



CITIZEN SCIENCE PROJECT: MONITORING ELASMOBRANCHS ACROSS THE CANARY ISLANDS

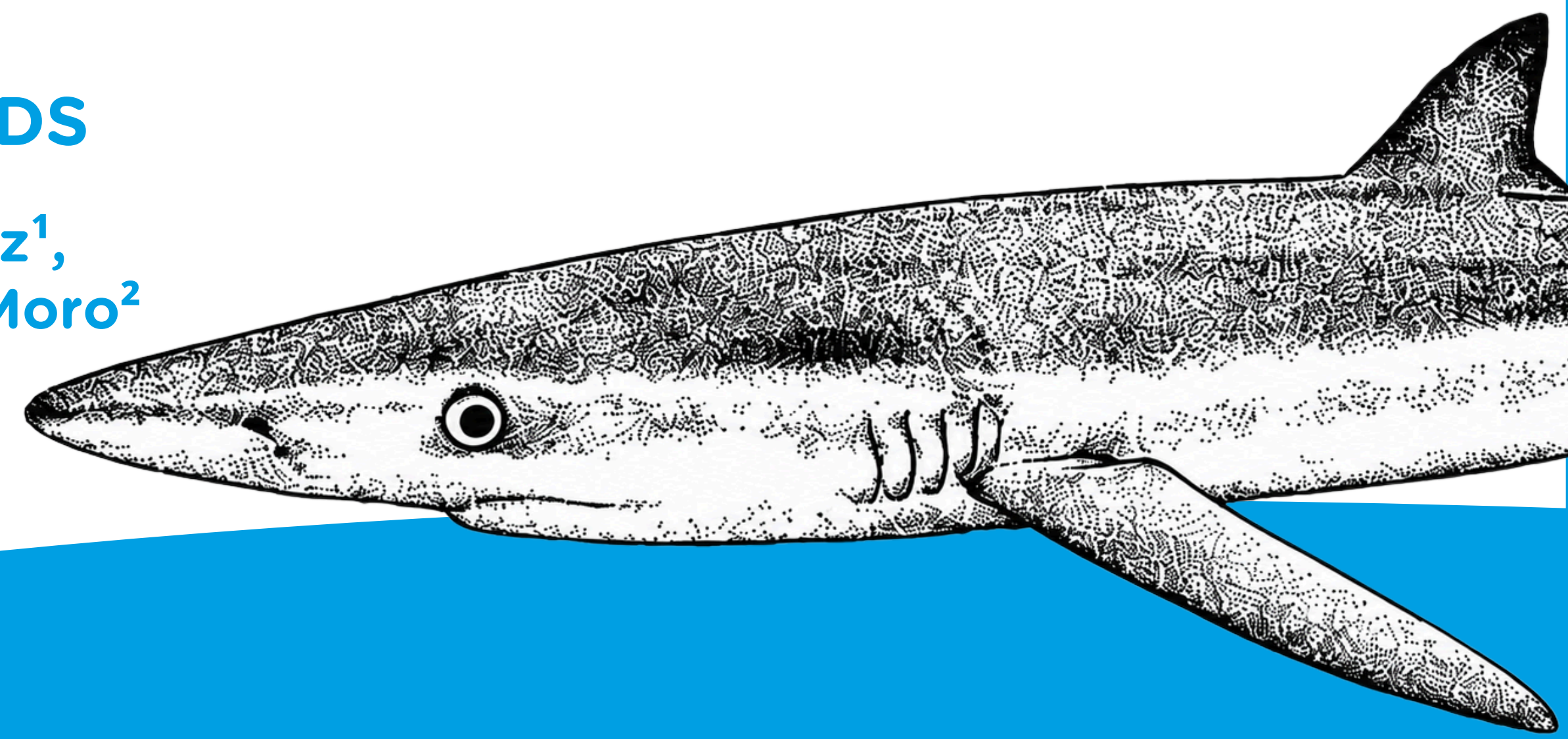
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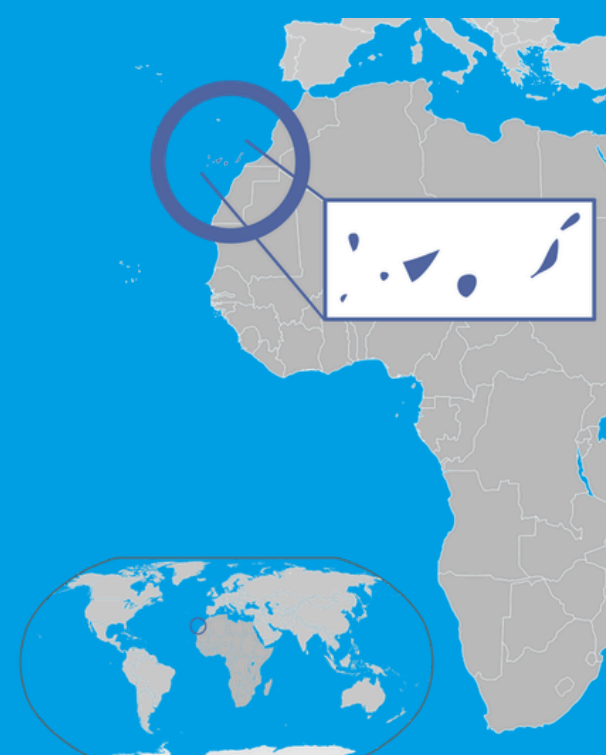
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INTRODUCTION

