

## Mediterranean deep-sea corals in need of protection

July 2013

Since the entry into force of the [SPA/BD Protocol](#) and its Annexes several amendments have been adopted in the framework of the [Barcelona Convention](#) bringing up to more than 150 the number of species listed in Annex II and more than 40 the number of species listed in Annex III. Such modifications have corresponded to different additions of species of flora, fish and birds. However, cnidarians group remain today represented only by *Astroides calycularis*, *Errina aspera* and *Gerardia savaglia* (*Savalia savaglia*) in Annex II, and *Antipathes* sp.plur. and *Corallium rubrum* in Annex III.

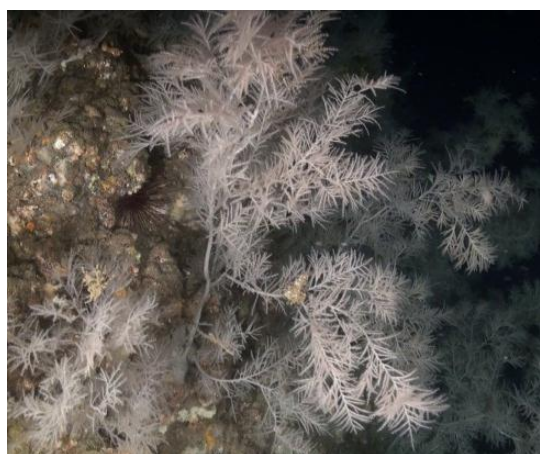
Despite the important role of deep-sea corals for ecosystem functioning, they are neither sufficiently represented in the SPA/BD Protocol nor protected by the existing MPA network in the Mediterranean Sea. Up to date, this fact could have been justified by the lack of information for open and deep-sea environments in the Mediterranean basin. However, according to last years' findings and scientific publications related to deep-sea corals, apart from the threats they are facing, there is an imperative need to amend the Annexes for an appropriate and urgent consideration of deep-sea corals.

These fragile habitats are commonly found in summits and flanks of seamounts or submarine canyons among other deep-sea geological features. Furthermore, their occurrence is frequently patched accompanying other important habitats like sponge grounds (e.g. *Asconema setubalense*, *Phakellia robusta*, *Pachastrella monilifera*).

Coral aggregations have been identified as special ecological features which require protection under the Convention of Biological Diversity [UNEP/CBD/EWS.MPA/1/2]. Additionally, under the FAO umbrella they are considered sensitive habitats potentially vulnerable to deep-sea fisheries which may contribute to forming Vulnerable Marine Ecosystems (VMEs).

### Oceana considers that the following general measures should be taken

- Approval of "**Draft Proposals of Amendments to Annex II and Annex III to the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean**" and "**Draft Action Plan for the conservation of dark assemblages of the Mediterranean Sea**" in order to reach an adequate regulation of human activities to avoid impacts on the colonies (e.g. banning of destructive fishing gears, oil exploration, dumping, etc.).
- Invest in studies and oceanographic campaigns for mapping deep-sea coral populations in order to reach an accurate distribution of these species.
- Identification and designation of new open sea MPAs with appropriate management measures.



### *Antipathella subpinnata*

**ORDER:** Antipatharia      **COMMON NAME:** Black coral

**COLONIES:** up to 1.5 m tall

**HABITAT:** 55-600 m; hard substrata, on rocks; areas with moderate currents and clear water

**THREATS:** fishing (trawling, gill net, bottom longlines and traditional recreational fishing gears) may damage colonies enhancing epibionts' colonization

**ASSEMBLAGES:** refuge for numerous invertebrates and fish species; occasionally may act as fish nursery; support a great benthic and pelagic biodiversity including that of commercial fish species

**CONVENTIONS:** Listed in CITES Appendix II; Listed in SPA/BD' protocol Annex III under the wrong name *Antipathes* sp.plur.

