

MISSION REPORT

MADEIRA – SAVAGE ISLANDS

19 August – 11 September 2017



*Mediterranean monk seal, Monachus monachus
© F. Buyle. Monaco Explorations.*



At the behest and under the leadership of H.S.H. Prince Albert II of Monaco, in 2017 the Principality reconnected with a great tradition: exploring at sea to learn, understand, raise public awareness and take action to protect and sustainably manage the oceans.

Monaco Explorations operates at the intersection of most of the issues that are important to me, and as such has really struck a chord with me. It is also a venture that reflects the best traditions of the Principality, and which speaks to all of humanity.

H.S.H. Albert II, Prince of Monaco

Monegasque participants in the Madeira 2017 mission:



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1 - Introduction

In May 2017, the Principality of Monaco asked the Portuguese Republic and the Autonomous Region of Madeira to host a Monaco Explorations scientific mission in waters under their national jurisdiction. The mission would primarily involve local teams, and would seek to study biodiversity in the area around Madeira and the Savage Islands, and to increase awareness of this biodiversity through numerous public engagement activities.

Given the description of the Monaco Explorations project, the scientific mission and the public engagement initiatives planned during the mission, and despite a very tight schedule, the authorities in Portugal and the Autonomous Region of Madeira kindly issued the authorisations required to allow the mission to proceed smoothly, including for entry to and navigation in territorial waters, for entry into protected areas, for carrying out scientific work and collecting samples, and for scuba diving and photography.

The Principality of Monaco would like to offer its sincerest thanks to the Portuguese Republic, and particularly:

- H.E. Mr Marcelo Rebelo de Sousa, President of the Portuguese Republic,
- Mr Ireneu Barreto, Representative of the Republic for the Autonomous Region of Madeira,
- Mr Miguel Albuquerque, President of the Regional Government of Madeira,
- The entire Government of the Autonomous Region of Madeira, including Ms Susana Prada, Regional Secretary for the Environment and Natural Resources,
- Mr Paulo Cafôfo, Mayor of Funchal,
- And all of the official bodies who made this mission possible and enabled productive discussions between the two countries on diplomatic, scientific and cultural issues.

The Principality of Monaco would also like to thank the many partners and organisations who participated in or contributed to the work involved in this mission, and particularly:

- The Instituto da Conservação da Natureza e das Florestas (ICNF, Institute for Nature Conservation and Forests)
- The Funchal Natural History Museum
- The Funchal Marine Biology Station
- The Caniçal Whale Museum, the Madeira Regional Archives,
- The Calheta Aquaculture Centre, Buggypower and the Madeira Electricity Company,
- And all the scientists who participated in the field.

In accordance with the authorisations granted, Monaco Explorations hereby provides a report on the scientific and public engagement activities carried out during the mission.

After a short and intensive preparatory period from April to mid-August 2017, the mission took place from 19 August to 11 September 2017.

Following the work carried out in Madeira and the Savage Islands, the *Yersin* left the Savage Islands on 11 September 2017, heading for Mindelo, Cabo Verde.

2 - Monaco Explorations – “Reconnecting Humanity and the Sea”

In summer 2016, H.S.H. Prince Albert II of Monaco expressed a wish to revive seagoing missions organised and/or supported by the Principality. By launching a major project which brings together, alongside the Prince’s Government, Monegasque organisations with an interest in the oceans (Oceanographic Institute, Prince Albert I of Monaco Foundation, Prince Albert II of Monaco Foundation, Monaco Scientific Centre, Monaco Yacht Club), the Prince sought to make a full contribution to extending the Principality’s influence and sharing His commitment to the environment.

The missions aim to add to our understanding of marine ecosystems and human influence on such systems, to encourage a more sustainable and environmentally friendly approach to the oceans. They support local actors and researchers, and also involve international multidisciplinary teams.

Protecting endangered species such as monk seals, sea turtles and sharks, understanding the impact of climate change, the emergence of invasive species or pollution, improving the operation of marine protected areas... the missions are based on observing the ocean while diving, using remotely operated vehicles, right down to plankton and viruses invisible to the naked eye, or on seeking out animals that tend to evade being seen, using new and sophisticated techniques for studying biodiversity, such as environmental DNA.

In late 2016, the Monaco Explorations steering committee and the various working groups which were set up established the organisation’s objectives: a major scientific and public engagement campaign aimed at nurturing, illustrating and supporting Monaco’s commitment to better management of the oceans as a means to “Reconnecting Humanity and the Sea”.

As part of the project structure that was put in place, led by Colonel Bruno Philipponnat, the campaign unit, headed by Mr Robert Calcagno, was given the responsibility of coordinating the scientific content and public engagement aspects of the various missions, in concert with the other units.

3 - Monaco Explorations organisational chart*

*Note: organisation and chart at the time Monaco Explorations was launched.

Steering Committee:

- **Colonel Bruno Philipponnat**, Chargé de mission to H.S.H. Prince Albert II; Project Leader
- **Mr Robert Calcagno**, CEO of the Oceanographic Institute, Prince Albert I of Monaco Foundation; Head of the Scientific Campaign Unit
- **Prof Patrick Rampal**, President of the Monaco Scientific Centre; Head of the Scientific Steering Committee
- **Ms Armelle Roudaut-Lafon**, Director of Maritime Affairs for Monaco; in charge of the *Yersin*
- **Mr Jean-Marie Véran**, Special Advisor to the Minister of Foreign Affairs and Cooperation; Head of the Administrative Unit
- **Mr Thierry Apparu**, Head of the Communications Unit

Operational team:

- **Ms Lea Lippisch**, Coordinator
- **Ms Marion Faivre**, Coordinator

Diving and medical support:

- **Mr Pierre Frolla**, Dive Manager
- **Dr Philippe Afriat**, **Prof Yann-Erick Claessens** and **Dr Olivia Keita-Perse** from Princess Grace Hospital, medical support managers

Scientific Steering Committee:

The image below shows the members of the Monaco Explorations Scientific Steering Committee.



Under the leadership of Mr Robert Calcagno, the Oceanographic Institute has been particularly heavily involved in ensuring the success of this first Monaco Explorations mission. Mr Pierre Gilles, Project Manager in the Institute's Ocean Policy Department, provided scientific coordination for the mission, under the direction of Mr Olivier Dufourneaud. The Heritage Department, led by Mr Patrick Piguët, in partnership with Mr Thomas Fouilleron, Director of the Prince's Palace Archives and Library, created a historical exhibition about Prince Albert I in Funchal (Madeira).

4 - The mission to Madeira and Savage islands in figures

After a short and intensive preparatory period from April to July 2017, the mission took place from 19 August to 11 September 2017, with 24 days on board the *Yersin* including:

- 2 days of logistical preparations in Madeira (19 and 20 August)
- 19 operational days in Madeira (21 August to 8 September)
- 3 sailing and operational days in the Savage Islands (9 to 11 September)



On board the Yersin and two skiffs, scientists monitored the development of a pod of pilot whales to the south of Madeira © O.Borde. Monaco Explorations.

5 - H.S.H. Prince Albert II of Monaco's involvement in the mission

H.S.H. Prince Albert II of Monaco joined the mission in Madeira, via Lisbon, from 5 to 8 September 2018.

During his stopover in Lisbon on 5 September, H.S.H. the Sovereign Prince met H.E. Mr Marcelo Rebelo de Sousa, President of the Portuguese Republic, at Belém Palace to discuss relations between the two countries, environmental protection issues and, more specifically, marine protected areas.

H.S.H. the Sovereign Prince was later welcomed at Cristiano Ronaldo Airport in Madeira by Mr Juiz Conselheiro Ireneu Barreto, Representative of the Republic for the Autonomous Region of Madeira, Dr José Lino Tranquada Gomes, President of Madeira's Legislative Assembly, and Dr Miguel Albuquerque, President of the Regional Government, together with Mr Robert Calcagno, CEO of the Oceanographic Institute and Head of the Monaco Explorations Scientific Campaign Unit.

