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Ninth Meeting of Focal Points for SPAs

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**Proposals for amendment of Annexes II and III of the
SPA/BD Protocol**

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MODIFICATION OF THE LIST OF SPECIES OF ANNEX II

In view of the taxonomic changes which occurred since the establishment of Annexes II and III, the denomination of some species has been changed.

Also to limit the possibility of errors, it was deemed better to add the authority at the origin of the description of the species. This taxonomic update was done during the expert meetings. The proposed modifications are summarized in the tables I & II.

Table I: Changes proposed to Annexe II. The taxonomic changes are notified in grey.

Present name in the Annexe II	Proposed changes
Magnoliophyta	Magnoliophyta
<i>Posidonia oceanica</i>	<i>Posidonia oceanica</i> (L.) Delille
<i>Zostera marina</i>	<i>Zostera marina</i> Linnaeus
<i>Zostera noltii</i>	<i>Zostera noltii</i> Hornemann
Chlorophyta	Chlorophyta
<i>Caulerpa ollivieri</i>	<i>Caulerpa ollivieri</i> Dostál
Phaeophyta	Heterokontophyta
<i>Cystoseira amentacea</i> (var. <i>stricta</i> & var. <i>spicata</i>)	<i>Cystoseira amentacea</i> (C. Agardh) Bory de Saint-Vincent (including var. <i>stricta</i> Montagne and var. <i>spicata</i> (Ercegovic) G. Giaccone)
<i>Cystoseira mediterranea</i>	<i>Cystoseira mediterranea</i> Sauvageau
<i>Cystoseira sedoides</i>	<i>Cystoseira sedoides</i> (Desfontaines) C. Agardh
<i>Cystoseira spinosa</i> (inclu. <i>C. adriatica</i>)	<i>Cystoseira spinosa</i> Sauvageau (including <i>C. adriatica</i> Sauvageau)
<i>Cystoseira zosteroides</i>	<i>Cystoseira zosteroides</i> C. Agardh
<i>Laminaria rodriguezii</i>	<i>Laminaria rodriguezii</i> Bornet
Rhodophyta	Rhodophyta
<i>Goniolithon byssoides</i>	<i>Titanoderma ramosissimum</i> (Heydrich) Bressan & Cabioch (ex. <i>Goniolithon byssoides</i>)
<i>Lithophyllum lichenoides</i>	<i>Lithophyllum byssoides</i> (Lamarck) Foslie (ex. <i>Lithophyllum lichenoides</i>)
<i>Ptilophora mediterranea</i>	<i>Ptilophora mediterranea</i> (H. Huvé) R.E. Norris
<i>Schimmelmannia schousboei</i>	<i>Schimmelmannia schousboei</i> (J. Agardh) J. Agardh
Porifera	Porifera
<i>Asbestopluma hypogea</i>	<i>Asbestopluma hypogea</i> Vacelet and Boury-Esnault 1995
<i>Aplysina</i> sp. plur.	<i>Aplysina cavernicola</i> Vacelet, 1959 & <i>Aplysina aerophoba</i> Schmidt, 1862
<i>Axinella cannabina</i>	<i>Axinella cannabina</i> (Esper, 1794)
<i>Axinella polypoides</i>	<i>Axinella polypoides</i> Schmidt, 1862
<i>Geodia cydonium</i>	<i>Geodia cydonium</i> (Jameson, 1811)
<i>Ircinia foetida</i>	<i>Sarcotragus foetidus</i> Schmidt, 1862 (ex- <i>Ircinia foetida</i>)
<i>Ircinia pipetta</i>	<i>Sarcotragus pipetta</i> (Schmidt, 1868) (ex- <i>Ircinia pipetta</i>)
<i>Petrobiona massiliana</i>	<i>Petrobiona massiliana</i> Vacelet & Lévi, 1958
<i>Tethya</i> sp. plur.	<i>Tethya aurantium</i> (Pallas, 1766) & <i>Tethya citrina</i> Sarà e Melone, 1965
Cnidaria	Cnidaria
<i>Astroides calycularis</i>	<i>Astroides calycularis</i> (Pallas, 1766)
<i>Errina aspera</i>	<i>Errina aspera</i> (Linnaeus, 1767)
<i>Gerardia savaglia</i>	<i>Savalia savaglia</i> Nardo, 1844 (ex <i>Gerardia savaglia</i>)
Bryozoa	Bryozoa
<i>Hornera lichenoides</i>	<i>Hornera lichenoides</i> (Linnaeus, 1758)
Mollusca	Mollusca
<i>Charonia lampas</i> (= <i>Ch. rubicunda</i> = <i>Ch. nodifera</i>)	<i>Charonia lampas lampas</i> (Linnaeus, 1758)
<i>Charonia tritonis</i> (= <i>Ch. Seguenziae</i>)	<i>Charonia tritonis variegata</i> (Lamarck, 1816)
<i>Dendropoma petraeum</i>	<i>Dendropoma petraeum</i> (Monterosato, 1884)

<i>Erosaria spurca</i>	<i>Erosaria spurca</i> (Linnaeus, 1758)
<i>Gibbula nivosa</i>	<i>Gibbula nivosa</i> A.Adams, 1851
<i>Lithophaga lithophaga</i>	<i>Lithophaga lithophaga</i> (Linnaeus, 1758)
<i>Luria lurida</i> (= <i>Cypraea lurida</i>)	<i>Luria lurida</i> (Linnaeus, 1758)
<i>Mitra zonata</i>	<i>Mitra zonata</i> Marrayat, 1818
<i>Patella ferruginea</i>	<i>Patella ferruginea</i> Gmelin, 1791
<i>Patella nigra</i>	<i>Patella nigra</i> (da Costa, 1771)
<i>Pholas dactylus</i>	<i>Pholas dactylus</i> Linnaeus, 1758
<i>Pinna nobilis</i>	<i>Pinna nobilis</i> Linnaeus, 1758
<i>Pinna rudis</i> (= <i>P. pernula</i>)	<i>Pinna rudis</i> (=pernula) Linnaeus, 1758
<i>Ranella olearia</i> (= <i>Argobuccinum olearium</i> = <i>A. giganteum</i>)	<i>Ranella olearia</i> (Linnaeus, 1758)
<i>Schilderia achatidea</i>	<i>Schilderia achatidea</i> (Gray in G.B. Sowerby II, 1837)
<i>Tonna galea</i>	<i>Tonna galea</i> (Linnaeus, 1758)
<i>Zonaria pyrum</i>	<i>Zonaria pyrum</i> (Gmelin, 1791)
Crustacea	Crustacea
<i>Ocypode cursor</i>	<i>Ocypode cursor</i> (Linnaeus, 1758)
<i>Pachylasma giganteum</i>	<i>Pachylasmus giganteum</i> (Philippi, 1836)
Echinodermata	Echinodermata
<i>Asterina pancerii</i>	<i>Asterina pancerii</i> Gasco, 1870)
<i>Centrostephanus longispinus</i>	<i>Centrostephanus longispinus</i> (Philippi, 1845)
<i>Ophidiaster ophidianus</i>	<i>Ophidiaster ophidianus</i> (Lamarck, 1816)
Pisces	Pisces
<i>Acipenser naccarii</i>	<i>Acipenser naccarii</i> Bonaparte, 1836
<i>Acipenser sturio</i>	<i>Acipenser sturio</i> Linnaeus, 1758
<i>Aphanius fasciatus</i>	<i>Aphanius fasciatus</i> (Valenciennes, 1821)
<i>Aphanius iberus</i>	<i>Aphanius iberus</i> (Valenciennes, 1846)
<i>Cetorhinus maximus</i>	<i>Cetorhinus maximus</i> (Gunnerus, 1765)
<i>Carcharodon carcharias</i>	<i>Carcharodon carcharias</i> (Linnaeus, 1758)
<i>Hippocampus hippocampus</i>	<i>Hippocampus hippocampus</i> (Linnaeus 1758)
<i>Hippocampus ramulosus</i>	<i>Hippocampus guttulatus</i> Cuvier, 1829 (ex <i>Hippocampus ramulosus</i>)
<i>Huso huso</i>	<i>Huso huso</i> (Linnaeus, 1758)
<i>Lethenteron zanandreae</i>	<i>Lethenteron zanandreae</i> (Vladykov, 1955)
<i>Mobula mobular</i>	<i>Mobula mobular</i> (Bonnaterre, 1788)
<i>Pomatoschistus canestrinii</i>	<i>Pomatoschistus canestrini</i> (Ninni, 1883)
<i>Pomatoschistus tortonesei</i>	<i>Pomatoschistus tortonesei</i> Miller, 1969
<i>Valencia hispanica</i>	<i>Valencia hispanica</i> (Valenciennes, 1846)
<i>Valencia letourneuxi</i>	<i>Valencia letourneuxi</i> (Sauvage, 1880)
Reptiles	Reptiles
<i>Caretta caretta</i>	<i>Caretta caretta</i> (Linnaeus, 1758)
<i>Chelonia mydas</i>	<i>Chelonia mydas</i> (Linnaeus, 1758)
<i>Dermodochelys coriacea</i>	<i>Dermodochelys coriacea</i> (Vandelli, 1761)
<i>Eretmodochelys imbricata</i>	<i>Eretmodochelys imbricata</i> (Linnaeus, 1766)
<i>Lepidochelys kempii</i>	<i>Lepidochelys kempii</i> (Garman, 1880)
<i>Trionyx triunguis</i>	<i>Trionyx triunguis</i> (Forskål, 1775)
Aves	Aves
<i>Calonectris diomedea</i>	<i>Calonectris diomedea</i> (Scopoli, 1769)
<i>Falco eleonora</i>	<i>Falco eleonora</i> Gén�, 1834
<i>Hydrobates pelagicus</i>	<i>Hydrobates pelagicus</i> (Linnaeus, 1758)
<i>Larus audouinii</i>	<i>Larus audouinii</i> Payraudeau, 1826
<i>Numenius tenuirostris</i>	<i>Numenius tenuirostris</i> Vieillot, 1817
<i>Pandion haliaetus</i>	<i>Pandion haliaetus</i> (Linnaeus, 1758)
<i>Pelecanus crispus</i>	<i>Pelecanus crispus</i> Bruch, 1832

<i>Pelecyanus onocrotalus</i>	<i>Pelecanus onocrotalus</i> Linnaeus, 1758
<i>Phalacrocorax aristotelis</i>	<i>Phalacrocorax aristotelis</i> (Linnaeus, 1761)
<i>Phalacrocorax pygmaeus</i>	<i>Phalacrocorax pygmeus</i> (Pallas, 1773)
<i>Phoenicopterus ruber</i>	<i>Phoenicopterus ruber</i> Linnaeus, 1758
<i>Puffinus yelkouan</i>	<i>Puffinus puffinus yelkouan</i> (Brünnich, 1764)
<i>Sterna albifrons</i>	<i>Sterna albifrons</i> Pallas, 1764
<i>Sterna bengalensis</i>	<i>Sterna bengalensis</i> Lesson, 1831
<i>Sterna sandvicensis</i>	<i>Sterna sandvicensis</i> Latham, 1878
Mammalia	Mammalia
<i>Balaenoptera acutorostrata</i>	<i>Balaenoptera acutorostrata</i> Lacépède, 1804
<i>Balaenoptera borealis</i>	<i>Balaenoptera borealis</i> Lesson, 1828
<i>Balaenoptera physalus</i>	<i>Balaenoptera physalus</i> (Linnaeus, 1758)
<i>Delphinus delphis</i>	<i>Delphinus delphis</i> Linnaeus, 1758
<i>Eubalaena glacialis</i>	<i>Eubalaena glacialis</i> (Müller, 1776)
<i>Globicephala melas</i>	<i>Globicephala melas</i> (Trail, 1809)
<i>Grampus griseus</i>	<i>Grampus griseus</i> (Cuvier G. 1812)
<i>Kogia simus</i>	<i>Kogia simus</i> (Owen, 1866)
<i>Megaptera novaeangliae</i>	<i>Megaptera novaeangliae</i> (Borowski, 1781)
<i>Mesoplodon densirostris</i>	<i>Mesoplodon densirostris</i> (de Blainville, 1817)
<i>Monachus monachus</i>	<i>Monachus monachus</i> (Hermann, 1779)
<i>Orcinus orca</i>	<i>Orcinus orca</i> (Linnaeus, 1758)
<i>Phocoena phocoena</i>	<i>Phocoena phocoena</i> (Linnaeus, 1758)
<i>Physeter macrocephalus</i>	<i>Physeter catodon</i> Linnaeus, 1758 (ex- <i>Physeter macrocephalus</i>)
<i>Pseudorca crassidens</i>	<i>Pseudorca crassidens</i> (Owen, 1846)
<i>Stenella coeruleoalba</i>	<i>Stenella coeruleoalba</i> (Meyen, 1833)
<i>Steno bredanensis</i>	<i>Steno bredanensis</i> (Cuvier in Lesson, 1828)
<i>Tursiops truncatus</i>	<i>Tursiops truncatus</i> (Montagu, 1821)
<i>Ziphius cavirostris</i>	<i>Ziphius cavirostris</i> Cuvier G., 1832

Table II: Changes proposed on Annexe III. The taxonomic changes are notified in grey.

Present name in Annexe III	Proposed changes
Porifera	Porifera
<i>Hippospongia communis</i>	<i>Hippospongia communis</i> (Lamarck, 1813)
<i>Spongia agaricina</i>	<i>Spongia (Spongia) lamella</i> (Schulze, 1872) (ex <i>Spongia agaricina</i>)
<i>Spongia officinalis</i>	<i>Spongia (Spongia) officinalis officinalis</i> Linnaeus, 1759) & <i>Spongia (Spongia) officinalis adriatica</i> (Schmidt, 1862)
<i>Spongia zimocca</i>	<i>Spongia (Spongia) zimocca</i> Schmidt, 1862
Cnidaria	Cnidaria
<i>Corallium rubrum</i> (Linnaeus, 1758)	<i>Corallium rubrum</i> (Linnaeus, 1758)
<i>Antipathes sp.plur</i>	<i>Antipathes dichotoma</i> Pallas, 1766 & <i>Antipathes fragilis</i> Gravier, 1918
Crustacea	Crustacea
<i>Homarus gammarus</i>	<i>Homarus gammarus</i> (Linnaeus, 1758)
<i>Maja squinado</i>	<i>Maja squinado</i> (Herbst, 1788)
<i>Palinurus elephas</i>	<i>Palinurus elephas</i> (Fabricius, 1787)
<i>Scyllarides latus</i>	<i>Scyllarides latus</i> (Latreille, 1803)
<i>Scyllarus arctus</i>	<i>Scyllarus arctus</i> (Linnaeus, 1758)
<i>Scyllarus pygmaeus</i>	<i>Scyllarus pygmaeus</i> (Bate, 1888)
Echinodermata	Echinodermata
<i>Paracentrotus lividus</i>	<i>Paracentrotus lividus</i> (Lamarck, 1816)
Pisces	Pisces
<i>Alosa alosa</i>	<i>Alosa alosa</i> (Linnaeus, 1758)
<i>Alosa fallax</i>	<i>Alosa fallax</i> (Lacépède, 1803)

<i>Anguilla anguilla</i>	<i>Anguilla anguilla</i> (Linnaeus, 1758)
<i>Epinephelus marginatus</i>	<i>Epinephelus marginatus</i> (Lowe, 1834)
<i>Isurus oxyrinchus</i>	<i>Isurus oxyrinchus</i> Rafinesque, 1810
<i>Lamma nasus</i>	<i>Lamma nasus</i> (Bonnaterre, 1788)
<i>Lampetra fluviatilis</i>	<i>Lampetra fluviatilis</i> (Linnaeus, 1758)
<i>Petromyzon marinus</i>	<i>Petromyzon marinus</i> Linnaeus, 1758
<i>Prionace glauca</i>	<i>Prionace glauca</i> (Linnaeus, 1758)
<i>Raja alba</i>	<i>Raja alba</i> Lacépède, 1803
<i>Sciaena umbra</i>	<i>Sciaena umbra</i> Linnaeus, 1758
<i>Squatina squatina</i>	<i>Squatina squatina</i> (Linnaeus, 1758)
<i>Thunnus thynnus</i>	<i>Thunnus thynnus</i> (Linnaeus, 1758)
<i>Umbrina cirrosa</i>	<i>Umbrina cirrosa</i> (Linnaeus, 1758)
<i>Xiphias gladius</i>	<i>Xiphias gladius</i> Linnaeus, 1758

PROPOSALS FOR ADDING NEW SPECIES

Macrophytes Species

At the last ordinary meeting (Almeria, January 2008), the Contracting Parties to the Barcelona Convention adopted a format for the revision of Annex II and III of the Protocol on Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD) and asked RAC/SPA to propose amendments to these annexes. RAC/SPA asked two experts to set up a preliminary list of over a hundred vegetal species worthy of study so that they could be included in Annex II of the Protocol.

In January RAC/SPA with IUCN – Mediterranean organized a joint meeting in Tunis of an ad hoc group of experts (Table III) in order to

- i) Initiate an evaluation of marine macrophyte species so as to create a red list for the Mediterranean
- ii) Establish a state of knowledge on the species to be taken into consideration on a sub-regional and regional level (Alboran Sea, Ligurian Sea, Adriatic Sea, Aegean Sea..) and
- iii) Propose a list of species to be added to the annex so that it can be submitted to the next meeting of the National Focal Points of RAC/SPA in June 2009. As the Mediterranean macrophyte species are not exploited, this amendment concerns Annex II only.

The experts proposed a classification on the basis of criteria such as the endemic character, rarity on a regional level, the degree of threat and the structurant nature of the species. On the basis of these elements 51 species have been retained with a low level up to a high level of priority. Only the high priority level species are indicated below for their eventual inclusion in Annex II.

Table III: List of the ad-hoc experts on marine macrophytes

Surname	Name	Country
Enric	BALLESTEROS	Spain
Saïd	BENHISSOUNE	Morocco
Ghazi	BITAR	Lebanon
Guido	BRESSAN	Italy
Aslam	DJELOULLI	Tunisia
Sukran	CIRIK	Turkey
Giuseppe	GIACCONE	Italy
Habib	LANGAR	Tunisia
G�rard	PERGENT	France
Christine	PERGENT-MARTINI	RAC/SPA
Conxi	RODRIGUEZ-PRIETO	Spain
Rachid	SEMROUD	Algeria
Marc	VERLAQUE	France

**Form for proposing amendments to Annex II and Annex III to the
Protocol concerning Specially Protected Areas and Biological
Diversity in the Mediterranean.**

<p>Proposed by : G. Pergent <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cymodocea nodosa</i> (Ucria) Ascherson</p> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : MONOCOTYLEDONES</p> <p>Order : POTAMOGETONALES</p> <p>Family: CYMODOCEACEAE</p> <p>Genus and Species : <i>Cymodocea nodosa</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): Slender seagrass (GB) Paille de mer (FR)</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>Annex I of the Bern Convention</p> <p>Habitat Directive / Natura 2000 (1110)</p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Engineer species, food-source for the green turtle (<i>Chelonia mydas</i>).</p> <p>Distribution area threatened: (:i) near the coastline, by recreation and coastal managements (0-10 m), (ii) beyond the lower limit of the <i>Posidonia oceanica</i> meadow, by the turbidity, and (iii) in coastal lagoon, according to human disturbances and salinity changes.</p> <p>The only engineer marine magnoliophyta present in the South-Eastern part of the Mediterranean Sea.</p>	

Biological data

Brief description of the species:

Cymodocea nodosa is a submerged marine magnoliophyta except in some coastal lagoons where it can be temporarily emerged. Its ribboned leaves, clear-green, are narrow (3 to 4 mm width, 7 to 9 longitudinal parallel veins) and lengthened (up to 40 cm). The leaves present notched apex. The thin rhizomes are ringed with regular intervals. It is a long-lived species; it can lose its sheets in winter and persists by its rhizome.

Distribution (current and historical):

Cymodocea nodosa grows on photophilous sandy bottom with organic matter contents. It develops in sheltered area between the coast and the *Posidonia oceanica* meadows but also in lagoons where it can cover more than 80% of the bottom. It can be often found between the surface and 10 m depth; but also beyond the lower limit of the *Posidonia oceanica* meadows, up to 50 m depth. In the coastal lagoons, it often shares the substrate with another magnoliophyte *Zostera noltii*.

Population estimation and trends:

No evaluation of the surfaces available at the regional level, but probably less developed than *Posidonia oceanica* meadows (5 to 20 % according to the area). Regressive tendency in open-sea and lagoons.

Habitat(s):

Soft bottoms of infralittoral stage (from the surface to 50 m depth) in open-sea and shallow biotopes in the coastal lagoons (until 5 to 6 m).

Threats

Existing and potential threats:

Coastal management: Covering of shallow bottom (ports, sea wall, artificial platforms,...) involving an irreversible mechanical destruction.

Urban and industrial wastes: Increasing of turbidity at the origin of regression of the deep population.

Introduced and invasive species: Not very competitive against *Caulerpa taxifolia* and *C. racemosa* involving a regression of the distribution area.

Modification of lagoonal environment: Filling and salinity changes involving a disappearance of the species.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of Appendix II of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean Sea.

References

ACKERMAN J. D., 2006. Seagrass sexual reproduction. *In*: Larkum A.W.D., Orth R.J. & Duarte C.M. (eds) *Seagrasses: Biology, Ecology and Conservation*. Springer Verlag, Berlin: 89-109.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : E. Ballesteros & M. Verlaque</p> <p><i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira abies-marina</i> (S.G. Gmelin) C. Agardh</p> <hr/> <p>Amendment proposed : <i>Cystoseira abies-marina</i> (S.G. Gmelin) C. Agardh</p> <p style="margin-left: 20px;"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III </p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira abies-marina</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Very rare species in the Mediterranean (attested localizations only in Spain and the Balearic Islands) where it lives in the deep detritic assemblages (Détritique Côtier).</p> <p>Collected only in undisturbed environments, with very clear water.</p>	

Biological data

Brief description of the species:

Erect species, brown, up to 60 cm high in the Atlantic, much smaller in the Mediterranean Sea (up to 25 cm); cylindrical axes initially creeping, branched and attached to the substratum with haptera, then erected and divided; cylindrical branches branched two to three times, bearing very spaced spiniform ramuli (leaves); receptacles apical few differentiated, 1-4 mm long; conceptacles located in the swollen base of small spines (cf. Fig. 25 in Gomez Garreta *et al.*, 2000).

Distribution (current and historical):

The subtropical-temperate Eastern Atlantic Ocean, from Senegal to Morocco, very common in the Macaronesia Islands (the Azores, Cabo Verde, Canary Islands, Madeira, Selvagens) (Price *et al.*, 1978 ; Guiry & Guiry, 2009). In the Mediterranean Sea, the species is very rare (Ribera *et al.*, 1992). It was reported from Libya (Muschler,1910), Italy (Banks of the Strait of Sicily, Amico *et al.* , 1985), SE Spain (Murcia and Andalusia) (Soto & Gómez-Garreta 1990; Flores-Moya *et al.*, 1995) and from the Balearic Islands (Formentera and Majorca) (Ballesteros, unpublished data). The record from Sicily was invalidated by Furnari *et al.* (2003).

Population estimate and trends:

Very rare and localized populations - trends: unknown.

Habitat(s) :

Detritic bottoms, between 20 and 40 m

Threats

Existing and potential threats:

Habitat damage (increase of the turbidity, silting up, pollution), pulling up by nets, trawling ("ganguis", dredges, trawls), competition with the invasive introduced species (e.g. *Caulerpa racemosa*).

Exploitation: Not.

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects, prohibition of trawling).

Bibliographical references

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SOTO J., GÓMEZ-GARRETA A., 1990. *Cystoseira abies-marina* (Gmelin) C. Agardh (Phaeophyceae) en el Mediterráneo Ibérico. *Anales Jardín Botánico de Madrid* 48: 251.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira algeriensis</i> Feldmann</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira algeriensis</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Engineer species.</p> <p>Rare Mediterranean endemic species with restricted geographical distribution.</p> <p>Very vulnerable to certain human activities (land reclamations, urban and industrial discharges).</p>	

Biological data

Brief description of the species:

Erect species with rounded outline, brown with beautiful iridescence green-emerald, up to 20-25 cm high; axis trunk-like with smooth and not prominent apex, up to 10 cm high, simple or 2-3 times branched, attached to the substatum by a wide disc irregular in form; primary branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); tophules ovoid, 7 mm X 5 mm, smooth and close together, light brown-yellow to darker brown; lower primary branches foliaceous, 2 mm wide, with a midrib and a pinnate ramification within a plan; higher primary branches and higher order branches cylindrical and covered with spinose ramuli (leaves), simple or geminate, more or less spaced, up to 3-4 mm long; numerous cryptostomata on branches and on leaves; diffuse receptacles developed in the apical part of the branches; hermaphrodite conceptacles differentiated at the base of spinose swollen ramuli (cf. Fig. 1 in Feldmann 1944; Fig. 26 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Mediterranean endemic species. Algeria; south of Sicily and Spain: from Almeria to Valencia and in the Balearic Islands (Feldmann, 1944; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003).

Population estimate and trends:

No evaluation of available surfaces at the scale of Algeria. In Sicily, on the coast near the city of Pozzallo (Ragusa) and the Porri Islet (Ragusa): approximately 10 km².

Habitat(s) :

Little shaded rocky bottoms; deep pools which are connected to the sea, between 0 and 5 m depth. In mixture with *C. elegans* and *C. brachycarpa* with which it can form polymorphic hybrids (Amico *et al.* 1988).

Threats

Existing and potential threats:

Land reclamations; pollution; hyper-sedimentation coming from watersheds; competition with non-native species: *Caulerpa racemosa* v. *cylindracea*, *Lophocladia lallemandii*; overgrazing by sea urchins.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Méditerranéan

Bibliographical references

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GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica Vol.1. Fucales*. pp. 192.: Universidad de Murcia, Murcia.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira barbata</i> (Stackhouse) C. Agardh var. <i>barbata</i> et var. <i>tophuloidea</i> (Ercegovic) Giaccone</p> <hr/> <p>Amendment proposed :</p> <p style="margin-left: 20px;"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III </p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira barbata</i> var. <i>barbata</i> et var. <i>tophuloidea</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Engineer species.</p> <p>Vulnerable species.</p> <p>Populations very localized and geographically disjoined.</p> <p>Very sensitive to certain human activities; in particular the populations of the coastal lagoons.</p>	

Biological data

Brief description of the species:

C. barbata var. *barbata* is an erect species, brown, non-iridescent, up to 130 cm high; axis cylindrical generally simple, up to 60 cm high and 3-5 mm in diameter, attached to the substratum by a small basal disc, and with an apex very prominent and smooth; tophules absent (the base of the branches persists in the var. *tophuloidea*); primary branches well developed; higher order branches filiform, cylindrical, without short spinose ramuli (leaves); aerocysts 4-7 mm X 1-3 mm, isolated, arranged in chains or absent (in f. *insularum* Ercegovic), cryptostomata abundant; final, receptacles terminal, cylindrical to fusiform, pedicellate, simple, 0.5-2 cm X 1 mm, terminating in a mucron. A particular form (f. *repens* Zinova & Kalugina) is characterized by the absence of axis and attachment structures (free-living on the bottom) and by its cylindrical branches with a loose branching (cf. Pls 22 & 23 in Ercegovic, 1952; Figs 29 & 30 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Cystoseira barbata sensu lato is a relict of the Tertiary with disjoined distribution: Mediterranean Sea/Northern Indian Ocean. It is reported throughout the Mediterranean Sea, with the exception of Algeria and Morocco, but some reports in the Eastern Mediterranean Sea could be erroneous (possible confusion with *C. barbatula* which is a close species but with several erect axes). (Ribera *et al.*, 1992; Guiry & Guiry, 2009). The subspecific taxa others than *C. barbata* var. *barbata* f. *barbata* have more restricted distribution.

Population estimate and trends:

No evaluation of available surfaces.

Habitat(s) :

Well sunny hard substratum and shelly bottoms, 0-10 m depth. *Cystoseira barbata sensu lato* grows in sheltered places, littoral pools and especially in border of coastal lagoons; the form *repens* which lives free on sandy-muddy substratum, is rarer and is present only in some lagoons and estuarine areas.

Threats

Existing and potential threats:

Species very threatened by land reclamations, destructions and damages of the coastal lagoon environments, pollution, hyper-sedimentation coming from watersheds, competition with nonnative species hyper-sedimentation coming from the basins slopes, the competition with non-native species (introduced Asian species into some lagoons, e.g. *Sargassum muticum*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira barbatula</i> Kützing emend. Cormaci, G. Furnari et Giaccone</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira barbatula</i> Kützing emend. Cormaci, G. Furnari et Giaccone</p> <p>Known Synonym(s) : <i>Cystoseira graeca</i> Schiffner ex Gerloff & Nizamuddin</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Engineer species</p> <p>Species endemic of the Mediterranean Sea</p> <p>Vulnerable species; populations very exposed to the anthropic disturbances.</p> <p>Well sunny hard bottoms and rocks, 0-8 m depth</p>	

Biological data

Brief description of the species:

Species very close to *C. barbata* but with several erect axes instead of only one. Erect species, brown, non-iridescent, up to 40 cm high; 3-7 cylindrical long axes, generally simple, 2-4 mm in diameter, attached to the substratum by an irregular basal disc, and with prominent and smooth apex; tufts of short branches arranged along the axes; lower part of the axes more or less bare; branches filiform, cylindrical, without spiniform ramuli (leaves); aerocysts absent; cryptostomata scattered; terminal receptacles pedicellate, compact, arranged in panicles, short, 2-4 mm X 1mm, cylindrical, verrucose-tuberculate with a deciduous terminal mucron (cf. Pls 1-4 in Gerloff & Nizamuddin, 1975, under the name of *C. graeca*).

Distribution (current and historical)

Mediterranean endemic: Sicily, Lampedusa, Greece, Malta, Libya, Cyprus, (Cormaci *et al.*, 1990, 1992; Ribera *et al.*, 1992; Furnari *et al.*, 2003; Guiry & Guiry, 2009; Verlaque unpublished data).

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

Well sunny rocks, more or less exposed to the hydrodynamism, 0-8 m depth

Threats

Existing and potential threats:

Species very threatened by land reclamations, destructions and degradations of the environment, pollution, hyper-sedimentation coming from watersheds, overgrazing by sea urchins and competition with non-native species (e.g.: Lessepsian species and *Caulerpa racemosa* v. *cylindracea*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A.M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

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GUIRY M.D. GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira brachycarpa</i> J. Agardh emend. Giaccone var. <i>brachycarpa</i> et var. <i>claudiae</i> (Giaccone) Giaccone</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira brachycarpa</i> J. Agardh emend. Giaccone var. <i>brachycarpa</i> et var. <i>claudiae</i> (Giaccone) Giaccone</p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Engineer species.</p> <p>Endemic species of the Mediterranean Sea.</p> <p>Vulnerable species; populations very exposed to the anthropic disturbances and to the overgrazing by sea urchins : Well sunny rocks.</p>	

Biological data

Brief description of the species:

Erect species, brown-yellow to brown-green, 20-25 cm high; 2-8 cylindrical axes, attached to the substratum by an irregular basal disc and sometimes by haptera (pillars) coming from from inclined axes, apex not very prominent and spinose; basal part of the primary branches not swollen (var. *brachycarpa*) to slightly swollen (pseudo-tophules) (var. *claudiae*); primary branches spinose only in their basal part; higher order branches abundant; two distinct seasonal forms; summer-autumn form bearing long and cylindrical highest order ramuli and winter-spring (fertile) form covered with short, spinose, simple and spaced highest order ramuli; receptacles terminal not very compact, up to 2 cm long; conceptacles large located in the axis of the branch and in the swollen bases of the spinose ramuli (cf. Figs 31-32 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Endemic species of the Mediterranean Sea: var. *brachycarpa* : Spain, France, Balearic Islands, Corsica, Sardinia, Western Italy, Sicily, Greece, Algeria, Tunisia, Libya; var *claudiae*: Balearic Islands, France, Corsica, Sicily, Linosa Island (Cormaci *et al.*, 1992; Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Guiry & Guiry, 2009; Verlaque unpublished data).

Several documented studies report an important population decline of this species in its distribution area (Hoffman *et al.*, 1988; Thibaut *et al.*, 2005; Ballesteros et Verlaque données inédites).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Well sunny rocks, 0-15 m depth (up to 30-40 m for var. *claudiae*).

Threats

Existing and potential threats:

Overgrazing by sea urchins, land reclamations, destructions and degradations of the environment, pollution, hyper-sedimentation coming from watersheds, competition with non-native species (e.g.: *Caulerpa racemosa* var. *cylindracea*, *Lophocladia lallemandii*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

CORMACI M., FURNARI G., GIACCONE G., SCAMMACCA B., SERIO D., 1992. Observations taxonomiques et biogéographiques sur quelques espèces du genre *Cystoseira* C. Agardh. *Bulletin de l'Institut Océanographique Monaco* n° spécial: 21-36.

FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

GIACCONE G., 1985. Una nuova specie mediterranea del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales): *C. hyblaea* G. Giaccone, con osservazioni critiche su alcune entità tassonomiche poco note o imperfettamente descritte. *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 429-442.

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAF A I.M., RIBERA SIGUÁN M.A., RULL LLUCH J. 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia, Murcia.

GUIRY M.D., GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

HOFFMAN L., CLARISSE S., DETIENNE X., GOFFART A., RENARD R., DEMOULIN V., 1988. Evolution of the populations of *Cystoseira balearica* (Phaeophyceae) and epiphytic Bangiophyceae in the Bay of Calvi (Corsica) in the last eight years. *Bulletin de la Société Royale, Liège* 4-5, 263-273.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

THIBAUT T., PINEDO S., TORRAS X. & BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Albères coast (France, North-western Mediterranean). *Marine Pollution Bulletin* 50: 1472-1489.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned : <i>Cystoseira corniculata</i> (Turner) Zanardini
	Amendment proposed : <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira corniculata</i> (Turner) Zanardini Known Synonym(s) : Common name (English and French):	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.
Justification for the proposal : Species relict of the Tertiary. Engineer species. Vulnerable species and highly subjected to overgrazing during imbalances caused by human activities.	

Biological data

Brief description of the species:

Existence of several morphotypes distributed from the surface to the depth; creeping species; brown-olive to green-olive, non-iridescent; axes horizontal, 1-4 mm in diameter, branched at right-angle and entangled with each other, attached to the substratum by hapteras (pillars); primary branches vertical, cylindrical, 5-14 cm long, close to the sea surface, to 14-21 cm, at more than 30 m depth, secondary branches, cylindrical or flattened, decreasing in length (pyramidal outline); branches of all orders more or less densely covered with spines and short spinose ramuli (leaves) imbricated, bifid to multifid, often palmate or stag horn-shaped; cryptostomata present; aerocysts absent; receptacles diffuse, terminal, 0.2-2 cm long; conceptacles differentiated in the swollen base of spinose ramuli. A free form without axes and without conceptacle (f. *imperfecta* Ercegovic) was described in the Adriatic Sea. (cf. Pls 1-4 in Ercegovic 1952)

Distribution (current and historical):

Relict species of the Tertiary with disjointed distribution: Mediterranean Sea/ Northern Indian Ocean. Distribution in the Mediterranean Sea: The Adriatic Sea and the Eastern Mediterranean Sea: Italy, Greece, Turkey, Libya. Tunisia. The reports in the Western Mediterranean Sea (Balearic Islands, Sardinia) are doubtful and must be confirmed (Sauvageau, 1912; Ercegovic, 1952; Cormaci *et al.*, 1992; Ribera *et al.*, 1992; Furnari *et al.*, 2003; Guiry & Guiry, 2009)

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

Hard bottoms and rocks, beaten mode to sheltered mode, 0 - 50 (- 70) m depth; is also present in coastal lagoons.

Threats

Existing and potential threats:

Land reclamations ; pollution ; turbidity ; hyper-sedimentation coming from watersheds ; overgrazing by sea urchins because of imbalances caused by human activities ; competition with non-native species (e.g. *Caulerpa racemosa* var *cylindracea*, *Lophocladia lallemandii*)

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

CORMACI M., FURNARI G., GIACCONE G., SCAMMACCA B., SERIO D., 1992. Observations taxonomiques et biogéographiques sur quelques espèces du genre *Cystoseira* C. Agardh. *Bulletin de l'Institut Océanographique Monaco* n° spécial 9: 21-36.

ERCEGOVIC A., 1952. *Fauna i Flora Jadrana. Jadranske cistozire. Njihova morfologija, ekologija i razvitak / Fauna et Flora Adriatica. Sur les cystoseira adriatiques. Leur morphologie, écologie et évolution*. Vol. II pp. 1-172 (Croatian), 173-210 (French), 211-212 (references), Map. Institut za Oceanografiju i Ribarstvo Split / Institut d'Océanographie et de Peche, Split.

FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

GUIRY M.D, GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

SAUVAGEAU M.C., 1912. A propos des *Cystoseira* de Banyuls et de Guéthary - *Bulletin de la Station Biologique d'Arcachon, Bordeaux*, 14: 133-556

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira crinita</i> Duby</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira crinita</i> Duby</p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention.)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic species of the Mediterranean Sea.</p> <p>Engineer species.</p> <p>Vulnerable species; populations very exposed to the man-made disturbances and to the overgrazing by sea urchins: well sunny superficial rocks, 0-1 (- 3) m of depth.</p>	

Biological data

Brief description of the species:

Erect species, brown to brown-black, poorly iridescent, 20-25 (- 30) cm high; 2-20 cylindrical axes, 2-5 mm in diameter, blackish, which peel off in patch, attached to the substratum by an irregular basal disc; apex prominent and covered with long spines; primary branches covered at their base with spines close together; higher order branches cylindrical, thin, divaricate, more or less tangled, and covered with prominent cryptostoma; presence along the axes, of bunches of adventitious branches shorter than the primary branches; spinose ramuli (leaves) absent; aerocysts present or absent; receptacles compact, terminal, a few mm to 15 mm long and 1-2 mm in diameter, cylindrical, more or less spinose, swollen and tuberculate because of the prominent conceptacles. (cf. Pl. 20 in Ercegovic 1952; Fig. 35 in Gómez Garreta *et al.*, 2000)

Distribution (current and historical):

Endemic species of the Mediterranean Sea (but also present in the Canary Islands); distributed all around the Mediterranean Sea (Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Several documented studies report an important populations decline of this species in its distribution area (Thibaut *et al.*, 2005, Verlaque unpublished data).

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

It grows in the upper infralittoral zone on well sunny hard bottoms and rocks (0-3 m).

Threats

Existing and potential threats:

Overgrazing by sea urchins, land reclamations, destructions and damages of the environment, pollution, hyper-sedimentation coming from watersheds, competition with non-native species (e.g. *Caulerpa racemosa* var *cylindracea*, *Lophocladia lallemandii*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

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FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia, Murcia.

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SAUVAGEAU M.C., 1912. A propos des *Cystoseira* de Banyuls et de Guéthary - *Bulletin de la Station Biologique d'Arcachon, Bordeaux*, 14: 133-556

THIBAUT T., PINEDO S., TORRAS X., BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Albères coast (France, North-western Mediterranean). *Marine Pollution Bulletin* 50: 1472-1489.

**Form for proposing amendments to Annex II and Annex III to the
Protocol concerning Specially Protected Areas and Biological
Diversity in the Mediterranean.**

Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned : <i>Cystoseira crinitophylla</i> Ercegovic
	Amendment proposed : <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira crinitophylla</i> Ercegovic Known Synonym(s) : Common name (English and French):	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.
Justification for the proposal : Endemic species of the Mediterranean Sea. Engineer species. Vulnerable species; populations very exposed to the anthropic disturbances and to the overgrazing by sea urchins.	

Biological data

Brief description of the species:

Erect species, green-olive to green-yellow, slight iridescence in young individuals, 20-30 cm high; several axes attached to the substratum by an irregular basal disc; axes cylindrical or swollen at the base, brown dark, simple or branched, up to 25 cm long and 3-4 mm in diameter, bare to spinose, covered with adventitious branches, 1-3 cm long, coming from scars of the fallen branches; tophules absent; apices prominent and spinose; primary branches cylindrical, up to 14 cm long, often with the basal part swollen and bearing spines more or less close together, and the distal part covered with spinose ramuli, bifid to multifid; secondary branches, 3-4.5 cm long, cylindrical or slightly flattened; highest order branches close together; spinose ramuli (leaves) present, 1-1.5 mm long, simple or divided, bifid to multifid, cylindrical-subulate or laterally compressed, arranged more or less dense on the branches; cryptostomata more or less frequent and less prominent than in *C. crinita*; aerocysts absent; receptacles compact, terminal, cylindrical, swollen, tuberculate, spinose, with obtuse not mucronated apex. (cf. Pl. 21 & Fig. 18 in Ercegovic, 1952).

Distribution (current and historical):

Endemic species of the Mediterranean Sea; Corsica, Sicily, Italy, Adriatic Sea, Greece, Turkey (Ribera *et al.*, 1992; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Well sunny superficial rocks, 0-10 m depth

Threats

Existing and potential threats:

Overgrazing by sea urchins, land reclamations, destructions and degradations of the environment, pollution, hyper-sedimentation coming from watersheds, competition with non-native species (e.g.: *Caulerpa racemosa* var. *cylindracea*, *Lophocladia lallemandii*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

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FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira dubia</i> Valiante</p> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira dubia</i> Valiante</p> <p>Known Synonym(s) : <i>Cystoseira fucoides</i> Ercegovic</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic species of the Mediterranean Sea.</p> <p>Engineer species.</p> <p>Vulnerable species; threatened biotopes.</p>	

Biological data

Brief description of the species:

Light yellow species, non-iridescent, with stoloniferous crawling axis, cylindrical, branched, 2-3 mm in diameter; Erect secondary branches numerous, up to 10 cm long, not very flexible, with smooth and prominent apex; primary branches with a basal portion cylindrical and swollen in smooth and thin topuhle, and with a flattened distal portion, 4-6 mm wide, long, with ramification subdichotomic to alternate within in a plan , with a clear midrib, and a whole margin; cryptostomata scattered; aerocysts absent, no clear receptacles; conceptacles slightly prominent, grouped in the terminal portions of the flattened branches (cf. Pl. 15 in Valiante, 1883; Pl. 16 & Fig. 17 in Ercegovic, 1952)

Distribution (current and historical):

Endemic species of the Mediterranean Sea; Southwestern Italy, Sicily, Adriatic Sea, Greece, Tunisia, Syria (Sauvageau, 1912; Ribera *et al.*, 1992; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Deep rocks and deep detritic assemblages from (25-) 40 à100 (-170 m) depth

Threats

Existing and potential threats:

Land reclamations; pollution, turbidity; covering; hyper-sedimentation coming from watersheds; trawling; competition with non-native species (e.g.: *Acrothamnion preissii*, *Caulerpa racemosa* v. *cylindracea*, *Womersleyella setacea*.)

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986

ERCEGOVIC A., 1952. *Fauna i Flora Jadrana. Jadranske cistozire. Njihova morfologija, ekologija i razvitak / Fauna et Flora Adriatica. Sur les cystoseira adriatiques. Leur morphologie, écologie et évolution*. Vol. II pp. 1-172 (Croatian), 173-210 (French), 211-212 (references), Map. Institut za Oceanografiju i Ribarstvo Split / Institut d'Océanographie et de Peche, Split.

FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

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RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

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VALIANTE R. 1883. Le Cystoserae del Golfo di Napoli. Fauna und Flora des Golfes von Neapel 7: 29 pp, 15 pls, Wilhem Engelmann, Liepzig.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned : <i>Cystoseira elegans</i> Sauvageau
	Amendment proposed : <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira elegans</i> Sauvageau Known Synonym(s) : Common name (English and French):	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.
Justification for the proposal : Endemic species of the Mediterranean Sea. Engineer species. Vulnerable species, populations very exposed to the man-made disturbances and to the overgrazing by sea urchins: well sunny superficial rocks, 0-3 m depth and littoral pools.	

Biological data

Brief description of the species:

Erect species, brown, iridescent, up to 30 cm high, getting a slightly spinose feeling; axis trunk-like, short, 1-3 cm (rarely up to 7-8 cm), generally simple, with spinose apex not prominent, and attached to the substratum by a small circular disc; primary branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); tophules very spinose, 6-10 mm X 3-5 mm, grouped along the axis; primary branches thin, long, up to 20 cm, cylindrical; naked at the base; higher order branches cylindrical and covered with spinose ramuli (leaves), widely inserted, palmate-dentate to narrow-bifid, 1-3 mm long; cryptostomata scattered along the branches and leaves; aerocysts absent; terminal receptacles long, 1-3 cm, simple or forked, cylindrical, tuberculate, with or without spines; conceptacles not very prominent, differentiated in the branch and in the base of the spines. (cf. Pl. IV in Hamel 1939; Fig. 36 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Endemic species of the Mediterranean Sea; France, Spain, Balearic Islands, Corsica, Sardinia, west and east Italy, Sicily, Greece, Turkey, Morocco, Tunisia (Sauvageau, 1912; Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

There is an important populations decline of this species in its distribution area (Thibaut *et al.*, 2005).

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

Well sunny superficial rocks, 0-3 m depth, and littoral pools.

Threats

Existing and potential threats:

Land reclamations; pollution ; turbidity ; covering ; hyper-sedimentation coming from watersheds ; overgrazing by sea urchins, competition with non-native species (e.g.: *Caulerpa racemosa* var. *cylindracea*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

- AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.
- FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D., 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.
- GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia.
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- HAMEL G., 1939. *Phéophycées de France. Fasc. V*. pp. i-xlvi + 337-432, figs 56-60, 10 plates. Paris
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- THIBAUT T., PINEDO S., TORRAS X., BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Albères coast (France, North-western Mediterranean). *Marine Pollution Bulletin* 50: 1472-1489.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira foeniculacea</i> (Linnaeus) Greville f. <i>foeniculacea</i> et f. <i>latiramosa</i> (Ercegovic) A. Gómez Garreta <i>et al.</i>; f. <i>tenuiramosa</i> (Ercegovic) A. Gómez Garreta <i>et al.</i>; f. <i>schiffneri</i> (Hamel) A. Gómez Garreta <i>et al.</i></p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira foeniculacea</i> (Linnaeus) Greville f. <i>foeniculacea</i> et f. <i>latiramosa</i> (Ercegovic) A. Gómez Garreta <i>et al.</i>; f. <i>tenuiramosa</i> (Ercegovic) A. Gómez Garreta <i>et al.</i>; f. <i>schiffneri</i> (Hamel) A. Gómez Garreta <i>et al.</i></p> <p>Known Synonym(s) : <i>Cystoseira discors</i> (Linnaeus) C. Agardh, <i>Cystoseira ercegovicii</i> Giaccone</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic Mediterranean species (except f. <i>foeniculacea</i> also present in the NE Atlantic).</p> <p>Engineer species.</p> <p>Vulnerable species; populations very exposed to the man-made disturbances and to the overgrazing by sea urchins: well sunny hard bottoms and rocks from 1 to 50 m depth; sheltered bays (f. <i>foeniculacea</i> & f. <i>tenuiramosa</i>), very sheltered bays and coastal lagoons of Sicily and Tunisia (f. <i>schiffneri</i>) and deep biotopes & deep coastal detritic assemblages (Détritique Côtier: f. <i>latiramosa</i>).</p>	

Biological data

Brief description of the species:

Erect species, light brown to brown-yellow, non-iridescent, 20-30 (- 40) cm high (up to 50 cm with f. *latiramosa*); several cylindrical axes, 10-15 cm high, 2-5 mm in diameter, muriculate to spinose, attached to the substratum by a wide irregular basal disc (*C. foeniculacea* s.l., except f. *schiffneri*), or individuals generally free on the substratum and covered by a continuous sheath of branched spines (f. *schiffneri*), apex not very prominent and spinose; tophules absent; branches cylindrical (f. *tenuiramosa*), cylindrical to flattened with toothed margins (f. *foeniculacea*) or entirely flattened, 4 to 6 mm wide, with toothed margins and midrib (f. *latiramosa*); primary branches either cylindrical with secondary branches arranged within several planes, or compressed-flattened with secondary branches distichous within a plan; higher order branches distichous within a plan; ultimate branches filiform and divaricate; spinose ramuli (leaves) absent; many, cryptostomata numerous highly visible in the lower parts of the plant; aerocysts absent or present, oblong, 3-4 X 1-1.5 mm, isolated or in chains, and generally associated with the receptacles; receptacles terminal, compact, 1-6 (- 8) mm long and 0.5-1.5 (- 2) mm in diameter, lanceolate to fusiform, simple or branched (cf. Pl. 9 in Hamel, 1939; Pls 25-28 in Ercegovic, 1952; Figs 37-39 in Gómez Garreta *et al.*, 2000)

Distribution (current and historical):

Cystoseira foeniculacea f. *foeniculacea* reported throughout the Mediterranean Sea with the exception of Egypt (taxon also present in the NE Atlantic); f. *latiramosa* and f. *tenuissima* endemic of the Mediterranean Sea: Balearic Islands, Corsica, Sardinia, western Italy, Sicily, the Adriatic Sea and Greece; f. *schiffneri* endemic of the Mediterranean Sea: Sicily, Tunisia (Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Important decline of populations of this species in its distribution area (Thibaut *et al.* 2005).

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

Well sunny hard bottoms and rocks from 1 to 50 m depth; sheltered bays (f. *foeniculacea* & f. *tenuiramosa*), very sheltered bays and coastal lagoons of Sicily and Tunisia (f. *schiffneri*); deep rocks and deep coastal detritic assemblages (Détritique Côtier: f. *latiramosa*).

Threats

Existing and potential threats:

Overgrazing by sea urchins, destructions and damages of the environment, land reclamations, pollution, turbidity ; covering ; hyper-sedimentation coming from watersheds, competition with non-native species (e.g.: *Caulerpa racemosa* v. *cylindracea*, *Lophocladia lallemandii*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

- AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986
- ERCEGOVIC, A. 1952. *Fauna i Flora Jadrana. Jadranske cistozire. Njihova morfologija, ekologija i razvitak / Fauna et Flora Adriatica. Sur les cystoseira adriatiques. Leur morphologie, écologie et évolution*. Vol. II pp. 1-172 (Croatian), 173-210 (French), 211-212 (references), Map. Institut za Oceanografiju i Ribarstvo Split / Institut d'Océanographie et de Pêche, Split.
- FURNARI, G., GIACCONE, G., CORMACI, M., ALONGI, G. & SERIO, D. 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.
- GÓMEZ GARRETA, A., BARCELÓ MARTÍ, M.C., GALLARDO GARCÍA, T., PÉREZ-RUZAFÁ, I.M., RIBERA SIGUÁN, M.A. & RULL LLUCH, J. 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia.
- GUIRY, M.D. & GUIRY, G.M. 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.
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- SAUVAGEAU M.C., 1912. A propos des *Cystoseira* de Banyuls et de Guéthary - *Bulletin de la Station Biologique d'Arcachon, Bordeaux*, 14: 133-556.
- THIBAUT T., PINEDO S., TORRAS X. & BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Albères coast (France, North-western Mediterranean). *Marine Pollution Bulletin* 50: 1472-1489.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned : <i>Cystoseira funkii</i> Schiffner ex Gerloff et Nizamuddin
	Amendment proposed : <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira funkii</i> Schiffner ex Gerloff et Nizamuddin Known Synonym(s) : Common name (English and French):	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.
Justification for the proposal : Endemic Mediterranean species. Engineer species. Vulnerable species. Well sunny rocks, 10-40 m depth.	

Biological data

Brief description of the species:

Erect species, light brown; beautiful iridescence blue-green, up to 40 cm high, axis trunk-like, short, up to 8-10 cm long, abundantly and radially branched close to the base; attachment to the substratum by a wide base, deeply digitate in branched haptera; primary branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); tophules large, verrucose spinose, up to 15 mm X 5 mm, spaced and divaricated along the axis; primary branches thin, long, up to 30 cm, cylindrical, with wide spinose ramuli (leaves), digitate and loosely disposed on the lower part; higher order branches cylindrical and covered with spinose ramuli simple and abundant (leaves); aerocysts absent; receptacles terminal, branched, 0.5-2.5 (- 3) cm, cylindrical with spaced spines; conceptacles prominent, differentiated in the branch and in the base of the spines. (cf. Figs 11-18 in Verlaque *et al.*, 1999; Fig. 42 in Gómez Garreta *et al.*, 2000, sous le nom de *C. jabukae*).

Distribution (current and historical):

Endemic species of the Mediterranean Sea; Balearic Islands, France (Port-Cross), Corsica, Sardinia, South Italy, Sicily and close archipelagoes, Turkey (to be confirmed) (Gerloff & Nizamuddin, 1976; Gomez-Garreta & Ballesteros, 1992, under the name of *C. jabukae*; Gómez Garreta *et al.*, 2000, under the name of *C. jabukae*; Verlaque *et al.*, 1999; Hereu *et al.*, 2008; Taskin *et al.*, 2008; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

Well sunny rocks, 10-40 m depth.

Threats

Existing and potential threats:

Land reclamations ; pollution ; turbidity ; covering ; hyper-sedimentation coming from watersheds ; trawling and fishing nets, competition with non-native species e.g.: *Acrothamnion preissii*, *Caulerpa racemosa* v. *cylindracea*, *Womersleyella setacea*.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

- AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.
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- GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia, Murcia.
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- TASKIN E., ÖZTÜRK M., KURT O., ÖZTÜRK M., 2008. *The check-list of the marine algae of Turkey*. pp. [i-ii]-[1]-87. Manisa, Turkey: Ecem Kirtasiye.
- VERLAQUE M., BALLESTEROS E., SALA E., GARRABOU J., 1999. *Cystoseira jabukae* (Cystoseiraceae, Fucophyceae) from Corsica (Mediterranean) with notes on the previously misunderstood species *C. funkii*. *Phycologia* 38: 77-86.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Cystoseira humilis</i> Schousboe ex Kützing var. <i>humilis</i> et <i>Cystoseira humilis</i> var. <i>myriophylloides</i> (Sauvageau) J.H. Price & D.M. John</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira humilis</i> Schousboe ex Kützing var. <i>humilis</i> et <i>Cystoseira humilis</i> var. <i>myriophylloides</i> (Sauvageau) J.H. Price & D.M. John</p> <p>Known Synonym(s) :</p> <p><i>Cystoseira canariensis</i> Sauvageau</p> <p><i>Cystoseira myriophylloides</i> Sauvageau</p> <p><i>Cystoseira pumila</i> Kützing</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Habitat edifying species (engineer species)</p> <p>North-eastern Atlantic species rare in the Mediterranean Sea; presence in the zones under Atlantic influence.</p> <p>Very vulnerable species; populations very exposed to the man-made disturbances and to the overgrazing by sea urchins: well sunny and moderately exposed pools and shallow rocks, 0-1m depth.</p>	

Biological data

Brief description of the species:

Erect species, olive-brown, non-iridescent, up to 20 cm high in var. *humilis*, and up to 150 cm high in var. *myriophylloides*; several axes, cylindrical, attached to the substratum by a compact basal disc; axes very short in var. *humilis* to 5-10 cm long in var. *myriophylloides*, rugose, with apex smooth and few prominent; all branches cylindrical; primary branches smooth, flexuous, with pyramidal outline; tophules absent; secondary branches deciduous, smooth, radially arranged and profusely branched; bases persistent in the lower third of the old primary branches; spinose branchlets (leaves) absent; cryptostomata not prominent, aerocysts absent (var. *humilis*) or present (var. *myriophylloides*), oblong, 2-5 mm X 1-1.5 mm; receptacles terminal, small, 2-3 mm X 0.5-1 mm, simple or branched, fusiform, tuberculate (cf. Fig. 41 in Gómez Garreta et al. 2000)

Distribution (current and historical)

Species NE Atlantic (Great Britain to Mauritania) ; Mediterranean Sea: Espagne, Baléares, Sardaigne, ouest Italie (Toscana), Sicile, Malte, est Italie (Puglia), Maroc, Tunisie, Grèce, Turquie (Tsekos & Haritonidis 1977; Ribera et al. 1992; Cormaci et al. 1997; Gómez Garreta et al. 2000; Furnari et al. 2003; Báez et al. 2005; Taskin et al. 2008; Guiry et Guiry 2009).

Distribution requiring a revision because the confusion with the endemic Mediterranean taxon *Cystoseira compressa* var. *pustulata* Ercegovic that differs by its numerous prominent cryptostomata and the basis of primary branches compressed.

Presence probably restricted to zones under Atlantic influence: Sea of Alboran, Sicily, North Africa.

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Well sunny and moderately exposed pools and shallow rocks, 0-1m depth.

Threats

Existing and potential threats:

Coastal land reclamations; pollution ; turbidity ; covering ; hyper-sedimentation coming from watersheds ; overgrazing by sea urchins, competition with non-native species (e.g.: *Caulerpa racemosa* var. *cylindracea*, *Lophocladia lallemandii*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.

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CORMACI, M., LANFRANCO, E., BORG, J.A., BUTTGIEG, J.A., FURNARI, G., MICALLEF, S.A., MIFSUD, C., PIZZUTO, F., SCAMMACCA, B. & SERIO, D. 1997. Contributions to the knowledge of benthic marine algae on rocky substrata of the Maltese Islands (Mediterranean Sea). *Botanica Marina* 40: 203-215.

FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D., 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAF A I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia.

GUIRY M.D. GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

TASKIN E., ÖZTÜRK M., KURT O., ÖZTÜRK M., 2008. *The check-list of the marine algae of Turkey*. pp. [i-ii]-[1]-87. Manisa, Turkey: Ecem Kirtasiye.

TSEKOS, I. & HARITONIDIS, S. 1977. A survey of the marine algae of the Ionian Islands, Greece. *Botanica Marina* 20: 47-65.

**Form for proposing amendments to Annex II and Annex III to the
Protocol concerning Specially Protected Areas and Biological
Diversity in the Mediterranean.**

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira hyblaea</i> Giaccone</p>
	<p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira hyblaea</i> Giaccone</p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic species of Sicily, only one known locality (Cava d'Aliga-Ragusa);</p> <p>Engineer species.</p> <p>Very vulnerable species; populations very exposed to the man-made disturbances: well sunny rocks, 1-3 m depth</p>	

Biological data

Brief description of the species:

Species very close to *C. amentacea* but without spinose rigid ramuli (leaves); erect species, brown, non-iridescent; several erected axes, cylindrical, slightly rough, 2 to 10 cm high and 2-4 mm in diameter, with prominent apex covered with simple or divided spines, especially in the sub-apical part; primary branches cylindrical, 8-10 cm long, with rough and spinose base; tophules absent; fertile branches in spring giving to the plant a cupressoid aspect (like a cypress); primary branches bare, thin and naked in summer; highest order branches cylindrical, flexible; rigid spinose ramuli (leaves) absent; cryptostomata present; aerocysts absent; conceptacles differentiated first at the base of the spines and then grouped into thickset terminal ears, cylindrical-conical, verrucose, with round apex and deciduous spines (cf. Figs 1 & 2 in Giaccone, 1985).

Distribution (current and historical):

Endemic species of Sicily, only one known locality to date (Cava d'Aliga-Ragusa) (Giaccone, 1985, Ribera *et al.*, 1992).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Well sunny hard bottoms and rocks, 1-3 m depth.

Threats

Existing and potential threats:

Land reclamations, destructions and damages of the environment, pollution, turbidity; covering; hyper-sedimentation coming from watersheds, overgrazing by sea urchins, competition with non-native species (e.g. *Caulerpa racemosa* var *cylindracea*)

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali Catania* 18: 887-986

GIACCONE G., 1985. Una nuova specie mediterranea del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales): *Cystoseira hyblaea* G. Giaccone, con osservazioni critiche su alcune entità tassonomiche poco note o imperfettamente descritte. *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 429-442.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira jabukae</i> Ercegovic</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira jabukae</i> Ercegovic</p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic Mediterranean species.</p> <p>Engineer species.</p> <p>Vulnerable species; littoral pools, 0.5-1 m depth, and well sunny rocks, 10-35 (-55) m depth.</p>	

Biological data

Brief description of the species:

Erect species, light brown-olive with a light iridescence, 15-40 (- 75) cm high, axis trunk-like, long and spindly, up to 16 (- 40) cm long and 0.2-0.5 (- 1) cm in diameter, generally simple or with a lateral secondary axis, and with spinose apex bearing a crown of young tophules; attachment to the substratum by a discoidal base, up to 2.5 cm in diameter; primary branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); tophules small, verrucose to smooth tuberculate, 5 (- 10) mm X 3-5 mm, arranged radially along and against the axis; primary branches thin, long, 11-30 cm X 0.5-1 mm in diameter, cylindrical; secondary branches, up to 10.5 cm X 0.3-0.5 mm; highest order ramuli very thin, 0.2 mm in diameter; all branches smooth or with some rare spinose ramuli (leaves) small and simple; aerocyst absent; terminal receptacles cylindrical, long and spindly, up to 75 mm X 0.3-0.5 mm, branched in a loose way, smooth or with very rare spiniform ramuli; conceptacles differentiated in the branch (cf. Pl. 14 & Fig. 16 in Ercegovic 1952; Figs 1-10 in Verlaque *et al.*; 1999).

Distribution (current and historical)

Endemic species of the Mediterranean Sea; very localized populations; France (Porquerolles, Port-Cros), Corsica (Reserve of Scandola), Sardinia, the Adriatic (Ercegovic, 1952; Verlaque *et al.*, 1999; Guiry & Guiry, 2009; E. Ballesteros et M. Verlaque unpublished data).

Many reports of this species are erroneous because they concern *Cystoseira funkii* (Gomez-Garreta & Ballesteros, 1992; Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Littoral pools, 0.5-1 m depth, and well sunny rocks, 10-35 (-55) m depth.

Threats

Existing and potential threats:

Land reclamations; pollution, turbidity; covering; hyper-sedimentation coming from watersheds; trawling and fishing nets, competition with non-native species e.g.: *Acrothamnion preissii*, *Caulerpa racemosa* v. *cylindracea*, *Womersleyella setacea*.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A.M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.

ERCEGOVIC A., 1952. *Fauna i Flora Jadrana. Jadranske cistozire. Njihova morfologija, ekologija i razvitak / Fauna et Flora Adriatica. Sur les cystoseira adriatiques. Leur morphologie, écologie et évolution.* Vol. II pp. 1-172 (Croatian), 173-210 (French), 211-212 (references), Map. Institut za Oceanografiju i Ribarstvo Split / Institut d'Océanographie et de Peche, Split.

FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D., 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

GUIRY M.D, GUIRY G.M. 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

VERLAQUE M. 1988. Végétation marine de la Corse (Méditerranée). VII. Documents pour la flore des algues. *Botanica Marina* 31: 187-194.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by E. Ballesteros & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira nodicaulis</i> (Withering) M. Roberts</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira nodicaulis</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Very rare species in the Mediterranean where it is confined at the zones under Atlantic influence (Spain, Tunisia) (Ribera <i>et al.</i> 1992).</p> <p>It forms very dense forests, between 0 and 15 m depth, in zones with very renewed water; forests which provide shelter for a rich associated macroflora and macrofauna.</p> <p>Many of these forests, in particular those of the Alboran sea, are in regression because of an overgrazing by very dense populations of sea urchins.</p>	

Biological data

Brief description :

Erect species, brown, up to 50 cm height; cylindrical axis simple or branched, attached to the substratum by a basal disc; branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); ovoid tophules, 8-15 mm X 3-7 mm, smooth or covered with small tubers; cylindrical branches several times branched, with spiniform ramuli never very dense ; receptacles developed in the apical part of the branches; receptacles of variable shape, from simple and short (a few mm long) to branched and long (up to 4-5 cm), with or without some spaced spines - (cf. Figs in Roberts 1977; Fig. 45 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical) :

Species distributed in the NE Atlantic, from British Isles to Senegal (Guiry & Guiry 2009). Also present in the Macaronesia islands (Cape Verde, Canary Islands, Madeira) (Price *et al.*, 1978; John *et al.*, 2004). In the Mediterranean, it was only reported in Tunisia and in the south of Spain (Ribera *et al.*, 1992; Flores-Moya *et al.*, 1995; Gómez-Garreta *et al.*, 2000).

Population estimate and trends:

Very rare and limited populations - tendencies: in regression, eliminated by very dense populations of sea urchins.

Habitat(s) :

Sunny rocky bottoms, between 2 and 15 m.

Threats

Existing and potential threats:

Habitat damage (silting up, pollution), pulling up by nets, overgrazing by sea urchins

Exploitation: Not

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects, limitation of sea urchin populations).

Bibliographical references

FLORES-MOYA A., SOTO J., SÁNCHEZ A., ALTAMIRANO M., REYES G., CONDE F., 1995. Check-list of Andalusia (S. Spain) seaweeds. I. Phaeophyceae. *Acta Botanica Malacitana* 20: 5-18.

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica Vol.1. Fucales*. pp. 192.: Universidad de Murcia, Murcia.

GUIRY M.D., GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 13 March 2009.

JOHN D.M., PRUD'HOMME VAN REINE W.F., LAWSON G.W., KOSTERMANS T.B., PRICE J.H. 2004. A taxonomic and geographical catalogue of the seaweeds of the western coast of Africa and adjacent islands. *Beihefte zur Nova Hedwigia* 127: 1-339

PRICE J., JOHN D.M., LAWSON G.W., 1978. Seaweeds of the western coast of tropical Africa and adjacent islands: a critical assessment. II. Phaeophyta. *Bulletin British Museum Natural History (Botany)* 6: 87-182.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

ROBERTS M., 1977. Studies on marine algae of the British Isles. 9. *Cystoseria nodicaulis* (Withering) M. Roberts. *British Phycological Journal* 12: 175-199.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira pelagosae</i> Ercegovic</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira pelagosae</i> Ercegovic Known Synonym(s) : Common name (English and French):</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Rare endemic species of the Mediterranean Sea</p> <p>Engineer species</p> <p>Vulnerable species; populations very sensitive to the man-made disturbances: well sunny rocks of sheltered mode and in very clear water, 20-40 m depth.</p>	

Biological data

Brief description of the species:

Erect species, pale yellow, non-iridescent, up to 30 cm high; several axes simple, long, up to 16 cm X 2-5 mm, club-like shape covered with small spines, and fixed to the substratum by a digitate disc; apex of the axes prominent, round truncated, and densely spinose; primary branches spaced, 16-20 cm long, cylindrical and covered, as the axes, with small spines in their lower third; tophules absent but bases, 1-1.5 cm long, persistent after the fall of the primary branches; secondary branches radially arranged, 3-4 cm long, rapidly compressed to flattened, with a few marked midrib, and with an irregular branching within a plan; spiniform ramuli triangular with a wide base; cryptostomata scattered, aerocysts absent; receptacles terminal, small, compact, tuberculate and spinose, a few mm to 1 cm long; conceptacles prominent in the base of the spines and in the branch (cf. Pl. 19 in Ercegovic, 1952).

Distribution (current and historical) :

Rare endemic species of the Mediterranean Sea. Species reported in the Adriatic Sea (Croatia), Italy (Calabria), Sicily, Corsica (to be confirmed) and Sardinia (Ercegovic, 1952; Verlaque, 1988; Ribera *et al.*, 1992; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of available surfaces at the regional level

Habitat(s) :

Well sunny rocks of sheltered mode and in very clear water, 20-40 m depth.

Threats

Existing and potential threats:

Land reclamations; pollution, turbidity; covering; hyper-sedimentation coming from watersheds; trawling and fishing nets, competition with non-native species e.g.: *Acrothamnion preissii*, *Caulerpa racemosa* v. *cylindracea*, *Womersleyella setacea*.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

- AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A.M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.
- ERCEGOVIC A., 1952. *Fauna i Flora Jadrana. Jadranske cistozire. Njihova morfologija, ekologija i razvitak / Fauna et Flora Adriatica. Sur les cystoseira adriatiques. Leur morphologie, écologie et évolution*. Vol. II pp. 1-172 (Croatian), 173-210 (French), 211-212 (references), Map. Institut za Oceanografiju i Ribarstvo Split / Institut d'Océanographie et de Peche, Split.
- FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D., 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.
- GUIRY M.D, GUIRY G.M. 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.
- RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.
- VERLAQUE M. 1988. Végétation marine de la Corse (Méditerranée). VII. Documents pour la flore des algues. *Botanica Marina* 31: 187-194.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira rayssiae</i> E. Ramon</p>
	<p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira rayssiae</i> E. Ramon Known Synonym(s) : Common name (English and French):</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal : Rare endemic species of the Eastern Mediterranean Sea (Israel). Engineer species. Very vulnerable species; well sunny rocks, 0-2 m depth.</p>	

Biological data

Brief description of the species:

Erect species, brown-olive to brown dark, non-iridescent, up to 30 cm high; axis trunk-like, very short, a few mm to 2-3 cm long, simple or branched, attached to the substratum by a discoidal to conical basal disc, 0.5 to 1.5 cm in diameter; short secondary axes, 0.5-1 cm long; apex of the axes smooth and not prominent; primary branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); tophules oblong club-shaped, smooth, rarely tuberculate or with some warts, 3-8 mm X 3 (- 4) mm, divaricated and tightened along and to the apex of primary and secondary axes; primary branches thin, long, up to 30 cm; young branches thin, 0.75 to 0.25 mm in diameter; fertile old branches robust, 1.5-2 mm in diameter; very few secondary branches, spaced, up to 8 cm long and 0.35-0.75 mm in diameter, with sub-alternate ramification; young branches more or less flattened, translucent, with a midrib and cryptostomata small and dispersed; old branches thicker and elliptic in section without apparent midrib; spiniform ramuli simple (leaves) absent or very rare; aerocysts absent; receptacles terminal, long, robust compared with the branch, compact, cylindrical and branched, up to 6 cm long and 2-3 mm in diameter, with simple spines, short and spaced; conceptacles grouped, small, not very prominent, differentiated in the branch (cf. Figs 1-5 in Ramon, 2000).

Distribution (current and historical):

Rare endemic species of the Eastern Mediterranean Sea known to date only of Israel (Ramon, 2000; Guiry & Guiry, 2009).

Population estimate and trends:

Reduction in the number and the size of the individuals since 30-40 years (Ramon, 2000)

No evaluation of available surfaces at the regional level.

Habitat(s) :

Well sunny rocks, 0-2 m depth.

Threats

Existing and potential threats:

Land reclamations; pollution (urban and industrial outlets, oil pollution, detergents), discharges of desalination plants, turbidity; covering; hyper-sedimentation coming from watersheds; competition with non-native species (Lessepsian species).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Bibliographical references

GUIRY M.D., GUIRY G.M. 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

RAMON E., 2000. *Cystoseira rayssiae*: a new *Cystoseira* (Cystoseiraceae, Fucophyceae) from the shores of Israel, Eastern Mediterranean Sea. *Israel Journal of Plant Sciences* 48: 59-65.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira sauvageauana</i> Hamel var. <i>sauvageauana</i> & var. <i>polyoedematis</i> Sauvageau</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira sauvageauana</i> Hamel var. <i>sauvageauana</i> & var. <i>polyoedematis</i> Sauvageau</p> <p>Known Synonym(s) : <i>Cystoseira selaginoides</i> sensu Valiante</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic species of the Mediterranean Sea.</p> <p>Engineer species.</p> <p>Very vulnerable species; populations very exposed to the man-made disturbances and to the overgrazing by sea urchins: littoral pools 0-1 m depth, and well sunny superficial rocks of sheltered mode (sheltered bays), 0-2 (- 10) m depth.</p>	

Biological data

Brief description of the species:

Erect species, brown, slightly iridescent, up to 50 cm high; axis trunk-like, long, up to 25 cm X 3-8 mm, simple or branched, with spinose apex clearly prominent, and fixed to the substratum by a not very thick circular small disc; primary branches spaced out, long, up to 20 cm, thin compared to the axis, cylindrical or slightly swollen at the base, with spiniform ramuli (leaves) wide, multifid-divaricate, and very spaced; tophules absent; higher order branches cylindrical with spiniform ramuli (leaves) spaced; cryptostomata scattered on the branches and on the leaves; aerocysts absent; terminal receptacles long, up to 3 cm, cylindrical, up to 2 mm in diameter, simple or branched, tuberculate, with or without spines; conceptacles differentiated in the branch and in the base of the spines. The variety *polyoedematis* is characterized by the very important and irregular swelling of its axis and of the lower part of its primary branches (cf. Pls X & XI in Valiante 1883, under the name of *C. selaginoides*; Fig. 46 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Endemic species of the Mediterranean Sea. The only report in the North Atlantic (Cap Verde) is probably erroneous. Species reported in the whole Mediterranean Sea but very rare in the Adriatic Sea and the Eastern Mediterranean Sea (absent in the Middle-East, Egypt and Libya) (Sauvageau, 1912; Hamel, 1939; Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Several documented studies report an important population decline of this species in its distribution area (Thibaut *et al.*, 2005 et Verlaque unpublished observations).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Littoral pools, 0-1 m depth, and well sunny superficial rocks of sheltered mode (sheltered bays), 0-2 (-10) m depth.

Threats

Existing and potential threats:

Land reclamations; pollution ; turbidity ; covering ; hyper-sedimentation coming from watersheds ; overgrazing by sea urchins, competition with non-native species (e.g.: *Caulerpa racemosa* var. *cylindracea*, *Lophocladia lallemandii*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.

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GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. pp. 192.: Universidad de Murcia.

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SAUVAGEAU M.C., 1912. A propos des *Cystoseira* de Banyuls et de Guéthary. *Bulletin de la Station Biologique d'Arcachon, Bordeaux*. 424 pp.

THIBAUT T., PINEDO S., TORRAS X. & BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Albères coast (France, North-western Mediterranean). *Marine Pollution Bulletin* 50: 1472-1489.

