

# **Encyclopaedia of living marine resources of the Mediterranean.**



**Pompeiiian mosaic with marine fauna**  
**Naples Archeological Museum - Italy**  
Autorizzazione Ministero per I Beni Culturali e Ambientali  
"soprintendenza Archeologica di Napoli e caserta"- Prot. 22530 (04/09/98)

Coppola, S.R., de Leiva Moreno, I.J, Oliver P.

Copemed Informes y Estudios Vol. 3. CD Rom. Version 2.0 - Rome 2002



**Food and Agriculture Organization  
of the United Nations**

## ***Encyclopaedia of the Living Marine Resources of the Mediterranean -Presentation-***

The CD-ROM *Encyclopaedia of the Living Marine Resources of the Mediterranean* has been developed within the framework of the FAO-COPEMED project in collaboration with the FAO-FIRM Species Identification Programme (SIDP).

FAO published in 1987 the "Fiche FAO d'identification des espèces pour le besoins de la pêche. Méditerranée et mer Noire". These sheets has been for years an essential tool for the scientists working in the area, and the information contained within the Encyclopaedia comes in a large extent from these sheets.

With the Encyclopaedia the project FAO-COPEMED, funded by Spain, intends to disseminate the information not only to the scientists but to a wider audience interested in the marine resources of the Mediterranean Sea, including managers, fishermen, students, etc.

In these electronic release an innovative approach has been considered, and in addition to the biological information already contained in the FAO sheets, information on landings, population dynamics (POPDYN database), pictures and drawings, new GIS maps of geographical distribution, local names and several search engines have been included, as well as electronic versions of important FAO documents related with fisheries (Code of Conduct, Compliance Agreement, FAO catalogue of fishing gears, etc).

The structure of the Encyclopaedia allows for periodical updating and also for its integration into a wider product, as well as enabling other applications to be included in the encyclopaedia.

The Encyclopaedia contains information about aproximately 150 species. These species have been selected according to their importance for Mediterranean fisheries. The species included in it account for almost 100% of the landings in the Mediterranean Sea.

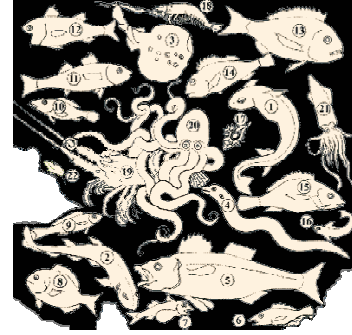
The Encyclopaedia is under editorial review at FAO headquarters and will be distributed soon. As it has been said the format chosen for the Encyclopaedia has been the CD ROM, but it will be also included in the COPEMED web site, existing the possibility to download the product from here.

- [Encyclopaedia's Main Menu](#)
- [Appendices included in the Encyclopaedia](#)
- [Encyclopaedia \(search engines\)](#)
- [Family Sheet](#)
- [Species Sheet](#)

## Main Menu



A Pompeiian mosaic with marine fauna, kept in the Naples Archaeological Museum (Italy), has been chosen as the cover of the Encyclopaedia. This mosaic is interactive. The marine species included in this mosaic has been identified and if you click



on the mosaic, the image on your right will appear in the screen. Clicking over one of the species will prompt the information of the species selected.



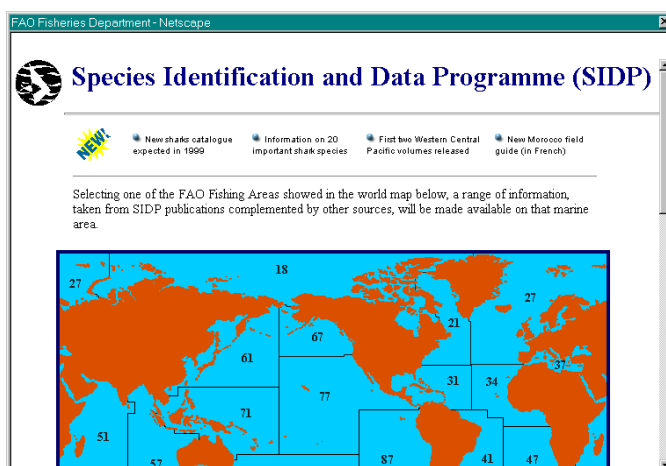
The Encyclopaedia is mainly in french, the project FAO-COPEMED intends to translate it both in spanish and english. At the present time some of the menus are available in the three languages.