The group proceeded directly to Lido, a modern district on the seafront in Funchal, for the official opening of the new Prince Albert I of Monaco Square, where a commemorative plaque by Ms Manuela Aranha was installed. The opening was attended by the Madeira authorities, a Monegasque delegation and local people. H.S.H. the Sovereign Prince was met on arrival by Mr Paulo Cafôfo, the Mayor of Funchal.



Official opening of Albert I Square in Funchal, in the presence of H.S.H. Prince Albert II of Monaco, Mr Cafôfo, the Mayor of Funchal, and Ms Manuela Aranha, the artist who created the commemorative plaque.



A detailed view of the commemorative plaque installed on Albert I Square in Funchal.

H.S.H. Prince Albert II then visited the Funchal Natural History Museum to open the exhibition **An explorer Prince: Albert I of Monaco discovers Madeira**.



The leaflet presenting the exhibition and the 44-page collective booklet published for the exhibition.

Following the exhibition opening, the group headed for the Port of Funchal, where H.S.H. the Sovereign Prince was welcomed on board the *Yersin*, where He was staying, by Mr and Ms François Fiat, the ship's owners, Commander Jean Dumarais, the Captain, and the vessel's entire crew.

Early in the evening, H.S.H. the Sovereign Prince and His delegation left the ship for Casa Velha Do Palheiro, where they had dinner with prominent figures from Madeira and Monaco Explorations team members.



H.S.H. Prince Albert II at the helm of the Yersin.

On 6 September, the Sovereign took part in a workshop organised by the Prince Albert II of Monaco Foundation on monk seal conservation, an important topic for the Principality. From 6 to 7 September, he paid an in-situ visit to the Desertas Islands marine protected area, accompanied by Mr Miguel Filipe Albuquerque, President of the Regional Government of the Autonomous Region of Madeira. Again, the focus was on monk seal conservation. The Sovereign left Madeira on the morning of 8 September.



Photo 1, left. *H.S.H. Prince Albert II and Ms Rosa Pires, Monk Seal Programme Manager for the ICNF, visiting one of the caves that serves as a refuge for monk seals on the island of Deserta Grande. © O. Borde. Monaco Explorations.*

Photo 2, right. *One of the monk seals spotted off the coast of the Desertas Islands. © F. Buyle. Monaco Explorations.*

Political, scientific, awareness and public engagement outcomes

On the science side, in addition to the core outcomes, the mission to Madeira helped to strengthen relations with scientists in Portugal.

During the mission, Monaco Explorations staff and representatives from Monaco were able to meet key stakeholders working to protect iconic species or on issues of importance to the Principality. Follow-ups are already underway, on the issue of monk seals (joint work by a monk seal expert group, operating under the aegis of the Prince Albert II of Monaco Foundation, collaboration with the ICNF).

Political action to develop marine protected areas

One of Monaco Explorations' objectives is to promote the development of marine protected areas through political action and public engagement.

Marine protected areas are key tools in helping to meet conservation and sustainable development goals, since they prevent the erosion of marine biodiversity, improve ecosystem resilience, and contribute to sustainable fisheries and the survival of local communities. They are also sentinels of climate change.

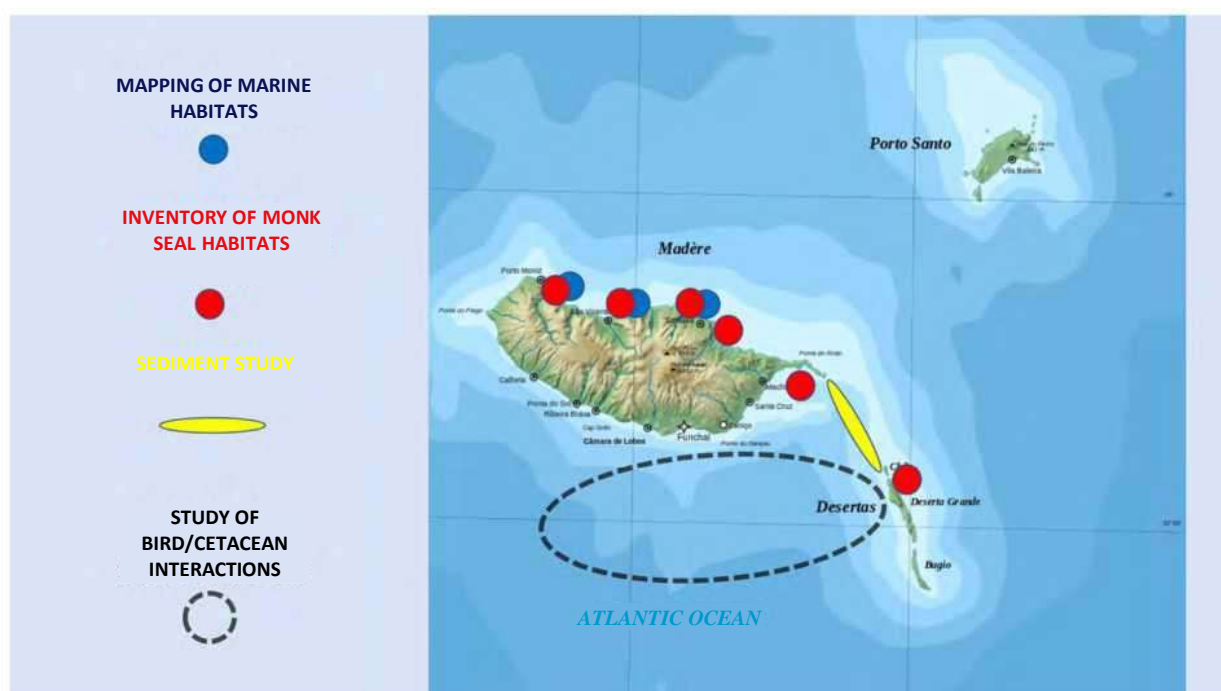
The decision to establish a marine protected area is first and foremost a political, legal and administrative process involving the authorities of a sovereign state.

H.S.H. the Sovereign Prince is personally involved in promoting the expansion of marine protected areas across the globe, through the discussions He has had and will have in the future with political leaders in the countries visited by Monaco Explorations.

The work carried out on this mission was directly linked to the issue of marine protected areas.

6 - Scientific activities conducted in Madeira

The scientific activities conducted in Madeira focused primarily on local projects related to Monaco's priority issues.



Location of scientific activities carried out in Madeira.

Various activities carried out by local organisations with limited resources received support from Monaco Explorations; these were generally given in kind (publications, logistics at sea, scientific analysis, tags, etc.). Where this is the case, it is noted in the text as follows: “*Funded by Monaco Explorations: ...*”.

The following activities were carried out from 21 August to 8 September 2017:

- Study of the interaction between seabirds and marine mammals, 24–26 August
- Sediment study of the submarine ridge linking the island of Madeira to the Desertas, 24–26 August
- Mapping of marine habitats to the north of Madeira, 28–31 August
- Focus on the monk seal:
 - o Site reconnaissance, 21 and 22 August
 - o Veterinary workshop, 23 August
 - o Inventory of monk seal habitats on the northern coast of Madeira and the eastern coast of the Desertas, 28–31 August
 - o Filming of monk seal footage, 4–7 September
 - o Expert workshop on monk seal conservation, 5 September; the results were presented to the Sovereign on 6 September
 - o Visit of the Sovereign to Deserta Grande to meet those involved in monk seal protection and conservation, and observe the animals in situ, 6–7 September

Note: Those who are interested in more details about the results of the analysis current underway are invited to contact the lead scientists. A list and contact details are provided in Appendix 1.