VALIANTE R., 1883. Le Cystoserae del Golfo di Napoli. Fauna und Flora des Golfes von Neapel, 7: 1-29, 15 pls, Wilhem Engelmann, Leipzig.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira squarrosa</i> De Notaris</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira squarrosa</i> De Notaris</p> <p>Known Synonym(s) : <i>Cystoseira spinosa</i> var. <i>squarrosa</i> (De Notaris) Giaccone</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic Mediterranean species.</p> <p>Engineer species.</p> <p>Very rare species and very vulnerable, populations very exposed to the man-made disturbances and to the overgrazing by sea urchins : Sunny superficial rocks 1-3 (-8) m depth.</p>	

Biological data

Brief description of the species:

Erect species, yellow to olive green; thickset, spinose, rigid and bushy, 6-20 cm high; cactiform; axis trunk-like, short, 4-5 cm long, with 1-2 (- 4) secondary axes inserted perpendicularly just above the base; apices smooth and slightly prominent; base discoidal, robust, 2 cm in diameter; primary branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); tophules verrucose, 5-8 mm long, grouped in crown on the distal part of the axes; primary branches, 1-2 (- 3) per tophule, 7-12 (- 15) cm long, flattened, 2 mm wide, with a midrib on the young individuals and entirely cylindrical on the old individuals; secondary branches, cylindrical, 8-10 cm long; tertiary branches generally absent; branches covered with abundant spinose ramuli (leaves) almost imbricate in the terminal parts; spinose ramuli triangular, 4-5 mm long, with wide base and bifid, trifid to multifid apex; aerocysts absent; terminal receptacles not very compact, 2-3 (- 4) cm long, cylindrical, branched and covered with spinose ramuli, thickset, loosely imbricate, with bifid, trifid to multifid apex; conceptacles grouped in the wide base of the spinose ramuli cf. Pl. 7 & Fig. 11 in Ercegovic, 1952; Figs 2-14 in Alongi *et al.*, 2002; Fig. 1 in Thibaut & Ballesteros, 2005).

Distribution (current and historical):

Endemic species of the Mediterranean Sea; small very localized populations: Spain (Catalonia), France (Nice, extinct), Sardinia, north Italy (Genes, extinct), south Italy (Salerno), Sicily, the south Adriatic (Apulie, Italy), the east Adriatique (Croatia), Greece (to be confirmed), Turkey (to be confirmed) (Sauvageau, 1912; Hamel, 1939; Ercegovic, 1952; Ribera *et al.*, 1992; Alongi *et al.*, 2002; Furnari *et al.*, 2003; Thibaut & Ballesteros, 2005; Taskin *et al.*, 2008; Guiry & Guiry, 2009). Other reports are erroneous (Alongi *et al.* 2002).

Several documented studies indicate an important decline of populations of this species in its distribution area (Alongi *et al.*, 2002; Thibaut & Ballesteros, 2005).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Sunny superficial rocks 1-3 (-8) m depth.

Threats

Existing and potential threats:

Overgrazing by sea urchins, land reclamations, destructions and damages of the environment, pollution, turbidity; covering; hyper-sedimentation coming from watersheds, competition with non-native species (e.g. *Caulerpa racemosa* var *cylindracea*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Bibliographical references

ALONGI G., CATRA M., CORMACI M., FURNARI G., 2002. Observations on *Cystoseira squarrosa* De Notaris (Fucophyceae, Fucales), a rare and little known Mediterranean species, and its typification. *Botanica Marina* 45: 530-535.

CORMACI M., FURNARI G., GIACCONE G., SCAMMACCA B., SERIO D., 1992. Observations taxonomiques et biogéographiques sur quelques espèces du genre *Cystoseira* C. Agardh. *Bulletin de l'Institut Océanographique, Monaco* n° spécial 9: 21-36.

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FURNARI G., GIACCONE G., CORMACI M., ALONGI G., SERIO D., 2003. Biodiversità marina delle coste italiane: catalogo del macrofitobenthos. *Biologia Marina Mediterranea* 10(1): 1-482.

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SAUVAGEAU M. C., 1912. A propos des *Cystoseira* de Banyuls et de Guéthary - *Bulletin de la Station Biologique d'Arcachon, Bordeaux*, 14: 133-556.

TASKIN E., ÖZTÜRK M., KURT O., ÖZTÜRK M., 2008. *The check-list of the marine algae of Turkey.* pp. [i-ii]-[1]-87. Manisa, Turkey: Ecem Kirtasiye.

THIBAUT T., BALLESTEROS E., 2005. First report of *Cystoseira squarrosa* De Notaris (Fucophyceae, Fucales) from Spanish coastal waters. *Cryptogamie, Algologie* 26: 2303-207

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira susanensis</i> Nizamuddin</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira susanensis</i> Nizamuddin</p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic Mediterranean species.</p> <p>Engineer species.</p> <p>Rare species of Libya and the south of Sicily, very vulnerable.</p> <p>Populations very exposed to the man-made disturbances: sandy littoral pools and sunny superficial rocks of exposed mode, 0-1 m of depth.</p>	

Biological data

Brief description of the species:

Erect species, brown-blackish, non-iridescent, 25-35 cm high; primary axis trunk-like, short, 0.5-2 (rarely 6-8) cm X 4-5 mm, simple, attached to the substratum by a circular disc, 0.5-1.5 cm in diameter; secondary axes trunk-like abundant, up to 30 cm long, arranged radially very close to the base and giving the illusion of a caespitose alga (with several primary axes); tertiary axes trunk-like more or less unilaterally arranged on the long secondary axes; apices of the axes prominent and smooth; primary branches deciduous, thin, 10-15 cm long X 0.6-0.8 mm in diameter, with persistent broadened base and distichous branching; secondary branches, 0.4 mm in diameter, caducous with subdichotomous-alternate branching and persistent base in the lower third of the primary branches; spinose ramuli (leaves) absent; cryptostomata scattered on the branches; aerocysts absent; terminal receptacles small, 3-4 (- 8) mm long, pedicellate, fusiform-cylindrical, smooth, tuberculate and terminated in a mucron; conceptacles not very prominent (cf. Pls I & II in Nizamuddin, 1985; Figs 2-18 in Alongi *et al.*, 1999).

Distribution (current and historical)

Rare endemic species of the Mediterranean Sea: Libya (coast of Suse) and south-east of Sicily (Marzamemi) (Nizamuddin, 1985; Cormaci *et al.*, 1992; Ribera *et al.*, 1992; Alongi *et al.*, 1999, Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of surfaces available at the level of Libya and south of Sicily.

Habitat(s) :

Sandy littoral pools and sunny superficial rocks of exposed mode, 0-1 m of depth.

Threats

Existing and potential threats:

Land reclamations; pollution; turbidity; covering; hyper-sedimentation coming from watersheds; overgrazing by sea urchins, competition with non-native species (e.g. *Caulerpa racemosa* var *cylindracea*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Bibliographical references

ALONGI G., CATRA M., CORMACI M., 1999. Observations sur *Cystoseira susanensis* (Cystoseiraceae, Phaeophyta): une espèce méditerranéenne rare et peu connue. *Cryptogamie, Algologie* 20: 25-33.

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CORMACI M., FURNARI G., GIACCONE G., SCAMMACCA B., SERIO D., 1992. Observations taxonomiques et biogéographiques sur quelques espèces du genre *Cystoseira* C. Agardh. *Bulletin de l'Institut Océanographique, Monaco* n° spécial 9: 21-36.

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NIZAMUDDIN M., 1985. A new species of *Cystoseira* C. Agardh (Phaeophyta) from the Eastern part of Libya. *Nova Hedwigia* 42: 119-122.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira tamariscifolia</i> (Hudson) Papenfuss</p> <hr/> <p>Amendment proposed :</p> <p style="margin-left: 20px;"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III </p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Cystoseira tamariscifolia</i> (Hudson) Papenfuss Known Synonym(s) : <i>Cystoseira ericoides</i> (Linnaeus) C. Agardh Common name (English and French):</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Rare species in the Mediterranean Sea where it is confined to zones under Atlantic influence. Engineer species. Vulnerable species. Populations very exposed to the man-made disturbances: sunny superficial rocks of exposed mode, 0-0.5 m of depth.</p>	

Biological data

Brief description of the species:

Erect species, spinose and rough with the touch, brown with green-bluish iridescence, up to 100 cm height; long cylindrical axis, up to 30 (- 60) cm X 3-8 (- 10) mm, generally branched, rigid at the basis and attached to the substratum by a conical basal disc or radiating haptera; spinose apex not very prominent; tophules absent; primary branches cylindrical, up to 60 cm long, inserted all around the axis; branching within a plan; spiniform ramuli (leaves) abundant, deciduous, 1-5mm long, simple or double; secondary branches produced by the lengthening of one of the two appendices of the spiniform ramuli; cryptostomata abundant; aerocysts ovoid, up to 5 mm long X 3 mm, isolated or in chains of 2-3, often present in the highest order branches; receptacles terminally not very compact, often distal compared to aerocysts, 1-2 (- 4) cm long, simple or branched, cylindrical, tuberculate, with simple or double spines; conceptacles prominent, differentiated in the branch and in the base of spines (cf. Figs 1-4 in Roberts, 1970; Fig. 49 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

NE Atlantic, from The Netherlands to Cape Verde Islands; rare species in the Mediterranean Sea where it is confined to the zones under Atlantic influence: south of Spain to the province of Almeria, Morocco, Algeria, Tunisia, Sicily, Malta, south of Italy (Calabria), Turkey (to be confirmed) (Sauvageau, 1912; Hamel, 1939; Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Taskin *et al.*, 2008; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Superficial sunny rocks of exposed mode, 0-0.5 m of depth.

Threats

Existing and potential threats:

Land reclamations, destructions and damages of the environment, pollution (agricultural, industrial and urban discharges, detergents, oils...), discharges of desalination plants, turbidity; covering, hyper-sedimentation coming from watersheds.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Bibliographical references

- AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.
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- SAUVAGEAU M.C., 1912. A propos des *Cystoseira* de Banyuls et de Guéthary - *Bulletin de la Station Biologique d'Arcachon, Bordeaux*, 14: 133-556.
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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Giaccone & M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Cystoseira usneoides</i> (Linnaeus) M. Roberts</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Cystoseira usneoides</i> (Linnaeus) M. Roberts</p> <p>Known Synonym(s) : <i>Cystoseira concatenata sensu</i> C. Agardh</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Species of the Atlantic Ocean, rare in the Mediterranean Sea.</p> <p>Engineer species.</p> <p>Vulnerable species: sunny hard bottoms and rocks, 15-40 m depth.</p>	

Biological data

Brief description of the species:

Erect species, light brown to brown-yellow, pale green iridescence, up to 200 cm high; trunk-like cylindrical axis, up to 15 cm long, simple or branched, attached to the substratum by radiating haptera and with smooth apex not very prominent; branches bearing tophules (= basal swelling persisting on the axis after the seasonal fall of the branches); Tophules smooth, spaced, divaricated, oblong to elongated, 10-20 mm X 5-8 mm, long primary branches, often up to 1 m, cylindrical; secondary branches loosely arranged, distichous (inserted on 2 rows) and often opposite; lower secondary branches foliaceous, 3-4 cm X 2-4 mm, not toothed, with an inconspicuous midrib; next branches cylindrical without or with rare spinose ramuli (leaves), short, simple or double; highest order branches thin, loosely arranged, often inserted in pair, and bearing 4 to 8 small aerocysts, 2-3 mm X 1 mm, arranged in chains; cryptostomata scattered and little visible; terminal receptacles branched, cylindrical, thin, 3-20 mm X 1 mm, smooth-tuberculate, with or without spines; conceptacles spaced differentiated in the branch (cf. Fig. 50 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Species of the Atlantic Ocean, rare in the Western Mediterranean Sea: south of Spain, Corsica, Sicily (Messina), Malta, Algeria, Morocco (Sauvageau, 1912; Hamel, 1939; Roberts, 1978; Ribera *et al.*, 1992; Verlaque *et al.*, 1999; Gómez Garreta *et al.*, 2000; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Population estimate and trends:

No evaluation of available surfaces at the regional level.

Habitat(s) :

Sunny hard bottoms and rocks, 15-40 m depth.

Threats

Existing and potential threats:

Land reclamations; pollution; turbidity; covering; hyper-sedimentation coming from watersheds; trawling and fishing nets, competition with non-native species e.g.: *Acrothamnion preissii*, *Caulerpa racemosa* v. *cylindracea*, *Womersleyella setacea*.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Bibliographical references

- AMICO V., GIACCONE G., COLOMBO P., COLONNA P., MANNINO A. M., RANDAZZO R., 1985. Un nuovo approccio allo studio della sistematica del genere *Cystoseira* C. Agardh (Phaeophyta, Fucales). *Bollettino Accademia Gioenia Scienze Naturali, Catania* 18: 887-986.
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- VERLAQUE M., BALLESTEROS E., SALA E., GARRABOU J., 1999. *Cystoseira jabukae* (Cystoseiraceae, Fucophyceae) from Corsica (Mediterranean) with notes on the previously misunderstood species *C. funkii*. *Phycologia* 38: 77-86.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Fucus virsoides</i> J. Agardh</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE Order : FUCALES Family: FUCACEAE Genus and Species : <i>Fucus virsoides</i> Known Synonym(s) : Common name (English and French): Adriatic wrack (GB) Fucus d'Adriatique (FR)</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p><u>Listed in the red Book of PNUE (UNEP / IUCN / GIS Posidonie, 1990)</u></p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Strictly endemic species of the north of the Adriatic.</p> <p>Very localised distribution.</p> <p>Species of the mediolittoral very vulnerable to the disturbances (littoral installations, pollutions, oil slicks) and to the modifications of the communities (proliferations of species).</p>	

Biological data

Brief description:

Form similar to Wrack from the North Atlantic; Blackish brown alga, up to 10-15 cm height, with a flattened axis ramified several times in a sub-dichotome way, 5-10 mm width, with a very clear median vein, male and female reproductive organs grouped in hermaphrodite conceptacles located in apical receptacles of ovoid form (cf. Figures p.100 in Delépine *et al.*, 1987 et photos in Guiry & Guiry, 2009).

Distribution (current and historical):

Endemic species of the north of the Adriatic; Italy: Gulf and Lagoon of Venice, Gulf of Trieste (Miramare), Puglia*, Marche* (Ancona*); Slovenia: Gulf of Trieste; Croatia: Krk, Kvarner, Rovinj, island of Lokrum, and as the southernmost localities: Herceg Novi and Tivat (Šerman *et al.*, 1981; Ribera *et al.*, 1992; Furnari *et al.*, 1999, 2003; Rindi & Battelli, 2005; Guiry & Guiry, 2009).

* doubtful reports and presence (Furnari *et al.*, 2003).

Population estimate and trends:

Fluctuating populations - trends: unknown.

Habitat(s) :

Mediolittoral Rocks

Threats

Existing and potential threats:

Destruction of the habitat (destruction, embankments), environmental damage (urban and industrial pollutions, oil slicks), competition with the other mediolittoral organisms (proliferation of mussels), risk of overgrazing by the herbivores (limpets), global warming (species with cold affinities).

Exploitation : Not.

Proposed protection or regulation measures

Protection of the species.

Bibliographical references

- DELEPINE R., BOUDOURESQUE C.F., FRADA ORESTANO C., NOAILLES M.C., ASENSI A., 1987. Algues et autres végétaux marins. *In*: FISHER W., BAUCHOT M.L., SCHNEIDER M. (Eds). Fiches FAO identification des espèces pour les besoins de la pêche (Révision 1). Méditerranée et mer Noire. Zone de pêche 37. Vol. I. Végétaux et Invertébrés. FAO et CCE, Projet GCP/INT/422/EEC, 760 p. FAO, Rome.
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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : C. Rodríguez-Prieto et M. Verlaque</p> <p><i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Gymnogongrus crenulatus</i> (Turner) J. Agardh 1851</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : FLORIDEOPHYCEAE</p> <p>Order : GIGARTINALES</p> <p>Family: PHYLLOPHORACEAE</p> <p>Genus and Species : <i>Gymnogongrus crenulatus</i></p> <p>Known Synonym(s) : <i>Gymnogongrus norvegicus</i></p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Species rare growing on shallow waters of the coldest zones of the Mediterranean Sea.</p> <p>Species threatened by land reclamations, pollution and by the increase of water temperature (climatic changes, industrial outlets, desalination plants).</p>	

Biological data

Brief description of the species:

Species erect, dark red to brownish, cartilaginous to rigid, 7-10 cm high; axes compressed and up to 4 mm wide, except near the base where they are cylindrical; attached to the substratum by a discoid holdfast up to 1 cm in diameter; axes repeatedly dichotomous and complanately branched, with rounded apices and with smooth and undulated margins; in cross-section, medulla compact, composed of colourless and thick walled longitudinally elongated cells, and cortex composed of some layers of small pigmented rounded or ovoid cells.

Reproduction:

Male reproductive structures discrete arranged in small patches (sori); cystocarps absent; tetrasporangia cruciately divided, produced in chains directly from the female gametophyte (carpotetrasporangia) within small hemispherical excrescences (carpotetrasporoblasts), 1-2 mm in diameter, differentiated on the two faces of the axes (cf. Figs. 23-27 in Schotter, 1968).

Distribution (current and historical):

Atlantico-boreal species (Dixon & Irvine, 1977; Coppejans, 1995), rare in the Mediterranean Sea where it is confined in the zones under Atlantic influence and in the north of the Gulf of Lion: Spain (Malaga and Catalonia), France (Gulf of Lion, from Collioure to Port-Cros), Sicily (Palermo), Morocco, Algeria, Tunisia (Ballesteros i Sagarra & Romero Martinengo, 1982; PNUE/UICN/GIS Posidonie, 1990; Guiry & Guiry, 2009). The species was also reported in Greece and in Turkey (Gerloff & Geissler, 1974; Taskin *et al.*, 2008) but these reports would deserve to be confirmed.

Population estimate and trends:

Populations and trends unknown.

Habitat(s) :

Species characteristic of the biocenoses of exposed shaded rocks with mediterraneo-boreal affinities (cold affinities).

Very superficial rocks (a few tens of centimeters of depth), in beaten to very beaten mode, in shaded cavities, in particular, holes of the corbelling with *Lithophyllum byssoides*.

Threats

Existing and potential threats:

Land reclamations (urbanization, embankments), pollution, natural or artificial warmer waters (climatic change, industrial outlets, desalination plants), overgrazing by fish.

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned : <i>Kallymenia spathulata</i> (J. Agardh) Codomier ex P.G. Parkinson
	Amendment proposed : <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : FLORIDEOPHYCEAE Order : GIGARTINALES Family: KALLYMENIACEAE Genus and Species : <i>Kallymenia spathulata</i> (J. Agardh) Codomier ex P.G. Parkinson Known Synonym(s) : <i>Halarachnion spatulathum</i> (J. Agardh) Kützing Common name (English and French):	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> NONE IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.
Justification for the proposal : Species rare, endemic of the Mediterranean Sea, where it lives in detritic bottoms between 20 and 100 m depth; engineer species; abundant only in undisturbed areas with very clear water and slight sedimentation.	

Biological data

Brief description of the species:

Species erect, foliaceous, pink to red, membranous to cartilaginous, up to 10 (-20) cm high and 6.5 cm wide, attached to the substratum with a small discoid holdfast; blade simple or branched, with numerous spatulated proliferations 0.3-2.0 cm wide arising from the margins, themselves being able to be bordered in their turn with the same type of proliferations; medulla with filaments interspersed with a network of highly refractive light yellow stellate cells, bordered on each side by a cortex of some layers of cells decreasing in size outwards; outer cortical cells polyhedral in surface view in sterile specimens; inner cortical cells up to 25-30 μm in diameter (cf. Figs 13-16 in Ercegovic 1949, under the name of *Halarachnion spathulatum*; Figs 18-19 in Codomier, 1971).

Reproduction:

Male and female reproductive structures unknown. Tetrasporangia cruciately divided and scattered over the frond surface.

Distribution (current and historical):

Mediterranean endemism: Western Mediterranean Sea, Spain (Andalusia), Columbretes Islands, Balearic Islands, France (Banyuls; Marseilles: extinct; Port-Cros), Corsica, West of Italy (Tuscan archipelago), Sicily, Aeolian Islands, Italy (Calabria), Adriatic Sea, Italy (Gulf of Venice), Croatia (Ercegovic, 1949; Codomier, 1971; Ribera Siguán & Gómez Garreta, 1984; Condé *et al.*, 1996; Furnari *et al.*, 2003; Guiry & Guiry, 2009).

Population estimate and trends:

Very rare and localized populations - trends: in regression

Extremely rare in the area of Marseilles where it was very abundant before the years 1960s (Huvé & Passelaigue, 1970).

Habitat(s) :

Detritic bottoms between 20 and 100 m depth.

Threats

Existing and potential threats:

Habitat damage, increase in turbidity, silting, hyper-sedimentation, pollution, pulling up by nets and trawling (« ganguis », dredges, trawls), competition with non-native species (e.g.: *Caulerpa racemosa* var. *cylindracea*).

Exploitation: Not

Proposed protection or regulation measures

Bibliographical references

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Sargassum acinarium</i> (Linnaeus) Setchell</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Sargassum acinarium</i></p> <p>Known Synonym(s) : <i>Sargassum linifolium</i> C. Agardh</p> <p>Common name (English and French):</p> <p>Sargasse (FR)</p> <p>SARGASSO (GB)</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Species of undisturbed environment, with low capacity of reinstatement after destruction.</p> <p>Ecosystem engineer.</p> <p>Large arborescent brown alga, perennial forming deep algal “forests” in Mediterranean.</p> <p>The “forests” of sargassos are equivalent to the terrestrial primary forests. They shelter a strong biodiversity and play the part of spawning grounds and nurseries for many species, including species of commercial interest (many references in the world).</p>	

Biological data

Brief description:

Large arborescent species, up to 2 m height, made of a cylindrical axis bearing primary and secondary branches; leaves not very abundant, lance-shaped (lanceolate), long and narrow (5-6 cm X 1-2 mm); spherical aerocysts; reproductive organs composed of a branched sterile pedicel bearing several cylindrical, long and fine receptacles, up to 2 cm long (cf. Fig. 60-I, in Hamel, 1939).

Distribution (current and historical):

Perhaps endemic species (extra-Mediterranean reports are to be confirmed): France (Pyrénées-Orientales) (extinct, Thibaut *et al.*, 2005), Corsica; Spain (Balearic Islands) (no recent observation, Gómez Garreta *et al.*, 2000), Columbretes Islands; Italy: western coast, Sicily; the Adriatic Sea; Greece; Turkey; the Middle-East; Egypt; Tunisia; Libya; Algeria (Hamel, 1939; Ribera *et al.*, 1992; Guiry & Guiry, 2009).

Population estimate and trends:

Unknown populations - trends : in regression in the western Mediterranean basin.

Habitat(s) :

Sunny rocks, between 10-50 m

Threats

Existing and potential threats:

Habitat damage (increase in turbidity, silting, pollution), pulling up by nets, trawling (« ganguis », dredges, trawls) and destruction by overgrazing by sea urchins.

Exploitation: Not

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects, limitation of fishing, prohibition of trawling).

Bibliographical references

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. Universidad de Murcia, Murcia. 192 pp.

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RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

THIBAUT T., PINEDO S., TORRAS X., BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Alberes coast (France, North-western Mediterranean), *Marine Pollution Bulletin* 50: 1472-1489.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned : <i>Sargassum flavifolium</i> Kützing
	Amendment proposed : <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : PHAEOPHYCEAE Order : FUCALES Family: SARGASSACEAE Genus and Species : <i>Sargassum flavifolium</i> Known Synonym(s) : <i>Sargassum vulgare</i> var. <i>flavifolium</i> (Kützing) Grunow Common name (English and French): Sargasse (FR) SARGASSO (GB)	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> NONE IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.
Justification for the proposal : Species of undisturbed environment, with low capacity of reinstatement after destruction . Ecosystem engineer. Large arborescent brown alga, perennial forming shallow algal “forests” in Mediterranean. The “forests” of sargassos are equivalent to the terrestrial primary forests. They shelter a strong biodiversity and play the part of spawning grounds and nurseries for many species, including species of commercial interest (many references in the world).	

Biological data

Brief description of the species:

Large arborescent species, 20-50 cm high, made of a cylindrical axis, bearing primary and secondary branches, leaves lanceolate, 3-6 cm X 2-6 mm, aerocysts spherical, reproductive organs short, 3-8 mm long, short sterile pedicel bearing a cylindrical and branched receptacle (cf. Fig. 19 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Described species from the Antilles and from the Bay of Biscay (Biarritz); rare in the Mediterranean Sea. France: Corsica. Italy: Sicily. Greece. Tunisia (Hamel, 1939; Ribera *et al.*, 1992; Gómez Garreta *et al.*, 2000; Guiry & Guiry, 2009).

Population estimate and trends:

Unknown populations – trends: unknown

Habitat(s) :

Sunny rocks, close to the surface, 0-1 m, in the sheltered zones

Threats

Existing and potential threats:

Habitat damage (increase in turbidity, silting, pollution), pulling up by nets, trawling (« ganguis », dredges, trawls) and destruction by overgrazing by sea urchins.

Exploitation: Not

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects, limitation of fishing, prohibition of trawling).

Bibliographical references

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH, J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. Universidad de Murcia, Murcia. 192 pp.

GUIRY M.D., GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

HAMEL G., 1939. *Phéophycées de France. Fasc. V*. Wolf, Paris, i-xlvii + 337-432 pp.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Sargassum hornschuchii</i> C. Agardh</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Sargassum hornschuchii</i></p> <p>Known Synonym(s) : <i>Stichophora hornschuchii</i> (C. Agardh) Kützing</p> <p>Common name (English and French): Sargasse (FR) SARGASSO (GB)</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Species of undisturbed environment, with low capacity of reinstatement after destruction. Ecosystem engineer.</p> <p>Large arborescent brown alga, perennial forming deep algal “forests” in Mediterranean.</p> <p>The “forests” of sargassos are equivalent to the terrestrial primary forests. They shelter a strong biodiversity and play the part of spawning grounds and nurseries for many species, including species of commercial interest (many references in the world).</p>	

Biological data

Brief description of the species:

Large arborescent species, up to 120 cm high, made of a cylindrical axis, bearing primary and secondary branches with axis compressed at the base and cylindrical at the apex, leaves lanceolate, wide, reminding of the leaves of holly, 4-8 cm x 5-15 mm, aerocysts spherical to slightly flattened, reproductive organs composed of a branched sterile pedicel bearing several wide flat receptacles, often denticulate - (cf. Fig. 19 in Span, 2005).

Distribution (current and historical):

Probably endemic species (extra-Mediterranean indications are doubtful), described species from the Adriatic Sea. France: Pyrénées-Orientales (extinct, Thibaut *et al.*, 2005), Corsica. Spain: Balearic Islands (no recent observation, Gómez Garreta *et al.*, 2000). Italy: western coast, Sicily; The Adriatic Sea. Greece. Turkey. The Middle-East. Tunisia. Libya. Algeria. Morocco (Hamel, 1939; Ribera *et al.*, 1992; Guiry & Guiry, 2009).

Population estimate and trends:

Unknown populations – trends: in regression in the western Mediterranean basin

Habitat(s) :

Sunny rocks, between 15 and 60 m and more

Threats

Existing and potential threats:

Habitat damage (increase in turbidity, silting, pollution), pulling up by nets, trawling (« ganguis », dredges, trawls) and destruction by overgrazing by sea urchins.

Exploitation: Not

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects, limitation of fishing, prohibition of trawling).

Bibliographical references

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. Universidad de Murcia, Murcia, 192 pp.

GUIRY M.D., GUIRY G.M., 2009. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>; searched on 08 January 2009.

HAMEL G., 1939. *Phéophycées de France. Fasc. V*. Wolf, Paris, i-xlvii + 337-432 pp.

RIBERA M.A., GÓMEZ-GARRETA A., GALLARDO T., CORMACI M., FURNARI G., GIACCONE G., 1992. Check-list of Mediterranean Seaweeds. I. Fucophyceae (Warming 1884). *Botanica Marina* 35: 109-130.

ŠPAN A., 2005. The genus *Sargassum* in the Adriatic Sea: Morphology, systematics and ecology. *Acta Adriatica* 46, Suppl. 1: 9-80.

THIBAUT T., PINEDO S., TORRAS X., BALLESTEROS E., 2005. Long-term decline of the populations of Fucales (*Cystoseira* spp. and *Sargassum* spp.) in the Alberes coast (France, North-western Mediterranean). *Marine Pollution Bulletin* 50: 1472-1489.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : M. Verlaque <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Sargassum trichocarpum</i> J. Agardh</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : PHAEOPHYCEAE</p> <p>Order : FUCALES</p> <p>Family: SARGASSACEAE</p> <p>Genus and Species : <i>Sargassum trichocarpum</i></p> <p>Known Synonym(s) : <i>Sargassum boryanum</i> Montagne</p> <p>Common name (English and French): Sargasse (FR) SARGASSO (GB)</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>NONE</p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Species of undisturbed environment, with low capacity of reinstatement after destruction.</p> <p>Ecosystem engineer.</p> <p>Large arborescent brown alga, perennial forming shallow algal “forests” in Mediterranean.</p> <p>The “forests” of sargassos are equivalent to the terrestrial primary forests. They shelter a strong biodiversity and play the part of spawning grounds and nurseries for many species, including species of commercial interest (many references in the world).</p>	

Biological data

Brief description of the species:

Large arborescent species, up to 50 cm high, made of a cylindrical axis, bearing primary and secondary branches, leaves lanceolate, generally narrow, 3-5 cm x 2-4 (-10) mm, aerocysts spherical, reproductive organs long, 1-2 cm long, short sterile pedicel bearing a cylindrical and branched receptacle (cf. Fig. 21 in Gómez Garreta *et al.*, 2000).

Distribution (current and historical):

Described species from Cadiz; Endemic of the Mediterranean Sea; Spain. France (very rare). Italy: Sicily. Greece. The Middle-East. Libya. Tunisia. Algeria (Hamel, 1939; Ribera *et al.*, 1992; Gomez Garreta *et al.*, 2000; Guiry & Guiry, 2009).

Population estimate and trends:

Unknown populations - trends: unknown.

Habitat(s) :

Sunny rocks, up to 30 m depth.

Threats

Existing and potential threats:

Habitat damage (increase in turbidity, silting, pollution), pulling up by nets, trawling (« ganguis », dredges, trawls) and destruction by overgrazing by sea urchins.

Exploitation: Not

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects, limitation of fishing, prohibition of trawling).

Bibliographical references

GÓMEZ GARRETA A., BARCELÓ MARTÍ M.C., GALLARDO GARCÍA T., PÉREZ-RUZAFÁ I.M., RIBERA SIGUÁN M.A., RULL LLUCH J., 2000. *Flora Phycologica Iberica. Vol.1. Fucales*. Universidad de Murcia, Murcia. 192 pp.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : C. Rodríguez-Prieto & M. Verlaque</p> <p><i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Sphaerococcus rhizophylloides</i> J.J. Rodríguez 1895</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : FLORIDEOPHYCEAE</p> <p>Order : GIGARTINALES</p> <p>Family: SPHAEROCOCCACEAE</p> <p>Genus and Species : <i>Sphaerococcus rhizophylloides</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French):</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>IUCN Red List status of species</p> <p>IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic species (in the Atlantic Sea its presence is restricted to shoals located in front of Gibraltar); very reduced geographical distribution, limited to some circalittoral bottoms of the Western Mediterranean Sea.</p> <p>Species of undisturbed environments, with very clear water and with slight sedimentation, threatened by any local change of the circalittoral bottoms due to pollution, decreased water transparency, land reclamations, hyper-sedimentation and trawling.</p>	

Biological data

Brief description of the species:

Species flattened, pink to reddish, loosely complanately branched; 6-7 cm long and 2-5 mm wide, attached to the substratum by a small discoid holdfast; membranous to cartilaginous; shortly stipitate; stipe cylindrical, prolonged in the blades by a conspicuous midrib generating secondary midribs at regular intervals in a herringbone arrangement; branches identical to the main axis and narrowed at their base; margin of the blades undulated, entire or slightly dentate; in cross-section, blades thicker in the center than in the margin; axial filament very apparent and surrounded by a zone of rhizoids; each axial cell giving rise to 4 periaxial cells, 2 of them long (secondary midrib) and 2 short; medulla composed of rounded hyaline cells 60-70 μm in diameter; cortex compact, with cells decreasing in size outwardly.

Reproduction:

Cystocarps spherical, up to 0.6 mm in diameter, pedicelate, ostiolate, with a prominent beak, arranged at the margin of the blades; pedicel short, 0.2-1 mm; in cross-section, axial filament finished by a central fusion cell bearing sterile filaments branched and welded to the wall of the cystocarp and fertile filaments with a terminal carpospore (cf. Pl. 1 & Figs 1-2 in Huvé, 1970). Tetrasporangia unknown.

Distribution (current and historical):

Mediterranean endemic species described from the Balearic Islands (Minorca). Western Mediterranean Sea: Spain (Valencia), Balearic Islands, France (Port-Cros – Levant Island), Siculo-Tunisian Strait (Sentinel Bank) (Rodríguez y Femenías, 1895; Huvé, 1970; Ribera Siguán, 1983; Barceló i Martí, 1987; Ballesteros, 1992). The close Atlantic: Spartel Bank and Gorringe Bank (Huvé, 1970).

Population estimate and trends:

Populations and trends unknown.

Habitat(s) :

Circalittoral bottoms of coralligenous and of deep detritic assemblages: (20-) 35-130 m depth.

Threats

Existing and potential threats:

Habitat damage, increase in turbidity, silting, hyper-sedimentation, pollution, pulling up by nets and trawling (« ganguis », dredges, trawls) competition with the invasive introduced species (e.g. *Caulerpa racemosa* var. *cylindracea*).

Exploitation: Not

Proposed protection or regulation measures

Inscription on the list of the Annex II of the protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Bibliographical references

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HUVÉ P. 1970. *Sphaerococcus rhizophylloides* Rodríguez (Rhodophycée, Gigartinales) peu connue de la Méditerranée Occidentale. *Bulletin de la Société Phycologique de France* 15: 31- 36.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Bressan (Indicate here the Party(s) introducing the amendment proposal)</p>	<p>Species concerned : <i>Tenarea tortuosa</i> (Esper) Lemoine 1910</p> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy Class : FLORIDEOPHYCEAE Order : CORALLINALES Family: CORALLINACEAE Genus and Species : <i>Tenarea tortuosa</i> (Esper) Lemoine 1910: 368 Known Synonym(s) : <i>Lithophyllum tortuosum</i> (Esper) Foslie; <i>Tenarea undulosa</i> Bory de Saint-Vincent (erroneous denominations)</p> <p>To notice: The name "<i>Tenarea tortuosa</i>" was wrongly for <i>Lithophyllum byssoides</i> the species responsible for the Mediterranean corbellings, it results from it that many of its quotations in the literature are erroneous and concern <i>L. byssoides</i>.</p> <p>Common name (English and French): <i>Tenarea undulosa</i> : almost common name especially among the beginners because of the morphology of the lamellae (from <i>lat. unda</i> = vague and <i>- ulus</i> : diminutive meaning; <i>undula</i> = small wave).</p>	<p>Inclusion in other Conventions : (Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</p> <p>IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>
<p>Justification for the proposal :</p> <p>Endemic species of the Mediterranean Sea.</p> <p>Species of the superficial levels.</p> <p>Calcified species very vulnerable because very fragile and easily detachable.</p> <p>Elegant species, characterized by a slow development and a low capacity of reinstatement after destruction like the other threatened calcareous algae.</p>	

Biological data

Brief description of the species:

Calcified species formed by circumvented lamellae, very thin, 150 µm thick, erect, more or less anastomosed in hemispherical cushion, 10-24 cm in diameter with alveolate surface; pale pink color in the alive specimens; edge of the lamellae whitish always roughly folded and rolled, sometimes thickened but more fragile than the rest of the thallus; longitudinal section of the lamellae showing a symmetrical organization formed from two joined lines of large oblique cells; friable species adhering to the substratum by a few points and getting loose easily by hand (cf. Figs 1-5 in: Huvé, 1963; Figs A-D in Bressan & Babbini, 2003)

Distribution (current and historical):

The confusion between *Tenarea tortuosa* (sometimes referred to as *Tenarea undulosa*) and *Lithophyllum byssoides* (cited under the names of *Tenarea tortuosa*, *Lithophyllum tortuosum* and *Lithophyllum lichenoides*) led to the establishment of completely erroneous distributions.

In the current state of knowledge *T. tortuosa* is an endemic species which seems to be confined in the Eastern Mediterranean Sea and in Ionian Sea: Lebanon, Syria, Turkey, south of the Aegean Sea (Greece and its Islands), Crete, the Adriatic Sea (Huvé, 1957a & b, 1963; Athanasiadis, 1995; Bressan *et al.*, 2001; Babbini & Bressan, 1997; Bressan & Babbini, 2003; Furnari *et al.*, 1999, 2003). The report in France is erroneous.

Population estimate and trends:

Unknown populations – trends: risk of regression in relation to the rarity.

Habitat(s) :

Subtidale zone; vertical walls, relatively well-lit, preferentially in beaten mode, in particular at the end of capes (Huvé, 1963); maximum density between 0 and 1.5 m depth, more scatter in-depth (up to 4-5 m depth); sometimes under the canopy of *Cystoseira amentacea*; rich epiflora (*Ceramium*, *Polysiphonia* and *Laurencia* spp...)

Threats

Existing and potential threats:

Human pressure (balneal tourism): landing, collection; land reclamations; pollution (urban and industrial emissaries, hydrocarbons); turbidity; covering; hyper-sedimentation coming from watersheds.

