

Introduction The Chella Bank is a seamount located in the NE Alboran Sea, which is an important Atlanto-Mediterranean biogeographical transition zone. A high productivity and the presence of VMEs have been reported for this area in the last years. Despite being an area of high bio-ecological interest, information regarding the invertebrate assemblages linked to different VMEs is still scarce and this represents the main aim of this study.

Material & Methods During the MEDWAVES expedition (Oct-2016), 5 transects of ROV underwater images covering different VMEs of Chella Bank were obtained (Fig. 1). Within these transects, biological and sediment samples were also collected with a Van Veen dredge ($n_s = 13$) on sedimentary and coral-rubble bottoms (Fig. 1). A preliminary mega-, macro- and micro-benthic characterization of some VMEs and adjacent soft-bottoms could be obtained from the underwater images and samples.

Results

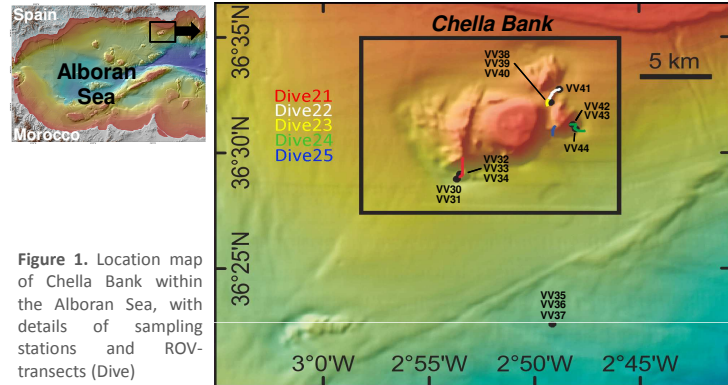
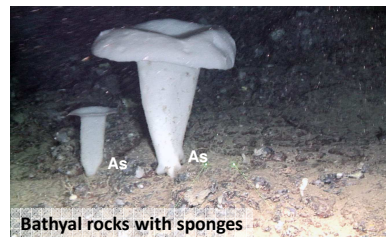
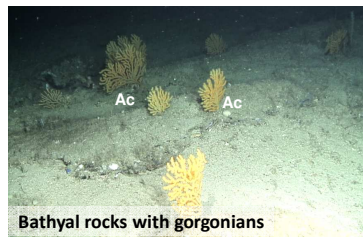


Figure 1. Location map of Chella Bank within the Alboran Sea, with details of sampling stations and ROV-transects (Dive)

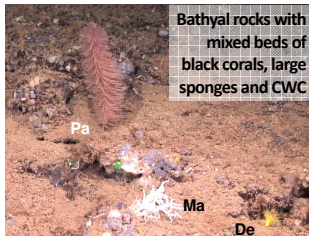
Mega-benthic characterization of VMEs and VME indicator species



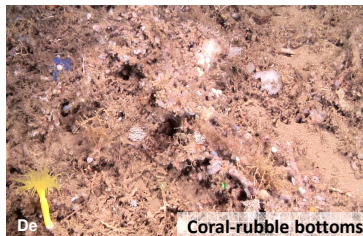
Bathyal rocks with sponges
Rocky outcrops and crests (depth: 300-400m) with predominance of large (*Asconema setubalense* - As, *Pachastrella monilifera*, *Pocillastra* cf. *compressa*, *Phakellia* spp.) and small-size sponges (*Crella* spp.).



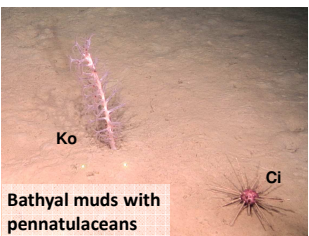
Bathyal rocks with gorgonians
Rocky outcrops (ca. 250m depth) partially covered by sediment with gorgonians (*Acanthogorgia hirsuta* - Ac, *Bebyrce mollis*) and black-corals (*Antipathes dichotoma*).