6.1 - Study of the interaction between seabirds and marine mammals

More than 28 species of cetacean can be found in Madeira’s waters. When these marine mammals feed, forcing their prey to the surface (hunting), seabirds, including native species, can feed by diving from the surface. These often very localised and fleeting interactions have not yet been well documented. Studying them provides valuable data for marine mammal and seabird conservation.



One of the two pods of short-finned pilot whale (Globicephala macrorhynchus), spotted in Madeira during the mission. © O. Borde. Monaco Explorations

The scientific programme involved ploughing the south coast of Madeira in search of these interactions (the skiffs sailing up to three nautical miles ahead on either side of the *Yersin*) and getting a photography team to document the phenomenon. It also aimed to study the surface food web during the day and at night by taking samples from fauna (plankton, fish, cephalopods) for subsequent isotopic measurement.

The team comprised Prof José Pedro Granadeiro, the group head (UL*), Prof Paulo Catry (UL*), João Morgado (CWM**), Mr Luís Martim Almada Berimbau (CWM**) and Ms Inês Cunha (CWM**). Dr Luis Freitas (Science Manager, CWM**) helped to develop the programme but was not involved in the operations.

(* UL: University of Lisbon; ** CWM: Caniçal Whale Museum, Madeira).

The team collected samples (chub mackerel, *Scomber colias*, squid, *Sthenoteuthis pteropus*, plankton) for isotopic analysis. They were able to observe numerous species of native seabirds (including Bulwer's petrel, *Bulweria bulwerii*) and monitor several cetacean pods (five pods of Atlantic spotted dolphin (*Stenella frontalis*), one pod of common bottlenose dolphin (*Tursiops truncatus*), two pods of short-finned pilot whale (*Globicephala macrorhynchus*)), but did not succeed in observing a hunting sequence with an interaction between seabirds and cetaceans.

Numerous video sequences and underwater photos were taken by the Monaco Explorations team, which was even able to film a young sperm whale.

The work carried out is presented in document No 1 listed in Appendix 2.



Prof Pedro José Granadeiro and Mr João Morgado (back row) on board a skiff
© O. Borde. Monaco Explorations.



South of Madeira, a pod of Atlantic spotted dolphins with a Cory's shearwater (an ocean bird) flying overhead.
© O. Borde. Monaco Explorations.



Mr Fabrice Schnoller, a cetacean expert and videographer, films a young sperm whale in VR 360° off the coast of the Desertas Islands. © F. Buyle. Monaco Explorations.

6.2 – Sediment study of the submarine ridge linking the island of Madeira to the Desertas

The slopes of the submarine ridge which links the main island of Madeira to the Desertas, whose summit is 80 metres below the surface, are home to remarkable but little-known biodiversity.

Since the mission did not have access to remotely operated vehicles, this study involved deploying a mechanical dredge and collecting large amounts of sediment for study in the laboratory.



Dr Andreia Braga-Henriques and Ms Ana Nóbrega sorting the sediment samples in the wet laboratory on board the Yersin © Pedro Vasconcelos. Monaco Explorations.

The team comprised:

- Dr Andreia Braga-Henriques, head of group, postdoctoral researcher and expert in deep-water corals at the [Oceanic Observatory of Madeira Laboratory - Funchal Marine Biology Station](#) and the Marine and Environmental Sciences Centre (MARE)
- Ms Ana Nóbrega, graduate student from the [University of Minho, Braga, Portugal](#) - Intern at the Funchal Marine Biology Station
- Ms Elizaveta Akoulina, PhD student at the Fundamentals of Biotechnology Federal Research Centre of the Russian Academy of Sciences (a federal state institution) - Intern at the Funchal Marine Biology Station



Two of the samples collected, maerl (on the left) and black coral (on the right). © Pedro Vasconcelos. Monaco Explorations.

The team collected samples from 21 stations, at depths ranging from 8 to 122 metres at three different sites: the eastern slope of Ilheu Chao (Deserta Island), the Desertas–Madeira ridge and the southern slope off the coast of Ponta de Sao Lourenço. A total of 258 invertebrate samples were collected, including several specimens of hard corals, soft corals and black corals. Other important organisms were found during the campaign: maerl (coralline algae) and a fragment of kelp, *Laminaria sp*, which may be the first evidence of this seaweed in Madeira. Maerl beds are extremely important marine habitats, given their ability to capture CO₂.

The work carried out is presented in documents No 2 and 3 listed in Appendix 2.

6.3 - Mapping of marine habitats to the north of Madeira

While the south coast of Madeira is fairly well understood and has been studied by scientists, the same does not hold true for the north coast, which is difficult to access and highly dynamic in terms of current and climate. Thanks to Monaco Explorations and the *Yersin*, which is able to operate easily in these difficult conditions, the team of scientists was able to penetrate these rarely visited areas for the first time and make some new observations.

The team comprised Ms Teresa Mafalda Gonçalves Jardim de Freitas Araújo (Director, FMBS*), Mr Pedro António Nobre Soares Pinto das Neves (CIIMAR-Madeira**) and Dr Cláudia Correia da Silva Ribeiro (CIIMAR-Madeira**), further assisted by two members of ICNF, Ms Rosa Pires and Mr Sergio Pereira.

(* FMBS: Funchal Marine Biology Station; ** CIIMAR-Madeira: Interdisciplinary Centre of Marine and Environmental Research, Madeira.)



*From left to right, Ms Teresa Mafalda, Mr Pedro Neves, Dr Cláudia Ribeiro, Mr Sergio Pereira and Ms Rosa Pires
© O. Borde. Monaco Explorations.*



*Scientific divers record fish, invertebrates and seaweed to the north of Madeira.
© F. Buyle. Monaco Explorations.*

In total, eleven dives (three divers on each occasion) were carried out, seven on the north coast of Madeira, one to the south of Ponta de Sao Lourenço, and three to the east of Deserta Grande. The total dive time was 10.5 hours, at depths ranging from 12 to 29 metres. Eleven new sites were visited, along an 8,500-metre section. Two new maerl beds were discovered at Ponta do Pedregal, off the coast of Deserta Grande and at Fora Islet; 42 fish species were observed, including two important species which are endangered by overfishing: dusky grouper (*Epinephelus marginatus*) and barred hogfish (*Bodianus scrofa*).

The work carried out is presented in document No 3 listed in Appendix 2.



*The barred hogfish, (*Bodianus scrofa*), which is vulnerable to overfishing, is particularly closely monitored by scientists @ Pedro Neves, Mbe Lab.*

6.4 - Focus on the monk seal

The monk seal, *Monachus monachus*, was the main focus of the Monaco Explorations mission in Madeira. An iconic species of the Madeira Archipelago which is in critical danger of extinction with a population of around 40 animals, the monk seal is included as part of the Principality's priority conservation programmes, particularly through projects supported and funded by the Prince Albert II of Monaco Foundation. In Madeira, several organisations are involved in the local conservation programme, including the ICNF and the Whale Museum.

The ICNF is the project manager for the Madeira archipelago monk seal programme, which was launched in 1998.