Exploitation:

Only as a souvenir or within the framework of collection in museology

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects)

Bibliographical references

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : G. Bressan <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Titanoderma trochanter</i> (Bory) Benhissoune, Boudouresque, Perret-Boudouresque et Verlaque</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy Class : FLORIDEOPHYCEAE Order : CORALLINALES Family: CORALLINACEAE Genus and Species : <i>Titanoderma trochanter</i> (Bory) Benhissoune, Boudouresque, Perret-Boudouresque et Verlaque 2002: 397 Known Synonym(s) : (homotypic syn.) <i>Lithophyllum trochanter</i> (Bory) H.Huvé 1963: 150; (erroneous denominations) <i>Lithophyllum byssoides</i> (Lamarck) Foslie 1900: 20; <i>Goniolithon byssoides</i> (Philippi) Foslie 1898 : 5. Common name (English and French): FR: pierre byssus (sensu <i>Goniolithon byssoides</i>)</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> -Annexe I of the Bern Convention Habitat/Natura 2000 (1110) Directive -ASP 2 IUCN Red List status of species IUCN-ACCOBAMS cetacean Red List.</p>

Justification for the proposal :

Endemic building species of the upper horizon of the photophilic infralittoral zone (0-5 m depth); Species very vulnerable to the disturbances and to the modifications of the communities. - Very elegant species, which goes unnoticed with difficulty, characterized by an exceptionally slow development (several centuries) and a low capacity of reinstatement after destruction - That is why, among the bio-building species of the Mediterranean Sea, this species must be regarded as « natural monument » and thus imperatively protected.

Biological data

Brief description of the species:

Species calcified in stocky clumps, always convex, compact and solid, made up of *radiating cylindrical branches*; these are sometimes flattened at their dichotomies. They are tight and may present, in some specimens, joinings and weldings between nearby branches. Certain samples have branches inclined towards the substratum and slightly thin at their end; while others have branches rounded at their apex - the all taking then the appearance of a cauliflower. The ends of the branches appear smooth but an examination with the magnifying glass shows a succession of fine striae and without relief.

Distribution (current and historical):

The confusion which the two species have been the subject do not allow to sum up with certainty all the localizations reported in the literature : in the hottest portions of Aegean Sea (Peloponnese, Cyclades, Asia Minor); in the Adriatic Sea, from Otranto to Cape Leuca. ; in Yugoslavia and in Corfou; in Corsica and in Algiers. The species is reported in the Atlantic Ocean, presence which could be consolidated by its report in Tangier.

Population estimate and trends:

Unknown populations - trends: in regression

Habitat(s) :

Upper horizon of the photophilic infralittoral zone, well-lit vertical walls of the exposed rocks. It can form, close to the surface and in the first two meters, a very dense covering whereas towards 4 to 5 meters of depth it becomes more scatter.

Threats

Existing and potential threats:

The cushion-like thalli of *T. trochanter* break easily; if they are close to surface, they are vulnerable to trampling, to the human pressure (balneal tourism), to boats and floating wrecks shocks and to pollution, more particularly to films of hydrocarbons.

Exploitation: Not (Only: bibelot; collection; museology)

Proposed protection or regulation measures

Localization of populations and keep in reserve (reduction of the harmful effects).

Bibliographical references

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Cartilaginous Fish Species

As mentioned before in this document, the Contracting Parties to the Barcelona Convention asked RAC/SPA at the last ordinary meeting (Almeria, January 2008), to propose amendments to Annex II and III to the Protocol ASP/BD.

RAC/SPA asked two experts to verify from the Secretariat the status of cartilaginous fish species found in the Mediterranean, worthy to be analysed to eventually list several of them either in Annex II or Annex III to the Protocol ASP/BD.

On April-May 2008, RAC/SPA undertook with those two experts a consultation to an ad-hoc group of experts (Table IV), to have their contributions to revise the list of species needing to be included either in Annex II or in Annex III, or translocated from the latter annex to the former one, according to the case, so as to submit it to the next SPA Focal Points meeting, on June 2009.

The fulfilled forms build on the 2007 IUCN Red List assessment of the conservation status of cartilaginous fishes (chondrichthyans) in the Mediterranean.

Table IV: List of the Ad-hoc experts on cartilaginous Fish

First Name	Name	Country
Mohamed N.	BRADAI	Tunisia
Sarah	FOWLER	IUCN Shark Specialists Group
Farid	HEMIDA	Algeria
Hakan.	KABASAKAL	Turkey
Gabriel	MOREY	Spain
Fabrizio	SERENA	Italy
Bernard	SÉRET	France
Alen	SOLDO	Croatia
Sarah	VALENTI	IUCN Shark Specialists Group

This assessment covered 71 species known to occur and breed within the Mediterranean Sea¹ and placed them in the following categories:

- 42% (30 species) are considered threatened within the region. Of these, 18% (13 species) are Critically Endangered (CR), 11% (8 species) are Endangered (EN) and 13% (9 species) are Vulnerable (VU). Most of these species are considered to be more seriously threatened within the Mediterranean region than at the global level;
- 18% (13 species) are assessed as Near Threatened (NT), reflecting concern that they are close to qualifying for a threatened category or would be threatened were it not for ongoing conservation programmes;
- 14% (10 species) are assessed as Least Concern (LC) and are not considered to be under any threat of extinction now or in the foreseeable future;
- 26% (18 species) are assessed as Data Deficient (DD). This means that there is not enough information to enable accurate assessment of their extinction risk (lack of research, rarity of species, limited geographic distribution). It does not signify that these species are not threatened. As knowledge improves, such species are often found to be highly vulnerable to anthropogenic threats, in particular over-exploitation.

¹ The occurrence of a further nine species was found to be either infrequent, questionable, or could not be confirmed due to taxonomic uncertainty.

On the basis of these elements 30 species have been proposed with a high level of priority and are indicated below (Table V) for their eventual inclusion either in Annex II or in Annex III, or traslocation from the latter annex to the former one, according to the case.

Table V. Cartilaginous species proposed for listing /maintaining on the Annexes of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

SCIENTIFIC NAME	COMMON NAME	Red List Threat Status Mediterranean assessment	Red List Threat Status Global assessment	Proposal for Annex II / Annex III
<i>*Squatina spp</i>	Angelsharks	CR	CR (2006)	Annex II (uplist)
<i>Pristis spp</i>	Sawfish	CR	CR (2006)	Annex II
<i>Oxynotus centrina</i>	Angular roughshark	CR	VU (2007)	Annex II
<i>Carcharias taurus</i>	Sand tiger shark	CR	VU (2000)	Annex II
<i>Gymnura altavela</i>	Spiny butterfly ray	CR	VU (2007)	Annex II
<i>Dipturus batis</i>	Common skate	CR	CR (2006)	Annex II
<i>Leucoraja melitensis</i>	Maltese skate	CR	CR (2006)	Annex II
<i>*Rostroraja alba</i>	White skate	CR	EN (2006)	Annex II (uplist)
<i>*Isurus oxyrinchus</i>	Shortfin mako	CR	VU (2009)	Annex II (uplist)
<i>*Lamna nasus</i>	Porbeagle shark	CR	VU (2005)	Annex II (uplist)
<i>Rhinobatos spp</i>	Guitarfish	EN	EN (2007)	Annex II
<i>Odontaspis ferox</i>	Smalltooth sand tiger	EN	VU (2009)	Annex II
<i>Leucoraja circularis</i>	Sandy skate	EN	VU (2009)	Annex II
<i>Carcharhinus plumbeus</i>	Sandbar shark	EN	VU (2009)	Annex II
<i>Squalus acanthias</i>	Spiny dogfish	EN (VU Black Sea)	VU (2006)	Annex III
<i>Sphyrna spp</i>	Hammerhead sharks	NE	EN/EN/VU	Annex II
<i>Raja undulata</i>	Undulate ray	NE	EN (2008)	Annex III
<i>Mustelus spp</i>	Smoothhounds	VU/DD	VU/LC/DD	Annex III
<i>Galeorhinus galeus</i>	Tope shark	VU	VU (2005)	Annex III
<i>Alopias vulpinus</i>	Thresher shark	VU	VU (2009)	Annex III
<i>Heptranchias perlo</i>	Sharpnose sevengill shark	VU	NT (2003)	Annex III
<i>Centrophorus granulosus</i>	Gulper shark	VU	VU (2006)	Annex III

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Alopias vulpinus</i> (Bonnaterre, 1788)</p> <hr/> <p>Amendment proposed :</p> <p><input type="checkbox"/> Inclusion in Annex II</p> <p><input checked="" type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Lamniformes</p> <p>Family: Alopiidae</p> <p>Genus and Species : <i>Alopias vulpinus</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN – Thresher shark; FR – Renard</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2bd+3bd+4bd</p> <p>Mediterranean: Vulnerable A2bd+3bd</p>
<p>Justification for the proposal :</p> <p>Records of <i>Alopias vulpinus</i> in the Mediterranean Sea have become increasingly scarce. Declines of up to 99% over 108 years have been estimated in <i>A. vulpinus</i> in the northwestern Mediterranean Sea through meta-analysis of fisheries and survey records and sightings. Unsustainable catch in fisheries is the main threat to this large pelagic shark. Its epipelagic nature exposes it to a variety of fisheries, particularly longline, and also gill nets, pelagic and bottom trawls and handlines. UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries catch should be developed and implemented for this species.</p>	

Biological data

Maximum recorded size varies with sex and geographic location and ranges from 415–573cm TL (Gubanov 1972, Cailliet *et al.* 1983, Compagno 1984, Moreno *et al.* 1989). Size at maturity varies. Females are reported to mature from 260-465cm total length (Strasburg 1958, Cailliet *et al.* 1983, Bedford 1983, Bigelow and Schroeder 1948, Gubanov 1978, Ebert 2003) and males at 260-426.7cm TL (Cailliet and Bedford 1983, Cailliet *et al.* 1983). Estimated age at maturity for females ranges from 3-9 years (Bigelow and Schroeder 1948, Strasburg 1958, Gubanov 1978, Cailliet *et al.* 1983, Cailliet and Bedford 1983, Hanan 1984) and from 3-7 years for males (Cailliet *et al.* 1983, Cailliet and Bedford 1983). The species reaches an age of at least 24 years (Gervelis 2005) and Cailliet *et al.* (1983) stated that off California it may reach an age of 50 years; providing k coefficients from the von Bertalanffy growth equation ranging from 0.158–0.215. These parameters were early estimates based on a sample size of 143 specimens (16 male, 23 female, 104 unknown). The most recent estimates of generation time are 8-14 years (Cortés 2008, unpubl. data). *Alopias vulpinus* is viviparous, with oophagy and a gestation period of 9 months (Gubanov 1978, Moreno *et al.* 1989; Bedford 1992, Gilmore 1993, Cailliet *et al.* 1983). Litter sizes range from 3–7 in the Northeast Atlantic (Moreno *et al.* 1989). Size at birth is 100-158cm TL (Cailliet *et al.* 1983, Hanan 1984). Ratios of male to female pups also vary geographically. Moreno *et al.* (1989) noted a high degree of sexual and size segregation in the Northeast Atlantic during pupping season. Mating occurs in middle to late summer and parturition occurs during the spring in both the Northeast Atlantic and the eastern Pacific (Moreno *et al.* 1989, Bedford 1992). Size at parturition varies considerably, from 115cm and 156cm TL with slight variation among geographical locations (Compagno 1984, Moreno *et al.* 1989).

Brief description of the species

Dark blue to grey dorsal surface, white underside, large eyes and a distinctive, elongated caudal fin.

Distribution (current and historical)

This oceanic and coastal shark is virtually circum-global in tropical to cold-temperate seas, but is most common in temperate waters (Compagno 2001). Moreno *et al.* (1989) report that this species occurs in the western Mediterranean Sea. Compagno's (2001) reference to the presence of this species in the Black Sea is thought to be incorrect because many other authors have not recorded this species there (Tortonese 1969, Bauchot 1984, Roux 1984, McEachran and Capapé 1984, Fredj and Maurin 1987, Murat *et al.* 2002). *Alopias vulpinus* has some important parturition and nursery areas in the Mediterranean (Adriatic and Alboran Seas). Moreno and Moron (1992) observed aggregations of pregnant females in the Strait of Gibraltar.

Population estimate and trends

Annual catches and mean weights of *Alopias vulpinus* have fallen as a result of fishing mortality in the Moroccan driftnet fishery (Tudela *et al.* 2005). Ferretti *et al.* (2008) used records dating back to the early 19th and mid 20th century to reconstruct long term population trends of large predatory sharks in the northwestern Mediterranean Sea.

They found that *A. vulpinus* was the only species detected in coastal waters in recent times: 2 specimens were caught in 2003 and 2004 in the tuna trap of Camogli. Drastic declines were estimated in the Ionian Sea (99.19% in abundance and 96.96% in biomass over 21 years) and in Spanish waters (98.20% in biomass over 19 years). In the northern Adriatic Sea, recreational catches of *A. vulpinus* were estimated to have declined by about 80.82% over 11 years. Overall, the species declined by an estimated >99.99% (IRD: -0.11; CI 95%: -0.18, -0.04; time range: 108 years) in abundance and biomass (IRD: -0.10; CI 95%: -0.23, 0.03; time range: 108 years), although the decline in biomass was not statistically significant (Ferretti *et al.* 2008).

Habitat(s)

This species lives in temperate oceans and also penetrates into tropical waters (Compagno 1984), with a noted tolerance for cold waters (Castro 1983, Moreno *et al.* 1989). While found both in coastal and oceanic waters, it is most abundant in waters up to 40 or 50 miles offshore (Strasburg 1958, Gubanov 1972, Moreno *et al.* 1989, Bedford 1992). It ranges between surface waters and 366m depth (Compagno 1984). Young *A. vulpinus*, in all locations, generally remain close to shore after parturition and during their first few years (Moreno *et al.* 1989).

Threats

Existing and potential threats

Alopias vulpinus is threatened from a combination of slow life history characteristics, hence low capacity to recover from moderate levels of exploitation, and high levels of largely unmanaged and unreported mortality in target (for fins and their valuable meat) and bycatch fisheries. Simpfendorfer *et al.* (2008) assessed thresher shark as being in the group at second-greatest risk of over-exploitation, after mako sharks and bigeye thresher, in their study of the pelagic sharks taken in Atlantic longline fisheries, based on three metrics. This species is caught by offshore longline and pelagic gillnet fisheries (Maguire *et al.* 2006), is also fished with anchored bottom and surface gillnets, and is a bycatch of other gear including bottom trawls and fish traps (Maguire *et al.* 2006). Although sometimes referred to as a bycatch in fisheries for other pelagic fishes, this bycatch is normally utilised and would better be described as a secondary target catch. The growing and largely unregulated shark fin trade also represents a serious threat to thresher sharks. Clarke *et al.* (2006) report that thresher sharks compose at least 2-6% of the trade in a market study using DNA-based species identification techniques. Pelagic fishing pressure is high and ongoing throughout the Mediterranean Sea (Tudela 2004, Megalofonou *et al.* 2000). This species has some important parturition and nursery areas in the Mediterranean (Adriatic and Alboran Seas), which may be threatened by fishing.

Exploitation

Adults and juveniles of *Alopias vulpinus* are regularly caught as a utilised bycatch in longline, purse seine and mid-water fisheries throughout the Mediterranean Sea, as well as in recreational fisheries (Lipej *et al.* 2004). Even though driftnetting is banned in Mediterranean waters, this practise has continued illegally (WWF 2005). The Moroccan swordfish driftnet fleet in the Alboran Sea operates year round, resulting in high annual effort levels (Tudela *et al.* 2005). Sharks are a secondary target or bycatch of this fishery, but some boats deploy driftnets 1–2 miles from the coast where the chance of capturing pelagic sharks is higher. The catch rate for *A. vulpinus* is higher in boats actively fishing for sharks (from 0.7 to 1.5 N/fishing operation and 0.09 to 0.11 catch per km net). Both annual catches and mean weights of *A. vulpinus* have fallen as a result of fishing mortality in the Moroccan driftnet fishery, illustrating the likely impact of this illegal fishery on stocks in the Alboran Sea and adjacent Atlantic (Tudela *et al.* 2005). They are also an important sport fishery resource, the meat is considered excellent for human consumption, and the large fins are highly valued.

Proposed protection or regulation measures

Inclusion in Annex III and Parties to the Barcelona Convention should be encouraged to promote regulation of this species through the GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Carcharhinus plumbeus</i> (Nardo, 1827)</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : Chondrichthyes Order : Carcharhiniformes Family: Carcharhinidae Genus and Species : <i>Carcharhinus plumbeus</i> Known Synonym(s) : Common name (English and French): EN – Sandbar shark, FR – Requin gris</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention.)</i></p> <hr/> <p>IUCN Red List status: Global: Vulnerable A2bd+4bd Mediterranean: Endangered A2bd+4bd</p>
<p>Justification for the proposal :</p> <p>The life-history and coastal habitat of <i>C. plumbeus</i> makes it highly vulnerable to depletion. Declines in fisheries landings and in the presence of this species at fish markets have been reported. Available data from monitoring programmes of pelagic fisheries suggest that the occurrence of <i>Carcharhinus</i> spp in the bycatch composition is extremely low. However, it is still taken throughout the year as a bycatch and target in the Gulf of Gabes, Tunisia, in the southern Mediterranean, where an important nursery area exists. Catches in this area have been relatively regular in recent years (1995-2007). This species was assessed as Endangered regionally within the Mediterranean and UNEP MAP RAC/SPA (2003) noted that fisheries management programmes should be developed and implemented for <i>C. plumbeus</i> and other <i>Carcharhinus</i> spp. An Annex II listing is needed, also including the development of fisheries research programmes, a management plan under GFCM and protection of critical habitats. A zero quota until sustainable catch rates are developed could also be considered. It may be appropriate to extend an Annex III listing to all other <i>Carcharhinus</i> spp in the Mediterranean Sea.</p>	

Biological data

This species is viviparous with a yolk sac placenta. In general, size at maturity, maximum size and litter size decrease from the western Atlantic to the East China Sea. Saidi *et al.* (2005) studied the reproductive biology of sandbar shark in the Gulf of Gabes (southern Tunisia), Mediterranean Sea. They estimated that males reach maturity between 154.5-193.5cm total length (TL) and females between 166-281.5 cm TL. Pupping took place in spring and early summer, with parturition in July. Gestation was estimated at twelve months, with females appearing to reproduce biennially. Litter sizes ranged from 4-10 pups. Saïdi (2008) provides further information on the biology of this species in the Gulf of Gabes. Validated age and growth estimates are available for other populations of sandbar shark. For example, McAuley *et al.* (2006) from Australia: females reach 50% maturity at 16.2 years of age and males at 13.8 years of age. The estimated generation and population doubling times of approximately 23 years, indicated a lengthy recovery period for the stock should it be reduced to lower than acceptable levels (McAuley *et al.* 2005). Longevity is 35-41 years (Musick 2005, McAuley *et al.* 2006). Saïdi *et al.* (2007) provide information on the feeding habits of this species.

Brief description of the species

A moderately large, grey-brown shark with a distinctive, tall dorsal fin and a bluntly rounded snout.

Distribution (current and historical)

The sandbar shark is found worldwide in temperate and sub-tropical waters of all oceans, but with distinct gaps in its distribution. It has been recorded throughout the Mediterranean Sea, from which it was first described. The species has important nursery grounds in areas such as the Gulf of Gabes, northern Adriatic Sea and off the southwestern coast of Turkey (Capapé 1984, Constantini and Affronte 2003, Bradai *et al.* 2005, Öztürk 2006).

Population estimate and trends

This species was common until the 1980s along all the Levantine coasts (Saad *et al.* 2004), where it was the most dominant species in shark catches (>85%) (Baranes and Ben Tuvia 1978). While *C. plumbeus* is still the most important shark species captured in this area, there has been a significant decline in captures (M. Bradai pers. obs. 2008). The Gulf of Gabès, Tunisia, and an area off Turkey appear to be important nursery grounds for this species (Capapé 1984, Saidi *et al.* 2005; Bradai *et al.* 2006, STECF 2003). There are no recent records of gravid females of this species in the Mediterranean outside of these areas. Constantini and Affronte (2003) report that the northern Adriatic Sea may also be an important nursery area for the species, based on six neonatal sandbar sharks captured with gillnets in this area between 1998 and 2000. The last record of a pregnant female sandbar shark from this area was recorded in 1982 (Constantini and Affronte 2003). This species was previously regularly seen on fish markets of southern Sicily during the summer months but has not been observed on the same markets in recent years (F. Cigala-Fulgosi and M. Vacchi pers. obs. 2003).

A similar situation is apparent in the eastern Adriatic sea (Lipej *et al.* 2000, A. Soldo pers comm.) and therefore recent publications have described *C. plumbeus* as an endangered species in the Adriatic Sea (Lipej *et al.* 2004). In a study of incidental catch of pelagic sharks from the swordfish and tuna fisheries operating throughout the Mediterranean Sea from 1998-2000, only two specimens of *C. plumbeus* were recorded in one area (the Straits of Sicily) (Megalofonou *et al.* 2005). In their study of long term trends in large predatory sharks in the northwestern Mediterranean, Ferretti *et al.* (2008) could not analyze trends in any *Carcharhinus* spp because of insufficient records. They speculate that coastal sharks, such as this, may have declined most precipitously and earlier. They also note that requiem sharks have been below detectable levels in pelagic (our study) and demersal fisheries in this area for at least 20–25 years (Bertrand *et al.* 2000, Relini *et al.* 2000, Ferretti *et al.* 2008). Data from monitoring programs of pelagic fisheries show an extremely low abundance of *Carcharhinus* species in the bycatch composition (Morey *et al.* 2008, G. Morey pers. comm. 2009).

However, in Tunisia (a nursery area), the species is regularly landed and observed in fish markets (Bradai *et al.* 2006). *Carcharhinus plumbeus* is landed throughout the year, with a peak in catches at the end of spring-beginning of summer. Catches in the Gulf of Gabes have been fairly regular during recent years, fluctuating between >250t and 480t per year during 1995-2007. A research programme on this species has been developed in the area (M.N. Bradai pers. comm. 2009).

Habitat(s)

Carcharhinus plumbeus is a coastal shark, often in shallow waters associated with sandy or muddy flats, bays, estuaries and harbours commonly down to salinities of 20 ppt in some populations (Grubbs *et al.* 2007) and also further offshore, particularly on banks, near islands, flat reefs and other topographic features in open waters (Compagno in prep). This species occurs from the surfline down to 280m (Compagno in prep), but typically in waters less than 100m where it frequently forages near the seabed. In the Mediterranean it is caught down to 200m (caught at this depth on the bottom in Sicilian waters by trawlers) (Compagno in prep).

Threats

Existing and potential threats

Unsustainable catch in fisheries is the primary threat to sandbar shark in the Mediterranean Sea. Population collapses and very slow recovery periods documented in other areas, such as the Northwest Atlantic and off Australia, demonstrate this species' extreme vulnerability to fisheries exploitation. Habitat degradation of this species' coastal nursery areas through coastal development and pollution also poses an important threat

Exploitation

Carcharhinus plumbeus is caught with surface and bottom longlines, gillnets and occasionally trawls in the Mediterranean Sea, including in the Sicilian Channel, off Tunisia, Libya and Egypt, Spain, Morocco and Algeria and infrequently elsewhere. The species is a known bycatch of pelagic fisheries operating within Mediterranean waters (STECF 2003), but recent records appear to be very rare. However, in the Gulf of Gabes, juvenile *C. plumbeus* represent a major component of the total catch of pelagic fisheries targeting swordfish (Bradai *et al.* 2006). In the Gulf of Gabes, juvenile *C. plumbeus* are caught with longlines and trawls and adult females are targeted using specially-designed gillnets (locally known as 'kallabia' from "kalb' bhar" (literally sea dog) which means shark in Arabic) during spring and early summer, when they move inshore to pup (Saidi *et al.* 2005, Bradai *et al.* 2006). Catches in the Gulf of Gabes have been fairly regular during recent years, fluctuating between >250t and 480t per year during 1995-2007. Important catches of Carcharhinids such as *C. plumbeus* are also made in the pelagic longline fishery operating from ports in eastern Algeria (Walker *et al.* 2005).

Although blue shark, shortfin mako and thresher sharks make up the bulk of shark catch in the Moroccan pelagic driftnet fisheries in the eastern Mediterranean, Carcharhinid species are also known to be taken and landed by this fleet on an occasional basis. Some boats are known to deploy their nets near to the coast (1-2 miles from the shore) to target pelagic sharks (Tudela *et al.* 2005). There are also anecdotal reports of bycatch of this species in fixed tuna traps (Tonnara) in Sicily.

Proposed protection or regulation measures

Inclusion in Annex II. Development of fisheries research programmes and management plan under GFCM, and identification and protection of critical habitats/areas, including nursery grounds (where these are not already protected). Zero quota until sustainable catch rates can alternatively be developed.

An Annex III listing could be extended to all other *Carcharhinus* spp in the Mediterranean Sea, given their very low occurrence in this region.)

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Carcharias taurus</i> (Rafinesque, 1810)</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : Chondrichthyes Order : Lamniformes Family: Odontaspidae Genus and Species : <i>Carcharias taurus</i> Known Synonym(s): <i>Odontaspis taurus</i> (Rafinesque, 1810); <i>Eugomphodus taurus</i> (Rafinesque, 1810) Common name (English and French): En - Sand tiger shark; Fr - Requin taureau</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status: Global: Endangered A2abcd+3bcd+4abcd Mediterranean: Critically Endangered A2abcd+3bcd+4abcd</p>
<p>Justification for the proposal :</p> <p>This large, stocky, coastal shark has one of the lowest reproductive rates known amongst chondrichthyans, bearing only two pups once every two years. During the early 19th and possibly 20th century it had a wide but diffuse coastal distribution in the Mediterranean Sea. The species has never been known to be abundant in the Mediterranean, however, records during the past 50 years are very unusual. There are no records since the 1980s, apart from small specimens reported from the eastern Adriatic Sea, suggesting increasing scarcity and possible near-extirpation from the region. It is important to protect any remaining population of <i>C. taurus</i> in the Mediterranean Sea, particularly since the adjacent population off Western Africa in the Eastern Central Atlantic may have been extirpated. UNEP MAP RAC/SPA (2003) identified <i>C. taurus</i> as a high priority, urging provision of legal protected status in the Mediterranean.</p>	

Biological data

Carcharias taurus reaches a maximum size of ~3.2m (Compagno 1984, Hutchins and Swainston 1983). Males and females mature at 190-220cm TL and 6-7 years of age, and 220-235cm TL and 9-10 years of age, respectively (Goldman 2002, Goldman *et al.* in press, Gilmore *et al.* 1983, Bass *et al.* 1975, Smale 2002, Lucifora 2003). This species has one of the lowest reproductive rates known amongst chondrichthyans. Estimated generation period is ~17 years. Reproduction is ovoviviparous and usually only two pups are born per litter once every two years (Smith and Pollard 1999, Goldman 2002). This is because the remaining eggs and developing embryos are eaten by the largest and/or most advanced embryo in each horn of the uterus (a phenomenon known as adelphophagy or uterine cannibalism). The gestation period may last from 9–12 months and size at birth is relatively large, at about 1m (Gilmore *et al.* 1983, Gilmore 1993).

Brief description of the species

A large, stocky, light brown shark with dark spots, and a short, pointed snout that bears sharp teeth.

Distribution (current and historical)

Wide-ranging in warm-temperate and tropical coastal waters of the Atlantic Ocean, Mediterranean Sea and Indo-West Pacific Ocean; absent from the Central Pacific and Eastern Pacific Oceans. In the Eastern Atlantic has been recorded from the Mediterranean Sea to the Canary Islands, at the Cape Verde Islands, along the coasts of Senegal and Ghana, and from southern Nigeria to Cameroon. However, the species has not been caught or recognised from Senegal in modern times, leading to concern that it may have been extirpated from the area (L.J.V. Compagno pers comm., Pollard *et al.* in prep).

In the Mediterranean Sea, *C. taurus* was first described from Sicily in 1810 by Rafinesque, but has never been known to be abundant in this region. During the early 19th and possibly 20th century it had a wide but diffuse coastal distribution, as evidenced by various published faunal accounts by Müller and Henle (1841), Soljan (1948) and Cadenat (1963). Records during the past 50 years have become exceptionally rare (See below).

Population estimate and trends

Mediterranean: It is unclear if the Mediterranean records of this species constitute a closed population with no movement across the Gibraltar Straits, or part of the stock in the Eastern Central Atlantic, where it has been recorded off West Africa in the past (Cadenat 1956, Cadenat and Blache 1981). It is conceivable that Mediterranean-caught specimens represent a migratory constituent of the northwest African stock given that the highly migratory behaviour of this shark is well demonstrated in other regions (Compagno 2001; Pollard and Smith 2005). There are too few data to indicate clear population trends for *C. taurus*, which seems always to have been rare in the Mediterranean, but a combination of historical and contemporary evidence indicates a shrinking distribution few occurrences (Fergusson *et al.* 2002). The few reports around the type locality, Sicily, is striking considering the Sicilian Channel typically provides a good sampling source for various rare species of shark (Cigala-Fulgosi 1984), but the seabed habitat there may restrict the use of some commercial fishing gears and landings may not be an adequate indicator of abundance or range.

Nonetheless, since the historical records of this species (e.g. around Sicily (Rafinesque 1810; Doderlein 1881), Algeria (Guichenot 1850), the eastern Adriatic (Marchesetti 1884), Côte d'Azur (Moreau 1881), Sardinia (Carruccio 1910) and Spain (Lozano y Rey 1928)), published and unpublished capture records have declined. If still present in the Eastern Mediterranean and Levant, *C. taurus* is now exceptionally rare and records during the past 50 years are very unusual; Gulf of Lions (Granier 1964), Sicily (Tortonese 1956; Cigala Fulgosi, pers. comm.), Tunisia (Quignard and Capape 1972), Israel (Ben-Tuvia 1971; Golani 1996), Greece (Papakonstantinou 1988)). Post-1975 records demonstrate that *C. taurus* is considerably scarcer in Italian waters than three other uncommon, sympatric lamnoids nominally recorded each year (*O. ferox*, *Cetorhinus maximus* and *Carcharodon carcharias* (Franco Cigala-Fulgosi, pers. comm.). Italy's Central Institute of Applied Marine Research (ICRAM) long term monitoring of large elasmobranchs reported from the Tyrrhenian Sea and contiguous areas has no records of this species (Vacchi, unpublished data; Vacchi and Serena 2001). A few discarded teeth found on reef flats off northwest Beirut, Lebanon, indicate its former presence there, but almost all post-1980s observations have involved *O. ferox*, suggesting that *C. taurus* has since practically vanished (Fergusson *et al.* in press). Relatively small specimens reported from Croatia in the eastern Adriatic Sea (A. Soldo pers. comm.) suggest that an unknown population may survive there.

Habitat(s)

These sharks are often observed hovering motionless just above the seabed in or near deep sandy-bottomed gutters or rocky caves, usually in the vicinity of inshore rocky reefs and islands. They are generally coastal, usually being found from the surf zone down to depths of around 25m. However, they may also occasionally be found in shallow bays, around coral reefs and, very rarely, to depths of around 200m on the continental shelf. They usually live near the bottom, but may also move throughout the water column (Compagno 1984a).

Threats

Existing and potential threats

Northridge (1991) reported *C. taurus* caught in drift nets in the Mediterranean region, before their ban in 1992. However, since 1980 there have been no records of this species, apart from small specimens reported from the eastern Adriatic Sea, suggesting increasing scarcity or possible regional near-extirpation (Fergusson *et al.* 2002, A. Soldo pers. comm.). The restricted nearshore coastal habitat of this biologically vulnerable species means that it is not only susceptible to bycatch in fisheries, but also to habitat degradation and other anthropogenic pressures, such as coastal construction and disturbance associated with the tourist industry. Such effects are especially acute in the Mediterranean Sea. There are no accounts of diver harassment, killing or capture of Mediterranean sandtigers (as reported from other areas such as South Africa and Australia).

Exploitation

Carcharias taurus has been fished throughout its range in the past, but is of variable economic importance regionally (Compagno 1984). Where caught, this species is not targeted and is more often taken as a bycatch of multi-species fisheries directed at more productive and highly valued teleosts and other chondrichthyans. It is primarily caught with line fishing gear but is also susceptible to capture in bottom set gillnets and in pelagic and bottom trawls (Pollard *et al.* in prep).

Proposed protection or regulation measures

Listing in Annex II. Strict protection through national legislation and zero quota under the GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Centrophorus granulosus</i> (Bloch & Schneider, 1801)</p> <hr/> <p>Amendment proposed :</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Inclusion in Annex II <input checked="" type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III </p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Squaliformes</p> <p>Family: Centrophoridae</p> <p>Genus and Species : <i>Centrophorus granulosus</i></p> <p>Known Synonym(s): <i>Centrophorus uyato</i> (Rafinesque, 1810)</p> <p>Common name (English and French): EN – Gulper shark; FR - Squale-chagrin Commun</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2abd+3d+4d Mediterranean: Vulnerable A3d+4d</p>
<p>Justification for the proposal :</p> <p>The very unproductive life-history characteristics of this deepwater shark make highly vulnerable to depletion by even moderate fishing pressure. Although few time series data are available to assess specific population trends across the Mediterranean Sea, significant declines have been estimated in this species in other areas where it is fished, for which data are available (e.g. in the Northeast Atlantic). <i>Centrophorus granulosus</i> is taken as bycatch in demersal longline, gillnet and trawl fisheries operating across its primary depth distribution in this region and monitoring and assessment of catch is required to determine the full impact of this bycatch. Interest has been expressed in developing target fisheries for <i>Centrophorus</i> species in the Mediterranean Sea, which could pose a major potential threat.</p>	

Biological data

This very long-lived deepwater shark gives birth to a single large pup at two to three year intervals. Age at maturity is estimated at 12-16 years (females) and 7-8 years (males) (Guallart 1998). Females are estimated to mature at 89-102cm (Guallart 1998), and males at 70–85cm (Guallart 1998, Capapé 1985, Fischer *et al.* 1987). Maximum recorded size is about 120cm (Fischer *et al.* 1987, Guallart 1998). Size at birth ranges from 30-46cm (Guallart and Vicent 2001, Fischer *et al.* 1987). This deepwater shark is long-lived, with a life-span estimated at >30 years (Guallart 1998). A lecithotrophic aplacental viviparous (ovoviviparous) species (Ranzi 1932, Guallart and Vicent 2001), *C. granulosus* has an extremely low reproductive rate, with only one pup/litter (Tortonese 1956, Capapé 1985, Guallart 1998), a gestation period of about two years and occasional resting periods between pregnancies (Guallart 1998). Average reproductive age is unknown, but is likely very long (generation period may be 16-20 years).

Brief description of the species

Moderately large shark, dark grey to brown dorsal surface with lighter ventral colouring, with a short, broad snout

Distribution (current and historical)

Thought to be a circumglobal species, in temperate and tropical waters. Mediterranean countries of distribution include; Albania, Algeria, France, Greece, Italy, Morocco, Spain, Tunisia and Turkey. Absent from the Black Sea. (Baino *et al.* 2001, Boutan 1926, Maurin 1968, Jardas 1984, Fischer *et al.* 1987, Papakonstatinou 1988, Ungaro *et al.* 1994, Kabaskal 2002). (Depth range in the Mediterranean extends from 100 to 1,490m, however it is most often recorded between 300-800m).

Population estimate and trends

No information is available on relationships between Mediterranean and Atlantic populations of *Centrophorus*. However, like most Mediterranean deepwater species, some degree of isolation is expected due to the barrier of the Straits of Gibraltar. Analysis of the Mediterranean International Trawl Survey (MEDITS) data from 1994 to 1999 show a low frequency of occurrence (only 2% of total hauls) for *C. granulosus* (Baino *et al.* 2001). These surveys recorded the species throughout the Mediterranean, though more frequently in the western central and in the western area.

These data clearly indicate that this species is very rare. The MEDITS experimental trawl program surveys waters up to 800m in depth. The depth range of this demersal deepwater shark extends from 100 to 1,490m, however it is most often recorded between 300-800m, therefore these data can serve as a good indicator of the abundance of this species (Guallart *et al.* 2006). Local declines in catches of this shark have been reported in artisanal fisheries targeting this species off the Balearic Islands. Initially, catches of about 50-80 specimens or 300-400 kg/ship and journey were recorded, however, these decreased dramatically within a matter of weeks. An increase in abundance within these depleted areas took place after several months, presumably by migration of individuals from other unexploited areas (Guallart *et al.* 2006).

Although no time series data are available to assess specific population trends across the Mediterranean Sea, significant declines have been estimated in this species in other areas where it is moderately to heavily fished, for which data are available (e.g. in the Northeast Atlantic). Given that the species is most commonly recorded within depth stratas exploited by fisheries in the Mediterranean Sea and MEDITS surveys suggest that the existing population is small, declines are also expected to have occurred in this region.

Habitat(s)

A large deepwater species inhabiting the upper continental slopes and outer continental shelves. Usually demersal or benthopelagic, at depths of 100-1,490m (Mediterranean Sea), with most records between 300-800m depth (Baino *et al.* 2001, Compagno 1984, Gilat and Gelman 1984, Guallart 1998). It may also aggregate in particular areas of the slope, particularly in the margins of submarine canyons (Guallart 1998).

