5. Seamounts and Seamount-like Structures of the Eastern Mediterranean

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Table 5: Seamounts and Seamount-Like Structures of the East Mediterranean.

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<th>Seamount name</th>
<th>Lat. °</th>
<th>Long. °</th>
<th>Peak depth (m)</th>
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<td>Akyonı Bank</td>
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<td>Anamur-Kormakiti Ridge</td>
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The Eastern Mediterranean comprises the Cretan Sea, the Aegean Sea and the Levantine Sea. The Eastern Mediterranean Sea formed during the tectonic break-up of the Pangea Supercontinent starting about 270 Ma to 180 Ma, that led to continental crust stretching and thinning, with the formation of several grabens, where very thick sedimentary sequences deposited (Biju-Duval and Montadert, 1977). When Africa and Europe started to converge, the region experienced strike-slip faulting and inversion of those previously formed grabens. When 18-14 Ma subduction started in the Aegean region, the Hellenic Arc formed and extension began in its back-arc region, due to slab tearing (Jolivet et al., 1994). The external non-volcanic arc now consists of a raised topographic feature running the full length of the Hellenic arc, forming the uplifted islands of Crete and Rhodes. The inner southern volcanic arc consists of a series of dormant or active volcanoes, including the Kolumbo Seamount.

The Messinian Salinity Crisis led to the deposition of 1.5 km of evaporites in the Levantine Basin, which overall contains up to 10 km of sediment. During the Pliocene, accretionary activity along the external front, due the ongoing convergence of Africa towards the Aegean Arc, led to the formation of the Mediterranean Ridge (Finetti, 1976), with active mud diapirism. Huge piles of sediments containing evaporites, strike-slip movements and compression, volcanism, salt tectonics and gravitational processes are all concurrent causes for the formation of seamounts in this sea region.
STRUCTURE:

Alkyoni Bank

- **Location:** 38.22130°N – 25.56280°E
- **Peak depth (m):** 60-70
- **Base depth (m):** 410-420

DESCRIPTION:

Geology

No specific geological or geographical information is available on this structure, which is depicted in this map: [http://highsea.cz/map/GM06.JPG](http://highsea.cz/map/GM06.JPG)

Life on and around the Seamount

Some coralligenous species have been detected such as the sponge *Spongia officinalis*, and the crustaceans *Palinurus elephas* and *Homarus vulgaris*. Besides, *Scillarus arctus* was also reported during the summer 2007 cruises in the Aegean Sea. This bank offers a suitable habitat for lobsters due to the occurrence of patchy and fragmented rocky substrates (Ozturk, 2007).

No information about the Alkyoni Bank pelagic communities has been found in the scientific literature.
STRUCTURE:

Anamur Kormakiti Ridge and Güzelyurt Seamount

Anamur Kormakiti Ridge (ANM) ▲ Location: ND
▲ Peak depth (m): ND  ■ Base depth (m): ND

Güzelyurt Seamount (GZL)* ▲ Location: 35.67092°N – 32.76268°E
▲ Peak depth (m): 1410-1420  ■ Base depth (m): ND

* Source: http://www.geomapapp.org/database/GEBCO/GEBCO_gazetteer.htm

DESCRIPTION:

Geology

The Anamur-Kormakiti Ridge is a prominent N-S oriented structural high with a thick cover of Plio-Quaternary sediment: it is probably a fault lineament, which bounds the Cilicia-Adana Basin, to the east, and the Antalya Basin, to the west (Robertson, 1998b). The Anamur–Kormakiti Ridge is characterized by an imbricate fold-thrust system. The older structures appear to be truncated by a prominent E-W trending normal fault system, which at least locally affects the Plio-Quaternary sequences along much of the Turkish slope of the Cilicia Basin. West of Anamur–Kormakiti Ridge, the thick Plio-Quaternary sediments, on the strongly dissected slope, have been affected by N–S trending normal faults and display a block and graben morphology (Ozel et al., 2007).

Life on and around the Seamount

Large unexploited commercial sponge communities (mainly Spongia officinalis) have been discovered during two summer surveys (2007 and 2008) conducted in these sites. Scillarus arctus and Scillarus latus were also reported. A lot of purse-seiner fishing nets have been found in these areas as a ghost fishing.

The area of the Güzelyurt Seamount is represented by the submarine channel between Turkey and Cyprus, it is located on migratory routes of large and small pelagic fish in the Levantine Basin (Öztürk, 2009a). Besides, it is a spawning ground of bullet tuna (Auxis rochei) and Atlantic skipjack (Euthynnus alletteratus). Along the Turkish coasts, nestling beaches of the endangered loggerhead turtle (Caretta caretta) and green turtle (Chelonia mydas) are present (Gücü and Öztürk, 2010). Bluefin tuna spawning area has been demonstrated to be located between Turkey and Cyprus islands (Karakulak et al., 2004). This area was proposed as High Seas MPA (Öztürk, 2009a) and remains within the determined EBSAs (UNEP-MAP-RAC/SPA, 2010).
The Anaximander Mountains Complex (Anaxagoras, Anaximander or Finike and Anaximenes Seamounts) is located between the Hellenic and Cyprus arcs and was formed in large part due to the ongoing convergence of the African and Anatolian plates. A protracted interval of contraction in the Miocene created a series of broadly east-west trending and predominantly south-verging structures across the entire eastern Mediterranean, among them there are the Anaximander Mountains. The absence of the Messinian evaporites in the Anaximander Mountains and in the adjacent deep basins, Rhodes Basin (more than 4000 m-deep) and Finike Basin (3000 m-deep), indicates that the southward thrusting of the Anaximander Mountains occurred in post-Messinian time (Dimitrov and Woodside, 2003; Zitter, 2004). During the mid-Tortonian, the last phase of thrusting coincided with the onset of a different kinematic regime related to the westward rotation of the Anatolian plate. This Late Miocene change marked the start of differential subsidence that resulted in the formation of the Anaximander Mountains, which are thus characterized by strong contractional/transpressional deformation (ten Veen et al., 2004). During the Plio–Quaternary, the Anaximander Seamount and the Anaximenes Seamount developed as the result of uplift and rotation of a thrust fan. At this time, the Anaximenes Seamount experienced a progressive counterclockwise rotation, while the Anaxagoras Seamount and the Florence Rise experienced a clockwise rotation creating the present-day arrowhead-shaped morphology of the Anaximander Mountains. An arcuate fault separates the Anaximenes and Anaxagoras Seamounts from the Anaximander Seamount (Aksu et al., 2009).

Between the Anaximander and Anaximenes Seamounts a 2200 km²-large debris flow called “the Great Slide” is present (Lykousis et al., 2009). Pockmarks are found in the slide area, they are generally small, no more than about 30 m across, and aligned with faulting; however, in a few cases they can be rather large with diameters up to 1000 m and depths of 300 m.
DESCRIPTION:

Geology

The Anaxagoras Seamount exhibits a very rough topography with a rather flat summit area in the north and central part. Its shape suggests that it is controlled by major faults. The relatively steep eastern flank separates the summit plateau, lying at about 1200 m water depth, from the Antalya Basin and it is rather linear with a NW-SE trend, roughly parallel to the western flank. From north to south, the seamount can be subdivided into three main blocks.

