

To carry out this work, different methodologies and treatments applied to individuals of *Pinna nobilis* infected with *Haplosporidium pinnae* that arrived at the IMEDMAR-UCV facilities at the marine station of Calpe have been compiled. Two experiments aimed at the complete healing of *Pinna nobilis* individuals infected by the protozoan *Haplosporidium pinnae* were conducted. Additionally, a study was performed to understand the survival capacity of the protozoan in the absence of its host.

Regarding the healing experiments, the first was conducted in 2021, focusing on exposing the affected individuals to temperature and salinity parameters that, while suitable for the survival of the fan mussels, differ from those in the open sea, where it is currently very difficult to find any living individuals of the species. These altered parameters resemble some environments where living individuals can still be found and act as a natural barrier to the parasite. It is hypothesized that maintaining these conditions over time could rid individuals infected with *H. pinnae* of the disease.

In 2024, a second experiment was conducted, integrating the variables from the first experiment along with phytotherapy as a potential agent to enhance the immune system of *Pinna nobilis*. The aim was not to cure the individuals, but to strengthen the immune system of those infected by the protozoan. The integration of phytotherapy as a treatment for individuals in captivity could facilitate their maintenance and reduce their mortality rate, increasing the likelihood of curing these individuals. Results show a positive effect of these applications on the infection status of the individuals; however, complete healing has not been successfully demonstrated.

Furthermore, in 2021 and 2023, tests were conducted using environmental DNA techniques to understand the survival capacity of *Haplosporidium* in the absence of its host. This analysis aimed to increase knowledge about *H. pinnae*, which was previously limited. These experimental studies are crucial for establishing protocols in this field.