This focus had several complementary components:

- **Monaco Explorations' participation in the "Monk Seal Necropsy" workshop at the Caniçal Whale Museum:** On 23 August, the Monaco Explorations communications team (Mr Thierry Apparu, Ms Liz Factor, Mr Olivier Borde, Mr Fabrice Schnoller, Mr Frédéric Buyle) attended this workshop, organised by Ms Rosa Pires (ICNF) and Dr Luis Freitas (Whale Museum) as part of the European *LIFE Madeira Monk Seal Project*. It involved training local veterinarians in the autopsy of monk seals, in accordance with a scientific protocol specific to the Atlantic, through a case study and the dissection of an animal. Some participants were interviewed for publication on social media and the Monaco Explorations website.
- **Site reconnaissance, 21 and 22 August:** During this field visit, teams from Monaco Explorations and the ICNF (Ms Rosa Pires, Manager of the Madeira Monk Seal Programme, and rangers Mr Jorge Câmara, Mr Marco Camacho and Mr Maurício Paixão) were able to reconnoitre the sites subsequently visited by H.S.H. Prince Albert II, including the ranger centre, the monk seal rescue centre, several caves used by monk seals and the path leading to the summit of Deserta Grande. Prince Albert I visited most of these sites during his many trips to the archipelago. It was also possible to observe and film footage of a first monk seal specimen.
- **Inventory of monk seal habitats on the northern coast of Madeira and the eastern coast of the Desertas, 28–31 August:** The ICNF team was able, for the first time, to examine several sites on the northern coast of Madeira and the eastern coast of the Desertas, looking for caves with underwater entrances where monk seals would be able to rest and reproduce, thereby completing the inventory undertaken as part of the European *LIFE Madeira Monk Seal Project*. Several caves and hollows were identified and explored, but due to their configuration (lack of a beach, or with a beach that was too small, lack of a sufficiently large chamber), they did not appear to be sites that were frequented or used by the seals. Close to the town of Seixal, a cave with a long, underwater corridor at a depth of 6 metres was detected and merits exploration during a subsequent mission.

The work carried out is presented in document No 4 listed in Appendix 2.



The team of divers explores the underwater access corridors to caves potentially habitable by monk seals.

© O. Borde. Monaco Explorations.

- **Filming of unprecedented images of monk seals:** From 4 to 7 September, a Monaco Explorations team (Mr Fabrice Schnoller, Mr Olivier Borde, Mr Frédéric Buyle) visited Deserta Grande on *Buteo*, the ICNF sailboat. The team was welcomed on the island by rangers Mr Lourenço Alves and Mr Clemente Abreu. The team captured unprecedented photographs and even a world first – a 360° video of the seals.
- **Workshop on monk seal conservation and presentation of results to the Sovereign:** On 6 September, Dr Philippe Mondielli and Ms Auriane Pertuisot of the Prince Albert II of Monaco Foundation organised a meeting of world experts on the monk seal in Funchal. The aim was to work together to identify ways to strengthen the action taken by various stakeholders to conserve the monk seal.

Participants in the 6 September 2017 workshop: Moderator: Dr Paulo Oliveira (Vice-President of the ICNF) - Participants - Ms Rosa Pires (ICNF Monk Seal Project Manager), Dr Luis Freitas (marine biologist - Director of the Science Unit, Whale Museum, Madeira), Mr Panos Dendrinou (biologist, PhD, Chair of the Board, [MOM / Hellenic Society for the Study and Protection of the Monk Seal](#), Greece), Spyros Kotomatas (CYCLADES LIFE Project Leader, [WWF Greece](#)), Mr Joan Gonzalvo (Programme Manager for the Ionian Dolphin Project, [Tethys Research Institute, Italy](#)), Mr Harun Güçlüsoy ([Institute of Marine Sciences and Technology](#), Turkey), Mr Pablo Fernandez de Larrinoa (Director of the [NGO CBD Habitats](#), Spain), Mr Philippe Gaubert ([Montpellier Institute of Evolution Sciences, France \(ISEM\)](#), University of Montpellier, leader of the Monk Seal Genetics project supported by the Prince Albert II of Monaco Foundation). Special guest: Dr Raquel Vasconcelos ([CIBIO-InBIO, University of Porto, Portugal](#)). H.E. Mr Bernard Fautrier, Dr Philippe Mondielli, Ms Auriane Pertuisot from the Prince Albert II of Monaco Foundation, Mr Robert Calcagno and Mr Pierre Gilles from the Oceanographic Institute and Dr Enric Sala from the [Pristine Seas programme, United States](#) also attended the experts' presentation of the results of their work to the Prince.

The report of this meeting is document No 5 listed in Appendix 2.

The workshop illustrated the critical situation facing the species *Monachus monachus*, but also gave cause for hope by highlighting the positive results obtained from the introduction of effective and monitored protection measures. The possibility of holding a second expert meeting was discussed.

This second meeting, in which Mr Paulo Oliveira and Ms Rosa Pires from the ICNF took part, was held on 12 April 2018 at the Oceanographic Museum in Monaco as part of the 2nd Monaco Ocean Week.

The report of this meeting is document No 6 listed in Appendix 2.

Funded by Monaco Explorations: transport and accommodation expenses for the experts.

- **Visit of H.S.H. the Sovereign Prince to the island of Deserta Grande, where he met the teams ensuring the protection and conservation of the monk seal colony, field observations:**

On the afternoon of 6 September, the *Yersin* set course for the Desertas Islands. On board were H.S.H. the Sovereign Prince, Dr Miguel Albuquerque, Mr and Ms François Fiat, H.E. Mr. Bernard Fautrier, H.E. Mr Henrique de Polignac Mascarenhas de Barros, Mr Enric Sala, Colonel Bruno Philipponnat, Mr Robert Calcagno, Mr Pierre Gilles, Prof Manuel Biscoito, Dr Paulo Oliveira, Ms Rosa Pires, Mr Thierry Apparu and Ms Liz Factor, as well as journalists representing French and Monegasque media outlets, Ms Christine Oberdorff, Mr Mathieu Massuard and Mr Sébastien Decaux from Ushuaïa TV, Ms Noémie Olive from news agency Reuters, and Ms Emilie Rousseau and Mr Sylvain Peroumal from Monaco Info.

The day of 7 September was devoted to exploration of the Desertas Islands and observation of monk seal biotopes. H.S.H. the Sovereign Prince, Dr Miguel Albuquerque, Ms Rosa Pires, Mr Robert Calcagno and some of the journalists visited several sites that might be used by monk seals, although they did not manage to observe any of the animals. On Deserta Grande, H.S.H. the Sovereign Prince and Dr Miguel Albuquerque were welcomed by Dr Paulo Oliveira and the ranger team. They toured the ranger station and then officially opened the touring exhibition on monk seals. They climbed the path to the summit of Deserta Grande, from which they were able to observe two adult monk seals swimming in Doca Cove.



Two monk seals swimming to the south of Deserta Grande, Doca Cove. © O. Borde. Monaco Explorations.



On board the Yersin, off the coast of the Desertas Islands. From left to right: Dr Miguel Albuquerque, President of the Regional Government of Madeira, H.E. Mr Henrique de Polignac Mascarenhas de Barros, Monaco's Ambassador to Portugal, Prof Manuel Biscoito, Curator at the Funchal Natural History Museum, and Mr Paulo Oliveira, Vice-President of the ICNF.

© O. Borde. Monaco Explorations.

7 - Scientific activities conducted in the Savage Islands

After leaving Madeira, the *Yersin* headed for the Savage Islands (Portugal), located 160 miles from Madeira and 100 miles from the Canary Islands. The archipelago is made up of the islands Selvagem Grande, Selvagem Pequena and Fora, as well as numerous rocky islets. The site is included on the UNESCO World Heritage List.

Several activities were carried out between 8 and 11 September:

- A study of the herpetofauna on the islands of Selvagem Grande and Selvagem Pequena
- General ecological survey (non-nesting birds, plant life, pollution) on these two islands
- Underwater photography off the coast of Selvagem Grande and Selvagem Pequena on 9 and 10 September

These activities benefited from very valuable support given by the Portuguese military vessel *Douro*, captained by Lieutenant Pedro Carvalho, which was dispatched on the orders of the Portuguese President to track the Monaco Explorations mission in the Savage Islands.