The northern part has the greatest relief rising up to 930 m water depth in the north-central part of the plateau. It is bounded to the south by a ridge extending southwestward towards the Anaximenes Seamount. This ridge has a pronounced bathymetric expression with a vertical scarp of about 500 m. The southern part of the seamount shows slightly greater relief in its eastern region, while the southwestern part merges with the Florence Rise further south.

The numerous linear ridges and scarps indicate that the area is crosscut by a very dense network of sub-vertical faults, which fall into two main groups, one trending NW-SE and the other NE-SW. In length, the faults with an orientation ranging from 140°N to 150°N are dominant and correspond to the general elongation of the Anaxagoras Seamount. The other family of faults cut across the seamount with a 60°N to 70°N orientation, they appear to be the youngest ones since they cut across the other features. These faults also show some continuity from Anaxagoras to Anaximenes, in spite of the different origin of the two seamounts (Zitter et al., 2005).

Life on and around the Seamount

This seamount hosts three mud volcanoes (Kazan, Kula and San Remo) where chemosynthetic communities dominated by bivalves were discovered (Olu-Le Roy et al., 2004; Lykousis et al., 2009). The abundance and richness of the observed chemosynthetic fauna and the size of some of the species contrast with the usual poverty of the eastern Mediterranean (Gönenç et al., 2004; Olu-Le Roy et al., 2004; Salas and Woodside, 2002). The communities of Eastern Mediterranean mud volcanoes actually seem to host a higher diversity with respect to similar communities found in other oceans, including also neo-endemic species and differing for the smaller size of the bivalves (Olu-Le Roy et al., 2004).

A new deep-water bivalve species of Lucinidae, Lucinorna kazani, was described from the Kazan mud volcano (Salas and Woodside, 2002). In September 2010, a ROV study was performed over three mud volcanoes: Kazan, Amsterdam and Tessaloniki (Shank et al., 2011). Diverse seep habitats in more than two dozen localized seep sites were found. Siboglinid tubeworms (Lamellibrachia sp.), amphipods, brachyuran crabs, echinoid sea urchins, galatheid squat lobsters, mytilid mussels, and lucinid, vesicomyid, and thyasirid clams were observed. Active seepage on the northern side of the Kazan mud volcano’s summit, at ~ 1720 m water depth, fueled aggregations of tubeworms and bivalves in an area more than a 300 m².

A recent study by Tserpes et al. (2008) exhibited density distribution maps of the swordfish (Xiphias gladius) that migrates toward the eastern Levantine for spawning and suggested the existence of a major spawning ground that seems to be located near the Anaximander seamounts, at an area between the Anaximander eddy, the Antalya eddy and the Rhodes Gyre, which is one of the most distinct features of the Levantine Basin (Öztürk et al., 2012a). This area is important for marine mammals since such environments have rich and diverse benthic ecology associated with methane-rich fluid seeps and thus could be the base of food chains that reach top predators like the deep-diving whales (Woodside et al., 2006). In fact the gouge marks that were found on mud volcanoes were suggested to be created by Cuvier’s beaked whales (Ziphius cavirostris) during foraging dives (Woodside et al., 2006). The area is within the sperm whale (Physeter catodon) distribution area in the Eastern Mediterranean (Öztürk et al., 2013).
**Anaximander - Finike Seamount**

**Location:** 35.50840°N – 29.78160°E

**Peak depth (m):** 1110-1120

**Base depth (m):** 2000-2010

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**DESCRIPTION:**

**Geology**

The Anaximander Seamount is a sharply asymmetrical high, roughly NNE-SSW oriented, with an elongated summit and with the shallowest part lying at around 1120 m water depth.

**Life on and around the Seamount**

Between 1700 and 2000 m water depth, in the Anaximander mud field, high methane concentrations were measured. A new species of lamellibrachiid vestimentiferan (*Lamellibrachia anaximandri*) has been discovered. This species showed a different spatial distribution and a variable density in the two mud volcano fields (on Anaxagoras and Anaximenes), apparently related with higher methane fluxes.

Many deep sea fish species of which the status are not yet evaluated by IUCN and sharks including the vulnerable *Squalus acanthias* were sampled from this area, together with highly commercial deep-sea shrimps (Öztürk *et al.*, 2010). *Abralia veranyi*, a deep sea cephalopod and a preferable prey of the striped and Risso's dolphins was also sampled from the area (Öztürk *et al.*, 2010). Besides, the Anaximander Seamount is within the sperm whale (*Physeter catodon*) distribution area in the Eastern Mediterranean (Öztürk *et al.*, 2013).
Anaximenes Seamount

**Location:** 35.43070°N – 30.16420°E

**Peak depth (m):** 690-700

**Base depth (m):** 1500-1510

**Description:**

**Geology**

The Anaximenes Seamount, with a slightly north-westward concave shape, has the smallest area, but shows the largest relief, rising up to 690 m depth from the basin floor. The Anaximenes Seamount is a curved ridge of steeply dipping sedimentary strata. Locally, northeastward compression of the Anaximenes against the Anaxagoras Seamount has resulted in the tilting and bending of Anaximenes to the northwest and the development of a fold belt in the Antalya Basin to the northeast of Anaxagoras. Because of resistance of northeastward movement of the mountains, deformation of the Anaximenes Seamount is accompanied by underthrusting of this block beneath the Anaximander Seamount, which is being uplifted as a consequence. Detrital limestones, green-gray siltstones and sandstones and black claystones and marlstones, attributed to a Middle Miocene flysch, as well as Eocene rocks, have been sampled from the seamount slope (Zitter, 2004; Lykousis et al., 2008). There are three mud volcanoes (Amsterdam, Athina and Thessaloniki) lying on top and in the southern side of the Anaximenes Seamount (Bohmann et al., 2013).

**Life on and around the Seamount**

Chemosynthetic communities dominated by bivalves were discovered surrounding the Amsterdam mud volcano (Olu-Le Roy et al., 2004). The Amsterdam mud volcano (summit near 2050 m water depth) hosted local patches of cold-water octocorals and scleractinian corals. Other organisms observed thriving on these hard substrates included actinarians and solitary scleractinian corals (Shank et al., 2011). Recently, two new species of Harpacticoid copepods were described from the seamount (Gheerardyn and George, 2010).

