

LIFE PINNARCA

LIFE20 NAT/ES/001265



DELIVERABLE DE1.9

LIST OF PARTICIPANTS TO THE WORKSHOP

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Fundación Universidad Católica de Valencia
IMEDMAR - UCV

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1. INTRODUCTION

As described in the approved proposal, dissemination activities play an important role in the objectives of the project, since one of the main objectives of the project is to increase public awareness of the status of *Pinna nobilis* and the effect that climate change and human behaviour are having on its survival.

On the other hand, another very important objective is to disseminate the information and results of the project so that the conservation activities carried out during the project can be replicated so that they can be implemented in other places where *P. nobilis* is present or even replicated in other species.

To achieve these objectives, two international online workshops have been planned during the project. These workshops will be useful to disseminate the results of the project at international level to collaborate with researchers and stakeholders who may be interested in the results of the project, and also to present their work that may be related to the project and that could be of interest for its application in *P. nobilis*.

This deliverable corresponds to the first workshop organised by IMEDMAR-UCV on 29 of November of 2023 named “Conservation of *Pinna nobilis* and strategies to avoid its extinction”. For this workshop, IMEDMAR-UCV sent a digital leaflet with the Call of the workshop with an inscription link for the interested audience and asking to the researchers or stakeholders an abstract if they want to make a presentation during the workshop.

When all the participants on the workshop were inscribed, a final programme was developed and sent to all the participants and audience inscribed on the workshop.

This deliverable includes a minute of the workshop, including the presentations shown during the workshop and a list of the different participants indicating which of them were the organizers, the speakers and the audience.

2. TECHNICAL MEETING MINUTE OF THE WORKSHOP “CONSERVATION OF *PINNA NOBILIS* AND STRATEGIES TO AVOID ITS EXTINCTION”

IMEDMAR-UCV organized an Online International workshop with title: ‘Conservation of *Pinna nobilis* and strategies to avoid its extinction’.

This workshop was held via Microsoft Teams Platform on 29th November 2023 from 9.00 to 14.00 (Spanish time)

In total **86** people were pre-registered, and **16** of them expressed their interest to give a talk (some of them were invited by IMEDMAR-UCV). The day of the workshop **88** participants assisted (included the speakers and organizers). Some of the participants shared the same presentation. (See Table 3. List of the total assistants to the Workshop for the personal details of each participant).

Jose Rafael Garcia March (UCV) was the moderator of the Workshop.

Speakers List in alphabetical order:

Alba Garriga Costa	Technician of Marine and Continental Waters Group - IRTA	IRTA - Institute of Agrifood Research and Technology	Optimal site updates and preliminary results on <i>Pinna nobilis</i> densities in the Ebro Delta.
Brigida Carvalho (presented instead by Natalia Llorente)	Project manager	Ecologistas en Acción Región Murciana (EEARM)	Progress, improvements, and horizons in the environmental awareness of the Pinna in the Mar Menor and the territory of influence. Results of the LIFE Pinnarca project at the halfway point.
Emilio Cortés Melendreras	Curator and Technical Director of Murcia University Aquarium	Universidad de Murcia	Long-term maintenance of <i>Pinna nobilis</i> in recirculation systems.
Francesca Carella	Assoc. Prof.	University of Naples Federico II (UNINA)	A widespread Picornavirus affect the noble pen shell <i>Pinna nobilis</i> hemocytes, leading to immunosuppression.
Ioannis Giantsis	Assistant Professor	University of Western Macedonia, Greece	Molecular characterization of <i>Pinna nobilis</i> pathogens in Greece, environmental stressors influence and evaluation of species tolerance.
Iris E. Hendriks	Senior Scientist	CSIC: IMEDEA (CSIC-UIB)	Larval recruitment: a sentinel for population recovery?
Kazumasa Hashimoto	Senior Scientist	Japan Fisheries Research and Education Agency	A new rearing system for the larvae of the Pinnidae <i>Atrina lischkeana</i>

Maite Vázquez-Luis	Researcher	Instituto Español de Oceanografía (IEO-CSIC)	Tracking <i>Pinna nobilis</i> survivors in open-sea: current status in Spain
Mariachiara Chiantore, Saul Ciriaco	Professor in Ecology	LIFE Pinna consortium	LIFE Pinna – aims and results so far
Mathieu Foulquié	PhD student	Institut Océanographique Paul Ricard (IOPR)	State of <i>Pinna nobilis</i> populations in coastal lagoons of the French littoral
Milena Micic	Director	Aquarium Pula Ltd. Croatia	Noble Pen Shell Sanctuary in Aquarium Pula, Croatia.
Pilar Martínez	PhD student	University of Alicante (UA)	Assessment of identification of optimal areas for the survival of <i>Pinna nobilis</i> in the Mar Menor lagoon (Murcia, SE Spain).
Uğur Karadurmuş	Assoc. Prof.	Bandırma Onyedi Eylül University	Pen shell populations in the Marmara Sea: Monitoring results and urgent conservation needs
Jose Rafel Garcia March	Scientific coordinator	IMEDMAR-UCV	Advances and bottlenecks in the reproduction of <i>Pinna nobilis</i> in captivity.

