2025 POGO-OceanX-OceanQuest Fellowship for Shipboard Training on the *Around Africa* mission aboard the OceanXplorer

Report

Name of Trainee: Jaquelino Lopes Varela

Name of Supervisor (Parent Institution): Yara Katia Santos Rodrigues

Supervisor (Host Institution): Instituto do Mar (IMar)

Dates of Training: 26 March 2025 to 1 April 2025

Topic of Training: Megafauna aerial survey

Section A
(To be completed by the fellow)
It is the responsibility of the trainee to forward this form to the host and parent supervisor, and to submit a fully completed version to the POGO Secretariat. Please note that the complete report will be made public on the OTP website; Private comments should be included in a separate confidential form.

1) Please provide a brief description of activities during the training period:

Between 27 March and 1 April 2025, five aerial survey sessions, each lasting approximately 90 minutes, were conducted to monitor marine megafauna in the region encompassing the Nola Seamount and surrounding waters, located northwest of Santo Antão Island, Cabo Verde. Marine megafaunas were surveyed aboard an Airbus H125 helicopter operated by an experienced pilot, and a scientific team composed of two observers and one photographer. The observer most extensive experience in identifying Cabo Verde's marine megafauna (cetaceans, elasmobranchs and sea turtles) was positioned in the front seat, alongside the pilot to maximise visibility and facilitate real time communication during surveys. A parallel transect of 7 to 10 sections, 15 nautical miles long and spaced 1.5 nautical miles apart, was covered at an average speed of 80 knots and an average altitude of 500 feet. Upon detection of marine fauna, the observer could request the pilot to descend and perform circular manoeuvres around the sighting location, when necessary, to enhance visual conditions, improve species identification, and ensure accurate counts. At the same time, the main observer reports the sighting data to the second observer, such as coordinates, species, number of individuals, behaviour (e.g. swimming, resting, hunting, breaching) and time of sighting. For recording purposes, the species were divided into small (e.g. dolphins) and large cetaceans (e.g. humpback whales), sharks and rays. It was also recorded the fishing vessels sighted on the transect as well as unidentified non-living objects and their respective colours. Sightings made between the ship and the transect start point and between transects were

considered opportunistic and recorded. The start and end time of each transect was recorded. Environmental variables known to affect the sighting, behaviour and abundance (e.g. temperature, cloud, wave, swell) of marine megafauna were added to the spreadsheet for each day of operation.

2) What applications of the training received do you envision at your parent institution?

I will share the experience, and all the knowledge gained with the members of my team. I will also incorporate the knowledge and experience into my next teaching activities to inspire children and young people to become ocean advocates. This opportunity has captured my attention to further explore the possibility of monitoring Cabo Verde's rich marine megafauna through aerial surveys, which can be done with more accessible methods such as drones.

3) Please provide your comments on the Fellowship Programme.

POGO-OceanX-OceanQuest Fellowship provided me with a unique opportunity to be on board one of the world's most advanced research and media vessels and to explore one of my country's most important and unknown marine habitats. The programme provided all the conditions, good communication and support that ensured my successful participation in the expedition. I would like to express my deepest gratitude to POGO and especially to the staff who were in contact with me during this process.

PRINT NAME

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Date: 04/18 /2025

Section B

(To be completed by the host supervisor and returned to the trainee)

Please note that the complete report will be made public on the OTP website; Private comments should be included in a separate confidential form.

1) Please provide your comments on the performance of the trainee.

The trainee demonstrated a high level of enthusiasm and a strong commitment to supporting the team throughout the aerial survey campaign. He quickly adapted to the field protocols of the aerial observations and proved to be a reliable and proactive team member. His willingness to assist with logistical tasks, data recording, and in-field coordination contributed positively to the overall success of the operation. The entire team expressed satisfaction with his attitude, engagement, and collaborative spirit. With continued training and exposure, he has the potential to become a valuable asset in future marine research initiatives.

2) Is this exchange likely to lead to future collaboration with the trainee's parent institution? If so, please give example(s) of how this collaboration may be pursued.

I was genuinely impressed by his attitude, curiosity, and eagerness to contribute. His strong engagement, adaptability, and team spirit were clear assets throughout the fieldwork. Based on this positive experience, I have already invited him to join an upcoming project at our institution, which we believe will further strengthen the collaboration between our teams. We are currently working to establish a new research line focused on elasmobranchs, and I see great potential in his involvement. His motivation and growing expertise could make him a valuable addition to our efforts in developing this area of study. This collaboration also opens the door to broader initiatives such as joint field campaigns, training opportunities for other students, and co-authored scientific publications.

3) Please provide your comments on the Fellowship Programme.

The Fellowship Programme plays a vital role as a valuable platform for young scientists to gain hands-on experience, build international networks, and actively contribute to ongoing research efforts. Importantly, it gives ECOPs the chance to demonstrate their potential in real-world scientific settings, something that is often difficult to achieve early in a career. For host institutions like ours, the programme is also an excellent opportunity to identify and engage with emerging talent who may become key collaborators in future research initiatives. Continued investment in this programme will not only benefit the individuals involved but also strengthen scientific capacity and cooperation across the region and beyond.

PRINT NAME

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Date: 21 / 03 / 2025

SECTION C

(To be completed by the parent supervisor and returned to the trainee)

Please note that the complete report will be made public on the OTPwebsite; Private comments should be included in a separate confidential form.

1) Do you agree with the above comments and do you have any additional feedback you wish to provide?

Yes, I agree with the comments. In fact, this opportunity was very enriching for Mr Jaquelino and of great benefit for improving capacities at our organization. I am very confident that he will share the knowledge he has acquired with his team-mates and apply it to our future research projects.

PRINT NAME:

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Date: **30/4/2025**