Denda and Christiansen (2011) studied the possible effects of steep topography on the zooplankton community in the oligotrophic eastern Mediterranean at two sites: the Anaximenes Seamount and the deep Rhodes Basin. In general, biomass and abundance of zooplankton were low, reflecting the oligotrophic character of the area, but zooplankton standing stocks were higher in the Rhodes Basin than at the Anaximenes Seamount. The taxonomic composition above the seamount summit did not differ markedly from the slope region or the reference station. The zooplankton community in the Anaximenes Seamount region seems not to be influenced by a local seamount effect, but differences in standing stocks between the seamount and the Rhodes Basin are more likely driven by larger-scale upwelling and downwelling structures of cyclonic and anticyclonic eddies and gyres, which dominate the circulation in the area. This area is important for sharks (e.g. *Prionace glauca*) and for marine mammals since such environments have rich and diverse benthic ecology associated with methane-rich fluid seeps and thus could be the base of food chains that reach top predators like the deep-diving whales (Woodside et al., 2006).
STRUCTURE:

**Aphrodit and Glavki Banks**

**Aphroditi bank**  
Location: 39.70040°N – 24.53820°E  
Peak depth (m): 150-160  
Base depth (m): 290-300

**Glavki bank**  
Location: 39.61340°N – 24.45670°E  
Peak depth (m): 110-120  
Base depth (m): 320-330

**DESCRIPTION:**

**Geology**

No specific geological or geographical information is available on this structure which is depicted in this map: [http://highsea.cz/map/GM06.JPG](http://highsea.cz/map/GM06.JPG) and this name is present in the IOC-IHO GEBCO SCUFN (Sub-Committee on Undersea Feature Names) Gazetteer database: [http://www.geomapapp.org/database/GEBCO/GEBCO_gazetteer.htm](http://www.geomapapp.org/directory/GEBCO/GEBCO_gazetteer.htm)

**Life on and around the Seamount**

The site harbours cold water corals (*Lophelia pertusa* and *Madrepora oculata*). Corals occurrence is likely related to the circulation patterns regime in the area.

The area, which is located in the Northern Aegean Sea, is within the distribution range of the monk seal (*Monachus monachus*) (Hoyt and Notarbartolo di Sciara, 2008) and of the blue shark (*Prionace glauca*) (Megalofonou et al., 2009). It is also considered a spawning area for pelagic fishes like *Xiphias gladius*, *Euthynnus alletteratus* or *Auxis rochei* (Vassilopoulou et al., 2008).

The Glavki Bank is cited among the critical habitats for cetaceans by Hoyt and Notarbartolo di Sciara (2008). The area was suggested to meet the criteria for EBSAs by OCEANA (2014) and is part of the area proposed to be designated as a SPAMI (UNEP-MAP-RAC/SPA, 2010).
DESCRIPTION:

Geology

No specific geological or geographical information is available on this structure which is depicted in this map: http://highsea.cz/map/GM06.JPG

Life on and around the Seamount

No information about the Balıkçı Bank benthic and pelagic communities has been found in the scientific literature.
STRUCTURE:

**Bilim Seamount**

- **Location**: 36.36251°N – 34.44887°E
- **Peak depth (m)**: 40-50
- **Base depth (m)**: 250-260

DESCRIPTION:

**Geology**

No specific geological or geographical information is available on this structure which is depicted in this map: [http://highsea.cz/map/GM06.JPG](http://highsea.cz/map/GM06.JPG). There are also unpublished studies in the area (Öztürk, 2007), which contain the scientific results of the Eastern Mediterranean Campaign (2007-2008).

**Life on and around the Seamount**

This area hosts large sponge fields of commercial species such as *Spongia officinalis*, as well as the anthozoans *Antipathella subpinnata* and *Caryophyllia* sp. and the crustacean *Calocaris macandreae*. Lesser-spotted dogfish (*Scyliorhinus canicula*), the rough ray (*Raja radula*) and the common stingray (*Dasyatis pastinaca*) have been also found in the area.

It is known that this seamount is bluefin tuna (*Thunnus thynnus*) spawning ground and very rich in eggs and larvae of other Scombridae.
**STRUCTURE:**

**Brouker and Stokes Banks**

- **Location:** 38.87820°N – 25.39500°E
- **Peak depth (m):** 70-80
- **Base depth (m):** 200-210

**DESCRIPTION:**

**Geology**

No specific geological or geographical information is available on these structures which are depicted in this map: [http://highsea.cz/map/GM06.JPG](http://highsea.cz/map/GM06.JPG) and these names are present in the IOC-IHO GEBCO SCUFN (Sub-Committee on Undersea Feature Names) Gazetteer database: [http://www.geomapapp.org/database/GEBCO/GEBCO_gazetteer.htm](http://www.geomapapp.org/database/GEBCO/GEBCO_gazetteer.htm)

**Life on and around the Seamount**

These banks host a large variety of coralligenous assemblages probably representing unique habitats in the Aegean Sea in terms of size and species richness (Öztürk, unpublished data). The Bruker Bank has already been studied by Kisselev (1983) and 42 benthic species were identified at the time. These sensitive areas are also under the threat due to bottom trawling, purse seining, marine litter and marine transportation (Öztürk, 2009a). Kara et al. (2000) mentioned heavy fishing pressure in the area.

No information about the pelagic communities of the Brouker and Stokes Banks has been found in the scientific literature.
STRUCTURE:

Danaos-2007 (Nameless) Seamount

Location: 34.66586°N – 25.54216°E

Peak depth (m): 450-460

Base depth (m): 780-790

DESCRIPTION:

Geology

This nameless bank is located to the SSW of Chryssi Island, approximately 12 nm south of Ieraptera along the south coast of Crete. This bank was previously unknown and consists of a raising structure formed between the Ptolemy and Pliny Trenches, with its summit lying at 450 m water depth and dropping off to in excess of 1000 m to the south (Smith et al., 2009). Due to the recent studies carried out in the area, it is worth to be mentioned in this Atlas compilation.

Life on and around the Seamount

Under the DANAOS project a nameless Seamount South of Crete was surveyed with manned and unmanned underwater vehicles at depths of 550-650 m. The seafloor is featured by soft silty sediments inhabited by a quite scarce fauna as suggested by the poor faunal traces (burrow openings, feeding pits, echinoid feeding tracks). The fauna observed on the soft sediments accounted for the shortnose greeneye fish (Chloropthalmus agassizi), rare colonies of the isidid alcyonacean Isidella elongata and some unidentified red shrimps. Most of the observed rocky outcrops were populated by extremely large numbers (hundreds per square metre) of shrimps (Plesionika spp.) and small colonies of the yellow scleractinian coral Dendrophyllia cornigera, which was observed in at least 5-6 different sites at depths between 520-620 m, in small aggregates often associated with dead coral rubble. On wider rocky outcrops the large wreckfish (Polyprion americanus), the black-spot bream (Pagellus bogaraveo) and the conger eel (Conger conger) have been observed (Smith et al., 2009).