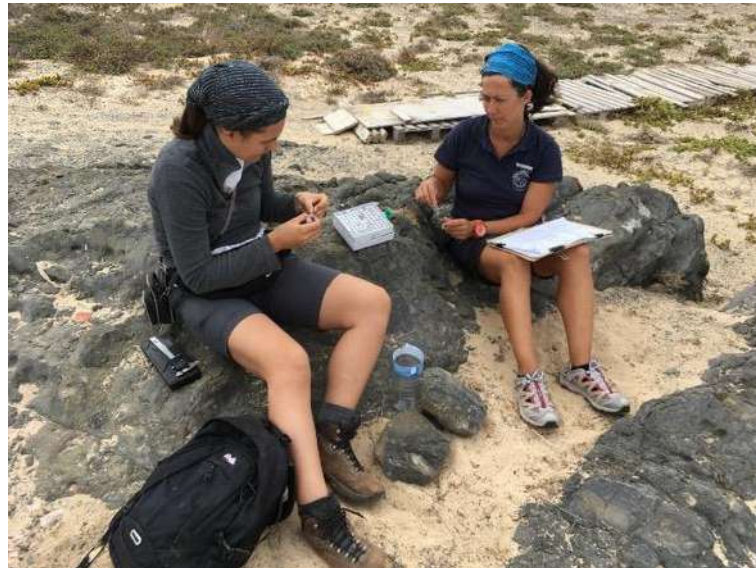
View of Selvagem Pequena. © O.Borde. Monaco Explorations.

7.1 - Herpetological study

The scientific team comprised Dr Raquel Vasconcelos (CIBIO-InBIO, University of Porto), Ms Carolina Santos, Head of Marine Protected Areas for the ICNF, Mr Sandro Correia, ranger (ICNF), Prof Manuel Biscoito (Curator at the Funchal Natural History Museum) and Dr Frank Zino (doctor and ornithologist).



From left to right, Dr Frank Zino, Ms Elizabeth Zino, Ms Maria Biscoito, Prof Manuel Biscoito.



Dr Raquel Vasconcelos and Ms Carolina Santos, Head of Marine Protected Areas for the ICNF, examine various species of lizard on Selvagem Pequena. © O. Borde. Monaco Explorations.

On 9 and 10 September, the scientists and the Monaco Explorations team (Mr Pierre Gilles, Mr Pedro Vasconcelos, Mr Olivier Borde, Mr Fabrice Schnoller, Mr Frédéric Buyle, Mr Thierry Apparu and Ms Liz Factor) visited Selvagem Pequena to collect samples of various plants, set traps for arthropods and lizards, and capture specimens of Madeiran wall lizard (*Teira dugesii*) and Selvagens gecko (*Tarentola bischoffi*).

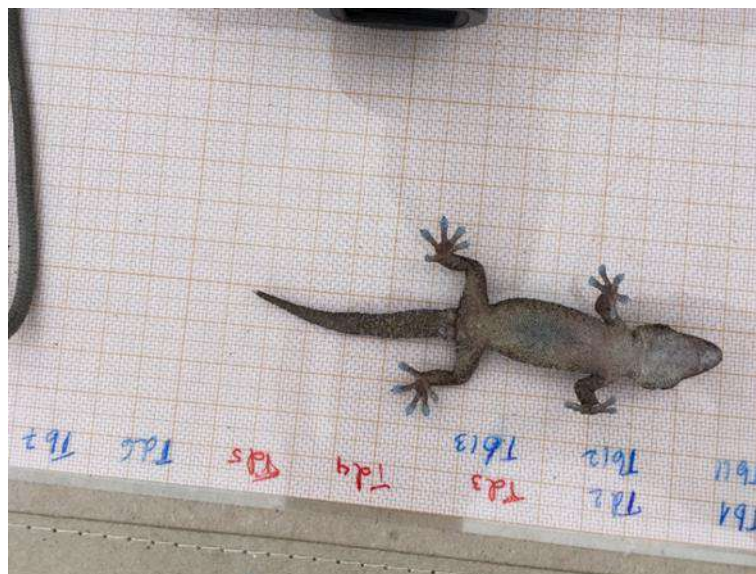
Each lizard specimen was then sexed, measured and had a small amount of faeces extracted to enable analysis of their diet. The tip of the lizard's tail was placed in a tube of alcohol for phylogenetic studies. The field report for this activity is document No 8 listed in Appendix 2.

Dr Raquel Vasconcelos gave an oral presentation on this work at the *Third Conference on Island Ecology, Evolution and Conservation* (8–13 July 2019, La Réunion, France). Her presentation was titled “*Metabarcoding analysis of endemic lizards' diet for guiding reserve management in the Macaronesian Islands*”.

See document No 9 listed in Appendix 2.

Another article titled “*More haste, less speed? Classic versus metabarcoding approaches for the diet study of a remote island endemic gecko*” (Authors: Vanessa Gil, Catarina Jesus Pinho, Carlos Aguiar, Carolina Jardim, Rui Rebelo, Raquel Vasconcelos) was published in PeerJ — the Journal of Life and Environmental Sciences.

See document No 10 listed in Appendix 2.



A gecko, *Tarentola bischoffi*, being examined while immobilised on its back. © O. Borde. Monaco Explorations.

7.2 - General ecology

A team made up of Dr Frank Zino and his wife Elisabeth, and Prof Manuel Biscoito and his wife Maria, made various observations (non-nesting birds, plant life, pollution), fitted bands to 50 young Cory's shearwater (*Calonectris borealis*), and collected the stomach contents from two Cory's shearwater and a white-faced storm petrel (*Pelagodroma marina*), which were then studied at the Funchal Marine Biology Station to check for the presence of plastic waste. The Monaco Explorations communications team took pictures (conventional, 360°, drone) of the activities and the work site. These activities are presented in document No 11 listed in Appendix 2.



A young Cory's shearwater (Calonectris borealis) in a nest on Selvagem Pequena. © O. Borde. Monaco Explorations

On 11 September, the team of scientists, accompanied by a Monaco Explorations communication and photography team (Mr Olivier Borde, Mr Thierry Apparú and Ms Liz Factor) docked on Selvagem Grande to continue the work on herpetofauna and birds.



Human-produced waste is building up on the beaches of the small island of Selvagem Pequena, even though it is very remote. © T. Apparú. Monaco Explorations

Underwater photography, 9 and 10 September 2017

Several dives were carried out on 9 and 10 September off the coast of Selvagem Grande, under the direction of Lt-Col. Philippe Rebaudengo (dive director) and Mr Pedro Vasconcelos. The pictures were taken by Mr Frédéric Buyle, Mr Olivier Borde, Mr Pedro Vasconcelos, Mr Thierry Apparú and Ms Liz Factor.



Mr Fabrice Schnoller films the breakers off the coast of Selvagem Pequena in VR 360°. © F. Buyle. Monaco Explorations.

The *Yersin* left Selvagem Grande late in the afternoon of 11 September 2017 and headed south towards the Cabo Verde archipelago.

8 - Other mission highlights

8.1 - Underwater photography and videos

2 September, Garajau Reserve, Madeira: The Monaco Explorations team (Mr Pedro Vasconcelos, Mr Pierre Gilles, Mr Thierry Apparu, Ms Liz Factor, Mr Olivier Borde, Mr Frédéric Buyle and Mr Fabrice Schnoller) visited this remarkable 376-hectacre site three miles to the east of the Port of Funchal. The site, which has been a nature reserve for around 30 years, is the oldest protected site in Madeira. It was previously visited by Commander Jacques-Yves Cousteau, who pointed out its extreme richness to the President of the Regional Government of Madeira, thereby contributing to the process of recognising the location and classifying it as a nature reserve. Below the surface, the Monaco Explorations team took some stunning pictures of the teeming underwater life: barracudas, trevally, amberjacks, salema porgy, grunts, wrasses, boxfish, trumpetfish, dusky groupers, mottled groupers, combers, moray eels, stingrays and noble pen shells.



The Monaco Explorations team and Mr Pedro Vasconcelos, the dive director, filming the many groupers in the Garajau Reserve. © O.Borde. Monaco Explorations.

4 September, La Madeirense wreck, Porto Santo: A team from Monaco Explorations, comprising Mr Robert Calcagno, Mr Pierre Gilles and Mr Pedro Vasconcelos dived to the wreck of cargo vessel *La Madeirense*. This is a hugely popular diving location, colonised by many different species (groupers, amberjacks, barracudas). Mr Pedro Vasconcelos and Mr Robert Calcagno took some underwater photographs.

