

IMPORTANCE OF SEAMOUNTS-LIKE FEATURES FOR MEDITERRANEAN MARINE HABITATS AND THREATENED SPECIES

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Abstract

Oceana's exploratory ROV's dives in Western Mediterranean seamounts have collected more than 300 hours of video from deep-sea ecosystem. Findings of threatened species and habitats, like carnivorous sponges, elasmobranches, coral gardens, sponge aggregations, coralligenous beds, etc. or even new species for science like giant foraminifera (Astrorhizidae), or new species for the Mediterranean (i.e. *Anomocora fecunda*), makes this geological features "hotspots" and shelter of species and habitats in regression or considered rare in other Mediterranean areas.

Keywords: *Deep sea ecology, North-Western Mediterranean, Deep sea corals, South-Western Mediterranean, Biodiversity*

More than 200 underwater elevations have been registered in the Mediterranean (1). They are widely distributed along this sea, but the highest density is in the Western Basin, mainly in Alboran and Tyrrhenian Seas; Sicilian Channel and Balearic Islands are also other important points. Since 2006, Oceana has carried out six expeditions in the Mediterranean performing 129 ROV's dives over 16 seamounts, surveying 208.350 m² between -37 and -638 meters deep.

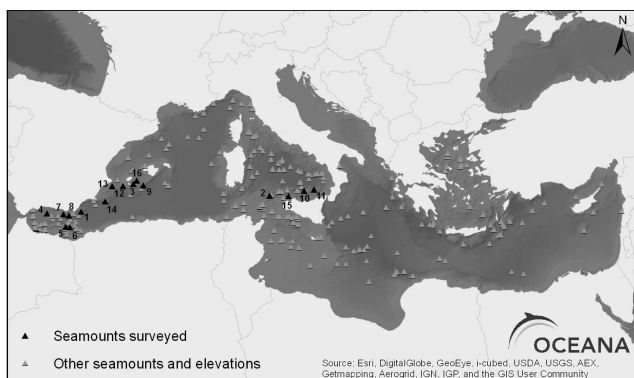


Fig. 1. Abubacer ridge (1), Aceste seamount (2), Ausias March Bank (3), Avempace bank (4), Cabliers bank (5), Catifas bank (6), Chella bank (7), El Sabinar bank (8), Emile Baudot seamount (9), Enareta seamount (10), Filicudi banks (11), Formentera bank (12), Nao mound (13), Palos bank (14), San Vito ridge (15), Ses Olives bank (16).

Cold water corals: *Dendrophyllia cornigera* found in all the seamounts. Reefs of *Lophelia pertusa* and *Madrepora oculata* on Cabliers, Catifas, Chella and Avempace. Other corals found are *Anomocora fecunda*, *Caryophyllia* spp., *Desmophyllum dianthus*, *Stenocyathus vermiformis*, *Pourtalesmilia anophyllites* and *Javania cailei*. **Gorgonian gardens:** *Paramuricea clavata* and *Eunicella verrucosa* are the commonest on top of seamounts. Other species are *Viminella flagellum*, *Callogorgia verticillata*, *Acanthogorgia* spp., *Placogorgia coronata*, *Swiftia pallida*, *Muriceides lepida*, *Villogorgia bebyricoides*, *Bebyrice mollis*, *Nicella granifera* and *Paramuricea macrospina*.

Black corals: *Leiopathes glaberrima* and *Antipathes dichotoma* in San Vito, Filicudi, Emile Baudot, etc. but also *Antipathella subpinnata* & *Parantipathes larix* in Chella or Cabliers. **Bamboo corals:** *Isidella elongata* on muddy beds in Ses Olives. **Sea pens:** *Pennatulid* spp., *Pteroeides griseum*, *Virgularia mirabilis* and *Veretillum cynomorium* on soft detritic bottom, *Funiculina quadrangularis* is less abundant, but *Kophobolemon stelliferum* is the most abundant in some seamounts. **Sponge aggregations:** *Asconema setubalense* found for the first time in the Mediterranean. *Phakellia* spp. on bathyal rocky beds. *Axinella* spp. and tens of different species over rodolith beds. But also in muddy bottoms, like *Thenaea muricata*. **Gryphus vitreus:** Largest beds on Aceste and Emile Baudot. **Leptometra phalangium beds:** Present in all the seamounts; highest abundance in El Sabinar and Avempace. **Coralligenous beds:** Both rodolith beds and coralligenous concretions present in shallower peaks. **Oyster reefs:** *Neopycnodonte zibrowii* in Abubacer, Chella and Emile Baudot. *N. cochlear* also found in Chella. **Mussels' reefs:** Subfossil reefs of

Modiolus modiolus found in Chella.