2.1. PRESENTATIONS OF THE WORKSHOPS

Below is an abstract of the various talks presented during the workshop.

2.1.1. Presentation by Uğur Karadurmuş 'Pen shell populations in the Marmara Sea: Monitoring results and urgent conservation needs'

The Sea of Marmara stands out as a region where these mussels have maintained a relatively high population density, offering valuable insights into successful survival. The presentation delved into the current status of fan mussels in the Marmara Sea, highlighting the factors contributing to their survival and thriving population. Furthermore, he discussed ongoing studies that investigate the presence of pathogens and diseases that might affect fan mussels in both the Marmara Sea and the broader Mediterranean. By fostering the exchange of information and research findings on this topic, it could be more understandable the health of these species and the possibility to develop strategies to protect them from potential threats could be increased.

In addition to his presentation of the research findings, he used this platform to call for international cooperation among researchers, conservation organizations, and governments to restore fan mussel populations in the Mediterranean.



Figure 1. Screenshot of the presentation by Uğur Karadurmuş from Bandırma Onyedi Eylül University

2.1.2. Presentation by Mariachiara Chiantore and Saul Ciriaco 'LIFE Pinna – aims and results so far'

Mariachiara and Saul are members of the consortium LIFE Pinna. They presented state of the art of *Pinna nobilis* status in the Gulf of Trieste (Friuli Venezia Giulia, Italy) up to summer 2023 and progress on the LIFE pinna project.



Figure 2. Screenshot of the presentation by Mariachiara Chiantore and Saul Ciriaco from Life Pinna

2.1.3. Presentation by Mathieu Foulquie 'State of *Pinna nobilis* populations in coastal lagoons of the French littoral'

Mathieu Foulquie, he presented the locations where survivors and resistant animals are monitored. They studied four lagoons as sanctuary areas, Thau, Diana, Grazel and Urbinu lagoon. Urbinu is a suitable lagoon and recruitment could occur. In May 2023 they found 375 alive *P. nobilis* in Diana lagoon, however, in October 2023 a significant mortality rate with 38 percent of the animals dead and 5 moribund animals was observed. The Gazel lagoon has permanent contact with the open sea, has similar salinity and it gives opportunities to study potential resistant individuals. Finally, in Thau lagoon some resistant individuals were detected and new settled individuals in previously affected areas.



Figure 3. Screenshot of the presentation by Mathieu Foulquie from IOPR

2.1.4. Presentation by Alba Garriga Costa 'Optimal site updates and preliminary results on *Pinna nobilis* densities in the Ebro Delta'

Alba presented their observations in Alfacs and Fangar Bay. There are no parasite-free zones in Ebro Delta, and as a result, neither of the bays can be deemed optimal for the species. They believe that both bays must be considered as sub-optimal zones and establish an optimal gradient according to environmental conditions for the species and the probability to be infected by the parasite. The lack of freshwater due to drought conditions probably generated an extreme risk of disease transmission for the surviving individuals this year. Furthermore, she noted that there is a significant possibility of changes in *P. nobilis* abundance during the next year 2024. Deep analysis of the data will be done at the beginning of next year. Habitat characterization will be incorporated into the model along with other co-variables to explain the distribution of the densities found. After some studies conducted in the area (Prado et al., 2020, 2021), this survey will contribute to the better understanding of the current situation of *Pinna nobilis* by providing information on its survival, distribution, and abundance in the Ebro Delta. Analyzing mortalities related to the effects of the droughts would be feasible as campaigns have been conducted both before and after the event.



Figure 4. Screenshot of the presentation by Alba Garriga from IRTA

2.1.5. Presentation by Pilar Martínez ‘Assessment of identification of optimal areas for the survival of *Pinna nobilis* in the Mar Menor lagoon (Murcia, SE Spain)’

Pinna nobilis, an endemic bivalve species in the Mediterranean Sea, is critically endangered due mainly to the devastating impact of the protozoan parasite *Haplosporidium pinnae*. The population within the Mar Menor lagoon (Murcia, Spain) represents one of only two surviving populations along the Spanish coast. This relict population has witnessed a significant decline since 2016, primarily due to eutrophication episodes and other anthropogenic impacts affecting the lagoon. Given the high mortality rates observed in certain areas of the lagoon, it is imperative to identify the most suitable zones for the survival of this species, where, if necessary, adult individuals could be translocated from affected areas to enhance their chances of survival. In the present study, we identify these optimal zones through a Multi-Criteria Decision Analysis considering several factors that pose a threat to the species. This evaluation was complemented using Geographic Information Systems (GIS). A total of 18 factors were weighted and combined, resulting in a surface area of 307.92 hectares (2.28% of the lagoon) with over 70% suitability for species survival.