Funded by Monaco Explorations: recruitment of Mr Pedro Vasconcelos as dive director for the Madeira mission (including the visit to the Savage Islands).

8.2 - Filming at the Buggypower microalgae production site

On 4 September, the Monaco Explorations team (Mr and Ms Calcagno, Mr Pierre Gilles, Mr Thierry Appar, Ms Liz Factor and Mr Pedro Vasconcelos), journalists from TF1/Ushuaia (Ms Christine Oberdorff, Mr Mathieu Massuard and Mr Sébastien Decaux) and two members of the Prince Albert II of Monaco Foundation (Ms Auriane Pertuisot and Dr Philippe Mondielli) visited this industrial site in Porto Santo, 40 miles north-east of Madeira.

This pilot site, which is one of the largest in Europe, converts the CO₂ emitted by the fossil fuel thermal power station into organic biomass (microalgae). Once processed, this can be used in the food, cosmetics and nutraceutical industries.



The reactors at the Buggypower site where microalgae are produced. © T.Apparu. Monaco Explorations.

The Buggypower management team (Mr Pedro Escudero, CEO, Mr Pedro Carolo, Director of Operations, Ms Teresa Telo, Director of the Porto Santo Production Unit, Ms Graça Maria Martins, Communications Manager), together with Mr M. Mário Jardim, Director of the Madeira Electricity Company, welcomed the group for a tour of the various areas (CO₂ capture, algae production in cylinders, filtration, centrifugation, dehydration, processing, quality laboratory, growth medium preparation zone). This was followed by a tasting session of dishes made using microalgae.

8.3 -Visit to the Calheta aquaculture centre

Mr Carlos Pestana Andrade (Head of the Maritime Aquaculture Division, Madeira Directorate of Fisheries, Centro de Maricultura da Calheta) took Mr Thierry Apparu and Ms Liz Factor for a tour and filming session at the Calheta Aquaculture Centre. The centre works on planning of the maritime, space, and conducts research on the breeding of new species (including the dusky grouper to repopulate the natural environment) and into integrated multi-trophic aquaculture (IMTA). A specialist in the relationship between aquaculture and marine protected areas for the International Union for Conservation of Nature (IUCN), Mr Andrade took part in the 8th Monaco Blue Initiative in Monaco in April 2017.



Les bassins d'élevage et de production de la ferme aquacole de Calheta © T. Apparu. Explorations de Monaco

9 - Public engagement activities

The key goals of the public engagement programme and activities were:

- To promote to a wide audience Monaco Explorations and the work carried out by local and international teams of scientists;
- To raise awareness of the need to protect and sustainably manage the oceans;
- To offer a broad and sensitive overview of the major challenges involved in ocean conservation today, as well as existing solutions, through the experience and first-hand accounts of mission participants;
- To encourage personal and collective engagement with the aim of having a positive impact on the oceans.

9.1 – Livre from the Yersin : strong engagement fort with the education community

From on board the *Yersin*, a live session from Madeira was arranged with a group of children from the Snapper Club at the Oceanographic Museum in Monaco on 28 August 2017. The children were able to chat to the Monaco Explorations team and scientists on board the vessel.

This live session reflected the determination of Monaco Explorations, and the Oceanographic Institute in particular, to give school audiences wide access to the mission content, in partnership with the Monaco Department of Education, the International School of Monaco, the French Education Ministry, and any other educational organisation. Workshops around monk seals or the problems posed by plastic in the Savage Islands were also designed and tested with school audiences by the Oceanographic Institute's Events and Education Department.



Live link-up between the Yersin and children at the Snapper Club on 28 August 2017. © M. Dagnino. Oceanographic Museum of Monaco.

9.2 - Exhibition – “An explorer Prince: Albert I of Monaco discovers Madeira”

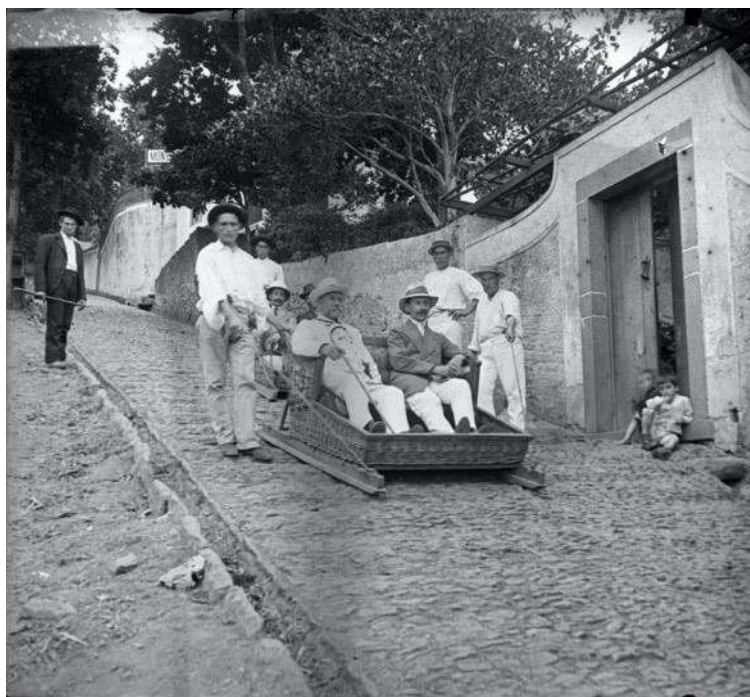
This exhibition, presented at the Funchal Natural History Museum, was designed as a travel journal, following the journey of Prince Albert I to Madeira between 1879 and 1912, through his correspondence, personal diary, numerous contemporary photographs, scientific instruments and paintings by Louis Tinayre.

Fully funded by Monaco Explorations, the exhibition was put together by the Prince’s Palace Archives and Library (Mr Thomas Foulleron, Director, and Mr Thomas Blanchy, Administrator) with assistance from Ms Jacqueline Carpine-Lancré (Head of Historical Research at the Prince’s Palace), in cooperation with the Oceanographic Institute (Mr Patrick Piguet, Director of Heritage, and Ms Valérie Pisani, Head of Artistic Collections), the Audiovisual Archives of Monaco (Mr Vincent Vatrican), Funchal Natural History Museum (Prof Manuel Biscoito and Mr Juan Silva, Curators) and the Madeira Regional Archives (Ms Maria Paredes, Curator).



The exhibition at Funchal Natural History Museum. Panels and display cases containing historical documents and artefacts. © P. Piguet. Oceanographic Institute.

The exhibition was on display at Funchal Natural History Museum from September 2017 to January 2018.



Prince Albert I in Madeira, travelling in a traditional carro de cesto, a sort of wicker toboggan. Photograph taken by Henri Bourée (undated). © Oceanographic Museum of Monaco collections.



On the deck of the second Hironde. Henri Bourée is on the left and Prince Albert I on the right. Madeira, July 1912. © Jules Richard. Oceanographic Museum of Monaco collections.



*On board the second Princesse-Alice, off the coast of Deserta Grande.
July 1905. © Oceanographic Museum of Monaco collections.*

9.3 - ICNF touring exhibition

In addition to the field, surveillance and conservation activities relating to monk seal populations, the ICNF teams also carried out some important public engagement work to raise awareness in Madeira about monk seals and their significance. The touring exhibition designed by the ICNF team, notably Ms Isabel Freitas, was funded by Monaco Explorations. Its intent was to tour schools and town halls on the Madeira archipelago to raise awareness among young people and the general population about this iconic but endangered species.

Below are some of the panels featured in the exhibition, which was presented to H.S.H. Prince Albert II and various prominent figures during the delegation's visit to the Desertas on 6 September 2017.



