

NEW RECORDS OF HEMICHORDATES AND ECHINODERMS IN THE CANARY ISLANDS THROUGH FREEDIVING OBSERVATIONS OF PLANKTONIC LARVAE

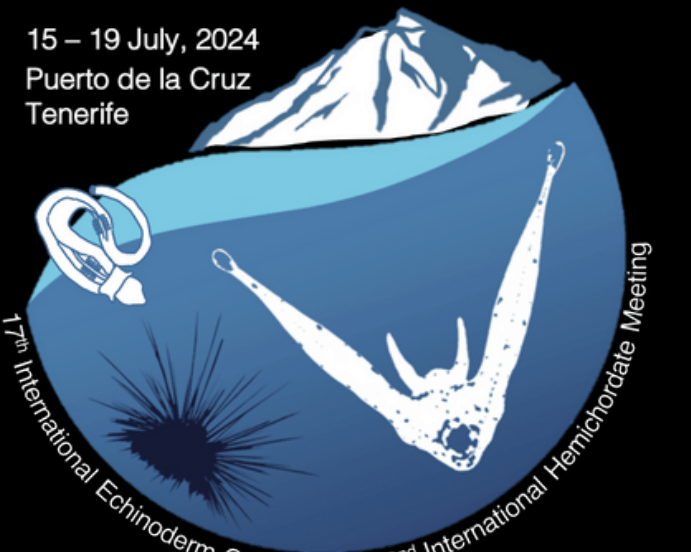
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INTRODUCTION

For the first time in the Canary Islands, the larval stage of unique species of hemichordates and echinoderms, constituents of plankton, has been recorded. The oceanographic conditions of the archipelago, along with the significant depths reached just a few meters from the coast, make the Canary Islands a relevant place for the observation and study of planktonic communities.

METHODOLOGY

Observations were made during "sporadic" freediving outings, derived from blue-water diving techniques, from Radazul (369837.21, 3142455.90) and Abades (358852.48, 3113460.53) in Tenerife and La Caleta (215504.05, 3078232.97) in El Hierro (Figure 1), mostly during nighttime.

The outings were carried out by at least two people equipped with freediving equipment, underwater camera, flashlights, signaling buoy and other safety material (Figure 2).

The observations have been complemented with citizen science sightings from the Marine Environment Observers Network in the Canary Islands (RedPROMAR).