Elasmobranchs are an important component of marine ecosystems, and many species exhibit biological traits—including slow growth, late maturity, and low fecundity—that increase their vulnerability to anthropogenic pressures. Monitoring their populations requires continuous spatial and temporal data, which can be difficult to obtain through conventional scientific programmes due to the high costs and sampling effort involved.

Citizen science provides a complementary approach to expand the spatial and temporal coverage of observations and generate information on the occurrence and ecology of these species. In this context, RedPROMAR integrates sightings reported by marine users and, since 2022, has implemented a dedicated citizen science project to monitor elasmobranchs across the Canary Islands.



CITIZEN SCIENCE PROJECT

To assess ecological trends and potential changes in elasmobranch populations, the project establishes a long-term biological monitoring programme based on citizen science, collecting and providing information on this ecologically important group within the marine ecosystems of the Canary Islands.

The project aims to generate relevant information to support elasmobranch conservation across the archipelago, particularly regarding species composition, potential seasonality, the identification of important areas (e.g. aggregation, nursery and reproductive areas), and the characterisation of sightings, including sex, body size, and behaviour.

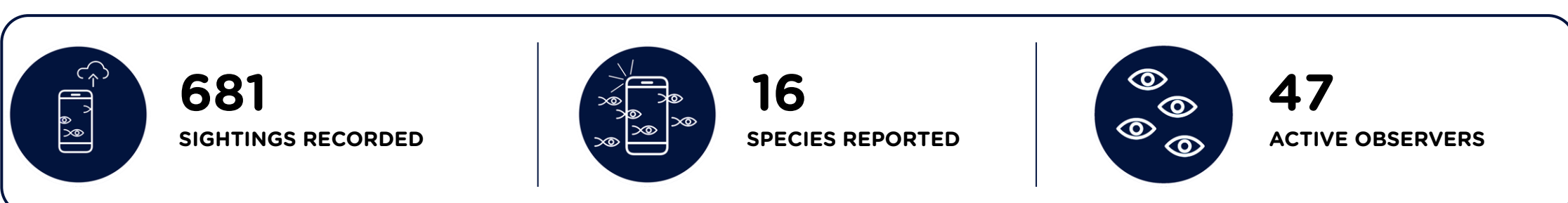
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RESULTS



Temporal trends. Since the project began in 2022, the number of reports has shown an overall increase, reaching a maximum of 213 sightings in 2025. In 2026, 142 records were collected up to September, representing an incomplete annual reporting period.