See document No 7 listed in Appendix 2.



The touring exhibition on the monk seal put together by the ICNF. Rosa Pires is in the foreground. © P. Gilles. Monaco Explorations.

9.4 - 360° VR film: “In search of the monk seal”

Numerous 360° images were shot in Madeira and the Savage Islands by Mr Fabrice Schnoller and Mr Fred Buyle.

These served as the basis for VR 360° short films. The ten-minute film about the Madeira mission is titled “In search of the monk seal”. It depicts the work done around monk seals and stresses the need to protect them. The film has been shown to visitors at the Oceanographic Museum in Monaco and to school groups, as part of the work of the Museum’s Events and Education Department. It is available in French and English to any organisation that would like to use it for educational and awareness purposes. VR headsets were purchased for use during the missions and so that locally filmed images could be shown to those involved and to young people.



An image from the 360° film about Monaco Explorations which can be watched by visitors to the Oceanographic Museum of Monaco. © Oceanographic Museum of Monaco.

Funded by Monaco Explorations: the purchase of viewing equipment, filming and production of VR short films.

9.5 - Visit of Madeira sea scouts to the *Yersin*

On the morning of 8 September, 17 sea scouts and three leaders (Mr Antonio Jose Freitas Gomes, Mr David Ricardo Henriques Luis and Mr João Alberto Marques dos Santos Gomes) were welcomed on board the *Yersin* by the head of mission and the vessel's captain for a tour of the ship and the Monaco Explorations spaces. They then spent time with Ms Rosa Pires and Dr Luis Freitas. The young scouts enjoyed a presentation on the monk seal and other cetaceans, raising their awareness of the importance of sustainable management and the role played by marine protected areas.



The Yersin's captain, Commander Jean Dumaraix, and Monaco Explorations welcome the Madeira sea scouts, together with monk seal and cetacean experts Ms Rosa Pires and Dr Luis Freitas. © O. Borde Monaco Explorations.

9.6 - 2017 highlights

The Prince and the Sea

In addition to the conference announcing Monaco Explorations on 4 April 2017, the Oceanographic Museum hosted several other highlights, including on the evening of 5 December 2017 when there was a preview screening of Ms Christine Oberdorff's report for Ushuaia TV/TF1, titled *The Prince and the Sea*, following the Sovereign's trip to Madeira and Cabo Verde, and the launch of the photography exhibition *Monaco Explorations: Return to Macaronesia*.



Group photo of those who contributed to the first Monaco Explorations mission in Macaronesia, taken during the evening event on 5 December 2017.

“Return to Macaronesia” exhibition at the Oceanographic Museum of Monaco.

The first missions to Madeira and Cabo Verde were the subject of a photography exhibition titled “*Monaco Explorations: Return to Macaronesia*” in the conference hall at the Oceanographic Museum from 5 December 2017 to mid-February 2018. It was opened at the preview screening of the documentary.



The Return to Macaronesia exhibition is presented to the Sovereign by Mr Robert Calcagno and Mr Pierre Gilles. © M. Dagnino. Monaco Explorations

Following its presentation at the Oceanographic Museum, the exhibition moved to the Galerie des Pêcheurs in Monaco, where it was on display from early June to mid-July 2018.

Monaco and the Ocean



The section of the Monaco and the Ocean exhibition presenting Monaco Explorations and the work carried out during the mission to Madeira. © M. Dagnino. Monaco Explorations.

One section of the new exhibition *Monaco and the Ocean*, officially opened at the Oceanographic Museum of Monaco in July 2018, presents Monaco Explorations, offering visitors information on the work carried out during the mission to Madeira and the Savage Islands.

Acknowledgements

Monaco Explorations would like to thank all those who made this mission to Madeira and the Savage Islands possible.

H.S.H. Prince Albert II of Monaco

The Prince's Government of Monaco and particularly the Ministry of Foreign Affairs and Cooperation

The Portuguese Republic and the Autonomous Region of Madeira

H.E. Mr Marcelo Rebelo de Sousa, President of the Portuguese Republic,
Mr Ireneu Barreto, Representative of the Republic for the Autonomous Region of Madeira,
Mr Miguel Albuquerque, President of the Regional Government of Madeira,
Ms Susana Prada, Regional Secretary for the Environment and Natural Resources,
Mr Paulo Cafôfo, Mayor of Funchal,
The Portuguese Navy, and particularly Lieutenant **Pedro Carvalho** and the crew of the NRP *Douro*,
H.E. Mr Henrique de Polignac Mascarenhas de Barros, Monaco's Ambassador to Portugal,
H.E. Mr Claude Cottalorda, Monaco's Ambassador to Paris and **Ms Agatha Korczack**, Second Secretary,
Prof Manuel Biscoito, Curator of the Funchal Natural History Museum, and his wife **Ms Maria "Zé" Biscoito**,
Ms Manuela Aranha, artist,
Ms Maria Paredes, Curator at the Madeira Regional Archives,
Mr Manuel Filipe, President of the Institute for Nature Conservation and Forests (ICNF), Funchal and the entire ICNF team, **Mr Paulo Oliveira**, **Ms Dilia Menezes**, **Ms Rosa Pires**, **Ms Carolina Santos**, **Mr Sergio Pereira**, **Mr Jorge Câmara**, **Mr Marco Camacho**, **Mr Maurício Paixão**, **Mr Sandro Correia**, **Mr Lourenço Alves**, **Mr Clemente Abreu**, **Ms Isabel Freitas**,
Dr Frank Zino, ornithologist, and his wife **Ms Elisabeth Zino**,
Prof José Pedro Granadeiro, **Prof Paulo Catry**, University of Lisbon,
Dr Andreia Braga-Henriques, **Ms Ana Nobrega**, **Ms Elizaveta Akoulina**, **Ms Ana Nobrega**, **Ms Teresa Mafalda Gonçalves Jardim de Freitas Araújo**, **Dr Cláudia Correia da Silva Ribeiro**, **Mr Pedro António Nobre Soares Pinto das Neves**, Funchal Marine Biology Station,
Dr Ana Nobrega, **Dr Luis Freitas**, **Mr João Morgado**, **Mr Luís Martim Almada Berimbau**, **Ms Inês Cunha**, Caniçal Whale Museum,
Dr Raquel Vasconcelos, CIBIO-InBIO, University of Porto,
Dr Aurélien Miralles, Paris Natural History Museum,
Mr Pedro Vasconcelos, dive director and photographer,
Mr Carlos Pestana Andrade, Centro de Maricultura da Calheta,
Prof Enric Sala, Pristine Seas, National Geographic,
Mr Panos Dendrinis, MOM/Hellenic Society for the Study & Protection of the Monk Seal, Greece,
Mr Spyros Kotomatas, Cyclades Life Project Leader, WWF Greece, **Mr Joan Gonzalvo**, Ionian Dolphin Project, Tethys Research Institute, **Mr Harun Guçlusoy**, Institute of Marine Sciences and Technology, Turkey, **Mr Pablo Fernandez de Larrinoa**, CBD Habitats, Spain, **Mr Philippe Gaubert**,
Mr Pedro Escudero, **Mr Pedro Carolo**, **Ms Teresa Telo**, **Ms Graça Maria Martins**, Buggypower in Porto Santo,
Mr Mário Jardim, Madeira Electricity Company,
Mr Antonio Jose Freitas Gomes, **Mr David Ricardo Henriques Luis**, **Mr João Alberto Marques dos Santos Gomes** and the team of Madeira sea scouts, Funchal,

Mr Henri Perron, Mr Philippe Tondeur, Mr Jean-Louis Arranz, Ms Marie Croizier, Ms Fabienne Guiton, Ms Giovanna Demichelis, Prince's aircraft crew,



Thank you to the Captain and crew of the NRP Douro of the Portuguese Navy, here alongside the Yersin off the coast of the Savage Islands. © Maximilian Felix Nehrkorn, Yersin. Monaco Explorations.

