

# Ecologie benthique profonde

## *Habitat mapping* côtier et inventaire des fonds de *maërl*



**MBe Lab**  
Madeira Marine Biodiversity and Conservation Ecology

**MONACO EXPLORATIONS CAMPAIGN —  
MACARONESIA, 2017**

**BENTHIC ECOLOGY TEAM - MBE LAB  
OOM - MARINE BIOLOGY STATION OF FUNCHAL  
SCIENTIFIC TEAM ON BOARD YERSIN:  
ANDREIA BRAGA-HENRIQUES, ELIZAVETA AKOULINA & ANA NÓBREGA**

**MOBILE RESEARCH PLATFORM: YERSIN YATCH**

**SAMPLING GEAR: VAN VEEN GRAB**

**MISSION DATE: 24 - 27 OF AUGUST, 2017**

**3 STUDY AREAS, 21 STATIONS, 3 FIELD TRIPS (8-122 M)**

- **WESTERN SLOPE OF ILHÉU CHÃO (DESERTA ISLAND);**
- **SOUTHERN SLOPE OF PONTA DE SÃO LOURENÇO (MADEIRA ISLAND);**
- **DESERTAS-MADEIRA RIDGE.**

**AIMS OF THE BIODIVERSITY SURVEYS:**

- **CHARACTERISATION OF SUBSTRATE TYPE AND VARIABILITY OF GRAIN-SIZE;**
- **INVENTORY AND DESCRIPTION OF MEGA E MACROFAUNAL COMMUNITIES (> 0.5 MM SIZE);**
- **EVALUATION OF HUMAN IMPACTS (E.G. MARINE LITTER OR SIGNS OF MECHANICAL INJURY IN SESSILE ORGANISMS).**



**DREDGING OPERATION - ON BOARD THE BARGE**

Photos by Frederic Buyle



**17** SEDIMENT SAMPLES OF DIFFERENT TYPES OF SUBSTRATES (AND ASSOCIATED INFAUNA COMMUNITY)

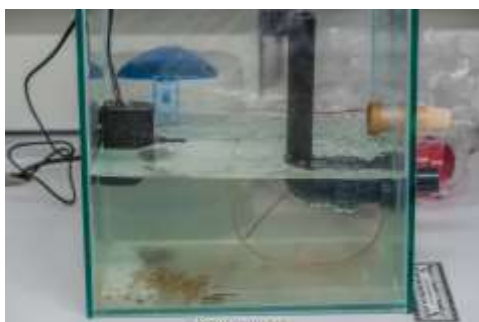
**258** SAMPLES OF MARINE INVERTEBRATES (SESSILE, MOBILE, FREE-LIVING) AND ALGAE (INCLUDING CORALLINE SUCH AS MAËRL) FOR TAXONOMY, ECOLOGY, MOLECULAR AND BIOCHEMISTRY STUDIES.

*SPONGES, BLACK CORALS, SCLERACTINIANS, BRYOZOANS, HYDRARIANS, GASTROPODS, CRUSTACEANS, POLYCHAETES, BRITTLE STARS, ZOANTHIDS (...)*

**8** REFRIGERATED SEDIMENT SUB-SAMPLES FOR DETECTION AND FURTHER ISOLATION OF DINOFLAGELLATE RESTING CYSTS



**DISCOVERIES THAT WILL RAISE AWARENESS TO PROTECT OCEAN BIODIVERSITY**



**WHIP BLACK CORAL COMMUNITIES AT THE UPPER  
INSULAR SLOPES  
( > 1 M TALL, 101 M DEPTH)**



Ana Inês Nóbrega

**ROCKY BOTTOMS  
COLONISED BY ENCRUSTING SPONGES, BRYOZOANS,  
CORALLINE ALGAE MAËRL  
AND LAMINARIA? (70 M DEPTH)  
- NEW RECORD FOR MADEIRA**



# Habitat mapping

## Dive summary

No. Dives	Duration	Depth range	Average depth	Average duration
11	10,5 h	29 – 12 m	14,3 m	00:57
33 (man-dives)	32 h			

- 3 divers

**Claúdia Ribeiro**  
**Pedro Neves**  
**Mafalda Freitas**





**Legend**

- 20 m
- 50 m



# Preliminary results

- 11 new locations sampled (N shore on Madeira and Desertas)
- 8500 m swimmmed by divers
- 0,4 km<sup>2</sup> surveyed
- 2 new maërl beds located:
  - Ponta do Pedregal/Deserta Grande
  - Ilhéu de Fora





## Fishes

42 species observed in each site

15 transects (25 m x 4 m) to estimate fish abundance and mobile invertebrates

The fish species observed during the campaign have all been recorded to Madeira subtidal habitats before, using UVC's

Two important species, island grouper (*Epinephelus marginatus*) and barred hogfish *Bodianus scrofa*), showed a higher frequency of occurrence and abundance, when compared with similar habitats from the South Coast of Madeira

## Macroalgal communities:

Marked difference between N and S of Madeira

### North coast:

Lower abundance of *Diadema africanum*

Higher macroalgal abundance and diversity

Higher species richness