No information about the Danaos-2007 (Nameless) Seamount pelagic communities has been found in the scientific literature.
EASTERN MEDITERRANEAN

DESCRIPTION:

Geology
The Eratosthenes Seamount is located about 95 km south of Cyprus and is a large (120 x 70 km) elliptical submarine plateau rising about 1300 m above the surrounding abyssal plain that lies at depths deeper than 2000 m. Its very flat, table-like top lies 700 meters below sea level at its shallowest point, and 2000 meters at its deepest, and is about 30 km-wide and 50 km-long. The Eratosthenes Seamount is foremost the most studied seamount in the Mediterranean Sea (Emery et al., 1966; Ben-Avraham et al., 1976; Krasheninnikov et al., 1994; Mart and Robertson, 1998; Mascle et al., 2000; Feld et al., 2013). Several ODP sites were drilled here (Robertson, 1998a). The seamount, although being flat-topped, is slightly tilted northward and sliced by a series of E-W-trending normal faults. The upper part of the Eratosthenes Seamount hosts both shallow and deep water carbonates dating back to Early Cretaceous time. The seamount underwent several episodes of submergence and uplift during the geologic times. The platform was exposed during the Messinian salinity crisis (5 Ma). Global sea level changes also played a role in the deepening of the seamount from the Miocene/Pliocene to the present (Spezzaferri and Tamburini, 2007). Subsidence accelerated in the Late Pliocene–Early Pleistocene. Deformation of the Eratosthenes Seamount resulted from crustal flexure, induced by southward overthrusting of the Cyprus active margin. The Eratosthenes Seamount sits atop the African plate which is being pushed toward Cyprus. Tectonic subsidence of the Eratosthenes Seamount was approximately synchronous with rapid surface uplift of the overriding plate. This uplift is explained in terms of incipient collision of the Eratosthenes continental fragment with the subduction trench (Robertson, 1998a). The Eratosthenes Seamount is thus interpreted as a crustal continental block in the process of break up in response to subduction and incipient collision of the African and Eurasian Plates. As the feature is being forced into subduction, chemical rich fluids are being squeezed out of cracks in the southern part of the seamount. Shimmering water was observed there with a ROV, but most of the seeps are not very hot, being within 1°C of the ambient water temperature. More than 40 pockmarks were suggested to be present on top of the structure, based on side-scan sonar data (Dimitrov and Woodside, 2003), but the pockmarks turned out to be sinkholes (collapsed sub-aerial caves) when inspected with a ROV system (Mayer et al., 2011).

STRUCTURE:

Eratosthenes Seamount

- Location: 33.74444°N – 32.73362°E
- Peak depth (m): 780-790
- Base depth (m): 1920-1930

47 km
Life on and around the Seamount

Despite so many geological researches, the biology of this mountain is limited to a few studies. The first benthic characterization of the seamount (Galil and Zibrowius, 1998), based on remotely collected material, reported two species of scleractinian corals (Caryophyllia calveri and Desmophyllum dianthus) (now Dendrophyllia dianthus), two species of encrusting foraminiferans, two species of encrusting sponges, abundant scyphozoan polyps, many individuals of the small actinarian Kadophyllia bathyalis, seven species of bivalves, one sipunculan, one asteroid, one fish and various unidentified zoantharians and antipatharians. A recent study revealed concentrations of vent-like communities, including small tube worms (Siboglinidae), clams, sea urchins, and small crabs (Mayer et al., 2011). GFCM has already banned demersal fishing activities in the area of the Seamount according to the recommendation number 2006/3 and the fishing restricted areas have been established in order to protect the deep-sea sensitive ecosystems. IUU fisheries, ship-originated pollution and offshore drilling carried out in recent years were stated as main threats for the pristine habitats of the Seamount and the ban of oil and gas exploration was proposed as well as the designation of the area as a SPAMI (Specially Protected Areas of Mediterranean Importance) (Öztürk et al., 2012). OCEANA cited the area among the EBSAs (Ecologically or Biologically Significant Marine Areas) in the Mediterranean Sea due to the above-cited characteristics as well as the presence of slow maturing fish species such as the Mediterranean slimehead (Hoplostethus mediterraneus), sea turtles (Chelonia mydas and Caretta caretta) and commercially important shrimps, such as Aristaeomorpha foliacea and Aristeus antennatus (OCEANA, 2014).

The Eratosthenes Seamount is one of the most relevant features of the eastern Mediterranean seafloor, it is evident that international cooperation, compromise, consensus and concerted actions are needed for the sustainable exploitation of the living resources and protection of such a vulnerable environment (Öztürk and Başeren, 2008).

No information about the Eratosthenes Seamount pelagic communities has been found in the scientific literature.
DESCRIPTION:

Geology

The Florence Rise is a submarine feature extending from the island of Cyprus to the Anaximander Mountains and is also referred to, more appropriately, as the Florence Ridge, it was first name by Biju-Duval et al. (1974). This is a very well known structure, where 2 DSDP sites were performed down to the thin Messinian gypsum and marlstones (Hsü and Shipboard Scientific Party, 1978). The Florence Rise is not part of the continental margin, but it is a compressional relief that was eroded during the Messinian salinity crisis (Özer et al., 2009), while massive deposition of salt occurred to the North (Antalya basin) and to the South (Herodotus abyssal plain). On the Florence Ridge itself, the base of salt evolves laterally to a Messinian erosional surface that erodes a series of stacked nappes. This surface is involved in recent faulting (Sellier et al., 2013). The eastern Florence Rise includes a topographic high near Cyprus, rising from the Antalya Basin for about 600 m. The eastern high shows a rhombohedral shape delimited by two major trends, roughly 130°N and 70°N near-vertical faults, with a relief expression on the seafloor of about 150 m (Woodside et al., 2002). Several mud volcanoes exist along the Florence Ridge and are related to N°150 transpressive faults or secondary transcurrent N-S oriented faults. Sediments along those mud volcanoes correspond to mud breccias (Zitter et al., 2006). Along the Florence Rise, the relative motion between the Anatolian and African plates is sinistral, and here, most characteristics of subduction zones are lacking: there is no volcanic arc, no trench, no accretionary prism and low and dispersed seismicity (Woodside et al., 2002). The whole rise is now subsiding northward together with the Antalya Basin (Zitter, 2004). To the south of the Florence Rise, lies a 15 to 20 km-high bathymetric zone, characterized by subvertical faulting with anastomosing fault branches and positive flower structures affecting post-Messinian sediments, which is believed to be one of the most active area of the region (Hall et al., 2009). This typical transpressive deformation is responsible for the construction of the relief (about 200 m) of the central part of the Florence Rise. In contrast, the core of the rise displays relatively low relief and it deepen towards the northwest. Furthermore, the eastern Nile deep-sea fan, subjected to extremely vigorous salt tectonics, seems to have collided with the Florence Ridge fold belt and to have generated a “salt extrusion” zone (Sellier et al., 2013). The area remains within the one proposed as a SPAMI by UNEP-MAP-RAC/SPA (2010).