Figure 5. Screenshot of the presentation by Pilar Martínez from University of Alicante

2.1.6. Presentation by Maite Vázquez-Luis ‘Tracking *Pinna nobilis* survivors in open-sea: current status in Spain’

Maite explained the situation since the start of the infection and the projects that they had participated in during these years with the objective of the preservation of *P. nobilis*. They search for survivors and resistant individuals. Once survivors are localised, they identify if they are hybrids or *P. nobilis* and start the monitoring. If the animals are in a favourable place, they maintain them there under observation if not they relocate them. Their observations up to now are that the individuals are isolated cases no populations, hybrids are included in the survivors, and the morphological vs genetic identification has a 100% match. Some individuals recover after Haplosporidium infection. For the restocking of the natural population in parallel to the breeding program, the identification of sanctuary optimal locations for reintroduction, and larval dispersal models are studied. They believe that the collaboration among scientists, citizens, and countries and good management of the funding could lead to the approach of the initial goal to save the species.



Figure 6. Screenshot of the presentation by Maite Vázquez-Luis from CSIC-IEO

2.1.7. Presentation by Iris E. Hendriks ‘Larval recruitment: a sentinel for population recovery?’

The basic idea is that the pelagic larvae could be dispersed from one habitat to another suitable habitat. The pelagic larvae could repopulate the areas which are now depleted because of the mortality wave. Using natural recolonization methods could restock the affected areas. The problem is that they do not know how long the larvae are in the water column so they do not know the dispersal distances. Some relict populations have been detected in lagoons with limited contact with the open sea. The theory is that populations could re-colonize the Mediterranean Sea. Larvae from hybrids could be received to re-colonize the Mediterranean if the hybrids are fertile and resistant (this is unknown). They deploy in the water column net bags and the larvae can settle on them after the pelagic phase. They carried out some experiments on various designs of collectors, at the moment they have not found the ideal design, and some of the larvae are settled on the bottom, for this reason, they cannot observe all the larvae that are there. They have found recruitment only in the western Mediterranean and the number of larvae that they found was very low.



Figure 7. Screenshot of the presentation by Iris E. Hendriks fom CSIC-IMEDEA

2.1.8. Presentation by Kazumasa Hashimoto 'A new rearing system for the larvae of the Pinnidae *Atrina lischkeana*'

A commercially important bivalve in Asia, *Atrina spp.* (Pinnidae) has drastically decreased since the 1970s in Japan sparking an area of interest in seed production. Larval stickiness, which commonly occurs in Pinnids, trap larvae and air bubbles together, limiting swimming behaviour and forcing larvae to float to the water surface. Hence, a new rearing system was designed using the following characteristics: (1) the system included two 500L round-shaped tanks connected with a pipe; (2) two showers were connected to the top of each tank to cause surface disturbance to help larvae sink back into the water column; (3) aeration was not used; however, oxygen exchange was obtained from (2). Approximately 1.25 million fertilized eggs of *Atrina lischkeana* were stocked into each rearing system (N=3). Rearing was halted on day 10 for one system due to high mortality, however, continued until day 65 for the other two systems. Settlement started on day 24, reaching ca 600 micrometers in shell length, with a combined survival rate of 5.05%. We believe that the current experimental design would greatly contribute to the seed production of Pinnids including *Pinna nobilis*.



Figure 8. Screenshot of the presentation by Kazumasa Hashimoto from Japan Fisheries Research and Education Agency

2.1.9. Presentation by José Rafael García-March 'Advances and bottlenecks in the reproduction of *Pinna nobilis* in captivity'

José Rafael García-March talked about the results of maturation of fan mussels in captivity, the production of gametes, and the problems and bottlenecks found to close the life cycle of the species in captivity. Some of the problems that had to be addressed were:

1. Finding breeders in Nature
2. Collection and translocation
3. Long term maintenance in captivity
4. Induce spawning
5. Fertilization of eggs
6. Growth of larvae to metamorphosis and fixation
7. Newly settled individuals' growth in captivity
8. Artificial maturation

However, some of them are already solved and some of them need to be solved or investigated further such as the growth of larvae to metamorphosis and fixation and use of neuropeptides for controlled maturation under captivity.