Threats

Existing and potential threats

Fisheries pose the main threat to this species. It is taken as bycatch in a variety of demersal fisheries in the Mediterranean Sea (Fischer *et al.* 1987). Its primary depth distribution (300-800m) places it within areas heavily exploited by demersal fisheries in this region (Massuti and Moranta 2003), although the GFCM ban on bottom trawling below 1,000m may offer the species some refuge from fishing pressure in the deepest margins of its range. Further information on the catch rates of this species by this trawling fleet are required before the impact that this has on the *Centrophorus granulosus* population can truly be assessed.

The development of targeted fisheries for this species using longlines and gillnets in areas on the continental slope, where it tends to aggregate, also poses a major potential threat. A number of authors have commented on the economic potential to develop a targeted fishery for *Centrophorus* species in the Mediterranean Sea (e.g. Boutan 1926 in Algeria, Rancurel 1983 in France, Gilat and Gelman 1984 in Israel), however, no other information regarding potential developments is available at present. The very low reproductive potential of this species makes it highly vulnerable to overexploitation and population depletion under even moderate fishing pressure. Therefore extreme caution should be exercised before the development of any targeted fishery. Catches in the Northeast Atlantic have declined very steeply (90% in 20 years). ICES has advised closing these fisheries. NEAFC has banned deepwater gillnet fisheries for these species on the high seas in the Northeast Atlantic. EU TACs have been reduced steadily and are set at zero for 2010 (Council Regulation No. 1359/2008).

Exploitation

The species is taken as bycatch in demersal longline, gillnet and trawl fisheries targeting red shrimp *Aristeus antennatus* and other species in the Mediterranean Sea (Fischer *et al.* 1987). There are a few examples of fisheries targeting *Centrophorus granulosus* in the Balearic Sea over the last 10 years (Guallart pers. comm. 2003). One of which was an alternative, artisanal bottom longline fishery, which developed as a result of declines in traditional target species. Abundance (catches of about 50-80 specimens or 300-400 kg/ship and journey) and price of flesh was comparable to that of the original target species. However, catches decreased dramatically within a matter of weeks. An increase in abundance within these depleted areas took place after several months, presumably by migration from other unexploited areas. In another example, a semi-industrial fishery was carried out for several years. One ship made trips of several days covering wide areas unexploited for this species. Catches reached up to 900 specimens (about 5,000kg). Flesh, livers and tails (as lower quality shark fins) were marketed.

Proposed protection or regulation measures

Inclusion in Annex III with zero quota set by the GFCM, in line with NEAFC and EU Regulation.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned: <i>Dipturus batis</i> (Linnaeus, 1758)
	Amendment proposed : <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : Chondrichthyes Order : Rajiformes Family: Rajidae Genus and Species : <i>Dipturus batis</i> Known Synonym(s) : <i>Raja batis</i> Common name (English and French): EN – Common skate; FR - Pocheteau Gris	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i>
	IUCN Red List status: Global: Critically Endangered A2bcd+A4bcd Mediterranean: Critically Endangered A2bcd+A3bcd+A4bcd
Justification for the proposal :	
<p>This large skate appears to have been extirpated from large areas of its former range in the Mediterranean Sea. Its distribution in the region may now be restricted to the western area, off Morocco, Spain and France and comparable trawl surveys suggest that the species has been drastically depleted. The life history and demography of this species allow little capacity to withstand exploitation by fisheries and its large body size renders all size classes, even eggs, catchable in demersal trawls. <i>Dipturus batis</i> is taken as bycatch in demersal multi-species trawl fisheries and measures are needed to protect the remaining population. UNEP MAP RAC/SPA (2003) identified <i>D. batis</i> as a high priority, urging provision of legal protected status in the Mediterranean. Following concerns about this species, actions to prohibit retention and promote its live release have been taken under the EU, which apply to all Community waters. The species should be included in Annex II and these measures should be extended across the Mediterranean.</p>	

Biological data

This is one of the largest species of skate, attaining a length of more than 250 cm. The age and growth of *D. batis* has been reported by Du Buit (1972, 1976) and more recently by Fahy (1991) who examined the vertebrae of 75 individuals landed in Ireland. Du Buit (1976) gave the following growth parameters: Maximum length 253.73cm; $k = 0.057$; $t_0 = -1.629$. Males are thought to mature at a length of 125cm (Du Buit 1972) and although the size at maturity has not been accurately determined for females, an estimate of 150cm was presented in the 2005 Status Report account for this species (Ellis and Walker 2005). Du Buit (1976) determined that maturity is reached at 11 years of age and that individuals may live for 50 years. The overall sex ratio has been reported to be approximately 1:1, although this may differ geographically and seasonally (Fulton 1903; Steven 1933). The fecundity has not been accurately determined but was estimated at 40 eggs/year over the spawning season (Brander 1981). Reproduction is oviparous, like other skates, with large egg-cases covered with close-felted fibres (150-250 mm long and 80-150 mm wide reported in the Mediterranean) (Serena 2005). The eggcases are deposited in spring and summer (Clark 1922, Wheeler 1969, Serena 2005). The young hatch at a lengths of up to 21.2-22.3cm (Clark 1926).

Brief description of the species

A large skate, dark grey on the underside and greenish brown on the dorsal surface, with a long snout and a rhombic shaped, flattened body.

Distribution (current and historical)

Northeast Atlantic, from Madeira and the coast of northern Morocco in the south to Iceland and northern Norway in the north. In the Mediterranean Sea, the former range of this skate included much of the west, north and eastern shelf and slope habitat of the region. However, modern studies suggest that the species may now only be found in the western area of the Mediterranean (Morocco, Spain and France) representing a substantial reduction in area of occurrence of this species. It is not present in the Levantine basin or the Black Sea (Serena 2005). Taxonomic studies on this species are currently underway in the Mediterranean Sea to evaluate its validity in the area (Serena Ed. In press).

Population estimate and trends

A time series of comparative trawl surveys in the Gulf of Lions between 1957-1960 indicate that *D. batis* was historically present in both shelf and slope trawl surveys. It was captured in 10% of hauls ($n=27$) in shelf surveys (coast-150m depth) and in approximately 17% of hauls ($n=37$) in slope surveys (150-800m) (Aldebert 1997). In contrast, comparable surveys carried out from 1966-1995 in the Gulf of Lions (totalling 1,295 hauls) did not record this species (Aldebert 1997). In the Adriatic Sea, the "Hvar" 1948 trawl surveys (based on 138 valid hauls taken in the spring-summer of 1948) revealed that *D. batis* was present in 3.2% of hauls. In a comparable survey conducted in the spring-summer of 1998 (127 valid hauls) (MEDITS) it was not recaptured, suggesting that the species may now be absent from this area (Jukic-Peladic 2001).

The MEDITS survey began in 1994 while another study of the Adriatic Sea had begun in 1985 (GRUND), with each project carrying out one survey per year. A single individual was captured in the first GRUND survey of 1985 and since then no specimens have appeared in the Adriatic in either of these surveys (Marano *et al.* in press). *Dipturus batis* is now regarded as locally extinct in the Adriatic Sea (Tinti *et al.* 2003). Although these surveys are exhaustive, it should be noted that the MEDITS net is thought to have a low sampling efficiency of truly benthic species (Jukic-Peladic 2001).

Along the Algerian coast from 1996-1997, regular systematic surveys of elasmobranchs present in markets have been undertaken. Although eight species of skate have been recorded, *D. batis* has not been reported (Hemida 1998). Tunisian fisheries use prawn trawl and larger 'French' trawls which frequently capture skates and demersal sharks. While this species was documented from Tunisian waters in the early part of the 20th century, it has not been recorded since 1971 and it is now presumed absent from this area (Bradaï 2000).

Habitat(s)

Like other skates, *D. batis* is demersal. It is found from shallow coastal waters down to depths of 600m, although it is primarily found on the shelf to 200m depth (Stehmann and Burkel 1984, Bauchot, 1987, Serena 2005).

Threats

Existing and potential threats

Bycatch in demersal fisheries is the major threat to *D. batis* in the Mediterranean Sea. Benthic trawl effort has increased both numerically and in technological terms in the shelf and slope area of the Mediterranean over the last 50 years. For example, the Gulf of Lions area was initially exploited by small-scale benthic trawl fisheries comprising 27 small low powered boats (total nominal horse power of 2,700hp), more recently effort has increased to a total nominal horse power of 19,940hp (1974-1987). The large body size, slow growth, low fecundity and large size of juveniles of this species makes it especially vulnerable to fishing exploitation when compared to other rajids (Brander 1981, Walker and Hislop 1998, Dulvy *et al.* 2000, Dulvy and Reynolds 2002). All size classes and life-stages are taken in fishing nets, even the eggs (which are often found in the trawl cod-end, Ragonese *et al.* 2003), because the legal mesh size used in much of the Mediterranean is ~20mm.

Exploitation

Dipturus batis is captured as bycatch of multispecies trawl fisheries in the Mediterranean Sea. Probably only large individuals are landed, to be marketed for human consumption. However, the large size at maturity (around 130cm) means that exploitation of both juveniles and adults is likely to be high. The Adriatic Sea is subject to trawling mainly by Italian, Croatian, Slovenian, and Albanian fleets, but no landings data are available (Jukic-Peladic *et al.* 2001).

Proposed protection or regulation measures

Inclusion in Annex II. National protection. The European Union TAC and Quota Regulation for 2009 prohibits the retention of undulate ray on board and requires that catches be released promptly, unharmed, to the extent practical (Council Regulation (EC) No. 43/2009 of January 16 2009). This measure applies to all Community waters and should be extended across the Mediterranean.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Galeorhinus galeus</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <p><input type="checkbox"/> Inclusion in Annex II</p> <p><input checked="" type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Carcharhiniformes</p> <p>Family: Triakidae</p> <p>Genus and Species : <i>Galeorhinus galeus</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN - Tope, FR - Cagnot</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2bd+3d+4bd</p> <p>Mediterranean: Vulnerable A2bd</p>
<p>Justification for the proposal :</p> <p>Survey and fisheries data suggest that <i>Galeorhinus galeus</i> has declined significantly in the Mediterranean Sea and it is now only rarely seen as bycatch. Overfishing from incidental catch, together with habitat degradation caused by intensive bottom trawling are considered the main factors that have produced the decline of the Mediterranean stock. UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries catch should be developed and implemented for this species. Fisheries research, ID and protection of nursery grounds are required under Annex III. A zero quota should also be implemented until sustainable catch rates can be developed.</p>	

Biological data

The life history parameters of *G. galeus* varies between regions. The maximum size recorded in the Mediterranean is ~200cm total length (female) (Capape and Mellinger 1998), larger than in some other regions. Differences are also apparent in the size at maturity in different regions. Size at maturity ranges between 120-135cm for males and 134-140cm for females in various regions (Olsen 1954, Capape and Mellinger 1988, Peres and Vooren 1991, Freer 1992). Reproduction is aplacental viviparity with average litters of 20–35 pups, with as few as 6 and as many as 52 observed with an average of 35 in the Eastern North Pacific (Ripley 1946, Ebert 2003)) produced in spring or early summer after a gestation period of ~12 months; the young vary in length at birth between 26–40cm, depending on the region. The litter size increases in larger females. Females appear to breed every year in the Mediterranean. These animals are very long-lived and are estimated to live for up to 60 years, although estimates vary (from around 22 years to around 40 years to up to 60 years) with region and ageing methods used. In Australia, tags have been returned from animals at liberty for more than 40 years. Age at maturity is 8–10 for males and 10–15 for females (Olsen 1954, Peres and Vooren 1991, Freer 1992, Walker 1999, Ebert 2003). The annual rate of population increase has been estimated by Cortés (2002) at 1.077 (95% C.I. 1.037 to 1.128) and the natural mortality by Smith *et al.* (1998) at 0.113.

Brief description of the species

Slender, long-nosed shark, with a grey dorsal surface and white below, and oval shaped eyes.

Distribution (current and historical)

Widespread in temperate waters. Occurs throughout the whole Mediterranean Sea, but absent from the Black Sea (Serena 2005).

Population estimate and trends

Declines have occurred in the Mediterranean Sea, and it is now only rarely seen as bycatch. It was once common in coastal waters of the Mediterranean. It had high catch rates in fish traps but analyses of these catch series showed a sharp decline even at the beginning of the twentieth century. Ferretti *et al.* (2005) estimated a decline of 99.97% in 25 years. This could be representative of the decline the species experienced in coastal waters at the beginning of the century. It was caught in bottom long line surveys in the Tuscan Archipelago (Mancini, 1922) and Adriatic Sea (Kirinčić and Lepetić, 1955), but there is no record of this species from trawl surveys in the last 30 years from the same areas. *Galeorhinus galeus* appears sporadically in scientific surveys and in places where fishing exploitation is relatively low. It seems more abundant in the west Ionian Sea and Aegean Sea. Analysis of MEDITS trawl survey data from 1994-1999 shows a very low frequency of occurrence for *G. galeus* in the Mediterranean (only 5 positive of 6336 hauls or 0.05 %), although it should be noted that trawling is a minor threat to this species and numbers in trawl surveys would not be expected to be high

Off Italy, Relini *et al.* (2000) reported the capture of *G. galeus* in only one of the 11 zones studied as part of the Italian national project (9,281 hauls in total, around the Italian coast, from 1985-1998), although data on biomass for this species were not provided. Tuna trap data from the Northern Tyrrhenian Sea from 1898 to 1992 shows a dramatic decrease in the abundance of *G. galeus* catches (80 individuals between 1898-1905; only eight for the 1906-1913 period and zero from 1914-1922) (Vacchi *et al.* 2002). These data can be interpreted as an indication of early depletion of the population, at least in shallow waters in this area. This could also have occurred in other Mediterranean areas, where similar fisheries operated historically. Data from the Medits survey for the Adriatic Sea were compared with those from the Hvar survey, carried out in 1948 (Jukic-Peladic 2001). Although no data on individual species biomass are reported, *G. galeus* appeared in the 1948 survey, but not in the Medits survey. Data on elasmobranch landings from the long-line fleet at the Palma de Mallorca (Balearic Islands) central fish auction wharf reported only one specimen in 1996 (B. Reviriego pers.comm.), six in 1999 (G. Morey pers.comm.) and recent regular visits have reported no further specimens. In addition, *G. galeus* was not reported in the official landing statistics, since it did not appear in the 1999-2001 period, thus exacerbating the difficulty of monitoring the population. For the Spanish long-line fleet off the Levantine coast, operating mainly in the Alboran Sea and around the Balearic Islands, the observed catch rate (as bycatch) of *G. galeus* is about five specimens per ship and year (D. Macías pers.comm.) In Tunisian waters, where fishing pressure is lower than off the northern Mediterranean coasts, the species is considered to be very rare (Bradai 2000).

Habitat(s)

Most abundant in cold to warm temperate continental seas, from the surfline and very shallow water to well offshore (Compagno in prep). The species is primarily found near the bottom but ranges through the water column even into the pelagic zone. A coastal-pelagic shark of temperate continental and insular waters, often found well offshore (but not oceanic) as well as at the surfline, in shallow bays, and in submarine canyons. Found at depths of 2 to 471m (Compagno in prep). The species appears to have fairly discrete pupping and nursery areas, which are often in shallow, protected bays and estuaries (Olsen 1954).

Threats

Existing and potential threats

Overfishing from incidental catch, together with habitat degradation caused by intensive bottom trawling are considered the main factors that have produced the suspected decline of the Mediterranean stock. Stock collapses (declines of >80%) documented in the Northeast Pacific, Southwest Atlantic and Australia demonstrate the extreme vulnerability of this species to fisheries exploitation (Walker *et al.* 2006).

Exploitation

Although no direct fisheries for *G. galeus* exist in the Mediterranean, it was traditionally caught as bycatch in gillnets and trammel nets in the Northern Adriatic Sea, also as bycatch of semi-industrial (Adriatic Sea and Sicily) and artisanal fisheries in pelagic and demersal nets, deep longlines, drift lines and troll lines (Fisher *et al.* 1987). A small directed gillnet fishery targeting *Mustelus spp.* and *Squalus spp.* operated off the Balearic Islands in the past which reported catches of *G. galeus*. In recent times, only bottom trawl and longline fisheries have reported continuous bycatch of *G. galeus*, and such reports are very rare nowadays. The development of the bottom trawl fisheries in the Mediterranean over the first half of the 20th century in the northern range, and during the latter half in the southern range, is considered as one of the principal factors responsible of the decline of many demersal elasmobranch species. The meat of this species is retailed in European markets, from catches in the Northeast Atlantic and (formerly) Mediterranean and from imports. Its fins and liver oil are also utilised.

Proposed protection or regulation measures

Inclusion in annex III. Fisheries research, ID and protection of nursery grounds. Zero quota until sustainable catch rates can be developed.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Gymnura altavela</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Rajiformes</p> <p>Family: Gymnuridae</p> <p>Genus and Species : <i>Gymnura altavela</i></p> <p>Known Synonym(s) : <i>Pteroplatea altavela</i> (Linnaeus, 1758)</p> <p>Common name (English and French): EN – Spiny butterfly ray; FR - Raie-papillon épineuse</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status: Global: Vulnerable A2bd+4bd Mediterranean: Critically Endangered A2bc</p>
<p>Justification for the proposal :</p> <p>This large, unusually shaped ray, appears to have declined massively in the Mediterranean Sea during the past 20 years. Historically, <i>Gymnura altavela</i> was not uncommon in the catch of demersal fisheries (trawl and set nets) throughout the Mediterranean Sea. However, it is absent from MEDITS trawl surveys since 1994 and appears to have disappeared from areas where it was formerly frequently captured. It is only the occasional capture in demersal fisheries that testifies that the species is not extirpated from the region. The Mediterranean population of <i>G. altavela</i> is listed as Critically Endangered on the IUCN Red List of Threatened Species. The available data suggest that it warrants listing on Annex II of the Barcelona Convention.</p>	

Biological data

Maximum size is reported as 220cm disc width (Musick *et al.* unpub. data) in the Northwest Atlantic; sizes exceeding 400cm DW reported off the coast of West Africa (Bini 1967) may be erroneous. Size at maturity is reported as 155cm DW in males and 102cm DW in females (Daiber and Booth 1960). Reproduction is aplacental yolk sac viviparous (young are born after absorbing their yolk sacs), with litter size ranging from 1-6 pups in the Mediterranean (Bigelow and Schroeder 1953, Bini 1967, Capapé *et al.* 1992, Tortonese 1956). Reproduces annually and gestation time is 4-9 months (Capapé *et al.* 1992). Size at birth is 38cm-44cm DW (Bigelow and Schroeder 1953, McEachran and Carvalho 2002). Age at maturity, longevity, average reproductive age, annual rate of population increase and natural mortality are all unknown.

Brief description of the species

A large, broad, diamond-shaped ray with a protruding snout and a short tail with a dorsal spine.

Distribution (current and historical)

Patchily distributed in tropical and warm temperate continental shelf waters on the eastern (Portugal to Ambriz, Angola) and western (from Massachusetts state, USA (42°N) to Buenos Aires Province, Argentina (~38°S)) sides of the Atlantic Ocean, including the Mediterranean Sea, the Black Sea and the Madeira and Canary Islands (McEachran and Fechhelm 1998).

Population estimate and trends

Historically, *Gymnura altavela* was not uncommon in the catch of demersal fisheries (trawl and set nets) throughout the Mediterranean and the southern shores in particular. However, it is absent from the whole of the Mediterranean International Trawl Survey (MEDITS) records (i.e. since 1994) and it is only the occasional specimens that have been caught in demersal fisheries that show that the species is not extirpated from the region. For example, in the 1980s it was quite frequently captured in the Sicilian Channel and landed in Mazzara del Vallo (Trapani, Sicily), but now it is absent from the local catch record (M. Vacchi pers. comm.). One adult male was captured in recent years near Anzio, Italy, now deposited in the collection of the University of Naples (Psomadakis *et al.* 2005) and one specimen captured in the Southern Adriatic in 2000 (Dulčić *et al.* 2003). Few recent records are also available from Mallorca: four anecdotal captures were reported during 2002-2008 and five individuals were observed being marketed at Palma Port during landings surveys between January and February 2009 (G. Morey and O. Navarro pers. comm.). These records are testament that the species is not extirpated from the region. However, the species' occurrence today is so rare that it must have massively declined in the past 20 years.

Habitat(s)

Occurs inshore, in shallow coastal waters over sand and mud generally to depths of 50-55m (Bini 1967, McEachran and Felchman 1998).

Threats

Existing and potential threats

Bycatch in demersal fisheries (trawl and set nets) throughout the Mediterranean is a major threat to this species. Coastal development, pollution and anthropogenic disturbance through tourism activities are also a threat to its shallow coastal habitat in the Mediterranean.

Exploitation

Little information is available on the exploitation of this species in the Mediterranean Sea, since it appears to be so rare now that it is only very occasionally caught. Benthic trawl effort has increased both numerically and in terms of technology in the shelf and slope areas of the Mediterranean over the last 50 years. For example, the Gulf of Lions area was initially exploited by small-scale benthic trawl fisheries comprising 27 small low powered boats (total nominal horse power of 2,700hp), but more recently effort has increased to a total nominal horse power of 19,940hp (1974-1987). Since then half of the fishing effort has been displaced to targeting small pelagic fish (Aldebert 1997). The Adriatic Sea is subject to trawling mainly by Italian, Croatian, Slovenian, and Albanian fleets, however, no landings data are available (Jukic-Peladic *et al.* 2001).

Proposed protection or regulation measures

Inclusion in Annex II, and strict protection in coastal waters and through GFCM regulations.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Hepttranchias perlo</i> (Bonnaterre, 1788)</p> <hr/> <p>Amendment proposed :</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Inclusion in Annex II <input checked="" type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III </p>
<p>Taxonomy</p> <p>Class : Chondrichthyes Order : Hexanchiformes Family: Hexanchidae Genus and Species : <i>Hepttranchias perlo</i> Known Synonym(s) : Common name (English and French): EN - Sharpnose seven-gill shark - , FR - Requin perlon</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status: Global: Near Threatened Mediterranean: Vulnerable A2d+3d+4d</p>
<p>Justification for the proposal :</p> <p>The depth distribution of this deepwater shark (300-1,000m) lies entirely within the range of intensive demersal fisheries in the Mediterranean Sea. There is some evidence that this species has become increasingly rare in the Mediterranean Sea and may have declined. It not known to be targeted, but is landed as bycatch of trawl and longline fisheries targeting other sharks. UNEP MAP RAC/SPA (2003) did not identify <i>H. perlo</i> as a priority, but indications of decline, its presumed high intrinsic vulnerability and continued incidental catch in fisheries, suggest that an Annex III listing may be beneficial.</p>	

Biological data

Maximum size approximately 140 cm. Matures 75 to 85 cm (males), 90 to 105 (Females). Ovoviviparous, number of young 6 to 20 in a litter, size at birth 25 cm. May breed year-round, but gestation time and reproductive periodicity unknown (Paul and Fowler 2003).

Brief description of the species

A moderately small shark, with a slender body, pointed head, large green eyes, a long narrow mouth and seven gill slits, in contrast to the five that most sharks possess.

Distribution (current and historical)

This species is wide-ranging in all tropical and temperate seas except the Northeast Pacific. This species has been recorded throughout much of the Mediterranean Sea, including : Algeria, Albania, Bosnia and Herzegovina, Corsica, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Malta, Morocco, Sardinia, Sicily, Slovenia, Spain, Syria, Tunisia, Turkey. It is absent from the Black Sea.

Population estimate and trends

Population status uncertain, but it is suspected that declines may have occurred in places where deepwater demersal trawl fisheries for shrimp and bony fishes have been operational over the past few decades (Paul and Fowler 2003). There are few data available on current and past catches, and species-specific catch data are needed. In the Mediterranean, *H. perlo* is reported as being quite frequent in Sicilian waters (Sicacca) at the beginning of the 20th century with 40-60 small specimens caught every day (Di Milia 1981, cited in De Maddalena *et al.* 2000). The MEDITS trawl survey programme of the northern Mediterranean only recorded this species in 12 of 6336 hauls, suggesting that the species is rare across this area.

Habitat(s)

Demersal to semi-pelagic, probably ranging well into midwater, on the upper continental slope, most commonly taken in 300 to 600 m, sometimes deeper, recorded to 1,000m. Possibly aggregated near seamounts. Occasionally reports from shallow water are possible misidentifications (Paul and Fowler 2003).

Threats

Existing and potential threats

Fisheries are the primary threat to this species. Although few data are available on the biology of this species, deepwater sharks, such as this, are generally slow-growing, long-lived and produce few young making them intrinsically vulnerable to population depletion. The depth range of this species (300-1,000m) lies within the range of intensive demersal fisheries in the Mediterranean. It will not be protected by the ban on bottom trawling below depths of 1,000m in the Mediterranean, adopted by the General Fisheries Commission for the Mediterranean (GFCM) in February 2005.

Exploitation

Taken as bycatch by a variety of deepwater fisheries. Caught in small to moderate numbers as a bycatch of fisheries utilizing bottom or midwater trawls or as part of deepwater fisheries using bottom longlines, but of minor commercial importance (Paul and Fowler 2003). *Hepranchias perlo* is taken as bycatch year round off the Maltese Islands and along the Adriatic coast, mainly as bycatch in bottom longlines targeting *Mustelus* spp. It is also landed as bycatch by trawlers along the Adriatic coast, particularly in Albania. Fisheries data for this species are often lumped together with *Hexanchus griseus*, making assessment of the true extent of catches/population trends difficult.

Proposed protection or regulation measures

Inclusion in Annex III. Development of fisheries research programmes and management plan under GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Isurus oxyrinchus</i> (Rafinesque, 1810)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input checked="" type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Lamniformes</p> <p>Family: Lamnidae</p> <p>Genus and Species : <i>Isurus oxyrinchus</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN - Shortfin mako; FR - Taupe bleue</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>CMS Appendix II</p> <p>Bern Convention Appendix III</p> <p>Barcelona Convention Annex III</p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2abd+3bd+4abd</p> <p>Mediterranean: Critically Endangered A2acd+3cd+4acd</p>

Justification for the proposal :

Records show that shortfin mako has declined dramatically in the Mediterranean Sea, virtually disappearing from records in some areas. Declines of up to 99% since the mid 20th Century have been estimated in Lamnid sharks (*L. nasus* and *Isurus oxyrinchus*) in the northwestern Mediterranean Sea through meta-analysis of fisheries and survey records and sightings. As a result, the species is assessed as Critically Endangered regionally in the Mediterranean Sea. Unsustainable catch in fisheries is the main threat to this large pelagic shark. Its epipelagic nature exposes it to a variety of fisheries, particularly pelagic longline, drifting or set gill nets and on hook-and-line fisheries wherever it occurs. Shortfin mako may be too rare now in the region to constitute a direct fisheries target. This species is listed on Annex III of the Barcelona convention and UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries catching should be developed and implemented for it. However, because *I. oxyrinchus* is now so rare in the Mediterranean, any catches are likely to be unsustainable and therefore an Annex II listing is proposed to protect the remaining small regional population.

Biological data

The shortfin mako reaches a maximum size of about 4 m (Compagno 2001). Initial age and growth studies in the western North Atlantic suggested that two pairs of growth bands are laid down each year in their vertebral centra, at least in young shortfin makos (Pratt and Casey 1983). However, recent evidence using marginal increment analysis in Mexico (Ribot-Carballal *et al.* 2005) and bomb radiocarbon (Campana *et al.* 2002, Ardizzone *et al.* 2006) indicates that the alternative hypothesis (one pair of growth bands per year; Cailliet *et al.* 1983) is valid. Age at maturity has been determined recently in several populations, including New Zealand (7-9 years for males, and 19-21 years for females Bishop *et al.* (2006)), and the western North Atlantic (8 years for males, and 18 years for females (Natanson *et al.* 2006)). Longevity has been estimated as 29-32 years (Bishop *et al.* 2006, Natanson *et al.* 2006). There is a large difference in size at sexual maturity between the sexes. The shortfin mako is ovoviviparous and oophagous, but what little is known of its reproductive cycle indicates the gestation period is 15-18 months, with a three year reproductive cycle (Mollet *et al.* 2000). Litter size is 4-25 pups (possibly up to 30, mostly 10-18), which are about 60-70 cm long at birth (Garrick 1967, Compagno 2001). There are comparatively few records of pregnant females. Among 26 shark species, the shortfin mako has an intrinsic rebound potential (a measure of its ability to recover from exploitation) in the mid-range (Smith *et al.* 1998). The annual rate of population increase is 0.046 yr⁻¹ (S. Smith pers. comm.) Cortes (2002) calculated a finite rate of increase (λ) of 1.141 (1.098 to 1.181 95% CI, $r = 0.13$) and the average reproductive age as 10.1 (9.2 to 11.1 95% CI) years.

Brief description of the species

A large, fast shark with a dark blue back, white underside and a long pointed snout.

Distribution (current and historical)

Widespread in temperate and tropical waters of all oceans from about 50°N (up to 60°N in the Northeast Atlantic) to 50°S. In the Mediterranean Sea, highest abundance is reported in the western basin and mako are rarely reported in eastern waters (Aegean Sea and Sea of Marmara). Recent investigations suggest that the western basin is a nursery area (Buencuerpo *et al.* 1998). Two shortfin makos a few months old were reported in the Western Ligurian Sea as bycatch of the swordfish longline fishery (Orsi Relini and Garibaldi 2002). They are not reported from the Black Sea. In the Eastern Adriatic Sea, shortfin makos were reported as common a century ago (Katuri 1893 and Kosic 1903), whereas recent publications consider it to be rare (Milišić 1994, Jardas 1996). Soldo and Jardas (2002) report that there have been no records of shortfin mako in the Eastern Adriatic since 1972.

Population estimate and trends

“Tonnarella” (tuna-trap) catches in the Ligurian Sea from 1950 to the 1970s show a rapid decline and eventual disappearance of the shortfin mako (Boero and Carli 1979). Landings data from Maltese waters for 1979-2001 (data from the Maltese fishery department) shows a decline although the fishing pressure was not changed. Historically described as common (end of 19th/beginning of 20th century), Soldo and Jardas (2002) report that there have been no records of shortfin mako in the Eastern Adriatic since 1972. Since 1998, there have been few records of mako sharks from the central and eastern Mediterranean (A. Soldo pers. comm.). Previously, the species was considered common throughout the Mediterranean. Ferretti *et al.* (2008) used records dating back to the early 19th and mid 20th century to reconstruct long term population trends of large predatory sharks in the northwestern Mediterranean Sea. They estimated that lamnid sharks (*I. oxyrinchus* and *L. nasus*) declined by up to 99%, using nine time series of abundance indices from commercial and recreational fishery landings, scientific surveys, and sighting records.

Habitat(s)

Shortfin mako is oceanic, occurring from the surface to at least 500m depth and is widespread in temperate and tropical waters. It is occasionally found close inshore where the continental shelf is narrow. It is not normally found in waters below 16°C (Compagno 2001).

Threats

Existing and potential threats

Unsustainable catch in fisheries is the major threat to this species in the Mediterranean Sea. Shortfin mako is caught in pelagic longline, drifting or set gill nets and on hook-and-line fisheries wherever it occurs.

This species has a long generation period, making it highly vulnerable to over-exploitation and population depletion. It is possible that the western Mediterranean basin is a nursery area from the eastern Central Atlantic population, which is affected by the swordfish longline fishery off the western coast of Africa and Iberian peninsula. Simpfendorfer *et al.* (2008) assessed shortfin mako as being among the species at highest risk of over-exploitation in their study of the pelagic sharks taken in Atlantic longline fisheries, based on three metrics.

Exploitation

Shortfin mako sharks are highly valued for their meat and fins and therefore catch is often retained and fully utilised. Reports of bycatch in “tonnarella” in the Ligurian Sea from 1950 until the 1970s show a rapid decline and eventual disappearance of the shortfin mako (INP 2000). Recent investigations of the shortfin mako bycatch from the swordfish longline fishery in the western basin show that catches from this fishery consist almost exclusively of juveniles. Even though driftnetting is banned in Mediterranean waters, this practise has continued illegally (WWF 2005). The Moroccan swordfish driftnet fleet in the Alboran Sea operates year round, resulting in high annual effort levels (Tudela *et al.* 2005). Even though sharks are a secondary target or bycatch of this fishery, some boats deploy driftnets 1–2 miles from the coast where the chance of capturing pelagic sharks is higher. The catch rate for shortfin mako is nearly three times higher in boats actively fishing for sharks (from 0.6 to 1.9 N/fishing operation and 0.06 to 0.14 catch per km net). Both annual catches and mean weights of shortfin mako have fallen as a result of fishing mortality in the Moroccan driftnet fishery, illustrating the likely impact of this illegal fishery on stocks in the Alboran Sea and adjacent Atlantic (Tudela *et al.* 2005). Megalofonou *et al.* (2005) reported 321 specimens caught as bycatch in tuna and swordfish fisheries in the Mediterranean Sea. Of those, 268 specimens were caught in Alboran Sea, 42 in Balearic Islands area, 3 in Catalanian Sea, while only 8 specimens were caught in central and eastern Mediterranean area, eg. Levantine basin. Furthermore, most of caught specimens were juveniles, with only a few large specimens from Levantine basin. Of 595 specimens caught in south Spain waters all of them were immature juveniles (Buencuerpo *et al.* 1998). Recreational fishing has also been reported in the Mediterranean, although there are no official data (A. Soldo pers. comm.).

Proposed protection or regulation measures

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned: <i>Lamna nasus</i> (Bonnaterre, 1788)
	Amendment proposed : <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input checked="" type="checkbox"/> Removal from Annex III
Taxonomy Class : Chondrichthyes Order : Lamniformes Family: Lamnidae Genus and Species : <i>Lamna nasus</i> Known Synonym(s) : Common name (English and French): EN – Porbeagle; FR - Requin-taupe commun	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> CMS Appendix III Bern Convention Appendix III Barcelona Convention Annex III
	IUCN Red List status: Global: Vulnerable A2bd +3d+4bd Mediterranean: Critically Endangered A2bd

Justification for the proposal :

Lamna nasus has virtually disappeared from Mediterranean records. Declines of up to 99% since the mid 20th Century have been estimated in Lamnid sharks (*L. nasus* and *Isurus oxyrinchus*) in the northwestern Mediterranean Sea through meta-analysis of fisheries and survey records and sightings. As a result, the Mediterranean population is listed as Critically Endangered on the IUCN Red List of Threatened Species. Unsustainable catch in fisheries is the main threat to this large pelagic shark. Its epipelagic nature exposes it to a variety of fisheries, particularly longline, and also gill nets, pelagic and bottom trawls and handlines. *Lamna nasus* may be too rare now in the region to constitute a direct fisheries target. This species is listed on Annex III of the Barcelona Convention and UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries catching should be developed and implemented for it. However, because *L. nasus* is now so rare in the Mediterranean, any catches are likely to be unsustainable and therefore an Annex II listing is proposed to protect the remaining small regional population.

Biological data

The porbeagle reaches a maximum reported size of 355cm TL (Francis *et al.* 2008). Males mature at about 195cm TL and females mature at about 245cm TL in the North Atlantic (Jensen *et al.* 2002). Reproduction is oophagous with litters of 1-5 pups (average four) produced, which are 68-78cm TL at birth (Compagno 1984, Gauld 1989, DFO 2001a, Francis and Stevens 2000, Francis *et al.* 2008). Aasen (1963) estimated that the gestation period was about eight months in the North Atlantic and that individual females breed each year. However, Shann (1923) found two distinct size groups of embryos present in the December-February period and suggested that gestation may last 18-24 months. Gauld (1989) noted that a resting period may be present between parturition and fertilisation. Francis and Stevens (2000), Jensen *et al.* (2002) and Francis *et al.* (2008) estimate an 8-9 month gestation period. Birth occurs in spring off Europe. Natanson *et al.* (2002) and Campana *et al.* (2002) examined age and growth in the North West Atlantic population and reported a maximum age of 26 years. However they estimated longevity might be as high as 46 years in an unfished population. Ages at 50% maturity for North Atlantic males and females are 8 and 13 years respectively (Jensen *et al.* 2002).

Brief description of the species

Large, stout, dark grey shark with a white underside.

Distribution (current and historical)

The porbeagle shark is wide-ranging, found in temperate and cold-temperate waters worldwide. No information is available on any changes in the geographic range of *Lamna nasus*, but this species now appears to be scarce, if not absent, in areas where it was formerly commonly reported (e.g. in the Western Mediterranean, Alen Soldo *in litt.* 2003).