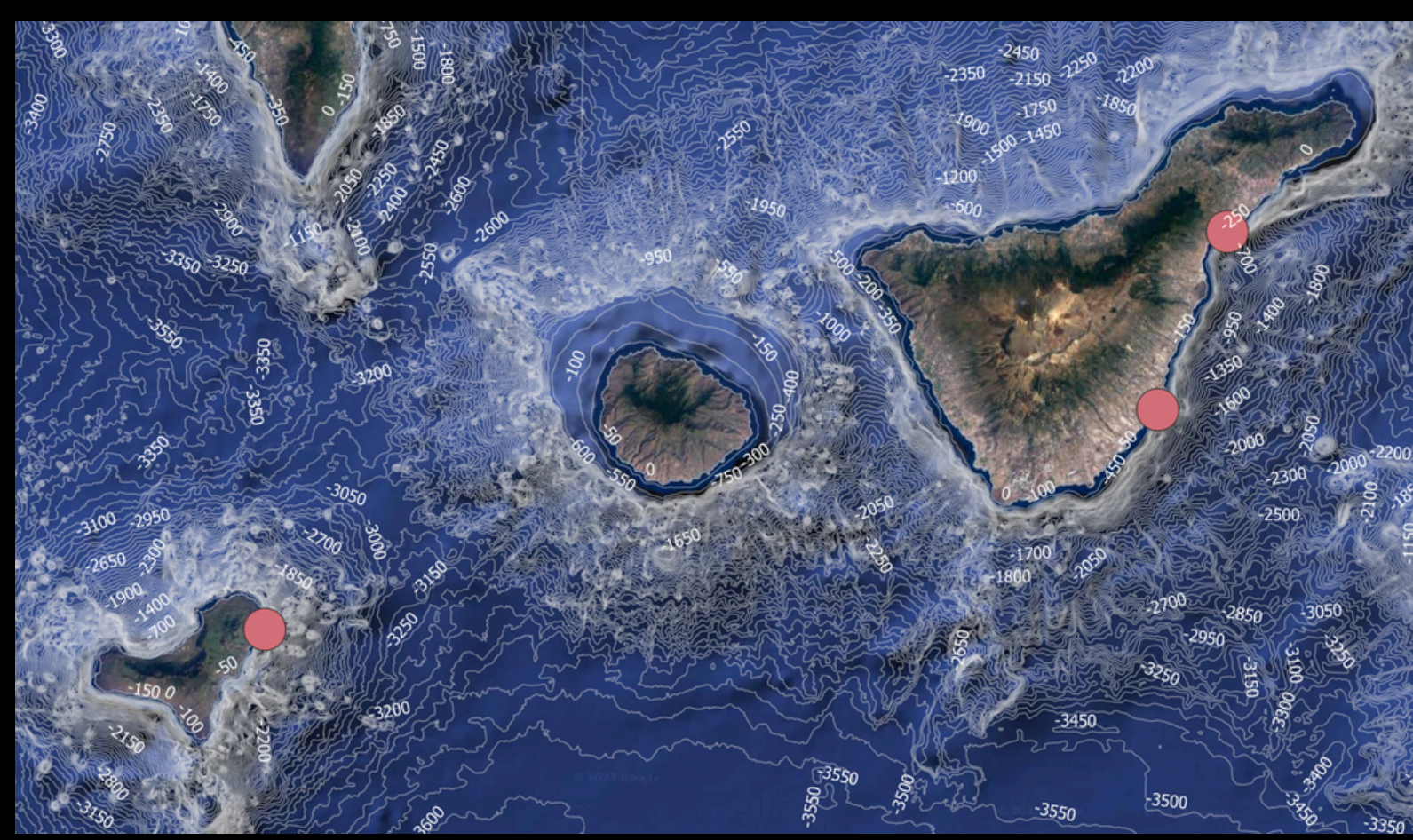


Figure 1. Places where observations were made: Radazul y Abades (Tenerife) and La Caleta (El Hierro)



Figure 2. Equipment used during the "sporadic" freediving outings to explore plankton.

RESULTS

The tornaria larva of two hemichordates is recorded, one from the class Enteropneusta commonly known as the acorn worm (Figure 3) and the other, *Planctosphaera pelagica* (Figure 4), from the class Planctosphaeroidea. Additionally, the auricularia larva of *Protankyra brychia* (larval stage known as *Auricularia nudibranchiata*) (Figure 5), belonging to the class Holothuroidea, and the larva of an undetermined species from the class Asteroidea (Figure 6) are recorded.

Tornaria larva

Hemichordata - Enteropneusta

First sighting: Radazul (Tenerife) - 25.04.2024



Planctosphaera pelagica (Spengel, 1932)