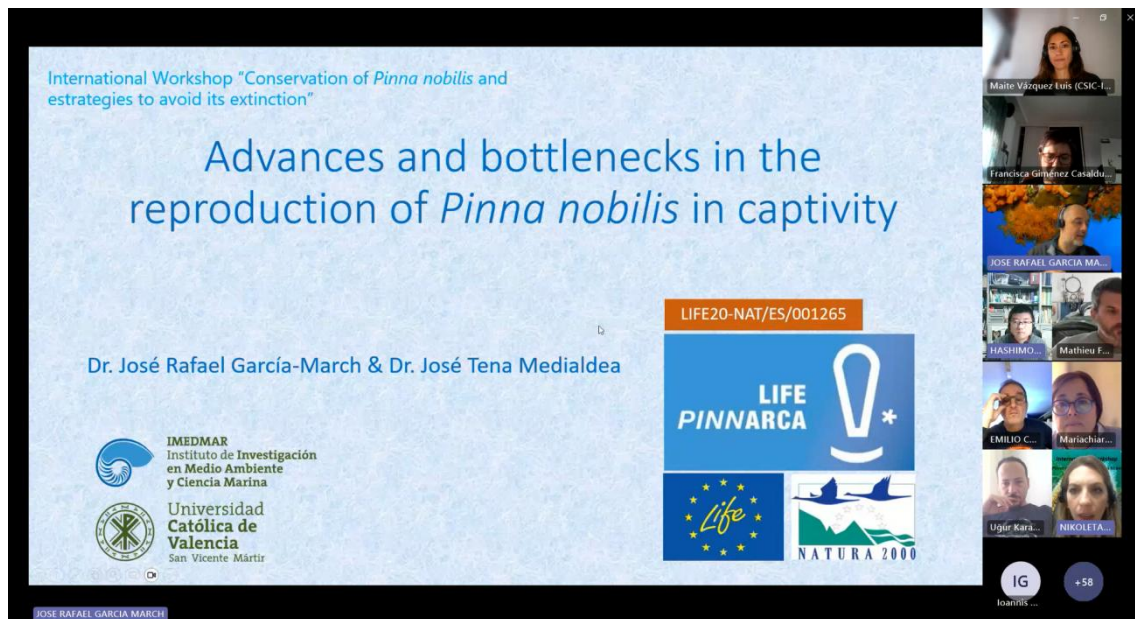


Figure 9. Screenshot of the presentation by José Rafael García-March from IMEDMAR-UCV

2.1.10. Presentation by Emilio Cortés Melendreras ‘Long-term maintenance of *Pinna nobilis* in recirculation systems’

Emilio Cortés Melendreras presented the system that they currently use. The system is a reproduction of the natural environment of the animals. They follow the lunar cycles, and they control the temperature by reproducing the natural cycle, the filter system uses biological and chemical filtration and, in the end, U.V. germicidal filtration before returning the water to the system, as well as, use of internal water movement that reproduces the currents movement following the patterns of Mar Menor. All the critical parameters are absolutely under control. For the feeding of the individuals phytoplankton and zooplankton is used (a mixed of copepods).



Figure 10. Screenshot of the presentation by Emilio Cortés from University of Murcia

2.1.11. Presentation by Ioannis Giantsis ‘Molecular characterization of *Pinna nobilis* pathogens in Greece, environmental stressors influence and evaluation of species tolerance’

He presented the pathogens identified in individuals of *P. nobilis* in Greece. They found a co-existence of *Haplosporidium pinnae*, *Mycobacterium sp.*, and other pathogenic microorganisms were molecularly identified, such as bacteria of the genus *Vibrio*, with the description of a new species of *V. mediterranei* (Lattos et al. 2021). While it should be noted that not all strains of pathogenic species of bacteria are pathogenic. They found that *P. rudis* had the ability of to fight infection consequently the recurrence of the pathogen is reduced in these animals. Regarding *P. nobilis* they found that when the host organism is infected by the pathogen, yet exhibits limited adverse effects. The maintenance of homeostasis in the presence of the pathogen reduced pathogenicity. All biochemical parameters suggest that pathogen infection increases *P. nobilis* sensitivity to water temperature, subsequently leading to mass mortality. Co-infection increased the stress response of *P. nobilis* individuals. Pathogens infection may increase *P. nobilis* sensitivity to water temperature, subsequently leading to higher mortality rates They found SNPs that could be used as biomarkers to distinguish between resistant and susceptible individuals. Right now, they are in the process of gene expression statistical analysis.