Population estimate and trends

Lamna nasus has virtually disappeared from Mediterranean records. In the North Tyrrhenian and Ligurian Sea Serena and Vacchi (1997) reported only 15 specimens of porbeagle during a few decades of observation. Soldo and Jardas reported only nine records of this species in the Eastern Adriatic since the end of 19th century until 2000. Recently two new records were reported (A. Soldo unpublished data). Orsi Relini and Garibaldi (2002) reported two newborn porbeagles were caught as bycatch of the swordfish longline fishery in the Western Ligurian Sea. A young porbeagle, considered to be very recently born was reported in the central Adriatic Sea (Orsi Relini and Garibaldi 2002). A young specimen was also caught in the central Adriatic during big-game fishing. On the basis of its length, it is suggested to be of an age 1-17 months (Marconi and De Maddalena 2001). These records indicate a possible nursery area in Central Mediterranean. During research of bycatch in the western Mediterranean swordfish longline fishery no porbeagles were caught (De La Serna *et al.* 2002). Only 15 specimens were caught during research conducted in 1998-1999 on bycatch of sharks in large pelagic fisheries: catches were reported only in the southern Adriatic and Ionian Sea, mainly by driftnets (Megalofonou *et al.* 2000). Official statistics for Mediterranean area show that the only landings in the Mediterranean were reported in 1996 by Malta – 1t (FAO 2002). Ferretti *et al.* (2008) used records dating back to the early 19th and mid 20th century to reconstruct long term population trends of large predatory sharks in the northwestern Mediterranean Sea. They estimated that lamnid sharks (*I. oxyrinchus* and *L. nasus*) declined by up to 99%, using nine time series of abundance indices from commercial and recreational fishery landings, scientific surveys, and sighting records.

Habitat(s)

The porbeagle shark is a wide-ranging coastal and oceanic species found in temperate and cold-temperate waters worldwide (1^o–18^oC, 0–370m), more common on continental shelves.

Threats

Existing and potential threats

The main threat to porbeagle shark is unsustainable catch in fisheries. The low reproductive capacity and high commercial value of both mature and immature age classes makes this species highly vulnerable to over-exploitation and population depletion.

Exploitation

Porbeagles are a valuable bycatch or secondary target of many fisheries, particularly longline fisheries, also gill nets, driftnets, pelagic and bottom trawls, and handlines (Stevens *et al.* 2005). The high value of porbeagle shark meat means that most 'bycatch' is exploited and the species' fins also enter the shark fin trade. Porbeagles are also popular as recreational species (big game fishing) in some areas of Mediterranean.

Proposed protection or regulation measures

Uplist from Annex III to Annex II to protect the remaining Critically Endangered population.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Leucoraja circularis</i> (Couch, 1838)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Rajiformes</p> <p>Family: Rajidae</p> <p>Genus and Species : <i>Leucoraja circularis</i></p> <p>Known Synonym(s) : <i>Raja circularis</i> (Couch 1838)</p> <p>Common name (English and French): EN – Sandy skate or ray; FR – Raje circulaire</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2bcd+A3bcd+A4bcd</p> <p>Mediterranean: Endangered A2bcd+3bcd+4bcd</p>
<p>Justification for the proposal :</p> <p>This relatively large skate is thought to have undergone significant declines in the Mediterranean Sea to the point where it is now only rarely observed in the northern Mediterranean. It appears to be locally common off Mallorca, Spain, however. Like other large skates, its life history characteristics render it vulnerable to depletion. All size classes, even eggs, are catchable in demersal trawls. This species is taken as bycatch in demersal multi-species trawl fisheries and measures are needed to protect the remaining population. UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries catch should be developed and implemented for <i>Leucoraja</i> spp. This species' heightened threatened status in this region indicates that strict protection is needed under Annex II.</p>	

Biological data

Reproduction is oviparous. Eggcases measure 90 x 50mm (Stehmann and Bürkel 1984). The spawning period is undefined (Bauchot 1987, Notarbartolo di Sciara and Bianchi 1998). Males mature at 70-80cm in the Mediterranean (N. Ungaro pers. comm.) and the maximum recorded size is 120cm (Serena 2005). Age at maturity, longevity, size at birth, reproductive age, gestation time, reproductive periodicity, fecundity, rate of population increase and natural mortality are unknown.

Brief description of the species

Dark brown to sandy coloured, large skate with a slender tail and a short, pointed snout.

Distribution (current and historical)

This species occurs in the Northeast Atlantic, Eastern Central Atlantic and Mediterranean Sea. In the Mediterranean Sea, it occurs in the western basin, to Libya and is absent from the Black Sea. Countries of occurrence include: Albania, Algeria, Croatia, France, Italy, Greece, Montenegro, Morocco, Slovenia, Spain and Turkey (Stehmann and Bürkel 1984, Bauchot 1987, Notarbartolo di Sciara and Bianchi 1998, Serena 2005). This species may now only be found in the western area of the Mediterranean, pointing to a substantial reduction in area of occurrence (Baino *et al.* 2001).

Population estimate and trends

This species was recorded in only 12 of 6336 hauls conducted between 1994-1999 at depths of 10-800m as part of the MEDITS scientific trawl survey programme of the northern Mediterranean (Baino *et al.* 2001). However, recent observations in Mallorca suggest that the species is more common in this area, at least locally, with 19 specimens recorded at a single landing site (Palma port) between January and March 2009 (G. Morey and O. Navarro pers. comm.). The occurrence of sandy ray in the Mediterranean Sea appears to have decreased significantly in the last 50 years. *Leucoraja circularis* was present in both shelf and slope trawl surveys of the Gulf of Lions in 1957-1960 but is now absent from more recent comparable surveys. Between 1957-1960 the sandy ray was captured in >10% of hauls in shelf surveys and in approximately 17% of hauls in slope surveys. Whereas between 1966-1995 it was not recorded at all from 1,295 hauls in eight trawl surveys (Aldebert 1997). In the south Ligurian and north Tyrrhenian seas this species can be considered rare based on capture rates, from 1985 to 2005 only 10 specimens were caught (352-566 m of depth).

Habitat(s)

Like other skates, this species is benthic. It occurs in offshore shelf waters and on upper slopes, in waters of 50-800m depth. Traditionally, it was thought to be found mainly around 100m depth on sandy and muddy bottoms, though it has been suggested that it is now more abundant in deeper waters. For example, within the Mediterranean, *L. circularis* was previously found on shelf and slope bottoms between 70-275m (mainly at around 100m), but now it is found in deeper waters between 500-800m (Baino *et al.* 2001).

Threats

Existing and potential threats

The main threat to this species is unsustainable bycatch in fisheries in the Mediterranean. Although little is known of the life history of this species, like other large skates, it most likely has slow growth and low fecundity. This combined with the large size of juveniles, make it especially vulnerable to fishing exploitation (Brander 1981, Walker and Hislop 1998, Dulvy *et al.* 2000, Dulvy and Reynolds 2002). All size classes and life-stages are taken in fishing nets, even the eggs (which are often found in the trawl cod-end, Ragonese *et al.* 2003), because the legal mesh size used in much of the Mediterranean is ~20mm. The depth range of this species (50m-800m) lies entirely within the range of intensive demersal fisheries in the Mediterranean. Therefore it will not be protected by the ban on bottom trawling below depths of 1000m in the Mediterranean, adopted by the General Fisheries Commission for the Mediterranean (GFCM) in February 2005. Benthic trawl effort has increased both numerically and in technological terms in the shelf and slope area of the Mediterranean over the last 50 years. For example, the Gulf of Lions area was initially exploited by small-scale benthic trawl fisheries comprising 27 small low powered boats with a total nominal horse power of 2,700hp; more recently effort has increased to a total of 19,940hp (1974-1987). Since then half of the fishing effort has been displaced to targeting small pelagic fish (Aldebert 1997). The Adriatic Sea is subject to trawling mainly by Italian, Croatian, Slovenian, and Albanian fleets, however, no landings data are available (Jukic-Peladic *et al.* 2001).

Exploitation

This species is of local fishery importance in the Mediterranean Sea (Serena 2005). The sandy ray is captured as bycatch of multi-species trawl fisheries and offshore bottom longlines in the Mediterranean.

Proposed protection or regulation measures

Listing in Annex II and implementation of strict legal protection through national legislation and GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Leucoraja melitensis</i> (Clark, 1926)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Rajiformes</p> <p>Family: Rajidae</p> <p>Genus and Species : <i>Leucoraja melitensis</i></p> <p>Known Synonym(s) : <i>Raja (Leucoraja) melitensis</i> (Clark 1926)</p> <p>Common name (English and French): EN - Maltese Skate Or Ray; FR - Raie De Malte</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status: Global (Mediterranean endemic): Critically Endangered A2bcd+3bcd+4bcd</p>
<p>Justification for the proposal :</p> <p>This Mediterranean endemic skate has undergone significant range contraction in this region, most likely as a result of incidental fishing pressure. All size classes are vulnerable to accidental catch in trawl, trammel and gillnet fisheries, due to the small mesh size of the nets used. It is now rare or absent from areas where it was formerly common and its range now appears to be restricted to the Sicilian channel. As a result, <i>Leucoraja melitensis</i> was listed as Critically Endangered on the IUCN Red List of Threatened Species in 2006. The species' remaining range is subject to intense trawling activity and therefore legal protection and possibly protected areas will be essential to conserve the current, small population.</p>	

Biological data

The species reaches a maximum reported size of ~50cm total length (TL) and both sexes have an average size at maturity of 40cm TL (Bauchot 1987, Notarbartolo and Bianchi 1998, Stehmann and Burkel 1984). Breeding occurs throughout the year; however, ovulating females were observed mainly in spring and autumn (Stehmann and Burkel 1984, Serena 2005) and produce 10–56 eggs/year (Bauchot 1987). Specimens recorded in the Strait of Sicily between 1985-2001 ranged in size from 9-42cm TL. Age at maturity, longevity, size at birth, reproductive age, gestation time, fecundity, rate of population increase and mortality are not known.

Brief description of the species

A small bodied skate, with sporadic markings on the dorsal side, including a distinct eye-spot on each wing.

Distribution (current and historical)

Endemic to the southwestern and south central Mediterranean. Historically, this species was restricted to a relatively narrow area of this region, where it was moderately common off Tunisia, common around Malta and rare off Algeria and Italy (Stehmann and Burkel 1984, Bauchot 1987, Serena 2005). It has also been reported from the Aegean Sea off Greece (Bertrand *et al.* 2000). *Leucoraja melitensis* was also reportedly present, historically, in the Gulf of Lions, Ligurian Sea (Aldebert 1997), although it is possible that it may have been misidentified with *L. naevus* in this area, which is widespread in the western Mediterranean. The species' main range now appears to be restricted to the Sicilian channel (Ragonese *et al.* 2003). It is now rare off Malta (Schembri *et al.* 2003) and rare or absent off Tunisia (Bradai 2000).

Population estimate and trends

This species was common to moderately common in areas such from which it is now absent or rare (Malta, Tunisia, possibly Gulf of Lions, France) (Stehmann and Burkel 1984, Schembri *et al.* 2003, Bradai 2000, Aldebert 1997). International MEDITS trawl surveys from 1994-1999 (Baino *et al.* 2001, Bertrand *et al.* 2000) recorded this species in only 20 out of 6,336 hauls (in the western central Mediterranean, the coasts of Thyrrenia, Corsica, Sardinia and Sicily), suggesting that the remaining population is now small and restricted to a small area of its former range.

Habitat(s)

Found on sandy and sandy-muddy substrates. While the species has been recorded from depths of a few metres to 800m, it is more commonly found between 400-800m.

Threats

Existing and potential threats

Incidental fishing pressure is the main threat to this species. Benthic trawling effort over the continental shelf and slope area has increased both with respect to numerical (effort) and technological advances over the last 50 years in the Mediterranean Sea. This species is only rarely present in fish markets, however it is believed that, while only the large individuals are landed for consumption, most size classes are likely to be taken as bycatch in fishing nets because the legal mesh size used in much of the Mediterranean region is small, at ~20mm diameter. In the remainder of this species' range within the Mediterranean (the Sicilian channel around Malta), its depth distribution coincides with that of intensive trawling activity. The strait of Sicily is the most intensely exploited region of the Italian coast. It has the most fishing vessels in operation, compared to other sectors of the basin.

Exploitation

This species is taken as bycatch of demersal trawl, gillnet and bottom longline fisheries (Bauchot 1987), although it may be too small to be taken regularly by the latter gear. Historically, it was taken in these fisheries off Tunisia (Bauchot 1987) and other areas of its former range. The remainder of this species' range (the Sicilian channel around Malta) is intensely exploited, largely by Italian multipurpose artisanal vessels using bottom longlines, gill-nets, trammel nets and trawls (trawl vessels constitute 11% of the fleet) (Relini *et al.* 2000). Skates are taken as bycatch and mainly discarded by these fisheries (Ragonese *et al.* 2003), although nothing is known of post-discard survival. Tunisian and Maltese vessels also operate in this area, however these fleets are not thought to exert the same pressure as the Italian fleet.

Proposed protection or regulation measures

Listing in Annex II and implementation of strict legal protection through national legislation and GFCM as a matter of acute urgency. Identification and protection of spawning grounds.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Mustelus</i> spp: <i>Mustelus asterias</i> (Cloquet, 1821), <i>Mustelus mustelus</i> (Linnaeus, 1758) <i>Mustelus punctulatus</i> (Risso, 1826)</p>
	<p>Amendment proposed :</p> <p><input type="checkbox"/> Inclusion in Annex II</p> <p><input checked="" type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Carcharhiniformes</p> <p>Family: Triakidae</p> <p>Genus and Species : <i>Mustelus</i> spp: <i>Mustelus asterias</i>, <i>Mustelus mustelus</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN - Starry Smoothhound, EN - Common Smoothhound; FR - Émissole tachetée, Émissole lisse</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention.)</i></p> <hr/> <p>IUCN Red List status of species</p> <p>Global: <i>Mustelus mustelus</i>: Vulnerable A2bd+3bd+4bd;</p> <p>Global: <i>Mustelus asterias</i>: Least Concern</p> <p>Global: <i>Mustelus punctulatus</i>: Data Deficient</p> <p>Mediterranean:</p> <p><i>Mustelus mustelus</i>: Vulnerable A2ab+3bd+4ab</p> <p><i>Mustelus asterias</i>: Vulnerable A2ab+3bd+4ab</p> <p><i>Mustelus punctulatus</i>: Data Deficient</p>

Justification for the proposal :

Both fisheries landings and scientific trawl survey data indicate large declines in *Mustelus* spp in the Mediterranean Sea. The main threat to these species is unsustainable catch in fisheries. They are taken with demersal trawls, trammel nets, gillnets and longlines in this region. UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries catch should be developed and implemented for this species. The collapse in landings and the species' limiting life-history characteristics indicated that management is urgently needed for these sharks. There seems no reason not to list all three *Mustelus* spp that occur in the Mediterranean Sea, given that they face similar threats, are not distinguished from one another in catch statistics and that there are difficulties involved in their identification.

Biological data

These species have viviparous reproduction; *M. asterias* produces 7-15 pups per litter, each approximately 30cm TL, after a 12 month gestation period (Compagno *et al.* 2005). The gestation period for *M. mustelus* is 9-11 months with annual reproduction and parturition taking place during late April and early May and mating during May and early June off Tunisia (Saïdi *et al.* 2008, Da Silva 2007, Smale and Compagno 1997, Notarbartolo and Bianchi 1998). Female *M. mustelus* give birth to 4-18 pups per litter and larger females have significantly larger litters (Fischer *et al.* 1987, Saïdi *et al.* 2008, Smale and Compagno 1997). Size at birth for *M. mustelus* is 34-42cm TL (Saïdi *et al.* 2008, Bauchot 1987, Serena 2005, Notarbartolo and Bianchi 1998). See Saïdi (2008) for further information.

Mustelus asterias attains a maximum length of 140-150cm and matures at a length of approximately 80-85cm (Fischer *et al.* 1987). Male *M. mustelus* mature at 70-112cm total length (TL) and females at 107.5-124cm TL (Saïdi *et al.* 2008, Da Silva 2007) and 80cm TL reported in the Mediterranean Sea (Bauchot 1987, Whitehead *et al.* 1984, Serena 2005).

Data on the reproductive biology *Mustelus punctulatus* is available from the Gulf of Gabes, Tunisia. Males and females reach a maximum size of 111cm TL and 122cm TL, respectively (Saïdi *et al.* 2009). Males mature at 76-88.5cm TL and females at 88-100cm TL (Saïdi *et al.* 2009). The reproductive cycle is annual, with mating occurring through late May and June. Parturition takes place from mid-May to early June after a gestation period of 11 months (Saïdi *et al.* 2009). Size at birth is 24.5-30.5 cm TL. See Saïdi (2008) for further information.

Da Silva (2007) studied the age and growth of *M. mustelus* off South Africa. Maximum observed age was 25 years. Age at 50% maturity was determined at 10.75 years for females and 9.1 years for males. Using these data and the formula: age of maturity + 0.5*(length of reproductive period in life cycle), generation period can be estimated at 17.8 years. Natural mortality (*M*) for *M. mustelus* was estimated at 0.05 yr⁻¹ (Da Silva 2007).

Brief description of the species

Grey to grey-brown dorsal surface, with a white ventral surface. Slender with two medium to large spineless dorsal fins, horizontally oval eyes and a long angular arched mouth.

Distribution (current and historical)

Mustelus mustelus is distributed from the UK in the Northeast Atlantic, south, including the Mediterranean Sea (excluding the Black Sea), Canary Islands, Morocco and south along the western African coast to eastern South Africa (Compagno *et al.* 2005, Serena 2005, Whitehead *et al.* 1984).

Mustelus asterias is distributed from the Shetland Islands and southern Norway in the Northeast Atlantic, south, including the Mediterranean (excluding the Black Sea) to northwestern Africa in the Eastern Central Atlantic (Compagno *et al.* 2005, Notarbartolo and Bianchi 1998).

The distribution of *M. punctulatus* is uncertain because this species is often confused with *M. mustelus*. It is probably limited to the Northeast Atlantic and Mediterranean Sea (Saïdi *et al.* 2009).

Population estimate and trends

Mustelus asterias is less common than *M. mustelus* in the Mediterranean Sea. Frequency of occurrence in scientific surveys (MEDITS) of the northern Mediterranean Sea was very low, with *M. asterias* recorded in only 5 of 6,336 hauls conducted from 1994-1999 at 10-800m depth (Baino *et al.* 2001). MEDITS recorded *M. mustelus* in 111 (2%) of 6,336 hauls during the same surveys (Baino *et al.* 2001). Aldebert (1997) reports a clear decrease in abundance of *Mustelus* spp in comparable surveys in the Gulf of Lions, southern France, from 1970 onwards. The occurrence of *M. asterias* also decreased in comparable trawl surveys conducted in 1948 and 1998 in the Adriatic Sea, but remained approximately the same for *M. mustelus* (Jukic-Peladic *et al.* 2001). In Hvar trawl surveys conducted in 1948 in the Adriatic Sea occurrence (frequency log-transformed) of *M. asterias* was ~1.0, compared to ~0.1, and 1.0, compared to ~1.0 for *M. mustelus* in comparable MEDITS surveys conducted in the same area in 1998. Landings data reported to FAO for *Mustelus* spp in the Mediterranean and Black Seas show that landings collapsed in the early 1990s (FAO 2008, see below). Furthermore, Turkish landings in the Mediterranean and Black Seas have declined steadily since the early 1980s, from a peak of 10,000-8,000t, to <500t in 2004 (FAO 2008). *Mustelus punctulatus* is common along the Tunisian coasts, mainly in the Gulf of Gabes (Saïdi *et al.* 2009).

Habitat(s) These three species of smoothhound are demersal, *M. mustelus* is found on the continental shelves and uppermost slopes, from the intertidal to at least 350m depth, but usually in shallow waters from 5-50m on sandy and muddy substrates (Bauchot 1987, Zamboni 1999, Serena 2005, Notarbartolo and Bianchi 1998, Compagno *et al.* 2005). *Mustelus asterias* is found in waters of up to ~200m in depth, on sandy and gravelly bottoms (Compagno 1984, Ellis *et al.* 2005a), and may migrate inshore during the summer. *Mustelus punctulatus* is found on the continental shelf to 200m depth (Serena 2005), often on sandy substrates (Saïdi *et al.* 2009).

Threats

Existing and potential threats

The main threat to *Mustelus* spp in the Mediterranean Sea is unsustainable fisheries catches.

Exploitation

Mustelus spp are captured with demersal trawls, trammel nets, gillnets and longlines in this region (Bauchot 1987, STECF 2003). Semi-industrial fisheries in the Adriatic Sea, off Sicily, Spain and Cyprus are known to take these species, and also artisanal fisheries elsewhere. *Mustelus* spp are retained and utilised in the Mediterranean Sea, where they regularly sold for human consumption in many areas (Fischer 1987). Landings data reported to FAO show that landings of *Mustelus* spp in the Mediterranean and Black Seas (probably including *M. mustelus*, *M. asterias* and *M. punctulatus*, of which *M. mustelus* is the most common in this region) steadily increased between 1950 and 1978 to 14000t, after which they fluctuated between ~6500t and 14000t from 1978-1994 (FAO 2008). After 1994, landings dropped significantly, decreasing to 2980t in 1997 and did not exceed 2200t from 2001-2006 (FAO 2008). Furthermore, Turkish landings in the Mediterranean and Black Seas have declined steadily since the early 1980s, from a peak of 10,000-8,000t, to <500t in 2004 (FAO 2008). *Mustelus punctulatus* forms an important component of the multi-species catch of commercial fisheries in the Gulf of Gabes, Tunisia (Saïdi *et al.* 2009).

Proposed protection or regulation measures

Inclusion in Annex III. Development of fisheries research programmes and management plan under GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Odontaspis ferox</i> (Risso, 1810)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Lamniformes</p> <p>Family: Odontaspididae</p> <p>Genus and Species : <i>Odontaspis ferox</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN - smalltooth sand tiger shark; FR - requin feroce</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2abd+4abd</p> <p>Mediterranean: Endangered A2abd+4abd</p>
<p>Justification for the proposal :</p> <p>This large, rarely encountered species is morphologically very similar to <i>Carcharias taurus</i>, but larger and mostly found in deeper water. It has similar life-history traits to the related sandtiger shark <i>C. taurus</i>, which has one of the lowest reproductive rates known amongst chondrichthyans. Although <i>O. ferox</i> is not specifically targeted by commercial fishing activities in the Mediterranean, its presumed very low fecundity makes it susceptible to local extirpation, even at seemingly small capture rates. The species appears to have declined off Croatia, where there have been no recent records, and anecdotal evidence from SCUBA divers in Beirut suggests an erratic decline in the number of sharks being encountered there. UNEP MAP RAC/SPA (2003) identified <i>O. ferox</i> as a high priority, urging provision of legal protected status in the Mediterranean.</p>	

Biological data

Little is known of the biology of this shark, but its reproduction and life-history traits are believed to be similar to the related sand tiger shark (*C. taurus*), which has one of the lowest reproductive rates known amongst chondrichthyans. Reproduction is aplacental viviparous, with oophagy. The species gives birth to only one or two pups, possibly once every two years or longer. Size at birth is ~100-110 cm TL, based on the smallest observed free-living specimens. Males were estimated to mature between 200 and 250 cm and females between 300 and 350 cm total length (Fergusson *et al.* 2008). The maximum recorded size for females is 450 cm TL and 344 cm TL for males (Fergusson *et al.* 2008).

Brief description of the species

Large, stocky shark, grey to grey-brown dorsal surface with a lighter underside with dark spots.

Distribution (current and historical)

Records show a very disjunct distribution throughout most of the world's oceans. In the Mediterranean there are published records from Spain and the Balearic Islands (Lozano Rey 1928), Algeria (Moreau 1881, Dieuzeide *et al.* 1953), northern Tunisia (Capapé *et al.* 1975), Italy (Giglioli 1880, Tortonese 1956, Vacchi and Serena 1997), Pelagic Islands (Zava and Montagna 1992), the Adriatic Sea (Soljan 1975, Morovic 1976, Soldo and Jardas 2002), Greece and the Aegean Sea (Economidis 1973, Papaconstantinou 1988), and Lebanon (George *et al.* 1964, Ben-Tuvia 1971, Mouneimne 1977). Mediterranean sites apparently favoured by *O. ferox* are typically located either along the coasts of islands with deepwater nearby, near offshore seamounts or at mainland localities where continental shelves are narrow, e.g. within the Tyrrhenian Sea, around Sicily, off south-western Malta, off Lebanon, off the southern coast of Cyprus, and around the Dodecanese and Cyclades island groups of the Aegean Sea. Originally recorded off Lebanon by George *et al.* (1964), *O. ferox* is now repeatedly observed by divers near Beirut, where it had previously been misidentified as *Carcharias taurus*. The status of this shark in North African waters of the Mediterranean is patchily known. A small number of specimens are reported and confirmed by preserved dentition from Algerian fisheries (F. Hemida, USTHB/ISN, Algiers, pers. comm.), and literature and contemporary records for Tunisia are equally scant (Capapé *et al.* 1976). However, specimens are likely still landed at Tunisian ports, from fisheries operating throughout the Sicilian Channel. There are no contemporary data for this species in Libyan or Egyptian waters but it may occur in the slope waters of the southern Levantine Basin.

Population estimate and trends

A fragmented population and relatively few occurrences suggest that this species may be naturally rare. In the Mediterranean, dedicated efforts to detail captures and other indices of its abundance only began in the past ten years or so, and in particular since 1995. Regional literature and fisheries data concerning historical captures is essentially patchy and lacking in detail, so longer-term trends in its abundance are unknown.

Moreover, fisheries records are sometimes confused by the widespread use of similar common names for different Mediterranean species; e.g., 'tiger' shark in Malta may refer to this species or indeed to the shortfin mako *Isurus oxyrinchus* or the sandtiger shark *Carcharias taurus*. The species is uncommon in the Adriatic Sea but its current status there is difficult to assess, because of fishery misidentification with other sharks. Until the mid 1990s, occurrences off Croatia included relatively small (<200 cm TL) specimens caught by trawls and deepwater bottom longlines, which were locally confused with, and marketed as, smoothhound *Mustelus* spp. (Soldo and Jardas 2002). Since then there have been no more records of the species in the Adriatic (A. Soldo, pers. comm.). Concern for the status of this shark in the Mediterranean is supported by records from New South Wales (NSW), Australia, where specimens of all sizes were caught by trawling on the upper slope. Survey and commercial catch data suggest that numbers of *O. ferox* on the NSW trawl grounds have markedly declined (by as much as 50%) since the advent of deepwater commercial trawling in the 1970s. In areas of steep un-trawlable terrain, characteristic of many locations in the Mediterranean Sea, gill-netting and longlining are likely to impact on local populations, with mature individuals being particularly vulnerable. Although *O. ferox* is not specifically targeted by commercial fishing activities in the Mediterranean and elsewhere, its presumed very low fecundity makes it susceptible to local extirpation, even at seemingly small capture rates. Anecdotal data from SCUBA divers in Beirut, who have encountered *O. ferox* at a nearshore reef over more than a decade, suggest an erratic decline in the number of sharks being encountered there despite regular diving at the same site each year.

Habitat(s)

Odontaspis ferox is an active swimming offshore shark, as well as living on or closely associated with the bottom in or adjacent to deep waters along continental and insular shelves and upper slopes to depths to about 850m (Fergusson *et al.* 2008). However, it is occasionally observed in very shallow water. Sightings have recently been made in depths of about 30m, on reefs adjacent to deep drop-offs in Lebanon and possibly off the Transkei coast in South Africa (Fergusson *et al.* 2008). An analysis of 64 *O. ferox* captures worldwide suggests an inverse relationship between shark size and depth, with small juveniles almost exclusively occurring in deepwater (>200m), although the relationship is not strongly defined ($R^2 = 0.129$; $p < 0.05$; Fergusson *et al.* 2008). Mature sized *O. ferox* were caught across their whole depth range (15-850 m) but all small juveniles (<150 cm TL) came from depths greater than 200 m suggesting that parturition occurs in relatively deep water.

Threats

Existing and potential threats

Recent evidence of shallow water aggregations in a number of areas (Mediterranean Sea and Eastern Pacific Ocean) suggests that the species may be more vulnerable to fishing pressure than previously assumed, and potentially susceptible to coastal habitat impacts as well as to over-exploitation because of its presumed very low reproductive capacity. Although this species is not specifically targeted by commercial fishing activities, it likely has very low fecundity making it susceptible to local extirpation through bycatch, even at seemingly small capture rates (Fergusson *et al.* 2008). In recent years, the discovery of at least one apparent aggregation ground for these sharks in the Mediterranean, off Lebanon (Fergusson *et al.* 2008) clearly indicates the vulnerability of these large, rather sluggish sharks. A particular concern must be degradation of favoured inshore habitats which may be used for reproduction during the summer months, as suspected with the Lebanese site. Coastal development for tourism, coupled to uncontrolled spearfishing, unregulated coastal fisheries, pollution and increased human aquatic leisure activities may all seriously impact these sharks whilst inhabiting areas outside their deepwater environment, much as they may account for the contemporary acute decline or even disappearance of the (routinely coastal) sandtiger *Carcharias taurus* from its previous Mediterranean range (Fergusson *et al.* 2002).

Exploitation

Specimens are most often taken nocturnally by bottom gillnets, bottom longlines and vertical setlines operating over, or closely adjacent to, rocky or boulder-strewn seafloors. Trawler captures are likely in various areas (e.g., Sicilian Channel and Adriatic Sea). Occasionally *O. ferox* is caught by artisanal fisheries in the Tyrrhenian Sea off Calabria, Italy (M. Vacchi, pers. comm.).

Proposed protection or regulation measures

Inclusion in Annex II and strict protection through national legislation and zero quota under the GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Oxynotus centrina</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Squaliformes</p> <p>Family: Oxynotidae</p> <p>Genus and Species : <i>Oxynotus centrina</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN- Angular Rough Shark; FR - Centrine Commune</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Vulnerable A2bcd+4bd</p> <p>Mediterranean: Critically Endangered A2bd</p>
<p>Justification for the proposal :</p> <p>The depth distribution of this deepwater shark (300-800m) lies entirely within the range of intensive demersal fisheries in the Mediterranean Sea. This species is classified as Critically Endangered regionally in the Mediterranean, where it has become very rare. It has never been targeted and is generally discarded when captured, however, post-discard mortality is probably high given the depth of capture. UNEP MAP RAC/SPA (2003) did not identify <i>O. centrina</i> as a priority, but new data have highlighted the species' threatened status in this region and continued incidental catch in fisheries, warrant listing on Annex II of the Barcelona Convention.</p>	

Biological data

Capapé *et al.* (1999) reported that females mature at 66 cm and males at 60 cm total length (TL); Serena (2005) report that the species reaches maturity at 50-70cm TL. Maximum size is 150 cm TL (Serena 2005, Compagno *et al.* 2005). although Capapé *et al.* (1999) report a smaller maximum size of 78 cm. Reproduction is ovoviviparous. The species produces litters of 10 to 12 pups once a year (Capapé *et al.* 1999). Size at birth has is 21-24cm TL (Capapé *et al.* 1999).

Brief description of the species

Grey to grey-brown, small, deepwater shark, with a compressed body, triangular in cross section.

Distribution (current and historical)

Eastern Atlantic south, to South Africa and possibly Mozambique (Compagno in prep.). In the Mediterranean Sea this species has been recorded throughout, from the Straits of Gibraltar to Israel, but is absent from the Black Sea. Trawl surveys in 1948 indicated that the species was once present, though uncommon, in the Adriatic Sea however the species has not been recorded in subsequent MEDITS surveys in this area and it may be locally extinct (Dulvy *et al.* 2003). Trawl surveys also suggest that the species is now absent from the Gulf of Lions, France (Aldebert 1997).

Population estimate and trends

Oxynotus centrina was recorded in only 0.6% of 6336 tows conducted in the northern Mediterranean Sea as part of the Mediterranean International Trawl Survey (MEDITS) from 1994-1999 at depths of 10-800m (Baino *et al.* 2001). The majority of catches were made at between 100-200m depth (STECF 2004). These surveys suggest that the species is present in the western central (Tyrrhenian, Corsica, Sardinia, Sicily) area, western (Morocco, Spain and France) and eastern (Aegean) areas. The species was absent from the eastern central area (Adriatic, Ionian and Albania) (STECF 2004). Trawl surveys in 1948 indicated that the species was once present, though uncommon (0.21 % of hauls, 0.25% of surveys, estimated density of 1.15kg km⁻²) in the Adriatic and the absence of the species in subsequent MEDITS surveys suggests increasing scarcity in this area (Dulvy *et al.* 2003). There have been recent records of juveniles caught in the central Adriatic (Lipej *et al.* 2004, A. Soldo pers. comm.). Data collected during other (DESEAS) surveys of the Balearic Sea and Ionian Sea found one specimen in the western Ionian Sea at 800m (Sion *et al.* 2004). Between 1957 and 1960 *O. centrina* was captured in approximately 6% of hauls (n=27) in shelf surveys (coast to 150m) and in approximately 6% of hauls (n=37) in slope surveys (150-800m) in the Gulf of Lions, France (Aldebert 1997). Although it persisted in catches at low abundance up to 1992, it was absent from 139 hauls made during a trawl survey spanning 1994-1995 (Aldebert 1997), suggesting that the species is locally extinct from this area (Dulvy *et al.* 2003). It is considered rare in Tunisian waters.

Habitat(s)

Found on coralline and muddy bottoms, mostly between 100 and 200m depth in the northern Mediterranean sea. It has been recorded from a total depth range of 60-800m depth (Serena 2005, Sion *et al.* 2004) (mostly below 100m).

Threats

Existing and potential threats

This species is taken as bycatch by large offshore bottom and pelagic trawl fleets (Compagno in prep.). The large spiny dorsal fins and relatively large body size make this species highly susceptible to accidental capture in fisheries (Dulvy *et al.* 2003). Most size classes are likely to be taken in fishing nets as the legal mesh size used in much of the Mediterranean is approximately 20mm. The large size at maturity (around 60cm total body length), means that the probability of capture before breeding is probably high. Catches are discarded, and although discards have sometimes been observed alive (F. Serena pers. obs.), mortality is likely to be high given the depth of capture. The depth range of this species (60m-660m) lies entirely within the range of intensive demersal fisheries in the Mediterranean. Therefore it will not be protected by the ban on bottom trawling below depths of 1000m in the Mediterranean, adopted by the General Fisheries Commission for the Mediterranean (GFCM) in February 2005.

Exploitation

In the southern Mediterranean and off the Tunisian coasts this species is taken as bycatch at depths of 60m-100m, where it reproduces (Bradaï *et al.* 2002). The species is of no commercial value in the Mediterranean and is usually discarded immediately because fishermen in the region believe that it brings bad luck (Serena pers. comm.).

Proposed protection or regulation measures

Inclusion in Annex II and prohibition on retention in fisheries through GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Pristis</i> spp - <i>Pristis pectinata</i> (Latham, 1794); <i>Pristis pristis</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Rajiformes</p> <p>Family: Pristidae</p> <p>Genus and Species : <i>Pristis</i> spp: <i>Pristis pectinata</i>, <i>Pristis pristis</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN - Smalltooth sawfish, Common sawfish; FR - Poisson-scie</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>CITES Appendix I</p> <p>IUCN Red List status of species</p> <p>Global: Critically Endangered A2bcd+3cd+4bcd (All species)</p> <p>Mediterranean: Critically Endangered A2bcd+3cd+4bcd</p>
<p>Justification for the proposal :</p> <p><i>Pristis pristis</i> and <i>P. pectinata</i> were once common in the Mediterranean Sea, but are now believed to have been extirpated from this region. Both species are listed as Critically Endangered. UNEP MAP RAC/SPA (2003) identified sawfishes as a high priority for regional and national legal protected status in the Mediterranean. This is clearly needed for any remaining individuals that may be surviving, most likely on the African coast.</p>	

Biological data

All sawfish are ovoviviparous with large females of *Pristis pectinata* producing between 15 and 20 young a year (Bigelow and Schroeder 1953). *P. pectinata* is large-bodied, reaching 550cm and possibly even 760cm TL, *P. pristis* reaches a maximum length of about 500cm. *P. pectinata* grows slowly, so is believed to mature late and large individuals are thought to be very old; the four-generation period could even be 100 years or more. Size at maturity for *P. pectinata* is estimated at 320 cm TL, maximum life span is estimated to be 40 to 70 years and generation times are approximately 27 yr with an annual rate of population increase estimated as 0.08 to 0.13 (Adams and Wilson 1995, Bigelow and Schroeder 1953, Simpfendorfer 2000, 2002, Adams 2005). Simpfendorfer (2000) estimated a population doubling time for *P. pectinata* of between 5.4 and 8.5 years under ideal conditions (no fisheries mortality, no population fragmentation, no habitat modification and no inbreeding depression arising from the genetic consequences of a small population size). He noted that the life history of these species makes any significant level of fishing unsustainable and that recovery from any population decline would be slow (taking decades to a point where extinction risk will be low, or centuries to recover to pre-European settlement levels in the USA).

Brief description of the species

These batoids have flattened bodies, brown to grey backs with a white underside. Long, flattened, tapered snouts displaying pairs of sharp teeth make up one fifth of their total length.

Distribution (current and historical)

The historical range of *Pristis pectinata* was worldwide however it now seems to have been extirpated from the Northeast Atlantic and Mediterranean, although vagrants of this and other species may still occasionally enter the latter through the Suez Canal (Adams *et al.* 2006). *P. pristis* has been recorded from in the Indo-West Pacific around Australia, the Eastern Pacific from the Gulf of California to Ecuador, Western Atlantic from Florida and Louisiana, USA to Brazil, Portugal south to Angola and possibly to Namibia; it is now no longer found in the Mediterranean (Fowler 1936, Bigelow and Schroeder 1953b, Krefft and Stehmann 1973, Stehmann and Burkel 1984, Stehmann 1990, Compagno and Cook 1995a).

Population estimate and trends

Both species were once common in the Mediterranean Sea, but are now believed to be extirpated from this region (Cook and Compagno 2005, Adams *et al.* 2006).