Hemichordata - Enteropneusta

First sighting: La Caleta (El Hierro) - 08.07.2023

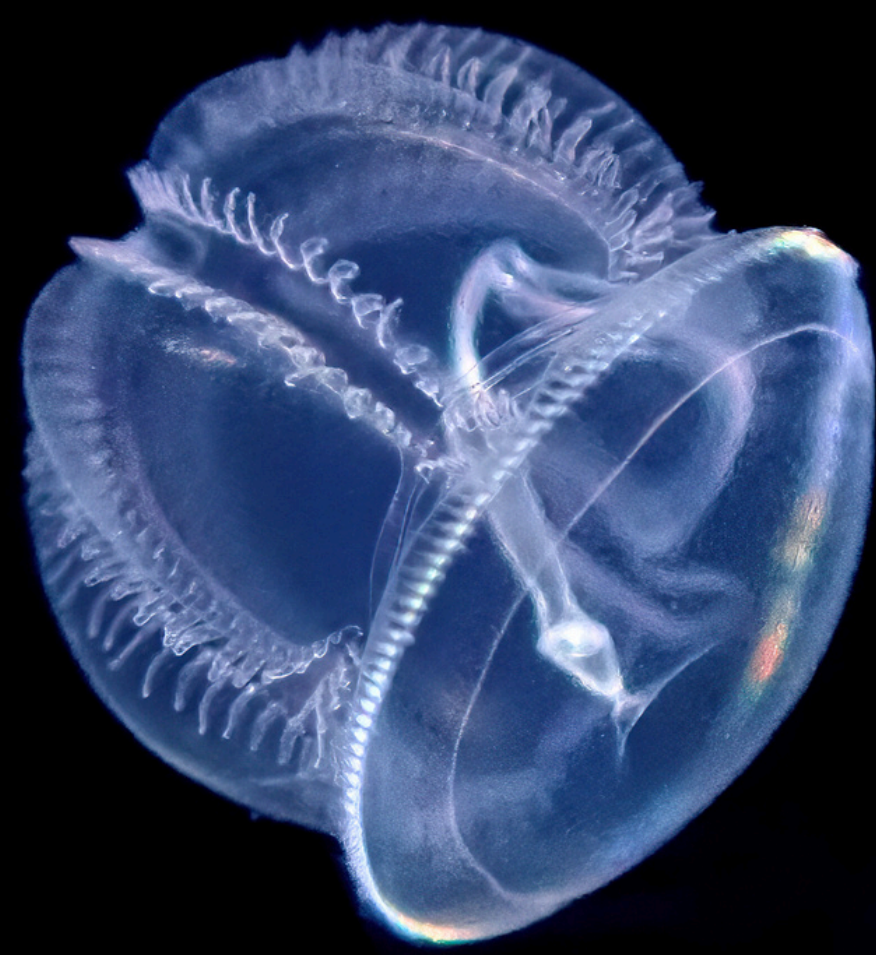
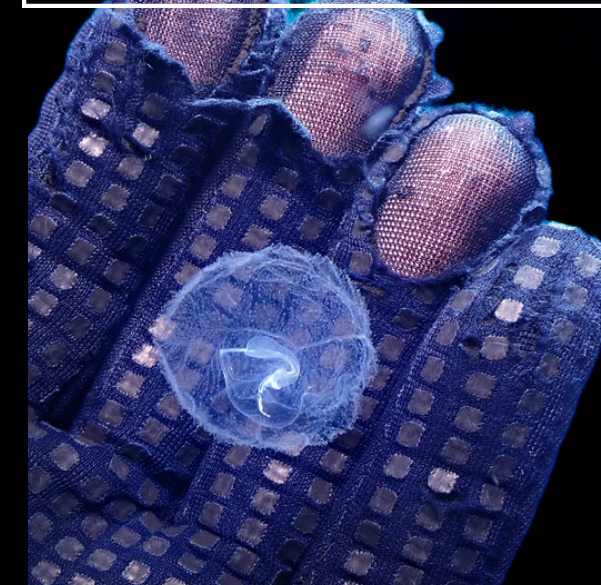
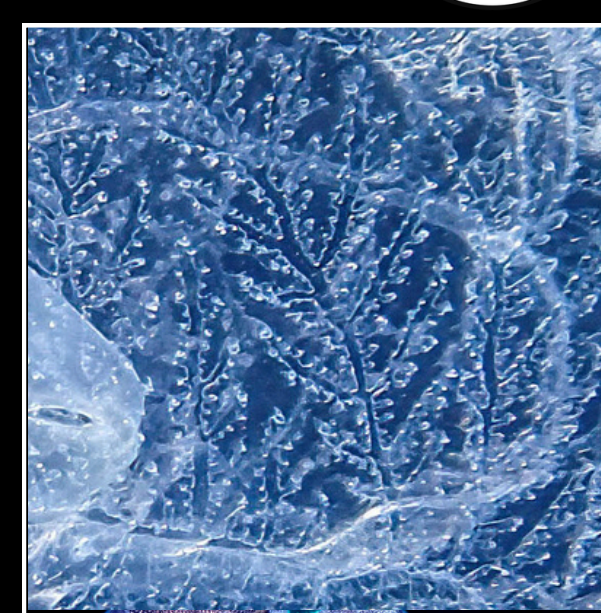


Figure 3. Tornaria larva, Enteropneusta



Figure 4. *Planctosphaera pelagica* (Spengel, 1932)