Life on and around the Seamount

No information about the benthic and pelagic communities of the Florence Rise has been found in the scientific literature.
STRUCTURE:

Hecataeus Rise and Hecataeus Knoll

Hecataeus Rise (HCT-1)
- Location: 34.44201°N – 34.34533°E
- Peak depth (m): 1090-1100
- Base depth (m): 1510-1520

Hecataeus Knoll (HCT-2)
- Location: 34.44025°N – 33.61840°E
- Peak depth (m): 190-200
- Base depth (m): 690-700

DESCRIPTION:

Geology

The Hecataeus Knoll rises to about 200 m below sea-level and comprises two high in its central, shallowest part. The Hecataeus Rise is located directly south of Cyprus and forms a broad ridge with a steep southern slope rising ~ 1800 m from the seafloor of the Levantine Basin. This feature is arguably continental crust or part of an ophiolite suite, as indicated by a weak positive magnetic anomaly over the rise (Robertson, 1998b). The Hecataeus Rise is separated from the Island of Cyprus by the Cyprus Basin, which is ~ 50 km-wide and 2 km-deep and contains about 1 km of post-Miocene sediments (Ben-Avraham et al., 1995). Seismic profiles of the Hecataeus Rise reveal a relatively thin, nearly transparent Pliocene–Pleistocene sediment succession, underlain by a relatively steeply dipping, folded lower unit. Messinian evaporites are absent from both the Hecataeus Rise and the Latakia Ridge further east, suggesting that these areas were raised, emergent features during the Messinian Salinity Crisis. The southern side of the Hecataeus Rise is folded and cut by southward-dipping steep faults (Robertson, 1998b; Rahimi et al., 2013).

Life on and around the Seamount

No information about the benthic and pelagic communities of the Hecataeus Knoll has been found in the scientific literature.
STRUCTURE:

Ira and Navtilos Banks

- **Location:** 38.67146°N – 24.24609°E
- **Peak depth (m):** 40-50
- **Base depth (m):** 260-270

DESCRIPTION:

**Geology**

No specific geological or geographical information is available on this structure which is depicted in this map: http://highsea.cz/map/GM06.JPG

**Life on and around the Seamount**

No information about the benthic and pelagic communities of the Ira and Navtilos Banks has been found in the scientific literature.
STRUCTURE:

Karpas Ridge

Location: 35.88444°N – 34.88554°E
Peak depth (m): 50-60  Base depth (m): 360-370

DESCRIPTION:

Geology

No specific geological or geographical information is available on this structure, which is present at this database: http://www.marineregions.org/gazetteer.php?p=details&id=4171

Life on and around the Seamount

The site is located in the northern Levantine Sea, NE of Cyprus and close to Turkey and Syria. The sea bottom hosts mixed habitats including rocky outcrops, muddy beds, shell fragments, cobbles, etc. and important communities of seagrass (Posidonia oceanica) and algae (Cystoseira crinita, Sargassum vulgare, Padina pavonica, Flabelia petiolata, etc.) with the presence of diverse species of polychaetes, sponges, bryozoans, sipunculids, etc. (Açık et al., 2005; Çınar, 2005; Kocak et al., 2002).

This area is under the influence of the Latakia Eddy. As for the Latakia escarpment proposal, this area is of high interest because it is one of the most important spawning grounds for bluefin tuna (Thunnus thynnus). Furthermore, it is also within the distribution range of loggerhead and green turtle (Caretta caretta and Chelonia mydas). This area is under intense fishing pressure because of the relatively high presence of large pelagic fish (OCEANA, 2014).
DESCRIPTION:

Geology

No specific geological or geographical information is available on this structure, which is depicted in this map: http://highsea.cz/map/INT302.JPG.

Life on and around the Seamount

Many years ago this bank harbored large quantities of commercial sponges.

The Kaş Bank is a rich fishing ground for swordfish (Xiphias gladius) and scads. Besides, red coral (Corallium rubrum) colonies have been reported in 1990's (Öztürk, 2009b).
Kolumbo Volcano

Location: 36.5207°N – 25.4717°E

Peak depth (m): 10-20  Base depth (m): 280-290

**Geology**

Kolumbo is a submarine volcano located in the Aegean Sea and is the largest one among a series of submarine centers that extend 20 km to the northeast of the island of Santorini (Thera Island). The volcanoes lie within a rift which ends in the southwest as normal faults that dissect the northern caldera wall of the island of Thera. The “Kameni-Kolumbo Line” is an active, 40 km-long, strike-slip fault zone and runs through the volcanoes of Nea Kameni (a small island inside the collapsed Santorini caldera) and Kolumbo and controls the spatial distribution of the volcanic cones along the axis of the Anyhdros Basin, located northeast of the Thera Island (Sakellariou et al., 2010). Kolumbo consists of a 3 km-wide cone with a 1500 m-wide crater, a rim as shallow as 10 m below sea level in the southwest, and a crater floor located about 500 m below sea level (Carey et al., 2011). It was last active in 1650 CE, when an explosive eruption produced hot surges that spread over the sea surface and caused 70 deaths on Thera and other extensive damage caused by the tsunami inundation (Fouqué, 1879). During the 1650 CE eruption, the volcano broke the surface and produced an ephemeral pumice bank that was subsequently eroded below the surface. The submarine crater wall consists of a spectacular sequence of well-bedded dacite pumice deposits. A large part of the upper cone consists almost exclusively of very loose pyroclastic material that is actively slumping into the caldera. Recent marine geological investigations of the Kolumbo volcano using ROVs revealed a very active high-temperature hydrothermal vent field that is about 25,000 m² in area in the northeastern part of the crater floor. Vent chimneys up to 4 m-high are vigorously emitting colorless gas plumes up to 10 m-high in the water column. Temperatures as high as 220°C were recorded in vent fluids. Some vents are located in crater-like depressions that contain debris from collapsed extinct chimneys (Carey and Sigurdsson, 2007; Bell and Fuller, 2011). Acoustic imaging of the ascending bubbles suggests that the gas is being dissolved into seawater within -10 m above the crater floor (500 m below sea level). Dissolution of the gas likely causes local increases in water density that result in sequestration of CO₂ within the enclosed crater, and the accumulation of acidic seawater. Lack of macrofauna at the Kolumbo hydrothermal vents, occurrence of carbonate-poor sediment in the crater, and pH values as low as 5.0 in recovered water samples point to acidic conditions within the crater (Carey et al., 2013). The site is a remarkable example of extreme ocean acidification and its challenge to marine life (Brewer, 2013).

**Life on and around the Seamount**

Marine ecosystems in which nitrifying Archaea bacteria are important were recently discovered on the hydrothermal vents of the Kolumbo Volcano considered a geologically, mineralogically and biologically unique place (Kilias et al., 2013). The volcano has a cone that rises up to 18 m, which makes it reachable and vulnerable to potential anthropic threats. Besides, this area is known to be frequented by the Mediterranean monk seal *Monachus monachus* (Marchessaux and Duguy, 1977). Due to the presence of gas hydrates, highly migratory fish species and seamount benthic communities, this area was suggested by OCEANA (2014) to meet the EBSAs criteria.
**STRUCTURE:**

**Larnaka Ridge**

- **Location:** 35.27495°N – 35.09294°E
- **Peak depth (m):** 840-850
- **Base depth (m):** ND

**DESCRIPTION:**

**Geology**

The Larnaka Ridge is a broad arcuate ENE-WSW oriented structure, extending from southeastern Cyprus toward southeast Turkey. It forms the southern boundary of the Latakia Basin and merges in the southeast with the northern portion of the Tartus Ridge of the Latakia Ridge, very close to the Syrian coast (Hall *et al.*, 2005). Ophiolitic basement rocks are believed to form the core of the Larnaka Ridge (Robertson, 1998b).