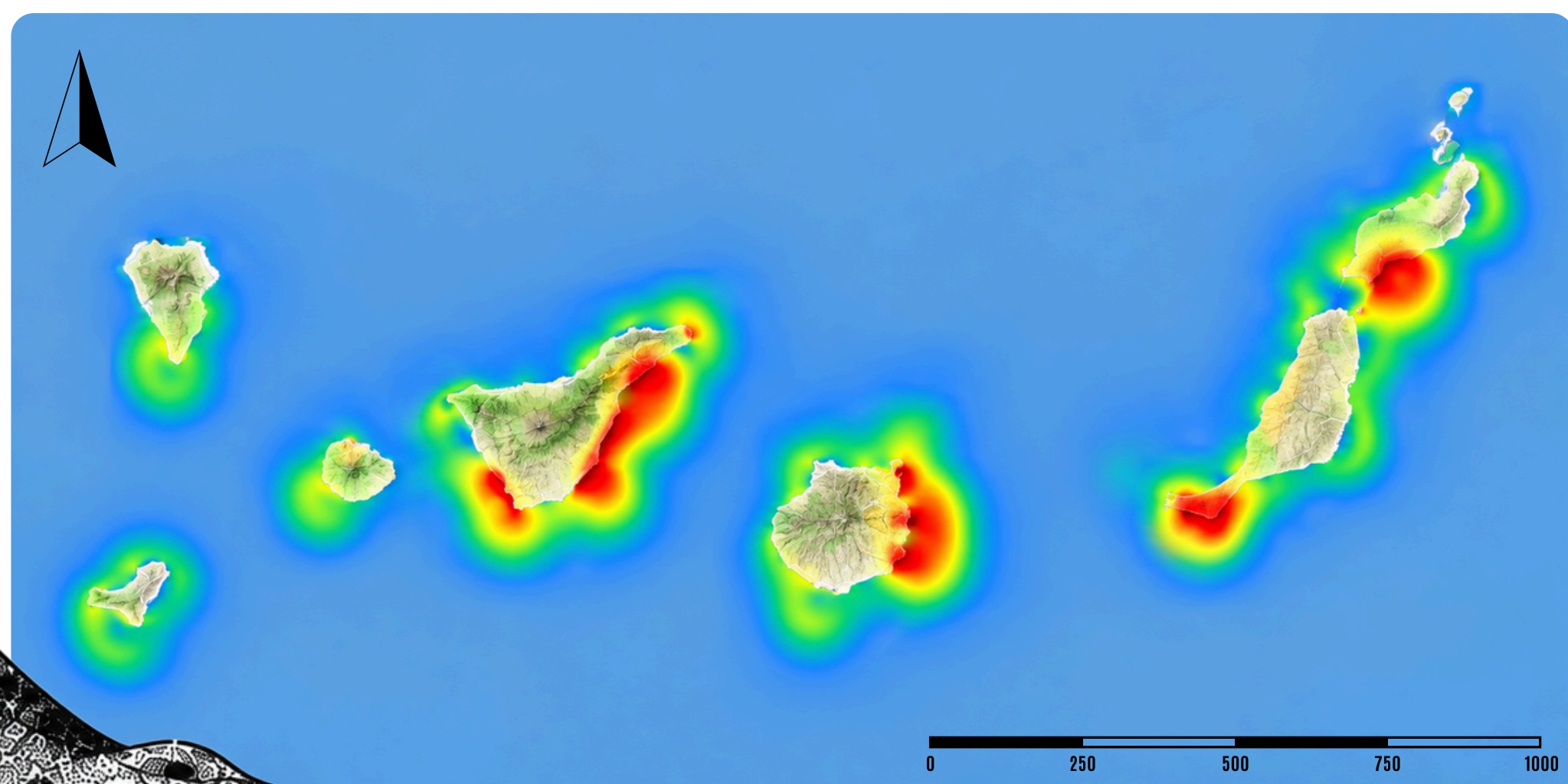


Most frequently reported species. The species composition of sightings was strongly concentrated among a limited number of species, with the five most frequently reported species collectively accounting for 79.2% of all records. Benthic species were particularly prominent among the reported taxa.