Habitat(s)

These two *Pristis* spp. both inhabit marine and freshwater environments. *P. pectinata* is found in tropical and warm temperate nearshore open waters (Adams *et al.* 2006). They are benthic, spending most of their time on or near the seabed at depths up to 100m for *P. pectinata*, though they may swim to the surface on occasion (Poulakis and Seitz 2004, Simpfendorfer and Wiley 2005).

Threats

Existing and potential threats

The principal threat to all sawfishes is fisheries because their long tooth-studded saw makes them extraordinarily vulnerable to entanglement in any sort of net gear. Degradation of this species' shallow coastal and brackish habitat is associated with high levels of human activity, including through pollution, prey depletion, and coastal or riverine developments, including mangrove clearance, canal development and seawall construction (Simpfendorfer 2002).

Exploitation

Populations are now so depleted that commercial targeting of sawfish stocks for meat is no longer economically viable. Most sawfishes have been and still are killed in broad-spectrum commercial and artisanal fisheries, particularly set net and trawl fisheries that target a very wide range of fishes and invertebrates. Sawfishes are retained in these fisheries, just as they were in former target fisheries, because of the very high value of their products (meat is high quality and fins and rostral saws extremely valuable in international trade).

Proposed protection or regulation measures

Inclusion in Annex II. Strict protection in coastal waters by all Parties to the Barcelona Convention.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned: <i>Raja undulata</i> (Lacepède, 1802) Amendment proposed : <input type="checkbox"/> Inclusion in Annex II <input checked="" type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Class : Chondrichthyes Order : Rajiformes Family: Rajidae Genus and Species : <i>Raja undulata</i> Known Synonym(s) : Common name (English and French): EN – Undulate ray; FR – Raie brunette	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> <hr/> IUCN Red List status of species Global: Endangered A2bd+3d+4bd
Justification for the proposal : <p><i>Raja undulata</i> is rare in the Mediterranean Sea. It is presumably taken as bycatch in multispecies demersal fisheries in this region. It is assessed as Endangered on the IUCN Red List of Threatened Species as a result of steep declines documented in several areas of its range in the Northeast Atlantic. The species' rarity, fragmented distribution and limiting life-history make it vulnerable to depletion and bycatch in Mediterranean fisheries may be unsustainable. Following concerns about this species, actions to prohibit retention and promote live release of <i>R. undulata</i> have been taken under the EU, which apply to all Community waters. As such, the species should be included in Annex III and these measures should be extended across the Mediterranean unless/until data become available to demonstrate that catches are sustainable.</p>	

Biological data

Like other skates, reproduction is oviparous. Estimated asymptotic maximum size is 110cm total length (TL) (Coelho and Erzini 2002). Significant regional differences have been observed in size at first maturity of this species: In Portugal, 50% of females are mature at 76.2 cm TL in the Algarve (southern) region and at 83.8cm TL in the Peniche (western) region, 50% of males are mature at 73.6cm TL in the Algarve and at 78.1 cm TL in Peniche. Age at first maturity for the Algarve population has been estimated to occur at 8.98 years in females and 7.66 years in males (Coelho and Erzini 2006). An annual reproductive cycle has been observed, but differences occur between the different populations: In southern Portugal this species breeds mainly during the winter (Coelho and Erzini 2006), while in the Portuguese west coast it breeds during the winter and the spring (Moura *et al.* 2007). These differences seem to be related to water temperature, with reproduction restricted to periods of colder water. The maximum observed age for this species is 13 years old (Coelho and Erzini 2002) but longevity has been estimated at 21 to 23 years (Coelho *et al.* 2002). The population on the South Portuguese coast has a very slow growth rate ($k=0.11$) (Coelho and Erzini 2002). Natural mortality for this population has been estimated to be 0.20-0.219 year⁻¹ (Coelho *et al.* 2002). Generation period for this species varies from 14.9 to 15.9 years in females and from 14.3 to 15.3 in males. Generation period was estimated using the following formula: average reproductive age = age at maturity + 0.5* (longevity – age at maturity). Similar data are not available from the Mediterranean.

Brief description of the species

Moderately sized skate with a dorsoventrally flattened body, its upper side is yellow-brown and patterned with dark stripes and white spots.

Distribution (current and historical)

This species has a patchy distribution in the Eastern Atlantic, including the Mediterranean Sea, with discrete areas where it may be locally common (southwestern Ireland, eastern English Channel, southern Portugal). In the Mediterranean Sea, it occurs in the Western basin. There are also a few records along the coasts of Israel and Turkey (Serena 2005).

Population estimate and trends

The species is common off southern Portugal (Coelho and Erzini 2006), where it forms a separate population to that on the Portuguese west coast (Moura *et al.* 2007), but is uncommon throughout the Mediterranean Sea (Bertozzi *et al.* 2003, Baino *et al.* 2001). It occurred in only 6 of 6336 hauls conducted from 1994-1999 at depths of 10-800m as part of the MEDITS scientific trawl survey programme of the northern Mediterranean (Baino *et al.* 2001). No information is available on population in the Mediterranean, although large declines have been documented in areas where it was formerly considered locally abundant in the adjacent Northeast Atlantic.

Habitat(s)

This skate occurs in shelf waters to about 200m depth, on sandy and muddy substrates and appears to be more common in shallow waters (Stehmann and Bürkel 1984, Coelho and Erzini 2006). Smaller specimens have been reported in coastal lagoons (specifically in the Ria Formosa coastal lagoon on the South coast of Portugal), which suggests that this species may use these sheltered habitats as nursery areas (Coelho *et al.* 2002).

Threats

Existing and potential threats

Bycatch in mixed species demersal fisheries is a threat to this species. Like many other larger skates, this species possesses life history characteristics that may increase vulnerability to exploitation, reduce rate of recovery and increase the risk of extinction: including delayed age at maturity, long generation time (14-15 years), low fecundity, and consequently slow population growth (Dulvy *et al.* 2000). The ICES Working Group on Elasmobranch Fishes (2008) recommended that no target fishing be permitted on this species because of signs of regional depletion and concerns about its patchy distribution, which means that populations are widely separated, possibly with little exchange.

Exploitation

This species is presumably taken as bycatch in mixed species demersal fisheries, such as trawl and trammel net, within the Mediterranean. Because it is so rare in this region little specific information is available on its exploitation.

Proposed protection or regulation measures

Inclusion in Annex III. The European Union TAC and Quota Regulation for 2009 prohibits the retention of undulate ray on board and requires that catches be released promptly, unharmed, to the extent practical (Council Regulation (EC) No. 43/2009 of January 16 2009). This measure applies to all Community waters and should be extended across the Mediterranean unless/until data become available demonstrating that catches are sustainable.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Rhinobatos</i> spp - <i>Rhinobatos cemiculus</i> (E. Geoffroy Saint-Hilaire, 1817); <i>Rhinobatos rhinobatos</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Rajiformes</p> <p>Family: Rhinobatidae</p> <p>Genus and Species : <i>Rhinobatos</i> spp: <i>Rhinobatos cemiculus</i>, <i>Rhinobatos rhinobatos</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): Blackchin guitarfish, Common guitarfish</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Endangered A4cd</p> <p>Mediterranean: Endangered A4cd</p>
<p>Justification for the proposal :</p> <p><i>Rhinobatos</i> spp have declined in abundance and area of occupancy in the Mediterranean Sea. They were once common in the northern Mediterranean, but were absent from MEDITS trawl surveys between 1994-1999 and appear to be very rare now in the northern Mediterranean. In contrast, <i>Rhinobatos</i> spp are still regularly landed off Tunisia (~200t per year), mainly in the Gulf of Gabes, where they are taken as bycatch year-round and targeted during May-July by a small coastal net fleet. The primary threat to these species is unsustainable catch in fisheries, although coastal habitat degradation may impact their shallow water nursery grounds. UNEP MAP RAC/SPA (2003) noted that there was an urgent need to assess the threatened status of <i>Rhinobatos</i> spp. Both guitarfish were assessed as Endangered globally and regionally in the Mediterranean Sea on the IUCN Red List of Threatened Species.</p>	

Biological data

Both *Rhinobatos* spp reproduce by aplacental vivparity, producing 4-6 pups per litter, measuring ~30cm at birth. Gestation lasts 4-6 months in *R. cemiculus* and 6 months in *R. rhinobatos*; both species reproduce once or twice a year.

Data for *R. rhinobatos*: Whitehead *et al.* (1984) reported that *R. rhinobatos* reaches a maximum size of 100cm total length (TL) and Capapé *et al.* (1996) and Enajjar *et al.* (2008) reported 162cm TL and 120cm TL, respectively, in the Gulf of Gabes, southern Mediterranean. Enajjar *et al.* (2008) and Enajjar (2009) recently studied the reproductive biology of this species in the Gulf of Gabes. They report that females and males reach maturity at 79cm TL and 70cm TL, respectively. Gestation lasts 10-12 months and parturition takes place from the end of summer to the beginning of Autumn. Size at birth is 29cm TL (Enjarr *et al.* 2008). Fecundity averages about 5 pups per year in this area. Başusta *et al.* (2008) studied the age and growth of this species off Turkey in the northeastern Mediterranean. Male and females ranged in age from 1-15 and 1-24 years, respectively. Total length ranged from 42 to 147 cm for females and 39 to 124 cm for males.

Data for *R. cemiculus*: Whitehead *et al.* (1984) reported that *R. cemiculus* reaches a maximum size of 180cm, and Capapé *et al.* (1996) reported 230cm TL in the Gulf of Gabes, southern Mediterranean. An important nursery area has been identified along the Lebanon coasts (F. Serena pers. comm.). Enajjar (2009) recently studied the reproductive biology of this species in the Gulf of Gabes. Males and females reach maximum sizes of 166cm TL and 205cm TL, respectively. Males are mature at 112cm TL and females at 1390cm TL. Fecundity averages about 6 pups per year in this area.

Brief description of the species

Brown back with a white underside, with elongated body, flattened head and trunk and wings, distinctive of guitarfish.

Distribution (current and historical)

Both species occur in the Eastern Atlantic and Mediterranean Sea; *R. rhinobatos* occurs from the southern Bay of Biscay, and *R. cemiculus* from northern Portugal, ranging south to Angola. Historically, both species occurred throughout the Mediterranean Sea, but nowadays they are absent or rare throughout much of the northern Mediterranean and may have been extirpated there (Capapé 1989, Whitehead *et al.* 1984, Quignard and Capapé 1971, Fredj and Maurin 1987, Doderlein 1884, Bains *et al.* 2001, Relini and Piccinetti 1991, G. Morey pers. comm.).

Population estimate and trends

There has been a marked decline in the abundance and extent of occurrence of both species in the Mediterranean Sea. *R. rhinobatos* and *R. cemiculus* were historically common in the northern Mediterranean. For example, Doderlein (1884) reported their daily presence on the Palermo fish market. However, they disappeared from bottom trawl surveys, from the Alboran to Aegean Sea within the MEDITS international programme and from the landings in Mazzara del Vallo (M. Vacchi pers. comm.).

They appear to have been extirpated from this area (Relini and Piccinetti 1991). In the Balearic Islands both species were considered typical inhabitants of unvegetated sandy bottoms (De Buen 1935). Old fishermen reported their relative frequency during the first half of the 20th century, but nowadays they seem to be extirpated from the area (G. Morey pers. obs). Given that the two species are demersal, occurring over shelf bottoms at maximum depths of about 100m, their connection with extra-Balearic populations is probably very low. Granier (1964) reported that *R. rhinobatos* was commonly landed in the southern coast of the Mediterranean Sea but that it was scarce on the northern coast at that time (Granier 1964). Nowadays, both species of Mediterranean *Rhinobatos* spp are common off Tunisia, mainly in the Gulf of Gabes, where they are regularly landed as bycatch of trawl fisheries year-round and targeted during May-July by traditional nets (Enjjar *et al.* 2008, M.N. Bradaï pers. comm. 2009). Landings data for recent years show a steady trend, with ~200t of *Rhinobatos* spp landed per year.

Habitat(s) Guitarfish are benthic, living over sandy, muddy, shell and occasionally macro-algal covered substrates. They inhabit shallow water on the continental shelf; *R. cemiculus* occurs to depths of 100m, whilst *R. rhinobatos* occurs to 180m depth.

Threats

Existing and potential threats

The primary threat to guitarfish in the Mediterranean Sea is unsustainable catch in fisheries. The limiting life-history characteristics and inshore habitat of these guitarfish make them vulnerable to population depletion. Pregnant females and adult males congregate in inshore waters for mating and parturition, where they are exposed to coastal fisheries (Başusta *et al.* 2008). Habitat degradation may also impact these species' shallow inshore nursery grounds. Low levels of interconnectivity between geographical subpopulations make these species vulnerable to localised declines and mean that recolonisation may be very slow.

Exploitation

These species are taken as bycatch of a variety of fishing gears, including trawls, trammel nets, and gill nets. They are easily taken in coastal artisanal fisheries. No information is available on targeting of guitarfish in the Mediterranean Sea, but they are known to be targeted for their high value fins in other areas (e.g. Western Africa). These species are easily taken by trawls, such as the Egyptian commercial trawl fishery off the coast of Alexandria. In the Gulf of Gabes, Tunisia, *R. rhinobatos* and *R. cemiculus* are landed as bycatch of trawl fisheries year-round. They are also targeted during May-July using traditional nets by a small coastal fleet (maximum of ten boats). This fleet generally targets other chondrichthyan species, such as *Carcharhinus plumbeus* and *Mustelus* spp (M.N. Bradaï pers. comm. 2009). Regular catches of ~200t of *Rhinobatos* spp per year have been recorded for the last six years.

Proposed protection or regulation measures

Inclusion in Annex II and strict protection in coastal waters by Parties to the Barcelona Convention. In addition, development of fisheries research programmes and a management plan under GFCM, on the basis that these species are still regularly taken in Tunisian waters.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i>	Species concerned: <i>Rostroraja alba</i> (Lacepède, 1803) Amendment proposed : <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input checked="" type="checkbox"/> Removal from Annex III
Taxonomy Class : Chondrichthyes Order : Rajiformes Family: Rajidae Genus and Species : <i>Rostroraja alba</i> Known Synonym(s) : <i>Raja alba</i> Common name (English and French): EN - White skate; FR - Raie blanche	Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i> Bern Convention Appendix III Barcelona Convention Annex III IUCN Red List status: Global: Endangered A2cd+4cd Mediterranean: Critically Endangered A2cd+4cd
Justification for the proposal : This species appears to have undergone a significant decline in abundance and extent of occurrence in the Mediterranean Sea. The life history and demography of this species allow little capacity to withstand exploitation by fisheries and its large body size renders all size classes, even eggs, catchable in demersal trawls. <i>Rostroraja alba</i> is taken as bycatch in demersal multi-species trawl fisheries and measures are needed to protect the remaining population. Following concerns about this species, actions to prohibit retention and promote live release of <i>R. alba</i> have been taken under the EU, which apply to all Community waters. The species is currently listed under Annex III of the Barcelona Convention, but should be included in Annex II and these measures should be extended across the Mediterranean.	

Biological data

Males are estimated to mature at 130cm total length (TL) and females at 120cm (Capapé 1976). Maximum recorded size is 200cm, but they more commonly reach between 60-150cm TL (Bauchot 1987). Gestation period is 15 months and females produce between 55-156 eggs per year. Egg cases measure 160-200 cm in length and 130-150 cm in width (Stehmann and Burkel 1984, Serena 2005).

Brief description of the species

A large, pale, skate with a pointed snout.

Distribution (current and historical)

This species occurs in the Eastern Atlantic, from the southern British Isles, south to South Africa, including the Mediterranean Sea. Formentera Island appears to be an important area, where a local 'hotspot' of this species exists (G. Morey pers. comm. 2009).

Population estimate and trends

This species appears to have undergone a significant decline in abundance and extent of occurrence in the Mediterranean Sea. It was previously common and regularly captured by fisheries in Tunisian coastal waters (Capapé 1976), but it is now considered rare along the Tunisian coast (Bradai 2000). In the Adriatic Sea, comparative trawl surveys indicate that *Rostroraja alba* was present in 4% of hauls of the 'Hvar' 1948 survey (based on 138 valid hauls in depths of up to 400m). In later surveys of the same area (Italian national trawl survey National Group for Demersal Resource Evaluation (GRUND), which began in 1982, and the MEDITS survey, which began in 1985) the species was captured sporadically and infrequently, typically in <2.6% of hauls annually and 1.7% of hauls in the central, Northern and southern Adriatic Sea (Marano *et al.* 2003). *Rostroraja alba* was described as being more or less frequent in the Northwestern Mediterranean (1965) and the French coast (1950-60s) and Italian Seas (1972) (Capapé 1976). However, a time series of comparative trawl surveys running from 1957-1995 in the Gulf of Lions, in the Eastern basin of the Mediterranean failed to catch any white skate specimens. This consisted of eight separate surveys, conducted by four survey vessels. A total of 1,359 tows were carried out on shelf and slope areas extending from the coast to 800m in depth (which includes the known depth range of this species) (Aldebert 1997).

The species appears to have become very rare in the Mediterranean. In MEDITS trawl surveys from 1994-1999 across the whole northern Mediterranean, at depths of 10-800m, it was recorded in only nine of 6336 hauls (Baino *et al.* 2001). It was only recorded in the western central area of the Mediterranean, suggesting that extent of occurrence has declined. It is only very sporadically reported in other areas, for example, only one specimen was caught with a bottom trawl net by a commercial vessel in Livorno (the Ligurian Sea) in 2003 (Serena *et al.* 2003). Also in the Northwestern Ionian Sea, only a single individual of this species was reportedly caught in 1997 (Sion *et al.* 2003). *Rostroraja alba* is also very uncommon around the Balearic Islands, but a local hotspot appears to exist off Formentera Island (G. Morey pers. comm. 2009).

Habitat(s)

This is a benthic species of sandy and detrital bottoms from coastal waters to the upper slope region between about 40-400m and exceptionally down to 500m (Capape 1976, Stehmann and Burkel 1984, Serena 2005). More prevalent in rocky habitats.

Threats

Existing and potential threats

Rostroraja alba is captured as bycatch in multi-species trawl fisheries operating within its range. The large body size, slow growth, low fecundity and large size of juveniles of this species makes it especially vulnerable to fishing exploitation when compared to other rajids (Brander 1981, Walker and Hislop 1998, Dulvy *et al.* 2000, Dulvy and Reynolds 2002). All size classes and life stages are taken in fishing nets as the legal mesh size used in much of the Mediterranean is approximately 20mm. A research project is underway to evaluate the impact of local fisheries on this skate off Formentera Island, where a local 'hotspot' of this species exists. Preliminary data suggest that the major threat to this species is posed by the artisanal fishery, rather than the bottom trawl fishery (G. Morey pers. comm. 2009).

Exploitation

This species is captured as bycatch of multispecies trawl fisheries in the Mediterranean Sea. Probably only large individuals are landed, to be marketed for human consumption. However, the large size at maturity (~120-130cm) means that exploitation of both juveniles and adults is likely to be high. The Adriatic Sea is subject to trawling mainly by Italian, Croatian, Slovenian, and Albanian fleets, but no landings data are available (Jukic-Peladic *et al.* 2001). This species is currently listed in Annex III. However, there has been no regulation of skates and rays in the Mediterranean and current data confirm that exploitation has been unsustainable.

Proposed protection or regulation measures

Uplist from Annex III to Annex II. The European Union TAC and Quota Regulation for 2009 prohibits the retention of white skate on board and requires that catches be released promptly, unharmed, to the extent practical (Council Regulation (EC) No. 43/2009 of January 16 2009). This measure applies to all Community waters and should be extended across the Mediterranean.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Sphyrna</i> spp: <i>Sphyrna lewini</i> (Griffith & Smith, 1834). <i>Sphyrna mokarran</i> (Rüppell, 1837) <i>Sphyrna zygaena</i> (Linnaeus 1758)</p> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Carcharhiniformes</p> <p>Family: Sphyrnidae</p> <p>Genus and Species : <i>Sphyrna zygaena</i>, <i>Sphyrna lewini</i>, <i>Sphyrna mokarran</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): EN – Smooth Hammerhead; FR - Requin-marteau commun</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status of species</p> <p>Global:</p> <p><i>S. zygaena</i>: Vulnerable A2bd+3bd+4bd</p> <p><i>S. lewini</i>: Endangered A2bd+4bd</p> <p><i>S. mokarran</i>: Endangered A2bd+4bd</p>

Justification for the proposal :

Sphyrna spp are estimated to have declined by up to 99% over 107 years in the northwestern Mediterranean Sea. *Sphyrna zygaena* is the main species of hammerhead shark reported from the Mediterranean, but there are also very sporadic records of *S. lewini* and a single record of *S. mokarran* from the region. Unsustainable catch in fisheries is the main threat to these large semipelagic sharks. Their epipelagic nature exposes them to a variety of fisheries, particularly longlines and gillnets, as bycatch in tuna and swordfish fisheries. UNEP MAP RAC/SPA (2003) noted that there was an urgent need to assess the threatened status of *Sphyrna* spp in the region. The available trend data suggest that the species meet the IUCN Red List criteria for Critically Endangered, regionally, in the Mediterranean Sea. Given the evidence for significant, rapid decline in *Sphyrna* spp, continued high fishing pressure and problems with accurate identification to species level, inclusion of the entire genus in Annex II is warranted.

Biological data

Compagno (1984, in prep) reported that the species reaches a maximum size of 370-400cm total length (TL). Stevens (1984) reported that off the east coast of Australia males mature at about 250–260cm TL and females at about 265cm TL. Castro and Mejuto (1995) reported gravid females between 220 and 255cm fork length, but gave no relationship between fork and total length. Bass *et al.* (1975) reported a female *S. zygaena* from South Africa that appeared to have recently mated in February and another female caught in November that containing full-term embryos. Stevens (1984) reported that off the east coast of Australia parturition occurs between January and March, with ovulation at about the same time. The gestation period off eastern Australia would appear to be 10–11 months. Castro and Mejuto (1995) reported 21 gravid females with a mean litter size of 33.5 from the waters of western Africa. Off eastern Australia Stevens (1975) reported litter sizes between 20–49 (mean 32). The sex ratio of embryos is 1:1 (Stevens 1984, Castro and Mejuto 1995). Compagno (1984, in prep) gave the size at birth as 50–61cm. Smale (1991) reported juveniles with open umbilical scars from South Africa at sizes between 59 and 63cm. Possible pupping grounds and nursery areas for this species include the northern Gulf of California and shallow coastal waters off southern Brazil and Uruguay (Vooren 1997, 1999, Vooren and Klippel 2005, Dono *et al.* in prep). Although maximum age has yet to be determined for this species, it is thought that the lifespan of the smooth hammerhead may be 20 years or longer (FLMNH 2008). Further information is required on the biology and life-history parameters of this species.

Brief description of the species

Large hammerhead shark, olive-grey back with a white underside and pectoral fin tips that are dusky coloured below.

Distribution (current and historical)

Sphyrna zygaena is found in temperate and tropical seas, with a wider range than other members of its family (Compagno in prep). The full extent of this species' range in tropical waters may be incompletely known at present, due to probably confusion with the more abundant *S. lewini* (Compagno in prep). The smooth hammerhead appears to be less common in the central Mediterranean, in comparison to the western regions of this sea.

Population estimate and trends

There are few recent records of *Sphyrna* species in the eastern Mediterranean Sea. A total of 16 records of *S. zygaena* were collected in the eastern Adriatic from the 19th century to the 1950s, including reported catches were distributed throughout whole of the eastern coast. A higher number of records were reported during the 19th century in comparison to the 20th century (10 vs. 6, respectively) and the species has not been reported in this area since 1956 (Soldo and Jardas 2002). Although it occurs in open waters of southern Adriatic, it is only caught very rarely (Bello 1999). Megalofonou *et al.* (2000) only recorded four specimens during their survey of shark bycatches and discards in Mediterranean large pelagic fisheries in 1998-1999 (one in the Adriatic, two in the Ionian Sea and one in Spanish Mediterranean waters). There were only 13 records of *S. zygaena* in the Northern Tyrrhenian and Ligurian Seas from the 1960s-1995 and there are no reports of this species during the last five years (F. Serena pers. comm.). Ferretti *et al.* (2008) compiled nine time series of abundance indices from commercial and recreational fishery landings, scientific surveys and sighting records, to reconstruct long-term population trends of large sharks in the northwestern Mediterranean Sea. Of the taxa for which there were enough data to investigate, hammerhead sharks (*Sphyrna* spp) declined the fastest; they appeared to disappear from coastal waters after 1963 and catches declines consistently in pelagic waters in the early 1980s in all sectors. Meta-analysis showed an average instantaneous rate of decline of -0.17 (CI 95%: -0.34, -0.003; time range 178 years) in abundance and -0.36 (CI 95%: -0.56, -0.1-6; time range: 107 years) in biomass, which translated into an estimated species decline of >99.99% in both cases. Walker *et al.* (2005) also report that the species has virtually disappeared from the central-southern Mediterranean Sea since 1986.

Habitat(s) *Sphyrna zygaena* is a coastal-pelagic and semi-oceanic shark, occurring from shallow inshore waters over continental and insular shelves to depths of at least 20m and probably deeper, offshore (Compagno in prep, Compagno *et al.* 2005). The nursery habitat of this species is smooth sandy substrate in shallow waters, down to depths of 10m.

Threats

Existing and potential threats

Unsustainable catch in fisheries is the greatest threat to *Sphyrna zygaena*. The low reproductive capacity and high commercial value of its fins makes this species highly vulnerable to over-exploitation and population depletion. Habitat degradation may also impact these species' shallow inshore nursery grounds.

Exploitation

In the Northeast Atlantic and Mediterranean Sea this species is mainly caught by longlines and gillnets, as bycatch in tuna and swordfish fisheries. Despite a ban on driftnetting in Mediterranean waters, this practice continues illegally (WWF 2005). A recent study of the Moroccan driftnet fleet operating in the Alboran Sea (southwest Mediterranean) and around the Strait of Gibraltar by Tudela *et al.* (2005) indicates that pelagic fishing pressure in this area is beyond the reproductive capacity of several other semi-oceanic shark species that were previously caught with *S. zygaena* (such as *Alopias vulpinus*). Buencuerpo *et al.* (1998) report the highest catches of *Sphyrna zygaena* in the Spanish swordfish fishery from the western African coasts and near the Strait of Gibraltar. De la Serna *et al.* (2002) reported only 8 specimens of *S. zygaena* (0.05%) in a total 17759 sharks caught during a survey of the Spanish Mediterranean Fisheries from 1997-1999. This is significantly lower when compared to results of the same fishery along the west African coast and Iberian peninsula (where 757 specimens in period July 1991 – July 1992 were caught). Only *S. zygaena* and *S. lewini* are reported as individual species in the Food and Agriculture Organisation (FAO) fisheries statistics, however, hammerhead catches are often grouped one category, *Sphyrna* species. The grouping of these species makes identifying actual catches of *S. zygaena* difficult.

Proposed protection or regulation measures

Inclusion in Annex II. Mandatory reporting and live release of bycatch.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Squalus acanthias</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Inclusion in Annex II <input checked="" type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III </p>
<p>Taxonomy</p> <p>Class : Chondrichthyes Order : Squaliformes Family: Squalidae Genus and Species : <i>Squalus acanthias</i> Known Synonym(s) : Common name (English and French): EN - Spiny dogfish; FR - Aiguillat commun</p>	<p>Inclusion in other Conventions : <i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <p>Listed on: CMS Appendix II</p> <hr/> <p>IUCN Red List status: Global: Vulnerable A2bd+3bd+4bd Mediterranean: Endangered A2bd+4bd (Black Sea: Vulnerable A2bd+4bd)</p>
<p>Justification for the proposal :</p> <p>Spiny dogfish reach maturity late, are very long-lived and have very low intrinsic rebound potential. Although trend data are scarce, population declines are reported for this species in the Mediterranean and Black Seas and the species is assessed as Endangered regionally in the Mediterranean Sea. UNEP MAP RAC/SPA (2003) noted that fisheries management programmes should be developed for <i>Squalus acanthias</i>, and an Annex III listing is needed to stimulate such measures.</p>	

Biological data

Spiny dogfish are ovoviviparous. Their 18-22 month gestation period (Compagno 1984) is among the longest of any animal. Pups measure between 20-30 cm at birth (Castro 1983). Fecundity increases with size (Templeman 1944; Nammack *et al.* 1985, Chatzistryou *et al.* 2005). Chatzistryou *et al.* (2005) studied the species' biology in the eastern Mediterranean Sea. They report that females mature at >51.5cm total length (TL) and males at >47cm TL. Castro (1983) reported that, in the North Atlantic, dogfish pup offshore in deepwater wintering grounds. Spiny dogfish reach maturity late and are very long-lived. Nammack *et al.* (1985) reported that individuals in the Pacific grow more slowly and larger than those in the Atlantic. Smith *et al.* (1998) found spiny dogfish to have the lowest intrinsic rebound potential of 26 shark species analyzed.

Brief description of the species

Slender, smooth-skinned dogfish, dark grey to blue dorsal surface with a white underside.

Distribution (current and historical)

Spiny dogfish are cosmopolitan, with principal populations found in the east and west North Atlantic, the eastern South Pacific, the South Atlantic off South America, the Cape coast of South Africa, the southern coasts of Australia and New Zealand, and in the east and west North Pacific (Compagno 1984). In the Mediterranean Sea, *S. acanthias* is present in greater densities (22.7 kg/km²) in the eastern basin than in the western basin (only 0.8 kg/km²) (Serena *et al.* in press).

Population estimate and trends

There are very few trend data. Jukic-Peladic *et al.* (2001) do not report any significant change in occurrence of *S. acanthias*. Aldebert (1997) reports a decline in observations of *S. acanthias* landings beginning in the 1980s. Anecdotal evidence from fishermen interviews in the Balearics indicates a significant decline in abundance in captures with bottom longlines and gillnets over 17 years from 1985/6 (Gabriel Morey, personal communication). Directed fisheries undertaken for this species during the 1970s ceased as a result of these stock declines. The species is most abundant in the Eastern Central area (southern Adriatic, Ionian and Albanian Sea), less so in the Eastern Aegean, and fairly scarce elsewhere. Spiny dogfish occurred in 5% of MEDITS trawls (1994-98) especially in shallower waters. There has been no apparent trend in abundance during more recent years (1994-2004) across the Mediterranean basin, or at least stochastic variability is high enough to prevent the identification of statistically significant trends (Serena *et al.*, in press). These data were used to calculate a total standing stock biomass in the entire MEDITS area of 6,682 tonnes. Distribution of total biomass indices for *S. acanthias* identified two important concentrations, in the Northern Adriatic (standing stock of about 2947 tons) and South Aegean Sea (about 2190 tons) (Serena *et al.* in press). Although trend data are scarce for the Black Seas, some declines have been observed. A stock assessment for the Black Sea stock (Prodanov *et al.* 1997) identified a decline in abundance of *Squalus acanthias* of 60% between 1981 and 1992. Turkish landings of *S. acanthias* in the Black Sea declined by 75% from the early 1980s to the early 1990s (Prodanov *et al.* 1997).

A more recent study by Düzgüneş *et al.* (2006) identified similar trends. Indeed, production has gradually decreased in the Black Sea, and reached 645 metric tons for Turkish waters and 430 metric tons for the Black Sea. According to the latest catch data, Black Sea and Eastern Black Sea catches have decreased 67 % and 62 %, respectively (Turkish State Statistics Institute, 2004). Moreover, the total landings of spiny dogfish in this area showed a peak in 1980-84 (11,126 metric tons), followed by fluctuations during the 1990s and a decline after the early 2000s (Turkish State Statistic Institute, 1971-2004).

Habitat(s)

Depth distribution in the Mediterranean is from 20-30 m down to 800m, with peaks of abundance in shallow water (to 50m) and from 200-500m. Usually coastal and demersal, they migrate north and south as well as nearshore and offshore in 7-15°C water (Compagno 1984). Primarily epibenthic, they are not known to associate with any particular habitat (McMillan and Morse 1999).

Threats

Existing and potential threats

The principal threat to this species is over-exploitation. Locally high biomass initially supports large catches, but most large-scale spiny dogfish fisheries have depleted populations and collapsed (Ocean Wildlife Campaign 1996). An aggregating habit makes it possible for fishers to continue to target highest value mature females even after stocks have been depleted to a few percent of baseline. Because this species is also taken as a bycatch in mixed species fisheries, fishing pressure can continue even after stocks have been so seriously depleted that they can no longer support viable fisheries. There are potential impacts on spiny dogfish associated with loss and habitat degradation. Coastal development, pollution, dredging and bottom trawling affect coastal or benthic habitat on which spiny dogfish or their prey rely (ASMFC 2002).

Exploitation

The species is taken as a bycatch in mixed species fisheries, with bottom trawls, gillnets, line gear, and by rod and reel. It has also been targeted in the Mediterranean Sea, for example, off the Balearic Islands, where directed fisheries conducted during the 1970s ceased as a result of stock declines in the late 1980s. As European stocks decline, demand is being met by frozen imports from 25 countries, dominated by the US and Argentina. According to the Food and Agricultural Organization (FAO), dogfish catches reached a peak in 1972 (73,500 t) then declined and stabilized in a range between 36,000 and 51,000 t in the 1990s. Most of the catch reported to FAO comes from the North Atlantic, with minor amounts reported from the Northeast Pacific (maximum 5,314 t in 1988) and the Mediterranean and Black Seas. Official fisheries statistics in most regions only consider landed biomass, and not actual captures..

A decade ago discards of these non targeted species were likely higher than discards nowadays (commercialization of this bycatch species has increased in recent years due to the collapse in most traditional fishing stocks), therefore the real decrease in the population biomass is probably much higher than many of the estimates. Spiny dogfish is not an important commercial species in the Black Sea, but is caught as bycatch by purse seines targeting pelagic fishes like anchovy, sardines and horse mackerel in this area. Turkish landings of *S. acanthias* in the Black Sea have declined in the last few decades: landings increased from 1967-1979, reaching a peak of 12,000t in 1979-1980, after which they dropped to just over 6,000t in 1981 and continued to decrease to ~3,000t in 1991 (Prodanov *et al.* 1997).

Proposed protection or regulation measures

Inclusion in Annex III. Development of fisheries research programmes and management plan under GFCM.

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : Secretariat <i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned: <i>Squatina</i> spp: <i>Squatina aculeata</i> (Dumeril, in Cuvier, 1817), <i>Squatina oculata</i> (Bonaparte, 1840) <i>Squatina squatina</i> (Linnaeus, 1758),</p>
	<p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input checked="" type="checkbox"/> Removal from Annex III (for <i>S. squatina</i>)</p>
<p>Taxonomy</p> <p>Class : Chondrichthyes</p> <p>Order : Squatiniformes</p> <p>Family: Squatinidae</p> <p>Genus and Species : <i>Squatina</i> spp: <i>Squatina squatina</i>, <i>Squatina aculeata</i>, <i>Squatina oculata</i></p> <p>Known Synonym(s) :</p> <p>Common name (English and French): Angel shark, Sawback angel shark, Smoothback angel shark</p>	<p>Inclusion in other Conventions :</p> <p><i>(Specify here if the species is included on the species list of other relevant conventions, in particular: CITES, CMS, ACCOBAMS, Bern Convention .)</i></p> <hr/> <p>IUCN Red List status:</p> <p>Global: Critically Endangered A2bcd+3cd+4bcd</p> <p>Mediterranean: Critically Endangered A2bcd+3cd+4bcd</p>

Justification for the proposal :

All three *Squatina* spp that occur in the Mediterranean Sea are listed as Critically Endangered globally and regionally on the IUCN Red List of Threatened Species. Dramatic declines are estimated to have occurred in these species, which appear to have undergone significant range contraction in the Mediterranean. They are now absent from many areas in which they were formerly common. They are probably too rare now to support targeted fisheries, but are easily taken as bycatch of trawls and other demersal fisheries. UNEP MAP RAC/SPA (2003) noted that management programmes for sustainable fisheries capture should be developed and implemented for *Squatina* spp and *S. squatina* is currently listed on Annex III of the Barcelona Convention. However, the disappearance of all three regional *Squatina* spp from much of the northern Mediterranean Sea and their Critically Endangered status indicates that they require strict protection under Annex II. Actions to prohibit retention and promote live release of *S. squatina* in Community waters have been taken under the EU, and these measures should be extended across the Mediterranean and applied to all members of the genus *Squatina*.

Biological data

All *Squatina* species have limiting life-history characteristics. All species are ovoviviparous, with litters of 7-25 young recorded for *S. squatina* and 3-8 young for *S. oculata* (Capapé *et al.* 1990). Female *S. squatina* reach maturity at 128 to 169 cm total length (TL), and males at 80 to 132 cm TL (Lipej *et al.* 2004), with maximum sizes of 183 cm and possibly up to 244 cm (Compagno 1984, in prep.). *S. aculeata* has an estimated average length of 124 cm at maturity (Compagno in prep). Female *S. oculata* mature at 100 cm TL from Tunisian waters (Capapé *et al.* 1990) and 89 cm from Senegal (Capapé *et al.* 2002), males at 71 cm from Tunisia (Capapé *et al.* 1990) and 82 cm from Senegal (Capapé 2002). *S. oculata* reaches a maximum size of 160 cm with *S. aculeata* reaching an estimated 188 cm maximum size (Compagno in prep). *S. squatina* has a gestation period of 8 to 10 months (Capapé *et al.* 1990, Compagno in prep.), with young born in December to February in the Mediterranean, whereas *S. oculata* gives birth in February-April (Capapé *et al.* 1990).