Sections displayed in the Main Menu are briefly described herebelow.

The section "Presentation" includes an introduction written by the Director of the Fishery Resources Division (FIR), S.M. Garcia and a preface by the Director of the FAO-COPEMED project, R. Robles.

The section "Encyclopaedia" itself prompt the user to the core of the product, i.e. the different search engines that allow us to identify the species or families of our interest.

"About" shows the user the version of the Encyclopaedia release as well as acknowledge the people that have collaborated in its accomplishment.



"FAO species catalogue" allows the user to visit the FAO Species Identification and Data Programme (SIDP) web page, with useful information about the products produced by that Programme and information of the most important commercial fishery species throughout the world.

The section "Appendices" includes general information as country fishery profiles, a glossary of fishery terms, technical terms etc. Furthermore several documents published by FAO (Code of Conduct, Compliance Agreement, Review of the state of world fishery resources: marine fisheries, Definition and classification of fishing gear categories) and the database POPDYN are included.

"Questions" allows the user to contact the officers responsible of the Encyclopaedia within the Marine Resources Service (FIRM) of the FAO Fisheries Department (FI). Comments about the Encyclopaedia, additional information, errors found, etc. are welcomed.

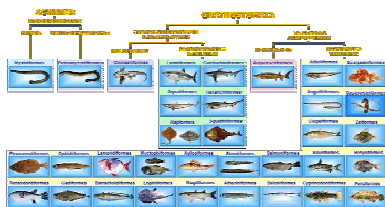
[Rino.Coppola@fao.org](mailto:Rino.Coppola@fao.org)

[Ignacio.DeLeivaMoreno@fao.org](mailto:Ignacio.DeLeivaMoreno@fao.org)

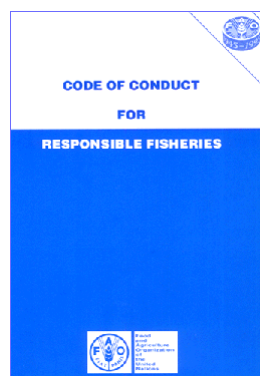
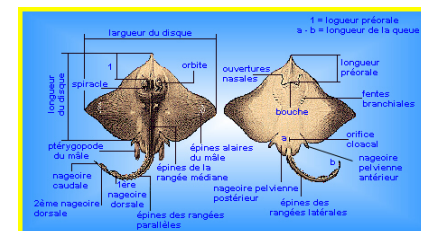
[Pere.Oliver@fao.org](mailto:Pere.Oliver@fao.org)

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## Appendices



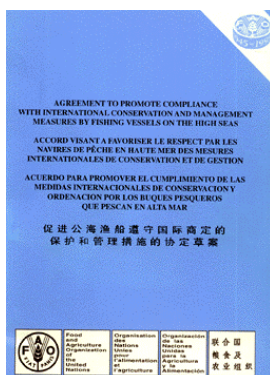
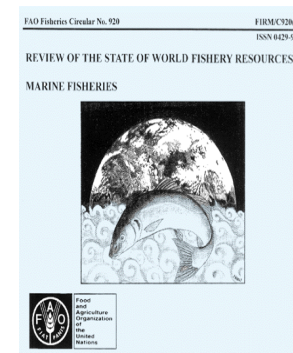
"Technical terms and measures" contains a general nomenclature of the external morphology of the superclasses Agnatha (Myxini and Cephalaspidomorphy) and Gnathostomata (Chimaeras, Batoids, Sharks and Bonyfishes). It also includes figures showing the most important measures used in biological and fishery sciences.