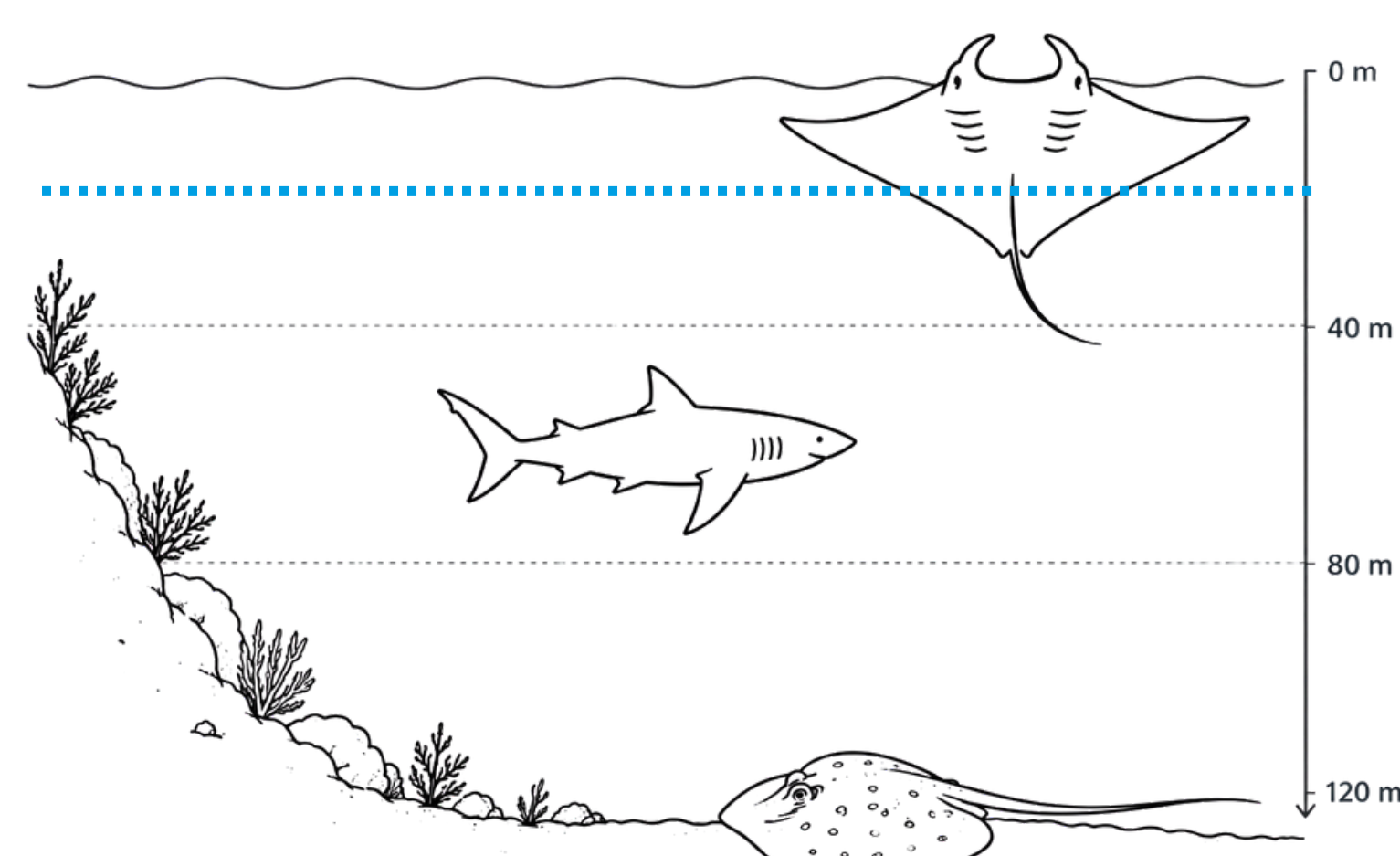
Most Reported Species		No. of Reports	%
	<i>Squatina squatina</i> Angelshark	200	31,3
	<i>Dasyatis pastinaca</i> Common stingray	96	15
	<i>Taeniurops grabatus</i> Round stingray	90	14,1
	<i>Gymnura altavela</i> Spiny butterfly	65	10,2
	<i>Bathytochia centroura</i> Roughtail stingray	54	8,5