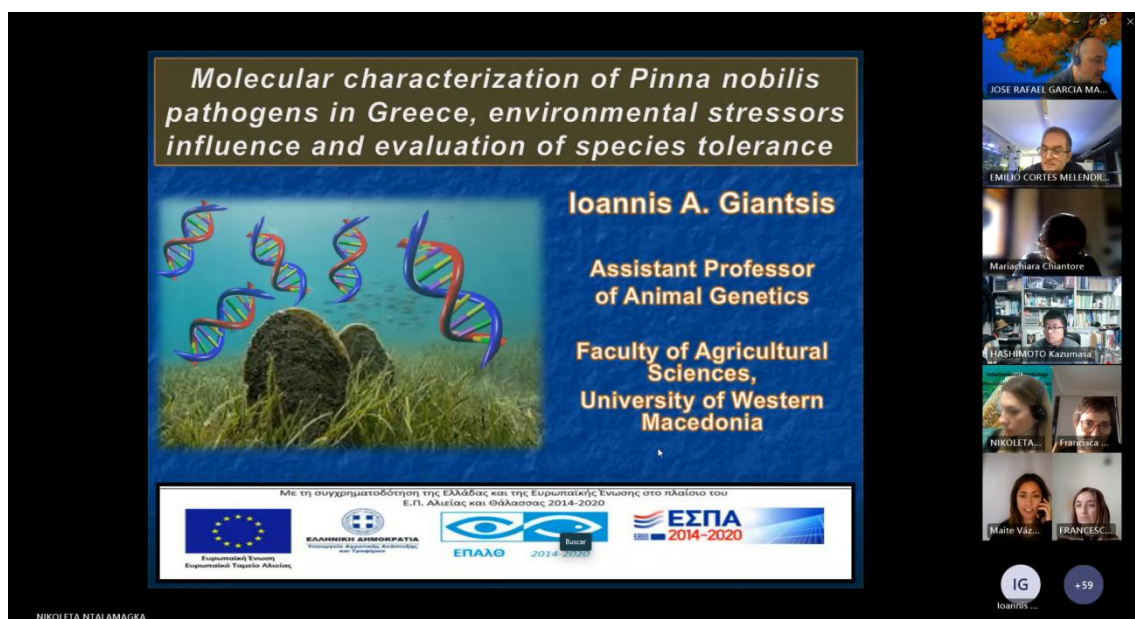


Figure 11. Screenshot of the presentation by Ioannis Giantsis from University of Western Macedonia

2.1.12. Presentation by Francesca Carella 'A widespread Picornavirus affect the noble pen shell *Pinna nobilis* hemocytes, leading to immunosuppression'

In 2021 they started working on *Pinna* immunology and they were checking the capability of *Pinna* haemocyte to respond to stimuli they reported that this animal is not able to respond to pathogenic stimuli. The samples that were used were from animals from Catalonia, the aquarium of Murcia, and animals from the IMEDMAR-UCV aquariums and Venice Lagoon. They observed that these animals had a low number of haemocyte and also the animals exposed to these pathogenic stimuli were not able to phagocyte the stimulus, these are signs of immunodepression. The virus is able to reproduce using different types of organelles of the cell of *P. nobilis*. They classified the virus and it was revealed to be a Picorna RNA virus. A well-known virus in human diseases and its size is 20nm. It is very similar to a Picorna virus (*Cahetoceros tenuissimus* RNA virus type II) that affects marine diatoms *Cahetoceros tenuissimus*. This virus interferes with haemocyte immune abilities and is linked to hemocytopenia as observed in another virus with the same classification. It is unknown for how long the virus is affecting the animals but it could be an underlying cause of the events of mortality and it was not recognised before because of its tropism.