The Code of Conduct for Responsible Fisheries sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity.

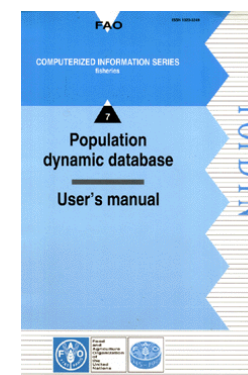


The state of the world's fish resources is reviewed every two years by the Fishery Resources division for the FAO's Committee on Fisheries (COFI). It is intended that the Review of the State of the World Marine Fishery Resources will be completely revised every six years, with updates provided biennially.



The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement) was adopted by the Twenty-seventh Session of the FAO Conference. The Compliance Agreement forms an integral part of the Code of Conduct. Article VI of the Agreement requires Parties to exchange information on vessels authorised by them to fish on the high seas, and obliges FAO to facilitate this information exchange.

PopDyn for Windows has originated from the DOS-compiled release of 1994. It has been reviewed according to comments and suggestions received from the various users in many parts of the world. As far as the Mediterranean Region it is concerned, WinPopDyn benefited from the support of the Copemed project. Information in POPDYN refers to individual fish stocks. Each record contains information on: general aspects of the stock, assessment, growth, fishery, mortality and reproduction, and bibliography.





This Technical document provides definitions of fishing gears of all kinds, grouped by categories, following the classification in accordance with the internationally recognized standard (ISSCFG) recommended by the CWF and FAO. Brief descriptions complemented by simple illustrations and selected examples of gear drawings are intended to provide sufficient information, even to non specialists, for a proper identification and classification of all types of fishing gears.

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## Encyclopaedia



The encyclopaedia has different engines to search a family or a species. The different possibilities are showed in the toolbar and are the following.

- [Taxonomic Order](#)
- [Family](#)
- [Name](#)
- [Geographic situation](#)
- [Habitat and fishing gear](#)
- [Visually](#)

### Taxonomic order



The search by "Taxonomic order" presents a phylogenetic tree illustrated with images by each category (order) included in the Class FISHES. Once identified the order of our interest the encyclopaedia will show all the families belonging to that order occurring in the Mediterranean. From here the user can get information about the [family](#) or about [species](#) belonging to that family included in the encyclopaedia .

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### Family



The "Family" search should be used when the name of the [family](#) of the user's interest is known. This search offer us an alphabetic list of families occurring in the Mediterranean.

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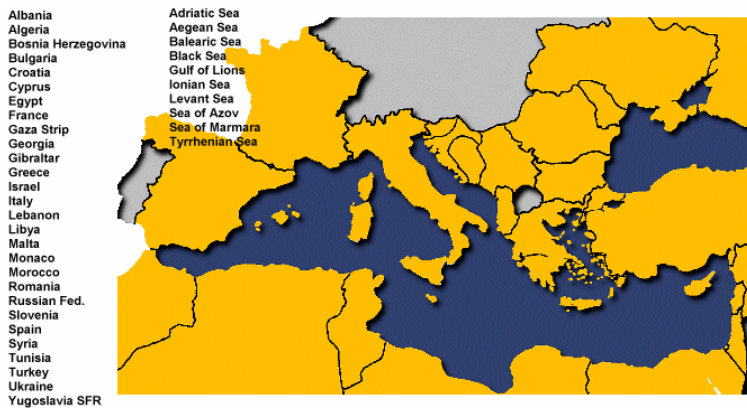
### Name



The "Name" search offers the possibility to search a [species](#) by different types of names. Names considered in this search are: scientific names; synonyms of scientific names; FAO official names in english, french and spanish; national names (other languages in the Mediterranean area).

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## Geographic situation



Species search by "Geographic situation" prompt us to a list of [species](#) that occurs in the coasts of the Mediterranean countries, as well as the species that occurs in the statistical divisions of the General Fisheries Commission for the Mediterranean (GFCM).