**REMARKS:** - -



### *Antipathes dichotoma*

**ORDER:** Antipatharia      **COMMON NAME:** Black coral

**COLONIES:** up to 2 m wide

**HABITAT:** 60-1500 m; rocky substrate; prefers silted environments characterized by low currents

**THREATS:** fishing (trawling, gill net, bottom longlines and traditional recreational fishing gears) may damage colonies enhancing epibionts' colonization

**ASSEMBLAGES:** refuge for numerous invertebrates and fish species; occasionally may act as fish nursery; support a great benthic and pelagic biodiversity including that of commercial fish species

**CONVENTIONS:** Listed in CITES Appendix II; Listed in SPA/BD' protocol

**REMARKS:** - -

### *Antipathes fragilis*

**ORDER:** Antipatharia      **COMMON NAME:** Black coral

**COLONIES:** - -

**HABITAT:** 70-100 m; hard bottoms

**THREATS:** fishing (trawling, gill net, bottom longlines and traditional recreational fishing gears) may damage colonies enhancing epibionts' colonization

**ASSEMBLAGES:** refuge for numerous invertebrates and fish species; occasionally may act as fish nursery; support a great benthic and pelagic biodiversity including that of commercial fish species

**CONVENTIONS:** Listed in CITES Appendix II; Listed in SPA/BD' protocol Annex III under the wrong name *Antipathes* sp.plur.

**REMARKS:** This is the less known black coral species for the Mediterranean Sea



### *Leiopathes glaberrima*

**ORDER:** Antipatharia

**COMMON NAME:** Black coral

**COLONIES:** over 2 m high

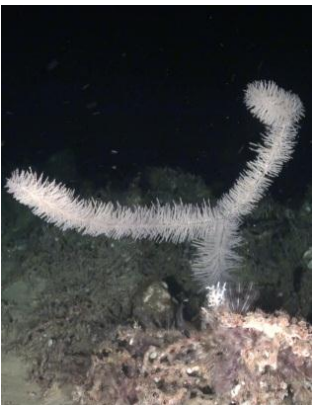
**HABITAT:** 90-600 m; rocky habitat with low to moderate currents (shallow rocky shoals moderate or heavily silted)

**THREATS:** fishing (trawling, gill net, bottom long lines and traditional recreational fishing gears) may damage colonies enhancing epibionts' colonization

**ASSEMBLAGES:** refuge for numerous invertebrates and fish species; occasionally may act as fish nursery; the arborescent colonies offer shelter to numerous species of crabs, shrimps and fish; support a great benthic and pelagic biodiversity including that of commercial fish species

**CONVENTIONS:** Listed in CITES Appendix II; Listed in SPA/BD' protocol Annex III under the wrong name *Antipathes* sp.plur.

**REMARKS:** one of the most long-living organisms known on Earth, being estimated at more than 2000 years old



### *Parantipathes larix*

**ORDER:** Antipatharia

**COMMON NAME:** Black coral

**COLONIES:** roughly 2m high

**HABITAT:** 200-700 m; hard bottom; silted environments with low currents

**THREATS:** fishing impact that may drastically reduce their distribution by damaging the arborescent colonies and enhancing epibionts' colonization

**ASSEMBLAGES:** refuge for numerous invertebrates and fish species; occasionally may act as fish nursery; support a great benthic and pelagic biodiversity including that of commercial fish species

**CONVENTIONS:** Listed in CITES Appendix II; Listed in SPA/BD' protocol Annex III under the wrong name *Antipathes* sp.plur

**REMARKS:** characterized by a monopodial, pinnulated corallum, which at times can be ramified



### *Callogorgia verticillata*

**ORDER:** Alcyonacea

**COMMON NAME:** - -

**COLONIES:** up to 100 cm high

**HABITAT:** rocky bottoms at more than 100 meters depth, with no strong currents

**THREATS:** sensitive to the impact of human activities such as trawling, deep-sea fishing, oil exploration, drilling and dumping

**ASSEMBLAGES:** create refuges for numerous other species and may represent a nursery area for fish; use to form cnidarians assemblages commonly found together with *Viminella flagellum* forming mixed gardens; also associated to sponge aggregations mainly axinellids (e.g. *Phakellia robusta*, *P. ventilabrum*) and astrophorids (e.g. *Pachastrella monilifera*, *Poecilastrea compressa*); favours the development of benthic communities in their vicinity

**CONVENTIONS:** No

**REMARKS:** plays an important ecological role; it is considered an ecosystem engineers species, creating complex three-dimensional habitats