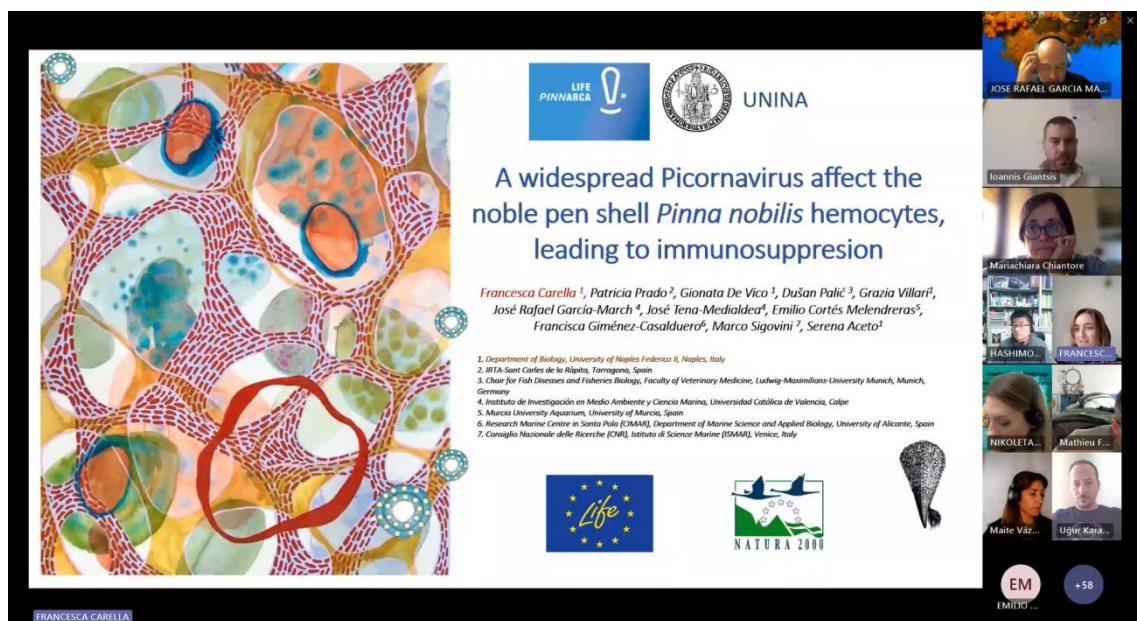


Figure 12. Screenshot of the presentation by Francesca Carella from UNINA

2.1.13. Presentation by Milena Micic 'Noble Pen Shell Sanctuary in Aquarium Pula, Croatia'

Milena presented the systems that are used for the maintenance of the *Pinna nobilis* juveniles in the Aquarium Pula. Currently, they have 6 juveniles from 2021 and 2022, which are placed in sterilised sand, they exchange their water 100% daily and they feed them with *Nannochloropsis sp.*, *Tetraselmis suecica*, *Phaeodactylum tricornutum* and *Isochrysis galbana*. Next steps include reposition of the animals to the sea however predators, parasites and bacteria could complicate this procedure and the use of tanks with open circulation although parasites and bacteria could cause health problems to the individuals of these tanks so these are problems that need to be faced and solved.

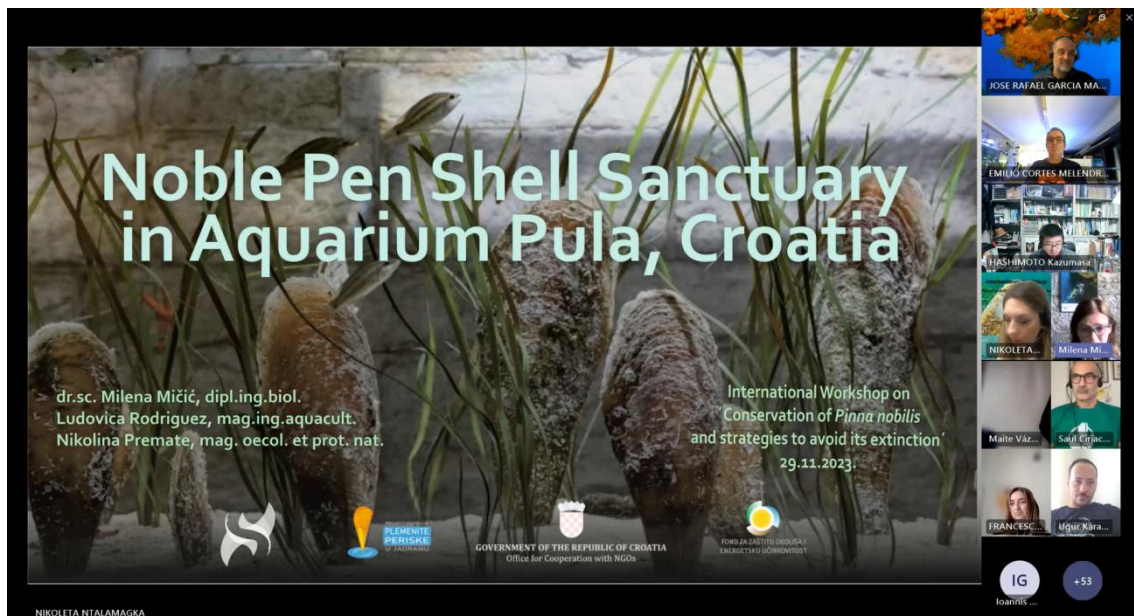


Figure 13. Screenshot of the presentation by Milena Micic Carella from Aquarium Pula

2.1.14. Presentation by Brigida Carvalho (presented instead by Natalia Llorente) ‘Progress, improvements, and horizons in the environmental awareness of the Pinna in the Mar Menor and the territory of influence. Results of the LIFE Pinnarca project at the halfway point’

During this phase of the project, the dissemination work has found and recognised opportunities to work with the different sectors targeted by the awareness-raising work. The next phase of the project envisages improvements in the methodology for approaching dissemination actions in the area where the organisation is active.