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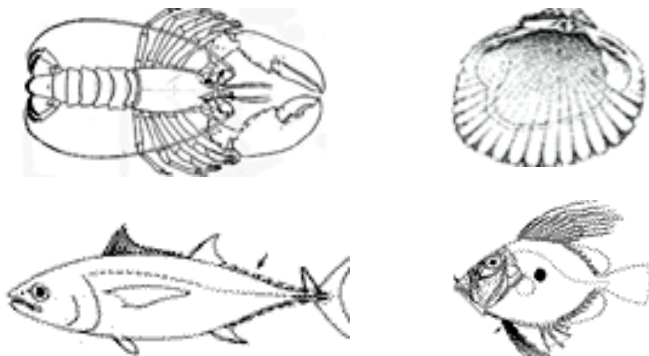
## Habitat and fishing gear



Search by "Habitat and fishing gears" allows the user to combine four different parameters to search species. These parameters are countries, statistical divisions, fishing gears and depth. With this search engine is possible to identify the [species](#) that occur in a country, in a specific statistical division, that are fished with a specific fishing gear and that live at a certain depth.

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## Visually

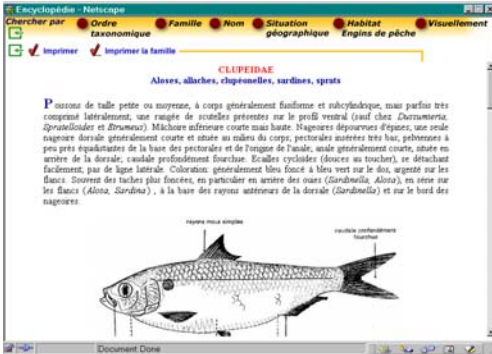


The section "Visually" shows the users representative drawings of the families occurring in the Mediterranean. These drawings allow a visual identification of the family of interest. Once identified, the encyclopaedia prompt the user to the [family](#) information, where a dicotomic identification key allows the user to identify the [species](#).

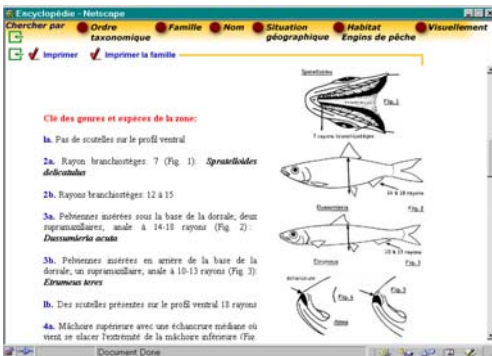
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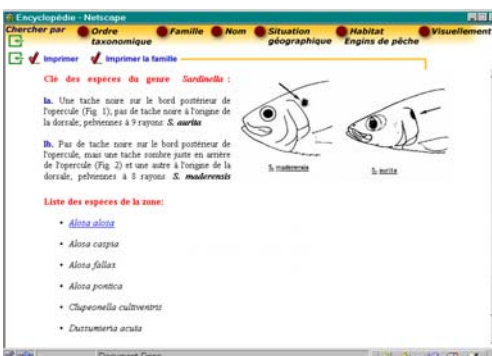
## Family Sheet



Information of the most important distinctive characteristics of the family are provided in the family sheets: morphological description, geographical distribution, habitat and biology, fisheries etc. This section includes a short description of similar families occurring in the Mediterranean, highlighting the differences with the family of our interest.



A dichotomous key is included in the family sheet. It helps the user to identify the genus and the species of the species belonging to that family. Several drawings are included to facilitate the task of identification.



The list of the Mediterranean species belonging to the family of interest is included, with links to [species' sheets](#).

The screen offers also the possibility of printing the information contained in the sheets, "imprimer" would print the information of the selected family, while "imprimer famille" shows a complete list of the species belonging to that family. In this list the user can select a species and make a print out.