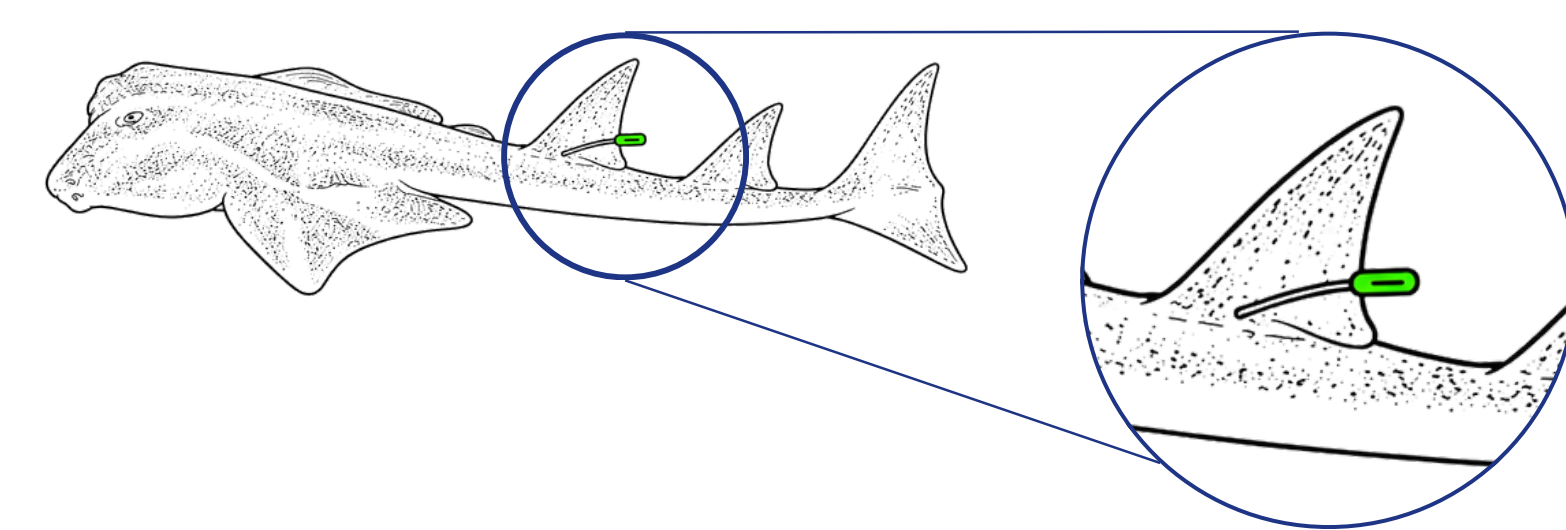
Spatial distribution. Sightings showed broad coverage across the archipelago, although higher concentrations of records were observed in southwestern El Hierro, La Palma and La Gomera; along the eastern coasts of Tenerife and Gran Canaria; and in the southeastern sectors of Fuerteventura and Lanzarote. These concentrations may be partly influenced by greater observation effort and citizen participation in certain areas and should therefore not be directly interpreted as areas of higher elasmobranch abundance.