Protankyra brychia (Verrill, 1885)

Echinodermata - Holothuroidea - Apodida - Synaptidae

First sighting: El Porís (Tenerife) - 08.04.2021



Brachiolaria larva

Echinodermata - Asteroidea

First sighting: Radazul (Tenerife) - 11.03.2023



Figure 5. Auricularia larva, Holothuroidea

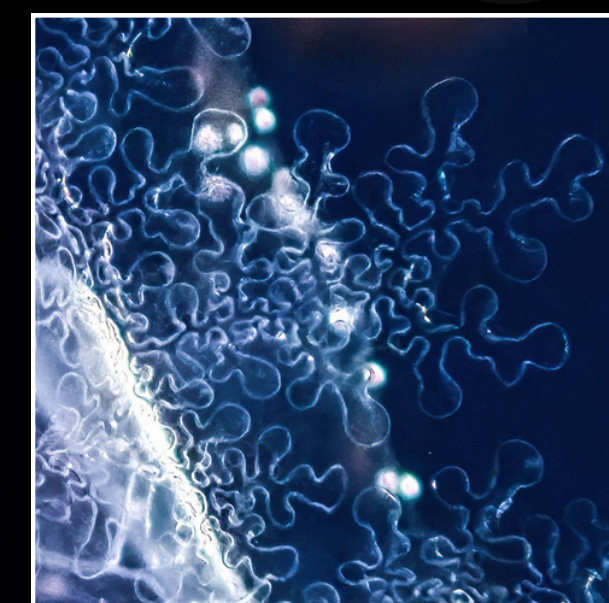


Figure 6. Brachiolaria larva, Asteroidea



RedPROMAR, the Marine Environment Observers Network in the Canary Islands is a citizen science initiative providing a sighting platform. The minimum information contained by a sighting is a photo or video, date and location. All sightings have been previously validated by taxonomic specialists who verify the information contained in the sighting.



Figure 7. RedPROMAR's sightings map showing gelatinous plankton groups: Siphonophorae, Ctenophora and Pterotracheidae from 2015 to 2024.

CONCLUSIONS

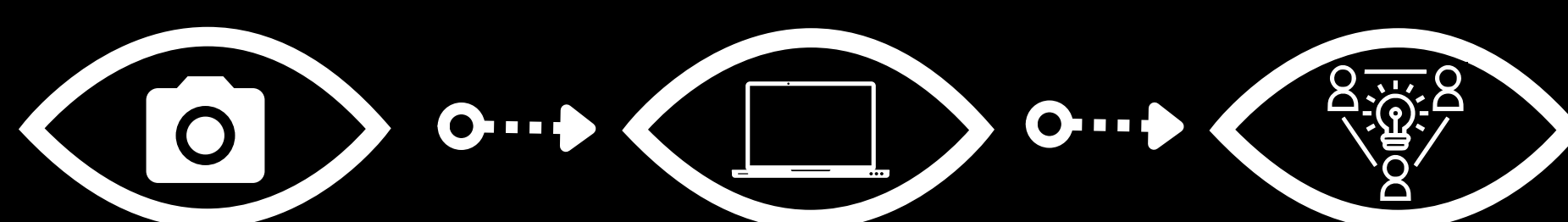
- For the first time in the Canary Islands, the larval stage of unique species of hemichordates and echinoderms, constituents of plankton, has been recorded.
- These novel and first-time records for the archipelago highlight the potential of this "alternative" sampling methodology as well as the importance of citizen science to enhance knowledge about the planktonic communities in the Canary Islands.
- RedPROMAR has proven to be a very useful tool to gather interesting live information of the ephemeral, sporadic and little known planktonic ecosystem around the Canary Islands.

ACKNOWLEDGMENTS

We extend our gratitude to all users who have actively reported and/or are currently reporting on the platform, thereby promoting knowledge and conservation of our marine ecosystems.

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HOW TO GET INVOLVED?



Observe and take a picture
In which the organism or the event can be correctly appreciated

Record your observations
Indicating date and location

Become a Citizen Scientist
Contribute and learn about the marine biodiversity of the Canary Islands



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