**Life on and around the Seamount**

No information about the benthic and pelagic communities of the Larnaka Ridge has been found in the scientific literature.
**STRUCTURE:**

**Latakia Ridge**

- **Location:** 35.13782°N – 35.54911°E
- **Peak depth (m):** 890-900
- **Base depth (m):** ND

**DESCRIPTION:**

**Geology**

The Latakia Ridge is a prominent arcuate NE trending bathymetric feature which stands 100-500 m above the adjacent seafloor, linking the Hecataeus Rise with the Latakia region of the northern Levantine coast. The northeastern part of the Latakia Ridge is characterised by a prominent NNE-trending narrow ridge less than 20 km in width with maximum height of approximately 3600 m and steep slopes (Tartus Ridge). There are several smaller ridges with lower relief which follow the general trend of the Latakia Ridge and merge with the Tartus Ridge. Towards the southwest, the Latakia Ridge merges gradually with the Hecataeus Rise and displays very little topographic relief with uniform and conformable deposition of Oligocene – Miocene sediments (Robertson, 1998b; Bowman, 2011). The Plio-Quaternary structure of the Latakia Ridge is interpreted as a positive flower structure (Hall et al., 2005). Ben-Avraham et al. (1995) showed that the Latakia Ridge is a young and active feature which delineates the present-day plate boundary between the African and Anatolian plates, along the eastern Cyprus Arc. They suggested that the ridge probably originated as a large thrust sheet during the southward migration of the plate boundary, and that became a zone of wrench faulting when the convergence direction changed. They noted that wrench faulting is more pronounced in the Tartus Ridge.

**Life on and around the Seamount**

This area is ecologically important because it is one of the spawning grounds for the bluefin tuna *Thunnus thynnus* (Karakulak et al., 2004). Besides, it harbors the endangered sea turtle species *Caretta caretta* and *Chelonia mydas* and was therefore suggested to meet the criteria for EBSAs (OCEANA, 2014). Also, the designation of this area as a High Seas Marine Protected Area was previously proposed due to unexploited commercially important deep-sea shrimps stocks (Öztürk, 2009a). Some sparse information on the Cetacean fauna in the area are found in Kerem et al. (2012).

No information about the benthic communities of the Latakia Ridge has been found in the scientific literature.
STRUCTURE:
Literi Bank

Location: 38.81486°N – 24.85928°E
Peak depth (m): 70-80
Base depth (m): 210-220

DESCRIPTION:
Geology
No specific geological or geographical information is available on this structure which is depicted in this map: http://highsea.cz/map/GM06.JPG

Life on and around the Seamount
No information about the benthic and pelagic communities of the Literi Bank has been found in the scientific literature.
STRUCTURE:

Mansel and Johnston Banks

Location: 39.29600°N – 25.38780°E
Peak depth (m): 30-40  Base depth (m): 190-200

DESCRIPTION:

Geology

No specific geological or geographical information is available on this structure except for the study of Banolessy et al. (1978), which is no more available for reading. The structure is depicted in this map: http://highsea.cz/map/GM06.JPG

Life on and around the Seamount

The Johnston Bank is covered by maërl beds that are among the most valuable Mediterranean coralligenous communities (Aktan, 2010). The bank seems to be a nursery ground for several taxa. In total, 2288 individuals belonging to 51 taxa have been reported on the bank (Topaloğlu et al., 2010) and has been suggested to be designated as a protected area (Öztürk, 2009a).

No information about the pelagic communities of the Mansel and Johnston Banks has been found in the scientific literature.
STRUCTURE:

Mediterranean Ridge

W. Mediterranean Ridge (W-MRG)  
Location: 33.77267°N – 22.70907°E  
▲ Peak depth (m): 1150-1160  ▼ Base depth (m): 2190-2200

E. Mediterranean Ridge (E-MRG)  
Location: 34.95354°N – 27.46288°E  
▲ Peak depth (m): 350-360  ▼ Base depth (m): 1240-1250

DESCRIPTION:

Geology

The Mediterranean Ridge is the most prominent topographic feature and the foremost studied morpho-structural unit in the Eastern Mediterranean Sea (see Limonov et al., 1996 for a review of the initial research activities carried on the ridge). The Mediterranean Ridge is of course more than a seamount, because it stretches from the Calabrian Arc in the northwest to the Cyprus Arc in the east, a distance of about 1500 km, with a width ranging from about 150 to 300 km.
Notwithstanding, we have decided to include it as a unique structure in this Atlas. The ridge has an arcuate southward-convex shape, almost parallel to the Hellenic Arc, and lies at an average water depth of about 2100-2200 m. Because of its large width the general slope angles rarely exceed 2° (Limonov et al., 1996). It can be divided in the Western Mediterranean Ridge, which roughly trends NNW-SSE and the Eastern Mediterranean Ridge, which roughly trendsENE-WSW (Huguen et al., 2001). The Western Mediterranean Ridge topography is dominated by small, closely spaced depressions and ridges, with a relief of 50-100 m, mostly parallel to the overall ridge trend. This kind of seafloor morphology is broadly known as the "cobblestone topography". The Mediterranean Ridge is considered to be the Neogene to Recent accretionary prism created by the scraping and accumulation of the upper part of the sediments deposited on the top of the down-going African plate (Le Pichon et al., 1995). An estimated 40-60% of the available sedimentary input was accreted in the Western Mediterranean Ridge, where

...and Woodside, 1998; Huguen...

Olimpi field, the Southern Belt and the United Nations Rise mud fields (Akhmanov from west to east, are: the Cobblestone area, Pan di Zucchero, Prometheus II, ...

The Mediterranean Ridge is densely marked by pockmarks and mud volcanoes, which are cold seeps, harbour chemosynthetic communities (Corselli and Basso 1996; Olu-Le Roy et al., 2004) that constitute biodiversity oases in the otherwise "desertic" deep Mediterranean Sea. The Napoli mud volcano is prominent among others by the diversity of higher taxa (Ritt et al., 2012). The communities of the Eastern Mediterranean mud volcanoes seem to host a higher diversity with respect to similar communities found in other oceans including also neo-endemic species and differing for the smaller size of the bivalves (Olu-Le Roy et al., 2004).

This area is important for marine mammals since such environments have rich and diverse benthic ecology associated with methane-rich fluid seeps and thus could be the base of food chains that reach top predators like the deep-diving whales (Woodside et al., 2006) such as Cuvier’s beaked whales, (Ziphius cavirostris) and sperm whales (Physeter catodon).