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## Species sheet



Encyclopédie - Netscape

Chercher par  Ordre  Famille  Nom  Situation géographique  Habitat  Visuellement

taxonomique  Engins de pêche

Imprimer  Imprimer la famille  Statistiques  Noms nationaux  Carte  PopDyn

**Mullus surmuletus** Linnaeus, 1758



Autres noms scientifiques encore en usage: Aucun.

Noms vernaculaires FAO: An - Striped red mullet, Es - Salmonete de roca, Fr - Rouget-barbet de roche.

**Caractères distinctifs:** Corps modérément comprimé. Tête à profil dorsal régulièrement convexe, une paire de barbillons épais sous le menton, leur longueur supérieure à celle des nageoires pectorales, opercule sans épine, bouche petite, mâchoire ne dépassant pas le niveau du bord antérieur de l'œil, petites dents villiformes à la mâchoire inférieure, mâchoire supérieure sans dents mais dents présentes sur la voûte buccale (vomer et palatins). Première nageoire dorsale à 7 ou 8 épines, la première très petite; seconde nageoire à 1 épine et 7 ou 8 rayons mous; anale à 2 épines et 6 ou 7 rayons mous. Grandes écailles peu adhérentes, 33 à 37 sur la ligne latérale, 2 sur le sous-orbitaire. **Coloration:** rougeâtre, généralement avec une bande longitudinale rouge foncé de l'œil à la caudale et 3 lignes jaunâtres le long des flancs; première nageoire dorsale jaunâtre avec des marques noires.

**Taille:** Maximum: 40 cm; commune de 10 à 25 cm.

**Habitat et biologie:** Démersal sur fonds de rochers et de graviers, mais parfois aussi sur fonds meubles, jusqu'à 400 m de profondeur au moins. Créateur. Première maturité sexuelle à 14 cm (un an). Recrudescence d'avril à juillet.

The species sheet includes the information contained in the "Fiche FAO d'identification des espèces pour le besoins de la pêche. Méditerranée et mer Noire". Information is provided about FAO official names, synonyms, size, description and distinctive characteristics, habitat, biology and fisheries. The sheet includes a drawing of the species and some of the species have also photographs or colour drawings (clicking over the drawing). Furthermore information about landings, local names, population dynamic parameters (POPDYN) and a new GIS maps of the distribution of the species are available in this sheet.

The screen offers also the possibility of printing the information contained in the sheets, "imprimer" would print the information of the species selected, while "imprimer famille" shows a complete list of the species of the family. In this list the user can select a species and make a print out.



MULLIDAE: *Mullus surmuletus*  
(photo: D. Iloris)

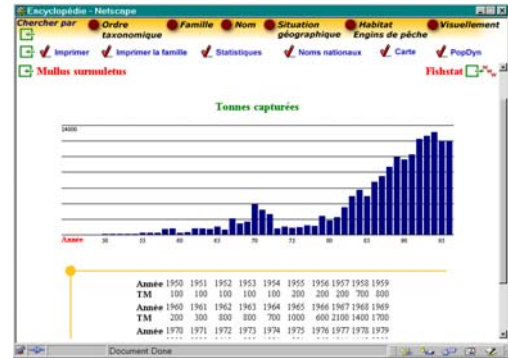


**Picture or Drawing**

**Geographical Distribution Map**



Local Names



Landings

**FAO-FIRM PopDyn DataBase** Date : 11/09/

**Detailed report**

Scientific name: Mullus surmuletus	Speciesidab code:	
Reference year: 0	Refnum: 3026	FAO taxonomic code:
Country: Spain	Fishing area: Mediterranean and Black Sea	
Stock name: Bûd-ari	Subarea:	
Stock status:		
Biomass: 0	Recruitment: 0	
Fishery:		
Management		
options:		
Recommendation		
Note: Data from Rizzo P. & Giancetano S. ID/TH/PR-SQ/170296/DRAFT		

Popdyn

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