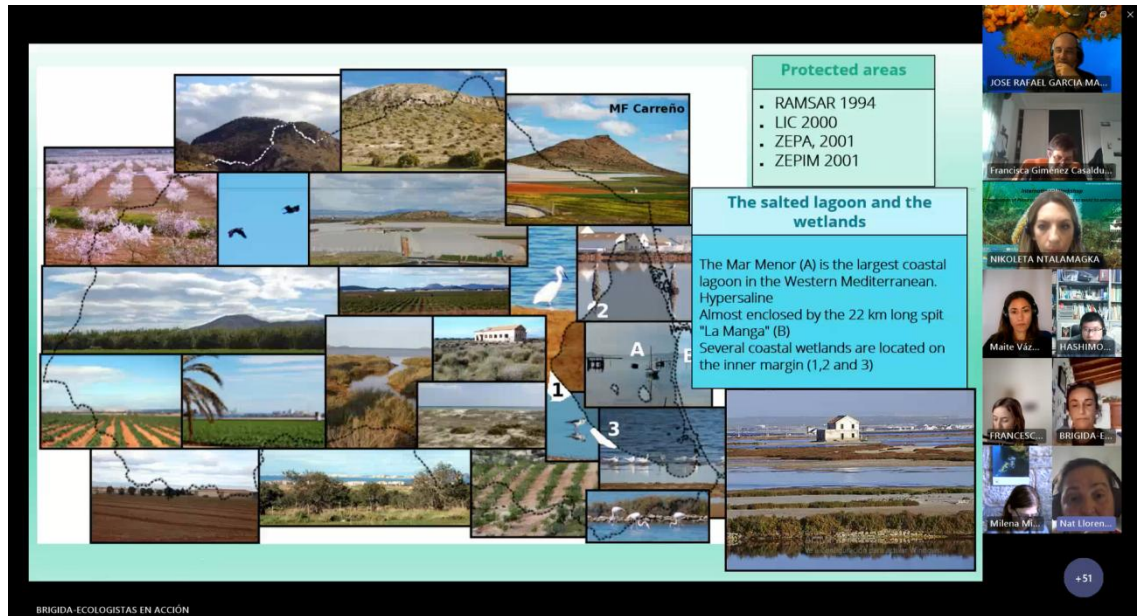


Figure 14. Screenshot of the presentation by Brigida Calvo (presented instead by Natalia Llorente) from EEARM

2.2. ROUND TABLE

The participants discussed details of each of the presented projects and they questioned the speakers.

Further communication and collaboration were agreed among the two consortiums: LIFE Pinnarca and LIFE Pinna.

Ioannis Giantsis and Uğur Karadurmuş agreed to continue the communication with Francesca Carella to send her samples for her research regarding the virus.

Uğur Karadurmuş called for general collaboration especially for creating an action plan if the situation in his area suddenly is not under control and the animals must be rescued.

They agree that the cycle should be closed as it is important to reproduce under captivity.

The diffusion of the pen shell situation is important not only to save the remaining individuals but for possible future problems that could occur with other species 'more known' as important to the public.

In July 2024 the members of the consortium will meet face to face at the conference that UCV organises (IX ISMS 2024 <https://ismsvalencia.es/>) (10-12 of July 2024). First call for the conference will be sent before Christmas.

3. CONCLUSIONS

In conclusion, during the workshop, the different activities implemented during the project, as well as the results and expectations for the evolution of *P. nobilis* until the end of the project and in the following years, were presented to specialized personnel, stakeholders and interested members of the general public.

On the other hand, contacts have been established with professionals in the sector and synergies have been established between the activities carried out during the project with those carried out by other entities to be implemented in other areas, countries and even in other species, and at the same time practices carried out in other species that could be interesting in the future for their application in *P. nobilis*.

Finally, the realisation of this International Workshop is the first of the two Workshops scheduled in the proposal.

The second Workshop is expected to be held during the last part of the project, close to its finalisation, in order to disseminate the final results of the project to the public.

After the realisation of the second Workshop, an update of this deliverable will be made including all the information of the next Workshop as an Annex.

4. LIST OF PARTICIPANTS TO THE WORKSHOPS

In the Table 1 is included all the list of the IMEDMAR-UCV personnel who participated and organised the workshop.

Table 1. List of the participants and organised the Workshop from IMEDMAR-UCV

Full Name	Charge/Position	Organisation
Nikoleta Ntalamagka	Management Assistant	IMEDMAR-UCV
Jose Rafael García March	Project Director	IMEDMAR-UCV
José Tena Medialdea	Project Manager	IMEDMAR-UCV
Juan Ignacio Balaguer Benevent	Technician	IMEDMAR-UCV
Javier Torres Gavilá	Associated Professor	IMEDMAR-UCV
Rafael Ros Perez	Management Collaborator	IMEDMAR-UCV
Victor Tena Gascó	Technician	IMEDMAR-UCV
Samuel Acevedo Quilis	Technician	IMEDMAR-UCV

The Table 2 includes information of all of the speaker who participated on the workshop, indicating charge/position and their organisation.