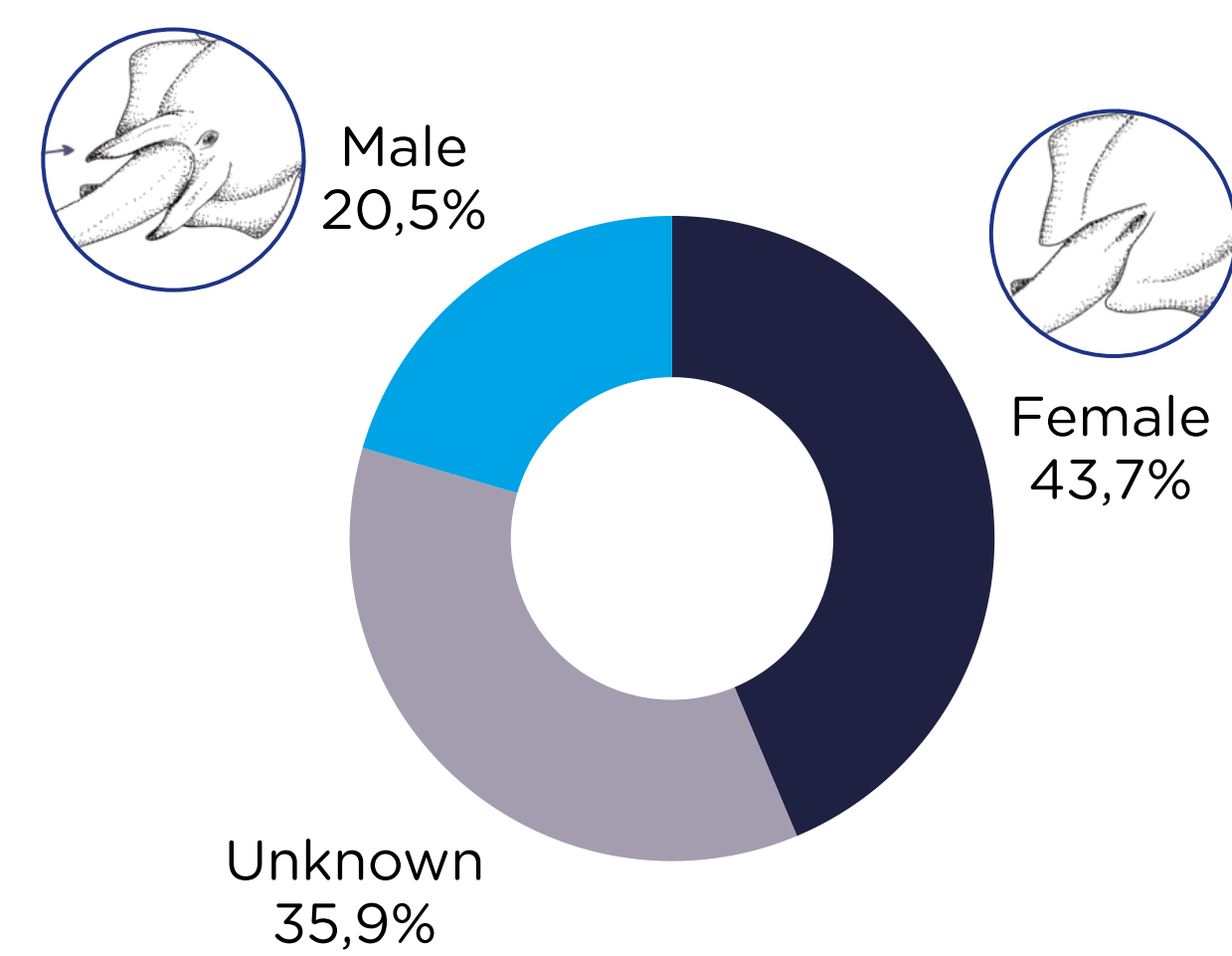
Project-specific variables. Approximately three-quarters of the sightings included information on the main project-specific variables, including depth (75.2%), behaviour (75.1%), sex (74.3%), and body length (72.3%), enabling a more detailed biological and ecological characterisation of the general records collected through RedPROMAR.



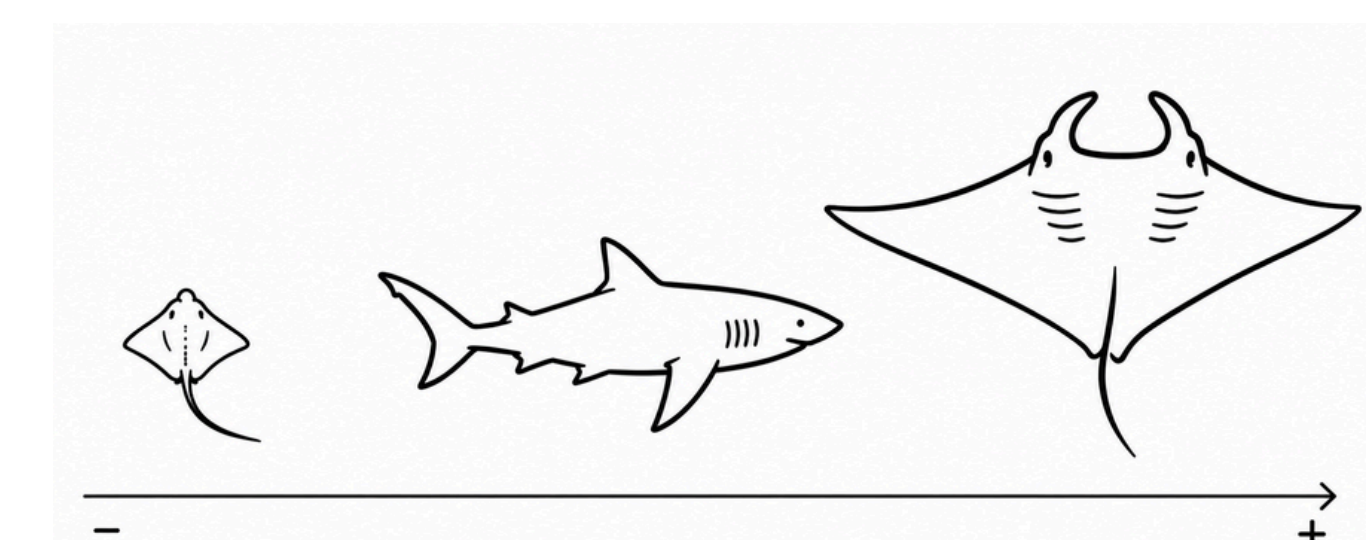
Bathymetric distribution. Sightings with available depth data ranged from 0 to 120 m, with a mean depth of 15.3 m.



