



CITIZEN SENTINELS OF CORALLIGENOUS PROTECTED SPECIES IN THE CALANQUES NATIONAL PARK

Juliette DEDET, Laura BARTH and Giulia GATTI

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INTRODUCTION

Coralligenous reefs consist of different <u>very variable</u> <u>habitats</u>; it is therefore difficult to grasp on the part of the managers. The <u>CIGESMED for divers</u> citizens science program, in collaboration with **POLAR**, aims to increase knowledge about coralligenous reefs through the participation of volunteer divers. A focus on the <u>species</u> protected or classified as "vulnerable / endangered" by the IUCN and on the pressures threatening the habitats in the Calanques National Park is presented here.

MATERIALS AND METHODS

- ✓ Theoretical and practical training for all participants
- ✓ An underwater slate containing all the information to be recorded, i.e.:
 - The habitat structure
 - The list of species
 - The pressures
- ✓ A mobile app to facilitate the transfer and storage of data



80 observations were carried out by volunteer divers in the Calanques National Park, exploring 19 dive sites

RESULTS

The pressures are of 2 origin: **natural** or **anthropogenic**.

Natural pressures are present throughout the Park and are difficult to control. Human pressures are less abundant in the heart of the Park and in no-take zones, where the regulations are stricter. However, damages attributable to divers were observed at most of





CONCLUSION

The various protection measures would have a positive impact on the species studied by limiting anthropogenic pressures. However, an effort is needed on the part of divers and diving centers to limit their impact on habitats. Citizens sciences make it possible to raise awareness and respond to the desire of citizens to become active in the protection of the marine environment. They make it possible to orient management measures in favor of the environment.

Thanks to the citizen divers, the first observers of the marine environment!



Data analysis highlighted that the abundance of vulnerable / endangered and protected species is: ✓ variable from one site to

- variable from one site to another (some sites with remarkable abundance, e.g. the Grotte à Perez)
- ✓ variable from one regulatory area to another (higher abundances in no-take zone)
 ✓ dependent on depth





Distribution of vulnerable / endangered or protected species on dive sites, according to depth ranges - semi-quantitative abundance

Distribution of pressures on dive sites according \Rightarrow to their level of impact