Although very limited information is available from the eastern Mediterranean Ridge, it was presented as a high productivity area due to upwelling process and was suggested by OCEANA (2014) as an EBBA in the Mediterranean due mainly to the presence of highly migratory species including marine mammals, sharks and pelagic fish (OCEANA, 2014).
EASTERN MEDITERRANEAN

STRUCTURE:

Ptolemy Seamount

- Location: 34.62513°N – 24.56142°E
- Peak depth (m): 1050-1060
- Base depth (m): 1820-1830

DESCRIPTION:

Geology

A large plateau occurs on the eastern Mediterranean sea floor south of central and eastern Crete Island. The western E-W elongated portion is known as the Ptolemy Mountains, here we name it seamount. The larger eastern portion (DANAOS 2007-Nameless Seamount in this Atlas) was surveyed for the first time in 2007 by the DANAOS project for archaeological purposes (http://nauticallarch.org/danaos/Geological.html). The overall plateau is bordered to the north by the Ptolemy Trench, to the south by the Pliny Trench, and to the east by the Cretan-Rhodos Ridge. This plateau represents a tectonic block created by the African-Aegean plate convergence. Its boundaries are active faults: the northern boundary (Ptolemy trench) is a left-lateral strike-slip fault extending onto Crete as the Ierapetra normal fault. The southern boundary (Pliny trench) consists of an en-echelon series of elongated depocenters, whose geometry reflects left-lateral transform motion along the trench axis. Continental rocks form the alpine basement of Late Cenozoic deposits on both sides of the Pliny trench and are locally outcropping along the steep walls. Thus deformation takes place within the Aegean continental margin, which demonstrates that former or present-day subduction along this trench is improbable. The thinned continental margin can be interpreted to function as a crustal wedge in the deformation zone at the African-Eurasian convergent boundary, leading to the formation of an accretionary prism of tectonized sediments, the Mediterranean Ridge (Peters and Huson, 1985).

Life on and around the Seamount

This area is subject to seasonal strong upwelling which greatly increases primary productivity and it was cited by OCEANA among the Mediterranean areas meeting scientific criteria for Ecologically and Biologically Significant Areas (EBSAs according to Convention on Biological Diversity) due mainly to the presence of large cetaceans and sharks (OCEANA, 2014). Although no study specific to the area was carried out, the area is known to harbour important populations of the blue shark (Megalofonou et al., 2009) and it is a longline fishing ground for pelagic species such as albacore tuna (Thunnus alalunga) and swordfish (Xiphias gladius) with blue shark (Prionace galuca) as bycatch. This area is also known for the regular presence of sperm whales (Physeter catodon) and of the Cuvier’s Beaked Whales (Ziphius cavirostris) (Würz, 2010; OCEANA 2014).

No information about the benthic communities of the Ptolemy Seamount has been found in the scientific literature.
STRUCTURE:

Sinaya Bank

Location: 38.86362°N – 25.78698°E
Peak depth (m): 70-80  Base depth (m): 210-220

DESCRIPTION:

Geology

No specific geological or geographical information is available on this structure which is depicted in this map: http://highsea.cz/map/GM06.JPG

Life on and around the Seamount

The most represented habitats of the Sinaya Bank are sandy and muddy seafloors. A 2010 study reported 17 benthic species and several cephalopods (Topaloğlu et al., 2010). In addition, 490 individuals belonging to 17 taxa were successively found on the Bank. The Sinaya Bank also need protection from harmful fishing activities and various types of pollution.

No information about the Sinaya Bank pelagic communities has been found in the scientific literature.
DESCRIPTION:

Geology

Very little knowledge is available over the Turgut Reis Bank, located between Turkey, Cyprus and Syria. It is believed that the area is underlain by stretched continental crust.

Life on and around the Seamount

Although very limited information is available for the area, some data account for the presence of sharks (the blackmouth dogfish Galeus melastomus and the spiny dogfish Squalus acanthias), fish, such as the greater forkbeard (Phycis blennoides) and commercially important deep-sea shrimps (Plesionika martia, Aristeomorpha foliacea and Aristaeus antennatus) (Öztürk et al., 2010). Besides, live and dead communities of polychaetes, bivalves and sponges were found associated with cold seeps.

The area was suggested to be designated as a High Sea Marine Protected Area or sensitive deep-sea habitat (GFCM Fisheries Restricted Area) due to its fragility and vulnerability to deep-sea trawling activities (Öztürk, 2009a; Öztürk et al., 2010). Furthermore, the bank is within the area proposed to be designated as a SPAMI (UNEP-MAP-RAC/SPA, 2010).

No information about the pelagic communities of the Turgut Reis Bank has been found in the scientific literature.
STRUCTURE:

**Venus Bank**

- **Location:** 40.23870°N – 25.02910°E
- **Peak depth (m):** 150-160
- **Base depth (m):** 350-360

**DESCRIPTION:**

**Geology**

The Venus Bank lies very close to the Gökçeada Island in the northern Aegean Sea in proximity of the Saroz Trough, along the seismically active North Anatolian Fault (NAF). The NAF, accommodates the strike-slip movement of the Anatolian Plate, and continues through northern Turkey into the Marmara Sea and the Gulf of Saroz. The Gökçeada Island with its high and rough topography, underwent strong uplift. The island is characterized by a variety of morphological and coastal features such as paleo-coastal notches, hanging valleys, waterfalls, springs and travertine formation (Koral et al., 2007).

No specific geological or geographical information is available on this structure which is depicted in this map: [http://highsea.cz/map/GM06.JPG](http://highsea.cz/map/GM06.JPG) and this name is present in the IOC-IHO GEBCO SCUFN (Sub-Committee on Undersea Feature Names) Gazetteer database: [http://www.geomapapp.org/database/GEBCO/GEBCO_gazetteer.htm](http://www.geomapapp.org/database/GEBCO/GEBCO_gazetteer.htm)

**Life on and around the Seamount**

The site harbours cold water corals (*Lophelia pertusa* and *Madrepora oculata*) (OCEANA, 2014). Corals occurrence is likely related to the regime of circulation patterns in the area.

The area, located in the Northern Aegean Sea, is within the distribution range of the monk seals (*Monachus monachus*) (Hoyt and Notarbartolo di Sciara, 2008) and that of the blue sharks (*Prionace glauca*) (Megalofonou et al., 2009). It is cited among the critical habitats for cetaceans by Hoyt and Notarbartolo di Sciara (2008). The area was suggested to meet the criteria for EBSAs by OCEANA (2014) and is part of the area proposed to be designated as a SPAMI (UNEP-MAP-RAC/SPA, 2010).
SYNOPSIS:

**Location:** 37.14237°N – 26.25719°E

**Peak depth (m):** 100-110

**Base depth (m):** 300-310

**DESCRIPTION:**

**Geology**

No specific geological or geographical information is available on this structure.