Mr François Fiat and his wife Ms Geneviève Fiat (+), owners of the Yersin, Commander Jean Dumarais, Captain, and the entire crew of the Yersin,
Mr Thomas Fouilleron, Director of the Prince's Palace Archives and Library, Monaco,
Mr Thomas Blanchy, Administrator at the Prince's Palace Archives and Library, Monaco,
Ms Jacqueline Carpine-Lancré, Head of Historical Research at the Prince's Palace, Monaco,
Mr Vincent Vatrican, Director of the Audiovisual Archives of Monaco,
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Dr Philippe Afriat, Monaco,
Dr Sylvie Dehours, Maritime Medical Advisory Centre, Toulouse, France,
Ms Marie-Catherine Caruso-Ravera, Director of Diplomatic and Consular Relations, Monaco, Mr Patrice Cellario, Minister of the Interior, Monaco, Ms Isabelle Bonnal, Director of Education, Youth and Sport, Monaco, Ms Armelle Borro, Manager of the Teacher Training Centre, Ms Cécile Mouly, EN Monaco,
Ms Dominique Simon, Assistant to Colonel Bruno Philipponnat,
Mr Alain Binsinger, Mr James Arslan,
Mr Francis Gianni and Ms Habiba Taouche, International School of Monaco,
Ms Christine Oberdorff, Mr Mathieu Massuard, Mr Sébastien Decaux, Mr Arnaud Mouillevois, Ushuaïa TV,
Ms Noémie Olive, Reuters,
Ms Emilie Rousseau, Mr Sylvain Peroumal, Monaco Info

Finally, thanks to all those at the Oceanographic Institute who worked to ensure the success of certain parts of the mission:

Mr Olivier Dufourneaud, Director of Ocean Policy and his team: **Ms Eva Muller**, **Mr Florent Flavier**, **Mr Didier Théron**, **Ms Tiziana Caporale**, **Ms Laurie Perrot**, **Ms Fali Coiba**, the activity leaders,
Mr Patrick Piguet, Director of Heritage and his team: **Ms Anne-Marie Damiano**, Exhibitions Department, **Ms Michèle Bruni**, Head of the Scientific Collections of the Oceanographic Museum of Monaco, **Ms Valérie Pisani**, Head of Artistic Collections, **Ms Elisabeth Baltzinger**, Head of the Archives, **Ms Claire Harquet**, graphic designer
Mr Joël Passeron, Technical Director and his team, particularly: **Mr Gaël Basle**, **Mr Paolo Alvarez**, **Mr Gilles Millet**, **Mr Olivier Valero**, **Mr Georges Cotton**, **Mr Laurent Delval**, **Mr Julien Vivaudo**, **Ms Valérie Suda**, **Ms Sylvie Collin**, **Ms Sandra Puch**, Executive Secretariat, **Ms Emilie Gérard**, **Ms Virgine Liénart**, **Ms Hélène Gallo**, **Mr Patrick Goddyn**, Financial Department,
Ms Agnès Rousseau, **Ms Alexandra Bardy**, **Mr Frédéric Ramin**, **Mr Frédéric Pacorel**, **Mr Michel Dagnino**, Communications Department,
Mr Patrice Ribero and **Mr Lionel Mouchette**, IT and Telephony Department.

Partner Institutions

Instituto da Conservação da Natureza e das Florestas (ICNF, Institute for Nature Conservation and Forests) of Funchal, Autonomous Region of Madeira,
University of Lisbon, Portugal,
Paris Natural History Museum, France,
Funchal Natural History Museum, Autonomous Region of Madeira, Portugal,
CIBIO-InBIO, University of Porto, Portugal,
Funchal Marine Biology Station, Autonomous Region of Madeira, Portugal,
Canical Whale Museum, Autonomous Region of Madeira, Portugal,
Centro de Maricultura da Calheta, Autonomous Region of Madeira, Portugal,
Pristine Seas, National Geographic, USA,
MOM/Hellenic Society for the Study & Protection of the Monk Seal, Greece,
WWF Greece, Greece,
Tethys Research Institute, Greece,
Institute of Marine Sciences and Technology, Turkey,
CBD Habitats, Spain,
Montpellier Institute of Evolution Sciences (ISEM), University of Montpellier,
Monaco Scientific Centre, Monaco,
Prince Albert II of Monaco Foundation, Monaco,
Oceanographic Institute, Prince Albert I of Monaco Foundation.

Members of the Monaco Explorations team who worked on the Madeira mission:

Ms Marion Faivre and **Ms Lea Lippisch**, Coordinators, assisted by **Ms Léa Fenichel**, intern
Mr Thierry Apparu, **Ms Liz Factor**, **Mr Fabrice Schnöller**, **Mr Fred Buyle** and **Mr Olivier Borde** for the photography
Mr Pierre Frolla, Monaco Explorations Dive Director.
Mr Pierre Gilles, Head of Projects at the Oceanographic Institute, Head of Monaco Explorations Mission to Madeira, the Savage Islands and Cabo Verde.

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Appendix 2 - List of reports and publications by the mission scientific teams

Reports and summaries can be obtained by contacting the authors or submitting a request to

Monaco Explorations: contact@monacoexplorations.org

- 1) ***Full Final Report - Research activities carried out by the OceanWebs team on board of the Yersin, 24-26 August 2017.*** José Pedro Granadeiro, Paulo Catry, João Morgado, Luis Berimbau, Inês Cunha.
- 2) ***Report from the benthic ecology group on board the Yersin Yacht.*** Andreia Braga-Henriques, Elizaveta Akoulina, Ana Nóbrega
- 3) ***Ecologie benthique profonde - Habitat mapping côtier et inventaire des fonds de maërl.*** [“Deep-sea ecology – Coastal habitat mapping and inventory of maerl beds”]. Andreia Braga-Henriques, Elizaveta Akoulina, Ana Nóbrega. Divers : Cláudia Ribeiro, Pedro Neves, Mafalda Freitas.
- 4) ***Summary of research activities carried out by the IFCN, IP-RAM on board of the Yersin, 28-31 August 2017: Location and characterisation of the caves with interest for the monk seals in Madeira in the scope of the LIFE Madeira Monk Seal Project.*** Rosa Pires, Sérgio Pereira. Diver: Pedro Vasconcelos.
- 5) ***Monk Seal Meeting - Explorations of Monaco - Funchal - September 6th, 2017.*** Auriane Pertuisot.
- 6) ***Monk Seal Workshop Minutes - Oceanographic Museum of Monaco - April 12th 2018.*** Auriane Pertuisot.
- 7) ***Lobo Marinho - Mediterranean Monk Seal.*** Exhibition. Isabel Freitas, ICNF.
- 8) ***Relatório de Trabalho de Campo - Selvagem Pequena.*** Dr Raquel Vasconcelos.
- 9) ***Metabarcoding analysis of endemic lizards' diet for guiding reserve management in Macaronesia Islands. 2018***
Catarina de Jesus Covas Silva Pinho Masters in Biodiversity, Genetics and Evolution Department of Biology. Supervisor: Raquel Vasconcelos, Postdoctoral Researcher, CIBIO-InBIO; Co-supervisor: Ricardo Jorge Lopes, Postdoctoral Researcher, CIBIO-InBIO
- 10) ***Questioning the proverb ‘more haste, less speed’: classic versus metabarcoding approaches for the diet study of a remote island endemic gecko.*** Published in Peer J. Vanessa Gil, Catarina J. Pinho, Carlos A.S. Aguiar, Carolina Jardim, Rui Rebelo and Raquel Vasconcelos
- 11) ***Report on a trip to the Selvagens on board the M/V YERSIN, during the Explorations de Monaco Expedition to Macaronesia, 2017, 9–11 September 201.*** Francis Zino, Elizabeth Zino, Conceição Ornelas, Manuel Biscoito.



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