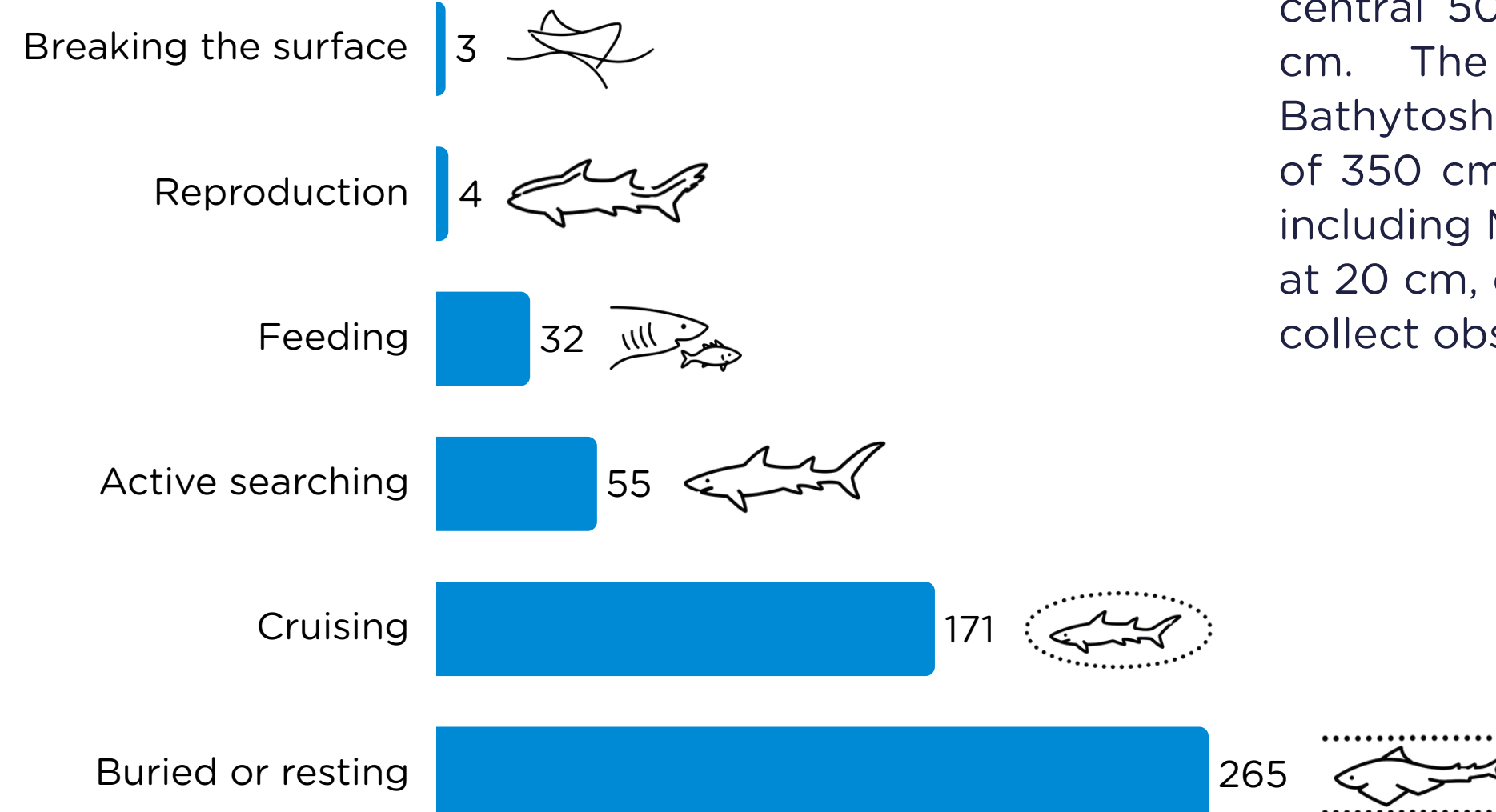
Tag presence. Five sightings of tagged individuals were recorded, highlighting the potential of citizen science to detect resightings and complement scientific monitoring programmes.