### *Ellisella paraplexauroides*

**ORDER:** Alcyonacea

**COMMON NAME:** - -

**COLONIES:** up to 2 m high

**HABITAT:** 15 to 700 m; rocky substrate

**THREATS:** fishing gear entanglement (direct damage from longlines, trawling lines, gillnetting, trap deployment, etc.); boat anchorage

**ASSEMBLAGES:** mainly associated with assemblages of other gorgonians and corals and observed in very shallow waters (15–30 m)

**CONVENTIONS:** No

**REMARKS:** It is a rare species, with an extremely fragmented distribution in the Mediterranean and with a strong vulnerability to demographic collapse due to its slow growth rate. The only member of the genus *Ellisella* recorded in European waters; very little is known about its basic ecology, biology, and population organization; discontinuously distributed in the Mediterranean; only found in isolated colonies on the Chella bank (Almeria, Spain), around the Alboran and Chafarinas Islands, along the Ceuta and Melilla coasts, at some locations off Algeria and Tunisia, and in the Strait of Sicily



### *Cladocora caespitosa*

**ORDER:** Scleractinia

**COMMON NAME:** pillow coral and cladocore

**COLONIES:** 50 cm in diameter in surface water, to more ramified colonies at greatest depths

**HABITAT:** up to 50 m; hard substrata, sometimes in *Posidonia* meadows

**THREATS:** highly vulnerable to water pollution, to fishing activities that interact with the seafloor and to anchorage; collected to be used as decorations in aquaria

**ASSEMBLAGES:** - -

**CONVENTIONS:** listed in CITES Appendix II

**REMARKS:** habitat-building species, able to create reefs; endemic in the Mediterranean Sea

### *Cladocora debilis*

**ORDER:** Scleractinia

**COMMON NAME:** thin tube coral

**COLONIES:** - -

**HABITAT:** 25-100 m; hard substrata

**THREATS:** highly vulnerable to water pollution, fishing activities that interact with the seafloor and to anchorage; collected to be used as decorations in aquaria

**ASSEMBLAGES:** - -

**CONVENTIONS:** listed in CITES Appendix II

**REMARKS:** habitat -building species



### *Lophelia pertusa*

**ORDER:** Scleractinia      **COMMON NAME:** white coral, cold water coral

**COLONIES:** up to 1 m high

**HABITAT:** rocky bottoms usually in depths over 300 m

**THREATS:** extremely sensitive to the impact of human activities such as trawling (bottom trawl activity alters the hydrodynamic and sedimentary conditions), deep-sea fishing (otter boards and nets), oil exploration, drilling and illegal dumping

**ASSEMBLAGES:** provides ecological niches for a large diversity of associated species, including crustacean and fish of economic interest;

**CONVENTIONS:** listed in CITES Appendix II

**REMARKS:** is a real hot spot of biodiversity; usually found forming mixed reefs with other corals such as *Lophelia pertusa* and the scleractinian coral *Desmophyllum dianthus*



### *Madrepora oculata*

**ORDER:** Scleractinia      **COMMON NAME:** white coral, cold water coral

**COLONIES:** up to 1 m high

**HABITAT:** on rocky bottoms usually in depths over 300 m

**THREATS:** extremely sensitive to the impact of human activities such as trawling (bottom trawl activity alters the hydrodynamic and sedimentary conditions), deep-sea fishing (otter boards and nets), oil exploration and illegal dumping

**ASSEMBLAGES:** three-dimensional structure provides ecological niches for a large diversity of associated species, including crustacean and fish of economic interest; associated with crystal sponges (e.g. *Asconema setubalense*)

**CONVENTIONS:** listed in CITES Appendix II

**REMARKS:** is a real hot spot of biodiversity; usually found forming mixed reefs with other corals such as *Lophelia pertusa* and the scleractinian coral *Desmophyllum dianthus*

## REFERENCES

UNEP-MAP RAC/SPA. 2013. Draft Proposals of Amendments to Annex II and Annex III to the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean. UNEP(DEPI)/MED WG 382/14

UNEP-MAP RAC/SPA. 2013. Draft Action Plan for the conservation of dark assemblages of the Mediterranean Sea. UNEP(DEPI)/MED WG 382/10