**Life on and around the Seamount**

Coralligenous communities constitute the most important ‘hot-spot’ of species diversity of the Yunus Bank (Öztürk, 2011). The macrozoobenthic invertebrate fauna of the bank includes several sponges such as the commercial species *Spongia officinalis* and the non-commercial *Axinella polypoides* and *Agelas oroides*. Besides, gorgonians *Eunicella singularis* and *Paramuricea clavata* were also reported. The spiny lobsters (*Palinurus elephas*) were also found in the caves of the bank.

No information about the pelagic communities of the Yunus Bank has been found in the scientific literature.
References


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ography,
canoes and gas hydrates in the Anaximander mountains (Eastern


Plates
Plate 1: (A-B, courtesy OCEANA; C, courtesy D. Palomino, J.T. Vasquez and DEEPER Team; D-H, courtesy OCEANA).

**Avempace Seamount:**

A) Palinurus mauntanicus;  
B) Zoanthid;  
C) Leptometra celtica.

**Cabliers Bank:**

D) Anthomastus sp.;  
E) Bathynectes maravigna;  
F) Lophelia pertusa;  
G) Parantipathes larix;  
H) Sympagella sp.
Plate 2: (A-H, courtesy OCEANA).

Chella Bank:
A) Conger conger;
B) Dendrophyllia ramea;
C) Leiopathes glaberrima;
D) Astropecten sp.;
E) Oxynotus centrina;
F) Paramuricea clavata;
G) Placogorgia coronata;
H) Scillarus arctus.
Chella Bank:
A) Asconema setubalense;
B) Callogorgia verticillata;
C) Dendrophyllia cornigera;
D) Paramuricea sp., Helicolenus dactylopterus;
Alboran Ridge:
E) Long finned pilot whale, Globicephala melas;

Djibouti Ville Bank:
F) Common dolphin, Delphinus delphis;

Djibouti Bank:
H) Various crustacean species.

Plate 3: (A-D, courtesy C. Lo Iacono; E, courtesy D. Palomino, J.T. Vasquez and MONTERA team; F-H, courtesy D. Palomino, J.T. Vasquez and DEEPER Team).
PLATES

Ausiàs March Seamount:
A) *Raja clavata* on Ampeliscidae garden;
B) *Schilderia achatidea*;

Emile Baudot Seamount:
C) *Histioteuthis reversa*;
D) *Leiodermatium pfeifferae*;
E) *Paromola cuvieri*;
F) *Phakelia robusta*;
G) *Tetudyctyon tubulosum* on coral framework;

Bell Guyot Seamount:
H) *Bathypolypus sponsalis*.

Plate 4: (A-H, courtesy OCEANA)
Bell Guyot Seamount:
A) Bathypterois dubius;
B) Schedophilus medusophagus;

Seco de Palos Seamount:
C) Alcyonacea;
D) Alcyonacea;
E) Paramuricea macrospina;

Ses Olives Seamount:
F) Acanthogorgia hirsuta and Cidaris cidaris on coral framework;
G) Callogorgia verticillata and Acanthogorgia hirsuta;
H) Leiopathes glaberrima and Acanthogorgia hirsuta.

Plate 5: (A-H, courtesy OCEANA).
Ses Olives Seamount:
A) Molva dypetrigia;
B) Plesionika narval;
C) Polyprion americanus;

Santa Lucia Bank:
D) Entangled Antipathes dichotoma;
E) Antipathella subpinnata;
F) Leiopathes glaberrima;
G) Damaged colony of L. glaberrima;
H) Dendrophyllia cornigera tanatocoenosis.

Plate 6: (A–C, courtesy OCEANA; D–H, courtesy M. Bo).
Santa Lucia Bank:

A) Parantipathes larix;
B) Pachastrella monilifera;
C) Acanthogorgia hirsuta;
D) Conger conger;
E) Mixed black coral forest;
F) Conger conger;
G) Leiopathes glaberrima forest;
H) Viminella flagellum.
Nameless Seamount (Janua High):
A) Cuvier’s beaked whale, *Ziphius cavirostris*, 8 August 2014;

Spinola Spur:
B) Fin whale, *Balaenoptera physalus*, 10 July 2013;

Ullisse Seamount:
C) Deep sea long line catch (*Pagellus bogaraveo*), June 2009;

Palinuro Seamount:
D) *Diazona violacea*, top pinnacle;
E) *Denrophyllia cornigera*, northern flank;
F) Sponge ground, western flank;
G) *Corallium rubrum*, southern flank;
H) Rocky hardground, pinnacle osting hosting *Dendrophyllia cornigera*.

Plate 8: (A–B, courtesy Artescienza s.a.s.; C, courtesy E. Lovece; D–H, courtesy M. Bo).
Plate 9: (A-H, courtesy M. Bo).

**Palinuro Seamount:**
A) Denrophyllia cornigera and Bebryce mollis;
B) Leiopathes glaberrima;

**Vercelli Seamount:**
C) Sperm whales, *Physeter catodon*, 20 August 2013;
D) *Merluccius merluccius*, plateau;
E) *Callogorgia verticillata*, peak;
F) *Laminaria rodriguezii*, pinnacle;
G) *Leptometa phalangium* bed, pinnacle;
H) *A. subpinnata*, pinnacle.
Plate 10: (A-G, courtesy Greenpeace/ISPRA; H, courtesy Artescienza s.a.s.)

Adventure Bank:
A) Alcyonacea and sponge community;
B) Anthias anthias;
C) Cliona sp.;
D) Paramuricea clavata;

Empedocle Seamount (Graham Bank):
E) Antipathella subpinnata;
F) Andresia parthenopea;
G) Viminella flagellum;
H) Scorpaena scrofa, about 20 m depth, August 1977.
SARDINIA CHANNEL, STRAIT OF SICILY, IONIAN SEA, ADRIATIC SEA

Seamounts and Banks of the Sardinia Channel—Sicily Strait—Ionian Sea—Adriatic Sea: general map.

Disambiguation

In early studies, the Sardinia Channel, the sea region comprised between Sardinia and Sicily and bordered to the south by the northern Tunisian continental shelf, has been termed Sardinia Valley. The Tunisian Plateau was identified as a broad sector of the northern Tunisian upper slope/shelf around Cape Bon (Gennesseaux and Stanley, 1983).

In Budillon et al. (2009), the Tunisia Plateau corresponds with a small sector of the northern Tunisian continental shelf, close to the Galite Island. The term Tunisian Plateau actually corresponds to another marine region in Spalding et al. (2007), from which it has been adopted in http://www.marineregions.org/gazetteer.php?p=details&id=21898, where it is identified with the Gulf of Sidra (Sirte), between Tunisia and Libya.

Moreover at http://www.marineregions.org/gazetteer.php?p=details&id=4095, citing the IHO-IOC GEBCO Gazetteer of Undersea Feature Names (2002-10-01), the Tunisian Plateau is described as part of the Strait of Sicily.

Since the term Tunisia Plateau is also used for Tunisian terrestrial territories, we will stick to the term Sardinia Channel, considering this one the most reliable definition.

Notwithstanding, we will use the term Tunisian Plateau (sensu Gennesseaux and Stanley, 1983) for the Estafette, Resgui and Sentinelle Banks.