Sex distribution. Among sightings with available sex information, females were the most frequently reported ($n = 207$), followed by individuals of unknown sex ($n = 170$) and males ($n = 97$).



Size distribution. The variability in recorded body lengths reflects the occurrence of species with different body sizes and individuals across a range of age classes and developmental stages. Mean recorded length was 98.5 cm, with the central 50% of records ranging from 60 to 120 cm. The largest individual recorded was *Bathytochia centroura*, with an estimated length of 350 cm. Small individuals were also reported, including *Myliobatis aquila* and *Mustelus mustelus* at 20 cm, demonstrating the project's capacity to collect observations across a broad size range.



Observed behaviour. Records were dominated by individuals observed buried or resting on the substrate, followed by those engaged in cruising, active searching, and feeding behaviours.

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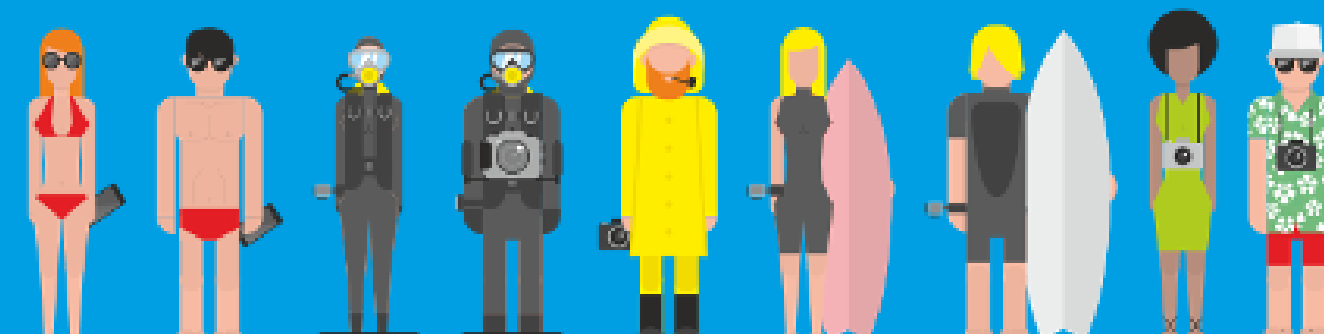
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ACKNOWLEDGEMENTS

AWe are especially grateful to all RedPROMAR users who have contributed sightings of these species across the Canary Islands.



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CONCLUSIONS

- Citizen science, through RedPROMAR, enables the continuous collection of information on elasmobranch diversity, distribution, and ecology across the Canary Islands.
- Project-specific variables enhance the value of occurrence records by providing additional information on sex, body size, depth, behaviour, and tag presence.
- Sightings provide broad spatial coverage across the archipelago, although their distribution is influenced by heterogeneous observation effort, which is an important consideration when interpreting the observed patterns.
- The long-term continuation of the project and increased citizen participation will strengthen temporal datasets, improve the identification of ecological patterns, and generate complementary information to support the monitoring and conservation of elasmobranchs in the Canary Islands.



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