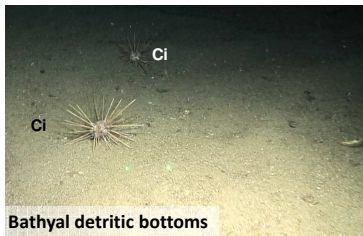
Bathyal rocks with mixed beds of black corals, large sponges and CWC
Rocky outcrops (depth: 300-250m) with black corals (*Parantipathes larix* - Pa), large sponges and isolated CWC colonies (*Dendrophyllia cornigera* - De, *Madrepora oculata* - Ma)



Coral-rubble bottoms
Rubble bottoms (depth: 370-240m) with large and small sponges and small gorgonians (*B. mollis*, *A. hirsuta*), with some CWC (*D. cornigera*, *M. oculata*)



Bathyal muds with pennatulaceans
Bioturbated sediments (depth: 700-450m) with pennatulaceans (e.g. *Kophobelemnion stelliferum*, - Ko), echinoderms (*Cidaris cidaris* - Ci) and burrowing crustaceans



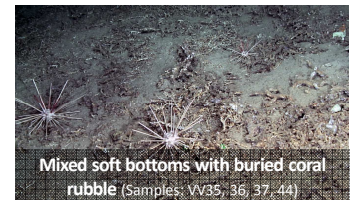
Bathyal detritic bottoms
Detritic bottoms (depth: 400-330m) with predominance of echinoderms (*C. cidaris*) and decapods (*Munida intermedia*)

Macro- and micro-benthic characterization of faunistic communities

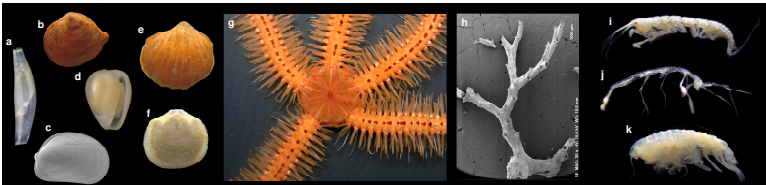
Coral-rubble bottoms



Muddy sand bottoms with complex coral framework (Samples: VV38, 39, 40)
46 species, with high representation of gastropods (14 spp.) and bivalves (13 spp.) and dominated by ofiurids (42% ind.)

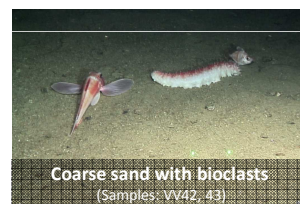


Mixed soft bottoms with buried coral rubble (Samples: VV35, 36, 37, 44)
34 species, mostly represented by bivalves (12 spp.), and dominated by amphipods (20% ind.).

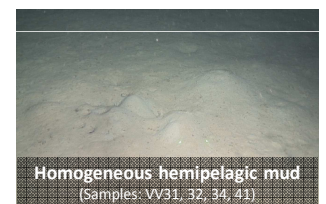


Characteristic taxa of rubble bottoms include the molluscs *Cadulus jeffreysi* (a), *Mendicula ferruginosa* (b), *Dacrydium hyalinum* (c) and *Gibberula epigrus* (d); the brachiopods *Megathiris detruncta* (e) and *Megeria truncata* (f); the echinoderm *Ophiotrix* sp. (g); the bryozoan *Feteporella* sp. (h); and peracarids such as tanaideaceans (i); caprellids (j) and amphipods (k).

Soft bottoms



Coarse sand with bioclasts (Samples: VV42, 43)
10 species, with dominance of peracarids (5 spp., 56% ind.), and bivalves (4 spp., 37% ind.).



Homogeneous hemipelagic mud (Samples: VV31, 32, 34, 41)
14 species, with dominance of peracarids (6 spp., 76% ind.) and bivalves (5 spp., 17% ind.).



Characteristic taxa of soft bottoms include the molluscs *Crenilabium exile* (a), *Ennucula aegeensis* (b), *Kelliella miliaris* (c), *Bathyarca pectunculoides* (d) and *Axinulus croulinensis* (e); and peracarids such as isopods (f), amphipods (g) and phyllocarids (h).

Discussion The complex morphology of Chella Bank and the hydrodynamics of the Alboran basin promotes the existence of diverse VMEs with a high associated biodiversity, becoming a priority site for conservation within the European context. Here, rubble bottoms support a more diverse benthic community with higher densities than soft bottoms, as a result of a higher structural complexity. This higher taxonomic richness is due to the greater variety of molluscs and echinoderms associated with the sand and rubble fraction. Moreover, a high abundance of small crustaceans were also found in rubble bottoms, serving as an important food resource for higher trophic levels