Brief description of the species

Medium-sized sharks with dorso-ventrally flattened bodies, and eyes and spiracles positioned on top of the head. Grey-brown back with the exception of *S. squatina*, which has a grey to reddish or greenish-brown back; all have light and dark spots.

Distribution (current and historical)

S. squatina was historically common over large areas of the coastal, continental and insular shelf of the Northeast Atlantic, from southern Norway, Sweden (including the southern Baltic coast) and the Shetland Islands to Morocco, West Sahara and the Canary Islands, and in the Mediterranean and Black Seas (Compagno in preparation; Compagno *et al.* 2005.). *S. aculeata* and *S. oculata* were historically common over large areas of the Mediterranean Sea and along the western African coast in the Eastern Atlantic, from Morocco to Angola and Namibia (Morey *et al.* 2007).

All three *Squatina* spp. have undergone range contraction. *S. oculata* and *S. aculeata* have virtually disappeared from large areas of their former Mediterranean range, particularly the northern Mediterranean, and parts of the West African coast (Morey *et al.* 2007), although they may still be found in areas of the southern Mediterranean. *S. squatina* is no longer encountered in most areas of the northern Mediterranean (Morey *et al.* 2007). Recently (September 2007) some juvenile specimens of *S. oculata* (ranging from 29-56 cm of TL) have been caught by bottom trawls in Sicilian waters (Scoglitti), which suggests that this may be a nursery ground (Serena pers. comm.)

Population estimate and trends

of *Squatina* spp. are decreasing. All three species have virtually disappeared from much of their former Mediterranean range, where their habitat over the outer continental shelf and uppermost slope, is subject to intense demersal fisheries, especially off the northern coasts. Off the Balearic Islands, catches of *S. squatina* spp. were relatively frequent until the 1970s, becoming increasingly sporadic during the 1980s in coastal artisanal fisheries (trammel nets and gillnets), lobster tanglenets, trawls and bottom longline fisheries. Since the mid 1990s no records of *Squatina* spp. have been reported in the area, suggesting that they are now absent (G. Morey pers. comm.). Relini *et al.* (2000), did not report any captures of *S. aculeata* or *S. oculata* from 9,281 hauls during 22 trawl surveys from 1985-1998 as part of the Italian National Project in the northern Mediterranean (Morey *et al.* 2007). During the MEDITS program (1994-1999), a broad scale survey of the north Mediterranean coastline, spanning from W. Morocco to the Aegean Sea in depths of 10-800 m, *S. squatina* appeared twice, *S. aculeata* appeared once and *S. oculata* was absent entirely from a total of 6,336 tows (Baino *et al.* 2001, Morey *et al.* 2006, 2007). Indeed, it appears that angel sharks are now absent from most of the northern Mediterranean coastline. There is evidence for dramatic declines from historic data from a tuna trap operating in the Northern Tyrrhenian Sea with catches of the genus *Squatina* reported at an average of 134 specimens from 1898 to 1905, down to 15 from 1914 to 1922 (Vacchi *et al.* 2002). This early decline probably marks the beginning of trawling activity in the area, to which angel sharks are highly susceptible. Turkish landings of angel sharks collapsed in the early 1960s and remained at virtually zero since (FAO 2008, see below).

Habitat(s)

Squatina aculeata and *S. oculata* are found in warm-temperate and tropical waters, and *S. squatina* is found in temperate waters. They live on or near the seabed on continental shelves at depths of 30-500m for *S. aculeata*, >20-500m for *S. oculata* and 5-150m for *S. squatina*. *Squatina squatina* may penetrate estuaries and brackish water, it is nocturnal and can be found swimming strongly up off the bottom at night, but is torpid in the daytime and rests on the bottom (Morey *et al.* 2006, 2007).

Threats

Existing and potential threats

The primary threat to angel sharks in the Mediterranean is bycatch in demersal fisheries, particularly trawls but also trawls and bottom longlines. Human disturbance by habitat degradation and tourism are also possible threats to their preferred sandy nearshore habitat. A low rate of exchange between *Squatina* populations makes them prone to local depletion and means that recolonisation will be extremely low.

Exploitation

Squatina spp are particularly catchable with trawls and are also taken by trammel nets and gillnets, lobster tanglenets and bottom longline fisheries. They have been targeted in some areas, but are most likely too rare to support targeted fisheries now, certainly in the northern Mediterranean. Mediterranean countries that report 'angelsharks' to FAO with this species as part of the catch include Albania, Turkey, Malta and France. A type of fishing net for capturing Angel sharks previously existed in the Balearics called 'escatera' ('escat' meaning angel shark in Catalan), suggesting that these species used to be common in the area. Anecdotal evidence from interviews with fishermen in the Balearics indicates that in the last 20 years all species of *Squatina* have diminished drastically (G. Morey pers. comm.). There are only very few records from the Island of Menorca, where an intensive lobster gillnet fishery exists. Demersal fishing pressure is very high in this area, with bottom trawls operating from very shallow waters to about 800 m for shrimp (G. Morey pers comm). Turkish landings of angel sharks in the Mediterranean and Black Seas collapsed in the 1960s and have fluctuated at very low levels since: 6,000t of angel sharks were landed in 1967, after which landings dropped to <500t in 1968 and continued to decrease thereafter to virtually nothing. Since 1998 they have remained at zero (FAO 2008).

Proposed protection or regulation measures

Inclusion in Annex II. The European Union TAC and Quota Regulation for 2009 prohibits the retention of angel shark (*S. squatina*) on board and requires that catches be released promptly, unharmed, to the extent practical in Community waters (Council Regulation (EC) No. 43/2009 of January 16 2009). This measure should be extended across the Mediterranean and applied to all members of the genus *Squatina*.

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Vacchi M., Biagi V., Pajetta R., Fiordiponti R., Serena F. and G. Notarbartolo Di Sciara. 2002. Elasmobranch catches by tuna trap of Baratti (Northern Tyrrhenian Sea) from 1898 to 1922. In: Proceedings of the 4th European Elasmobranch Association Meeting, Livorno (Italy), 2000. M. Vacchi, G. La Mesa, F. Serena and B. Séret (eds). pp:177–183. ICRAM, ARPAT & SFI.

Marine and coastal Bird Species

During the first symposium on the Mediterranean Action Plan for the conservation of marine and coastal birds, held in Villanova I la Geltru, Spain, 2005, Medmaravis has proposed a list of 10 rare marine or coastal bird species. These 10 bird species have been selected on the following criteria: degree of littorality, importance of the breeding and/or wintering populations in the Mediterranean, endemic specificity and population status. This additional list has been approved unanimously by the expert's participant to the symposium.

The form adopted by the Contracting Parties in January 2008, have been fill in by:

X. Monbailliu on behalf of MEDMARAVIS

With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torren, Pierre Yésou

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**Form for proposing amendments to Annex II and Annex III to the
Protocol concerning Specially Protected Areas and Biological
Diversity in the Mediterranean.**

<p>Proposed by :</p> <p>X. Monbailliu on behalf of MEDMARAVIS (January 2009) With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Ceryle r. rudis</i> (Linnaeus, 1758)</p>
	<p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Coraciiformes</p> <p>Family : Alcedinidae</p> <p>Genus and Species : <i>Ceryler. rudis</i></p> <p>English name : Pied Kingfisher</p> <p>French name : Alcyon pie</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention.</p> <p>IUCN Red List (2008) : Least concern</p>
<p>Justification for the proposal :</p> <p>This sub-Saharan kingfisher maintains a small resident population in the eastern Mediterranean, mainly in Egypt, Turkey as well as in Syria along the Euphrates. Small numbers may still breed in Israel and Jordan. Present in winter along the coasts of Cyprus, Lebanon, Israel and Syria. The Mediterranean Pied Kingfisher population is declining due to the degradation of coastal wetlands and river banks. Also killed by fish farmers.</p>	

Biological data

Brief description of the species:

Large kingfisher with long black bill, pied black and white plumage. Rather long tail and prominent crest. Hovers persistently in flight. Male with 2 black bands across chest. Female only one.

Several representations of the Pied Kingfisher ornate ancient Egyptian monuments. Principally piscivorous.

Distribution:

Westernmost breeding site probably along Geniz river (Izmir). Accidental observations in Greece, Montenegro, Russia, Ukraine.

Present along Euphrates and Tigris rivers. Two principal populations in Egypt : Nile delta North of Cairo and upper Nile valley. Small numbers still breed in Israel and Jordan. Presumably extinct as breeder in Lebanon.

Dispersive in Autumn / Winter.

5 subspecies are recognized worldwide. *Ceryle rudis rudis* is restricted to the Middle East and sub-saharan Africa. Other subspecies occupy Iran, Pakistan, south-east Asia.

Population estimate and trends:

No census data available for the Mediterranean region.

Habitat(s) :

Coastal wetlands, near rivers, canals and marshes.

May benefit from creation of dams and from fish farming.

Threats

Existing and potential threats:

- Degradation of coastal wetlands and river banks
- Bio-accumulation of toxins in fish.
- Change in water level of lakes and rivers can flood nestholes.

Current protection measures

none

Proposed protection or regulation measures

- Control of pesticides in rivers.
- Local habitat protection of nestholes.
- Much needed population surveys of Mediterranean populations.

Bibliographical references

Apart from some detailed behavioural studies, no scientific papers on mediterranean populations of Pied Kingfisher.

General paper: Sirajuddin S. and A. Fraser (2006) : *Ceryle rudis*.

On-line. Animal Diversity Web

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by :</p> <p>X. Monbailliu on behalf of MEDMARAVIS (January 2009) With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Charadrius alexandrinus</i> (Linnaeus, 1758)</p> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Charadriiformes</p> <p>Family : Charadriidae</p> <p>Genus and Species : <i>Charadrius alexandrinus alexandrinus</i></p> <p>English name : Kentish Plover</p> <p>French name : Gravelot à collier interrompu</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention, Bonn Convention (AEWA agreement).</p> <p>IUCN Red List (2008) : Least concern</p>
<p>Justification for the proposal :</p> <p>Typical Mediterranean wader breeding primarily along sandy beaches.</p> <p>Populations declining because of coastal tourism developments.</p>	

Biological data

Brief description of the species:

Small pale plover with similar plumage pattern to Ringed Plover in flight except for whiter sides of tail-coverts. Lacks a complete neck ring. Identification difficult for adults in winter plumage and juveniles but general appearance quite distinct from common congeners.

Distribution:

About 10 subspecies occupying different geographical parts of the world.

Palaearctic race = *Charadrius alexandrinus alexandrinus*. Western snowy Plover *Charadrius a. nivosus* occurs in Western US and Mexico. *Charadrius a. tenuirostris* occurs in Gulf of Mexico and Caribbean etc.

According to various authors these geographical races are to be considered as separate species. The Mediterranean shores attract the largest population of the Kentish Plover in the Palaearctic biome.

Population estimate and trends:

Estimated at maximum 27 000 pairs throughout the Mediterranean. Largest populations in Egypt, France, Italy, Spain and Turkey. Eastern Atlantic population (between Mauritania and Denmark) :

About 6 000 pairs. A few hundreds breed also inland (Austria, Hungary).

Migratory to southern Mediterranean shores (mainly Egypt as well as Morocco and Tunisia) and West Africa (mainly Mauritania).

Habitat(s) :

During all seasons predominantly coastal. Breeding areas : sand or pebble beaches, shores of lagoons and saltlakes. Inland steppes and sand deserts. Dry river beds.

Forages on mudflats, coastal lagoons, moist salt flats, beaches

Current protection measures

Species legally protected in most European countries.

Very few beaches with high nest densities are protected.

Threats

Existing and potential threats:

- Habitat destruction by urban development.
- Disturbance by tourists and their dogs during breeding season.
- Loss of coastal wetlands by land reclamation.

Proposed protection or regulation measures

- Protection from human disturbance during breeding season (April – end of June).
- Fencing in of nests to improve hatching success.
- Creation of nature reserves in high density breeding zones.
- Shallow flooding of previously dry mudflats may attract breeding birds.
- Collection of census data notably along Egyptian and Libyan coasts.

Bibliographical references

Absence of scientific papers on *Charadrius a. alexandrinus* throughout the Mediterranean. Only a few short papers on local distribution such as :

Rousseau E. and Y. Kayser (1995) : Note sur les effectifs nicheurs de Gravelots à collier interrompu dans l'Aude. *Alauda*, Vol. 63 : 149 - 152. Thorop O. (2006) : Breeding Waders in Europe. International Wader Study Group. British Trust for Ornithology. Thetford. U.K.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by :</p> <p>- X. Monbailliu on behalf of MEDMARAVIS (January 2009)</p> <p>- With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Charadrius leschenaultii columbines</i> (Lesson, 1826)</p>
	<p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Charadriiformes</p> <p>Family : Charadriidae</p> <p>Genus and Species : <i>Charadrius leschenaultii</i></p> <p>English name : Greater Sand Plover (East Mediterranean race)</p> <p>French name : Gravelot de Leschenault</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention, Bonn Convention (AEWA agreement).</p> <p>IUCN Red List (2008) : Least Concern.</p>
<p>Justification for the proposal :</p> <p>The proposed inclusion concerns the columbinus subspecies of the Greater Sand Plover which has a small isolated population in southern Russia and Turkey. A few may breed also in the Levant (between Syria and Egypt).</p> <p>This population is extremely small : between 1 000 and 1 800 pairs.</p>	

Biological data

Brief description of the species:

Medium-sized plover. Confusion possible with Lesser Sand Plover *Charadrius mongolus* but larger with longer bill and legs. Columbinus subspecies has a more slender bill.

In flight feet visible behind tail.

Distribution:

East Mediterranean population (Columbinus) confined to southern Russia, Turkey (mainly central Anatolia) and Levant. Has bred in Syria and Jordan. May occasionally breed in Israël and Egypt. Winter visitor in Libya (perhaps breeding).

Accidental visitors in Western Mediterranean.

World population also represented by *Crassirostris* subspecies (eastern Caspian region) and more numerous *leschenaultii* subspecies in Far East.

Long-distance migrator. Mediterranean population over winters between Red Sea and south-east Africa.

Population estimate and trends:

Columbinus population breeds in southern Russia (estimate : 200 - 600 pairs) and Turkey (estimate : 800 -1200 pairs but coverage to be completed). Has bred in Syria (20 - 30 pairs at Al-Kaum, 1967). No trends because of uncompleted census surveys.

Habitat(s) :

Uncultivated treeless steppe vegetation near wetlands at middle altitudes. Postnuptial habitats include littoral mudflats, dried mud plains in coastal belt, tropical coasts

Threats

Existing and potential threats:

Nests solitary. Low density breeding permits to maintain stable population as long as the required habitats are available. Yet, the very small Mediterranean population remains vulnerable.

Current protection measures:

none

Proposed protection or regulation measures

Because of absence of data on the population biology of *Charadrius les-chenaultii columbinus*, census surveys of the breeding areas need to be launched in Turkey and Levant countries. To be completed with post-breeding counts along eastern Mediterranean and African coasts.

Bibliographical references

Very few publications on the eastern Mediterranean population of the Smart M. et al. (2006) : Wildfowl Vol. 56 : 172 - 191 Greater Sand Plover.

Smart M. et al. (2006) : Wildfowl Vol. 56 : 172 - 191

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : X. Monbailliu on behalf of MEDMARAVIS (January 2009) With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Halcyons. smyrnensis</i> (Linnaeus, 1758)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Coraciiformes</p> <p>Family : Alcedinidae</p> <p>Genus and Species : <i>Halcyons. smyrnensis</i></p> <p>English name : White-breasted Kingfisher</p> <p>French name : Martin-chasseur de Smyrne</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention.</p> <p>IUCN Red List (2008) : Least concern.</p>
<p>Justification for the proposal :</p> <p>Small residual populations in eastern Mediterranean countries between Izmir and Cairo. Largest population in Levant countries (probably 1 000 - 1 600 pairs). Highly localized distribution in the Mediterranean.</p> <p>Status :Vulnerable.</p>	

Biological data

Brief description of the species:

Large kingfisher with massive red bill, chesnut head and underbody; blue back, wings and tail. With contrasting white throat and breast. Omnivorous.

Distribution:

Middle East, Iraq, Iran, Pakistan, India. South-East Asia.

Small population in the eastern mediterranean mainly in Turkey and the Levant countries (Israël, Jordan, Palestine, Syria). Probably extinct as breeder in Lebanon. Small population in lower Egypt. Basically resident.

Accidental in Azerbaijan, Bulgaria, Greece, Arabian peninsula.

5 geographical races whereof *Halcyon smyrnensis smyrnensis* in Mediterranean and Middle East

Population estimate and trends:

Probably in the range of 2 000 pairs in the Mediterranean region. Lack of census data.

Habitat(s):

Mainly in lowlands. Along coasts and in river valleys (Jordan, Euphrates, Tigris). Beaches with trees, canals, ponds.

Needs tree or pole to perch near nest (like a shrike). Takes prey on ground stooping from perch or overhead wires. Feeds also while diving into water.

Present also in dry habitats, farmland, dry deciduous woodlands.

Threats

Existing and potential threats:

- Human disturbance

Current protection measures:

none

Proposed protection or regulation measures

- Population surveys in East Mediterranean countries.
- Protection of nest sites in order to improve breeding success.

Bibliographical references

Absence of scientific papers and population data in eastern Mediterranean countries.

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by : X. Monbailliu on behalf of MEDMARAVIS (January 2009)</p> <p>With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Larus armenicus</i> (Buturlin, 1934)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Charadriiformes</p> <p>Family : Laridae</p> <p>Genus and Species : <i>Larus armenicus</i></p> <p>Synonym : Armenian race of the <i>Larus argentatus</i> group; Armenian race of <i>Larus heuglini</i>.</p> <p>English name : Armenian Gull</p> <p>French name : Goéland d'Arménie</p>	<p>Inclusion in other Conventions :</p> <p>Bonn Convention (AEWA agreement)</p> <p>IUCN Red List (2008) : Least concern.</p>
<p>Justification for the proposal :</p> <p>This rare gull is a poorly known species with breeding restricted to Armenia, Georgia and continental Turkey, as well as NW Iran and probably Iraq. It overwinters in the eastern Mediterranean, Bitter Lakes (Egypt), Red Sea and Persian Gulf. Maximum 10 known breeding sites only.</p> <p>The total population migrating along the eastern Mediterranean is estimated at only 11 350 to 15 000 pairs. Bird estimates are non-existing for populations of Iran and Iraq.</p>	

Biological data

Brief description of the species:

Similar to Yellow-legged Gull *Larus michahellis* but slightly smaller, darker grey back and dark eyes. Wingtips with smaller white spots. Short bill with distinctive black band just before the tip.

Distribution:

Breeds in southern Caucasia: Armenia, Georgia (only about 50 pairs), eastern Turkey and irregularly in central Turkey.

Undocumented populations in Irak and Iran.

Partial migrant. Common during autumn and winter in breeding areas and in Israel (Hula valley, Mediterranean coast, Lake Tiberias) and Egypt. Small numbers present in Jordan, Syria and Cyprus.

Population estimate and trends:

Probably 4 000 - 5 000 pairs at Sevan Lake and 4 000 - 8 000 pairs at Arpilich Lake, Armenia; at least 3 breeding sites in Turkey with a total of 300 to 2 000 pairs. About 50 pairs in southern Georgia. Unknown breeding populations elsewhere. Lack of census data does not permit to set population trends.

Habitat(s) :

On islets and shorefront of high mountain lakes. Bred formerly also on cliffs, beaches, marshes and fields but now restricted due to disturbance by people

Threats

Existing and potential threats:

- Disturbance by people, stray dogs, cattle, predators.
- Uncertain food availability due to unstable hydrological conditions in lakes and reservoirs.
- Restriction in the selection of breeding sites: only about 10 breeding sites known.
- Egg collection for human consumption.

Current protection measures:

none

Proposed protection or regulation measures

- Protection from human disturbance in breeding colonies.
- Data collection much needed for population monitoring in this region with poor ornithological coverage. The organization of a small ornithological expedition in the known breeding sites as well as in north-western Iran should give better insight for conservation requirements.

Selected Bibliography

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Environment Protection Department, Malta

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by :</p> <p>X. Monbailliu on behalf of MEDMARAVIS (January 2009) With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Larus genei</i> (Breme, 1839)</p> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Charadriiformes</p> <p>Family : Laridae</p> <p>Genus and Species : <i>Larus genei</i></p> <p>English name : <i>Slender-billed Gull</i></p> <p>French name : Goéland railleur</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention, Bonn Convention (AEWA agreement) and European Bird Directive.</p> <p>IUCN Red List (2008): Least concern.</p>
<p>Justification for the proposal :</p> <p>The known Mediterranean population of this gull species does not exceed 9 400 to 11100 breeding pairs. About 80% of them breed in Italy and Turkey. Other breeding places are highly localized. The Mediterranean population is stable but vulnerable.</p>	

Biological data

Brief description of the species:

Medium sized gull with long drooping bill and long neck. White head. In flight slower wing beats as compared to Black-headed Gull.

Distribution:

Breeds in western Palearctic (mainly Mediterranean and Black Seas regions), Mauritania, Senegal and Asia (Caspian Sea, Lake Termakul, southern Siberia; Lake Urmia, Iran). Probably still breeding in the lower Euphrates / Tigris wetlands (Iraq).

The largest population breeds in Ukraine.

In Mediterranean the main colonies are situated in Turkey (central Anatolian lakes), Egypt, France (Camargue), Italy (2 900 pairs in Apulia, southern Sardinia and Comacchio) and Spain (mainly Ebro delta). Small colonies in Greece and Tunisia. Breeding populations disappeared in Algeria and Morocco.

This species overwinters principally in the Mediterranean deltas, as well as in Tunisian waters and along the Red Sea. Some individuals reach the Canary Islands and the Persian Gulf

Population estimate and trends:

Karauz S. et al. (2000) reports a Turkish breeding population of 3 800 to 5 500 pairs. The other Mediterranean populations do not exceed probably 5 600 breeding pairs, but further census surveys are required in Anatolia and Egypt.

Habitat(s) :

Moist shores of coastal wetlands, sand spits, lagoons with islets after rainy winters, islets in anatolian lakes, dykes with sparse vegetation.

Threats

Existing and potential threats:

About 90% of the W.Palearctic population occurs at probably only 15 breeding sites. The species is consequently evaluated as "localized" and thus vulnerable.

Major threats in colonies are :

- human disturbance, stray dogs and cattle,
- predators (rodents, Yellow-legged and Armenian Gulls),
- habitat destruction : erosion of shorefronts, rising water levels after
- storms, drainage.

Current protection measures :

Species legally protected in most European countries.

Insufficient protection of colonies requiring the creation of nature reserves or equivalent protected areas.

Proposed protection or regulation measures

- Establishment of managed nature reserves in principal colonies as well as temporary protection of fluctuating colonies.
- Erosion prevention and vegetation control of islets and shorefronts holding breeding populations.
- Census surveys of major breeding areas in Egypt and Turkey.
- Census surveys in major wintering areas (deltas, Tunisia, Egypt).
- Co-ordination with ornithologists working in the Azov - Black Sea area (Russia, Ukraine).

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Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

<p>Proposed by :</p> <p>X. Monbailliu on behalf of MEDMARAVIS (January 2009) With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Larus melanocephalus</i> (Temminck, 1820)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order : Charadriiformes</p> <p>Family : Laridae</p> <p>Genus and Species : <i>Larus melanocephalus</i></p> <p>English name : Mediterranean Gull</p> <p>French name : Mouette mélanocéphale</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention, Bonn Convention (AEWA Agreement) and European Bird Directive.</p> <p>IUCN Red List (2008) : Least concern</p>
<p>Justification for the proposal :</p> <p>Endemic species to the Black and Mediterranean Seas. Main colonies in northern Black Sea Region. Small breeding populations in the Mediterranean confined to less than 10 colonies mainly in Greece and Italy.</p>	

Biological data

Brief description of the species:

As Black-headed Gull but bulkier and larger head with heavy bill, longer legs and less pointed wings. Head and upper nape black.

Confusion possible with immature Common Gull.

Distribution :

Confined to western Palaearctic. Core range in southern Ukraine. Main Mediterranean breeding colonies in Greece and Turkey. Isolated breeding in France, Italy (breeding population 2001-2005: 1 500 -2 600 pairs at 7 Adriatic wetlands between Venice and Apulia) and Spain.

Breeds erratically in continental Europe. Marked expansion along Atlantic coast of Europe (Rhine / Scheldt delta, southern England) and southern Baltic (Vistula river, Poland). Recent spread to North Caucasian plains.

Erratic breeding in mixed colonies in western Mediterranean. Bulk of population winters in the Mediterranean. Major wintering area along Catalanian coast.

Population estimate and trends:

Main reproduction zone in the Tendra Bay, Ukraine. 90% of world population estimated at over 300 000 pairs in 1980's but decreasing since (probably less than 60 000 pairs in the 1990's; current population unknown).

Important populations both in Greece (2 fluctuating breeding sites sheltering 100 to 1 000 pairs) and Turkey : 4 900 to 5 500 pairs mainly on islets in Anatolian lakes (e.g. Bolluk Lake) but also breeding in the Aegean : Gediz delta, Büyük Menderes delta.

Many small colonies are fluctuating or even erratic.

Habitat(s) :

Small islets offshore, salty lagoons or in large steppe lakes. Near flooded fields, marshlands and grasslands but favouring short and sparse vegetation. Sometimes barren sandy soil with debris.

Threats

Existing and potential threats:

- Habitat loss by tourist development (Greece).
- Human disturbance in colonies.
- Agricultural restructuring and drainage (Greece, Turkey).

Current protection measures:

Species legally protected in most European countries.

Breeding sites and potential breeding sites in Greece needing urgent effective protection measures (e.g. protection of lagoons in deltas of Axios and Evros).

Proposed protection or regulation measures

- Creation of nature reserves or equivalent protected areas to secure breeding colonies in Greece and Turkey.
- Halt to use of pesticides near breeding colonies.
- Organization of census surveys throughout the Mediterranean during breeding and wintering seasons.
- Collaboration with ornithologists from Russia and Ukraine.

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Chernichko I. (1993) : Breeding population and distribution of seabirds on the northern coast of the Black Sea and the Sea of Azov. In: Aguilar J.S., X. Monbailliu A.M. Paterson: Status and Conservation of Seabirds.

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**Form for proposing amendments to Annex II and Annex III to the
Protocol concerning Specially Protected Areas and Biological Diversity
in the Mediterranean.**

<p>Proposed by :</p> <p>X. Monbailliu on behalf of MEDMARAVIS (January 2009)</p> <p>With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p> <p><i>(Indicate here the Party(s) introducing the amendment proposal)</i></p>	<p>Species concerned : <i>Puffinus mauretanicus</i> (Lowe, PR, 1921)</p> <hr/> <p>Amendment proposed :</p> <p><input checked="" type="checkbox"/> Inclusion in Annex II</p> <p><input type="checkbox"/> Inclusion in Annex III</p> <p><input type="checkbox"/> Removal from Annex II</p> <p><input type="checkbox"/> Removal from Annex III</p>
<p>Taxonomy</p> <p>Order: Procellariiformes</p> <p>Family: Procellariidae</p> <p>Genus and Species : <i>Puffinus mauretanicus</i></p> <p>Synonym : <i>Puffinus yelkouan mauretanicus</i>, <i>Puffinus puffinus mauretanicus</i></p> <p>English name : Balearic Shearwater</p> <p>French name : Puffin des Baléares</p>	<p>Inclusion in other Conventions :</p> <p>Bern & Bonn Conventions, European Bird Directive</p> <p>IUCN Red List (2008) : Critically endangered</p>
<p>Justification for the proposal :</p> <p>The Balearic Shearwater <i>Puffinus mauretanicus</i> was formerly considered a sub-species of the Mediterranean Shearwater <i>Puffinus yelkouan</i> which is listed in Annex 2 of the SPA/BD Protocol.</p> <p>In order to adhere to the current scientific nomenclature it is proposed to add the Balearic Shearwater to Annex II as a full species.</p>	

Biological data

Brief description of the species:

Close in appearance to *Yelkouan* Shearwater but larger body and duller in plumage pattern. Often lack of sharp contrast between upperparts and underparts.

Distribution (current and historical):

Breeding distribution confined to Balearic Islands. Disperses to the North-Eastern Atlantic after breeding between Madeira and southern.

Norway, but mainly along coasts of Portugal, Bay of Biscay, Western France and southern Britain.

Population estimate and trends:

At least 20 000 individuals (e.g. over 18 000 birds counted leaving the Mediterranean in 2008). About 2 000 - 2 400 breeding pairs in 24 colonies (endemic to the Balearic islands). Decreasing slightly.

It is classed as a critically threatened species by BirdLife International because of extreme risk of extinction within three generations (current decline estimated at 7% annually).

Habitat(s) :

Breeding on cliffs (largest colony on coastal cliffs in Formentera) and coastal islets. Gregarious in breeding colonies and at sea.

Threats

Existing and potential threats:

- Lack of protection in breeding colonies. Predation by rodents (Black Rat *Rattus rattus*, Dormouse *Eliomys quercinus*) and by feral cats.
- Collapse or year-to-year variation of fish stocks (anchovies, pilchards).
- By-catch by longlining.
- Human disturbance (visitors with stray dogs in colonies).
- Potential impact by oil pollution.

Current protection measures:

A National Action Plan for the conservation of *Puffinus mauretanicus* was adopted by the Spanish government in 1999.

Official working group established in Spain (Ministry of Environment) to determine status and conservation measures to be taken.

Proposed protection or regulation measures

Apart from current protection measures in colonies aiming at improving adult survival rates, the following actions need priority measures :

- Establishment of Marine Protected Areas (MPAs) in core rafting zones with prohibition of oil tanker traffic and long-line hauling.
- Prevention of seabird bycatch by decreasing visibility of baited hooks.
- This species is vulnerable to oil pollution at sea.
- Contingency plan in case of oil pollution threatening “rafts” (resting groups at sea) in front of the main breeding colonies, feeding sites (e.g. off the Ebro delta) and moulting areas (e.g. off the Taje estuary, along the coasts of La Coruna and Vendée).
- Further research is needed on breeding biology, diet and post-breeding dispersal along the Atlantic coasts of Portugal, Spain, France (Vendée ; western Channel) and southern Britain including surveys at sea linked to seasonal movements of shoaling clupeids.

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- Mayol-Serra J., J.S. Aguilar and P. Yésou (2000) : The Balearic Shearwater : status and threats. In : P.Yésou and J.Sultana (eds.), Monitoring and Conservation of Birds, Mammals and Sea Turtles in the Mediterranean and Black Seas. Proceedings 5th MEDMARAVIS Symposium, Gozo, Malta. Environment Protection Dpt., Malta
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- Yésou P. (1986) : Balearic Shearwaters summering in western France. In : MEDMARAVIS and X. Monbailliu (eds.), Mediterranean Marine Avifauna. *Population Studies and Conservation. NATO-ASI series G.12. Springer Verlag, Berlin.*

Form for proposing amendments to Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

Proposed by : - X. Monbailliu on behalf of MEDMARAVIS (January 2009) - With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.	Species concerned: <i>Sterna caspia</i> (Pallas,1770)
	Amendment proposed : <input checked="" type="checkbox"/> Inclusion in Annex II <input type="checkbox"/> Inclusion in Annex III <input type="checkbox"/> Removal from Annex II <input type="checkbox"/> Removal from Annex III
Taxonomy Order : Charadriiformes Family : Sternidae Genus and Species : <i>Sterna caspia</i> Synonym : <i>Hydroprogne caspia</i> English name : Caspian Tern Franch name : Sterne caspienne	Inclusion in other Conventions : Inclusion in Conventions : Bern Convention, Bonn Convention (AEWA agreement) and European Bird Directive. IUCN Red List (2008) : Least concern
Justification for the proposal : Extremely rare breeder in the Mediterranean region. Highly localized in Egypt, Greece, Turkey, Russia and Ukraine. Post-nuptial visitor in a few western mediterranean wetlands.	

Biological data

Brief Species description:

Large tern. Wings light grey with darker outer primaries.

Crown and nape black. Underparts and tail white. Bill heavy, pointed, red with black tip. Legs black.

Distribution:

Large cosmopolitan range but very local and declining including central Asia, Australia, New Zealand, Arabia, Africa, Madagascar and North America. Main Western Palearctic colonies on islets in North Caspian Sea and North Black Sea. Main mediterranean colonies in Egypt and Turkey. Sporadic breeding in France (Camargue), Greece, Italy (Comachio), Spain. Bred formerly in Corsica, Sardinia, Syria and Tunisia.

Breeds also in Mauritania (Banc d'Arguin) and Baltic region.

Population estimate and trends:

Global population estimated at 180 000 -320 000 individuals. Palearctic breeding population : 4 700 to 4 300 pairs.

Mediterranean population probably less than 600 pairs.

Northern european populations (Finland, Sweden) : stable. Mediterranean population: decreasing, but to be confirmed because of lack of census data.

Habitat(s) :

On sandy or rocky islets in lakes and along coasts. Foraging habitats include beaches, tidal mudflats and sheltered bays.

Colonial breeder, mostly in mixed colonies.

Threats

Existing and potential threats:

Small Mediterranean population extremely vulnerable to human disturbance.

Proposed protection or regulation measures

- Inventory of breeding colonies in Egypt (Hurghada, Wadi Gimal island and other Red Sea areas) and Turkey (e.g. in Bulanik Plains close to Mus).
- Protection measures of newly established and fluctuating breeding colonies in Egypt and Turkey.

Bibliographical references

No scientific papers have been published so far on Caspian Terns in the Mediterranean.

**Form for proposing amendments to Annex II and Annex III to the
Protocol concerning Specially Protected Areas and Biological
Diversity in the Mediterranean.**

<p>Proposed by : X. Monbailliu on behalf of MEDMARAVIS (January 2009) With the collaboration of : Nicola Baccetti, Dani Oro, Joe Sultana, Antonio Torre, Pierre Yésou.</p>	<p>Species concerned: <i>Sterna nilotica</i> (Gmelin, JF,1789)</p>
	<p>Amendment proposed :</p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Inclusion in Annex II<input type="checkbox"/> Inclusion in Annex III<input type="checkbox"/> Removal from Annex II<input type="checkbox"/> Removal from Annex III
<p>Taxonomy</p> <p>Order : Charadriiformes Family : Sternidae Genus and Species : <i>Sterna nilotica</i> Synonym : <i>Gelochelidon nilotica</i> English name : Gull-billed Tern French name : Sterne hansel</p>	<p>Inclusion in other Conventions :</p> <p>Bern Convention, Bonn Convention (AEWA agreement) and European Bird Directive.</p> <p>IUCN Red List (2008): Least concern.</p>
<p>Justification for the proposal :</p> <p>In the Mediterranean region the Gull-billed Tern breeds predominantly in coastal zones as well as on islets in continental lakes (Central Anatolia).</p> <p>The breeding colonies are highly localized and are decreasing. In some places they reach a critical level. The Mediterranean breeding population is estimated at only 3 200 - 7 500 pairs.</p>	

Biological data

Brief description of the species:

Medium-sized tern with short tail and blunt black bill

Adult in winter loses black crown. Confusion possible with Sandwich Tern in flight but Gull-billed Tern has thicker bill and rather heavy head and body.

Distribution:

Widespread world distribution: Americas, Asia, Australia, West Africa, southern and eastern Europe.

West-Mediterranean birds migrate from Mauritania to Nigeria and Chad. Black Sea populations migrate probably to eastern Africa from Sudan to Botswana.

Population estimate and trends:

Population estimate and trends: Main palearctic colonies (over 1 000 pairs) in Mauritania, Russia, Spain, Turkey (central Anatolian lakes and Marmara region) and Ukraine. Other colonies (over 100 pairs) in France, Greece, Italy. Sporadic colonies are formed during wet springs in chotts (salt lakes) in Algeria, Tunisia and Turkey.

Most European colonies are decreasing. Spanish colonies are subject to fluctuations.

Habitat(s) :

Breeds colonially but colonies may shift from year to year. Nest sites in abandoned salinas, chotts, dykes, on islets in brackish water lagoons. Feeds in coastal wetlands as well as inland including in dry agri-cultural fields, grassland, rice paddies and freshwater marshes. Most Gull-billed Terns breed within mixed colonies of gulls and terns.

Threats

Existing and potential threats:

- Deterioration of food sources.
- Loss of habitat through drainage, agricultural restructuring, beach erosion, fluctuating water levels.
- Use of pesticides.
- Human disturbance.
- Stray dogs and predators in colonies.

Current protection measures:

Species legally protected in most European countries.

Most colonies protected as nature reserves or Natura 2000 sites.

Proposed protection or regulation measures

- Protection from human disturbance in breeding colonies.
- Control of pesticides near colonies.
- Erosion prevention of islets and vegetation control of sward height over 20 cm.
- Creation of new islets without vegetation for nest sites.
- Temporary protection of fluctuating colonies in chotts.
- Very few studies cover this species in the Western Palearctic. Research is much needed on current breeding distribution as well as on habitat requirements in the Mediterranean region.

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