Threatened/rare species: **Astrorhizida.** New species of giant foraminifera found in Palos bank. *Asbestopluma hypogea*. First recorded in deep areas(2). Registered on Chella, Ausias March, Emile Baudot & Enareta. *Spongia agaricina*. Large individuals on Emile Baudot and Ausias March. *Aplysina* spp. & *Tethya* spp. in Chella and Emile Baudot. *Anomocora fecunda*. Discovered on Chella bank. *Anthomastus* sp. Registered in Chella and Cabliers. *Nidalia* isp. Identified in Ausias March, Palos bank and El Sabinar. *Dendrobrachia bonsai*. Rare gorgonian(3) in Cabliers, Catifas and Chella bank. *Nicella granifera*. Found in Chella, Avempace and Cabliers. *Sideractis glacialis*. One citation for this species in the Mediterranean(4). Sighted on Ses Olives, Chella and Formentera. *Savalia savaglia*. in Chella, Avempace, Cabliers and Emile Baudot. *Kinetoskias cf. smithii*. First cited in the Mediterranean closed to Gibraltar strait(5). Recorded between Ses Olives and Ausias March; also in Emile Baudot. *Charonia lampas*. Gastropod on top of Ausias March and Chella. *Ranella olearia*. Common in Emile Baudot, Chella and Palos. *Neopycnodonte zibrowii*. Recently discovered mollusk(6) found in Abubacer and Chella. *Peniagone* sp. Elapsipodid in deep muddy bottoms in Ses Olives and Emile Baudot. *Epinephelus caninus*. Aggregations in Chella and Palos Banks. *Gaidropsarus granti*. Recorded in Chella bank. Species only found in islands and seamounts(7). *Cetorhinus maximus*. Basking over Palos bank. *Galeus atlanticus*. It was found in Chella. *Oxynotus cetrina*. Several individuals spotted in Chella bank.

References

- 1 - Morato, T., Kvile, K.Ø., Taranto, G.H., Tempera, F., Narayanaswamy, B.E., Hebbeln, D., Menezes, G., Wienberg, C., Santos, R.S. & Pitcher T.J. 2012. Seamount physiography and biology in North-East Atlantic and Mediterranean Sea. Biogeosciences Discuss., 9:18951-18992.
- 2 - Aguilar, R., López-Correa, M., Calcinai, B., Pastor X., de la Torriente, A. & García S. 2011. First records of *Asbestopluma hypogea* Vacelet and Boury-Esnault, 1996 (Porifera, Demospongiae Cladorhizidae) on seamounts and in bathyal settings of the Mediterranean Sea. *Zootaxa* 2925: 33-40.
- 3 - López-González P.J. & Cunha M.R. 2010. Two new species of *Dendrobrachia* Brook, 1889 (Cnidaria: Octocorallia: Dendrobrachiidae) from the north-eastern Atlantic and western Mediterranean. *Sci. Mar.* 74(3): 423-434.
- 4 - Den Hartogm, J.C., Ocaña, O. & Brito A. 1993. Corallimorpharia collected during the CANCAP expeditions (1976-1986) in the south-eastern part of the North Atlantic. *Zoologische Verhandelingen*, Leiden, 282: 1-76.
- 5 - Harmelin, J.-G. & d'Hondt J.L. 1993. Transfer of bryozoan species between the Atlantic Oceania and the Mediterranean Sea via the Gibraltar Strait. *Oceanologica Acta*, Vol, 19 (1): 63-72.
- 6 - Gofas, S., Salas, C. & M. Taviani in Wisshak, M., López-Correa, M., Gofas, S., Salas, C., Taviani, M., Jakobsen, J & Freiwald A. 2009. Shell architecture, element composition, and stable isotope signature of the giant deep-sea oyster *Neopycnodonte zibrowii* sp. n. from the NE Atlantic. *Deep-Sea Research* 56 (3): 374-407.
- 7 - Bañón, R., Villegas-Ríos, D., Serrano, A., Mucientes, G. & Arronte J.C. 2010. Marine fishes from Galicia (NW Spain): an updated checklist. *Zootaxa* 2667: 1-27.