Table 2. List of the Speakers of the Workshop

Full name	Position	Organisation
Alba Garriga Costa	Technician of Marine and Continental Waters Group	Institute of Agrifood Research and Technology
Brigida Carvalho	Project manager	Ecologistas en Acción Región Murciana
Emilio Cortés Melendreras	Curator and Technical Director of Murcia University Aquarium	Universidad de Murcia
Francesca Carella	Associated Professor	University of Naples Federico II
Ioannis Giantsis	Assistant Professor	University of Western Macedonia, Greece
Iris E. Hendriks	Senior Scientist	Consejo Superior de Investigaciones Científicas: IMEDEA (CSIC-UIB)
Kazumasa Hashimoto	Senior Scientist	Japan Fisheries Research and Education Agency
Jose Rafael García March	Scientific Coordinator & Project Manager	IMEDMAR-UCV
Maite Vázquez-Luis	Researcher	Consejo Superior de Investigaciones Científicas: Instituto Español de Oceanografía (IEO-CSIC)
Mariachiara Chiantore	Professor in Ecology	University of Genova
Mathieu Foulquié	PhD student	Institut Océanographique Paul Ricard
Milena Micic	Director	Aquarium Pula Ltd.
Pilar Martínez	PhD student	University of Alicante
Saul Ciriaco	Scientific monitoring activities	WWF Miramare MPA / Shoreline soc coop
Uğur Karadurmuş	Associated Professor	Bandırma Onyedi Eylül University

Finally, Table 3 includes all workshop assistants, including the organisers and the speakers. A total of 88 people attended the workshop.

Table 3. List of the total assistants to the Workshop

Full name	Rol	Charge	Institution
Alba Garriga (IRTA)	Speaker	Technician of Marine and Continental Waters Group - IRTA	IRTA - Institute of Agrifood Research and Technology
Brigida Carvalho (EARM)	Speaker	Project manager	Ecologistas en Acción Región Murciana
Emilio Cortes Melendreras	Speaker	Curator and Technical Director of Murcia University Aquarium	Universidad de Murcia
Francesca Carella (UNINA -DB)	Speaker	Associate Professor	Università degli Studi di Napoli Federico II
Ioannis Giantsis	Speaker	Assistant Professor	University of Western Macedonia, Greece
Iris E. Hendriks (CSIC-IMEDEA)	Speaker	Senior Scientist	CSIC: IMEDEA (CSIC-UIB)
Kazumasa Hashimoto	Speaker	Senior Scientist	Japan Fisheries Research and Education Agency
Maite Vázquez-Luis (CSIC-IEO)	Speaker	Researcher	Instituto Español de Oceanografía (IEO-CSIC)
Mariachiara Chiantore	Speaker	Professor in Ecology	University of Genova
Mathieu Foulquie (IOPR)	Speaker	PhD student	Institut Océanographique Paul Ricard
Milena Micic	Speaker	Director	Aquarium Pula Ltd. Croatia
Pilar Martínez	Speaker	PhD student	University of Alicante
Saul Ciriaco - LIFE PINNA	Speaker	Scientific monitoring activities	WWF Miramare MPA / Shoreline soc coop
Uğur Karadurmuş	Speaker	Associated Professor	Bandırma Onyedi Eylül University
Javier Torres Gavilá (IMEDMAR-UCV)	Host UCV	Associated Professor	Universidad Católica de Valencia - IMEDMAR
Jose Rafael García March (IMEDMAR-UCV)	Host UCV + Speaker	Scientific coordinator, director LIFE PINNARCA	Universidad Católica de Valencia - IMEDMAR
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Alessandro Midlarz	Assistant	Collaborator at Triton Research	Independent
Alice Oprandi	Assistant	Post Doc at Seascape Ecology Lab	University of Genoa
Andrea Spinelli	Assistant	Researcher	Fundación Oceanogràfic
Andrea Venegas	Assistant	Not indicated	Tragsa
Andreu Dalmau	Assistant	Project technician	SUBMON
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Arthur Tireau Aloncle	Assistant	Student	Università degli Studi di Napoli Federico II
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Beatrice Musella	Assistant	Student	Università degli Studi di Napoli Federico II
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Chiara	Assistant	Not indicated	Not indicated
Chiara Chiantore	Assistant	Not indicated	Not indicated
Chiara Locci	Assistant	PhD Student	University of Sassari
Claire Calas	Assistant	Student	Università degli Studi di Napoli Federico II
Cyril Micheau	Assistant	None	Independent
Daniel San Roman	Assistant	Project Technician	SUBMON
Daniela Caracciolo	Assistant	Responsible for biodiversity and European projects	ARPAL - Ligurian Environmental Protection Agency
Daniele Grech	Assistant	Researcher	IMC - International Marine Centre
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Full name	Rol	Charge	Institution
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Isabel Abel	Assistant	Superior Technician	Universidad de Alicante
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Martina Marić	Assistant	Senior expert Advisor	Not indicated
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Nehir Kavi	Assistant	Undergraduate student, former IMEDMAR intern	Acıbadem University
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Full name	Rol	Charge	Institution
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Stefania Coppa	Assistant	Researcher	CNR-IAS
Stéphane Coupé	Assistant	Assistant professor	Mediterranean Institute of Oceanology
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