



Food and Agriculture
Organization of the
United Nations

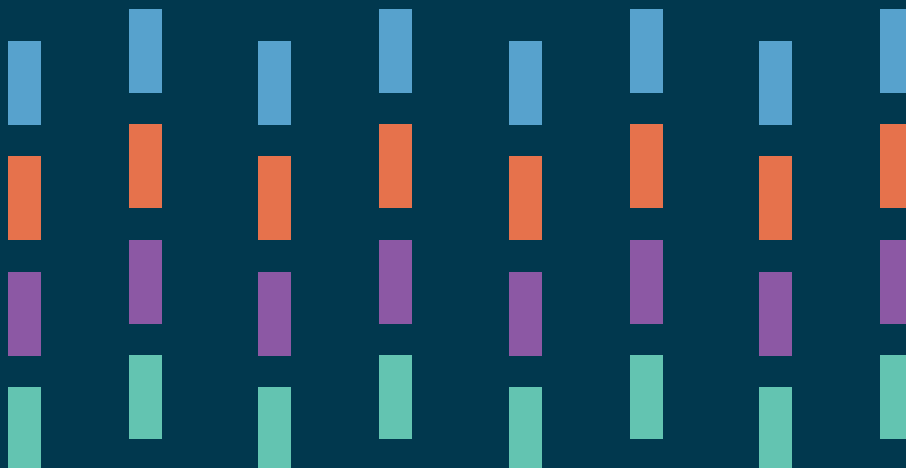


World Customs Organization
Organisation mondiale des douanes

HS Codes for fisheries and aquaculture products

Harmonized System
Nomenclature 2022
Second edition

Updated
& expanded
version



HS Codes for fisheries and aquaculture products

Harmonized System
Nomenclature 2022
Second edition



Updated
& expanded
version

Published by the
Food and Agriculture Organization of the United Nations
and the
World Customs Organization
Brussels and Rome, 2023

Disclaimer

Required citation:

FAO & WCO. 2023. *HS Codes for fisheries and aquaculture products – Harmonized System. Nomenclature 2022*. Second edition, updated and expanded. Rome and Brussels. <https://doi.org/10.4060/cc6347en>

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) or the World Customs Organization (WCO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO or WCO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO or WCO.

ISBN 978-92-5-137922-6 [FAO]

© FAO and WCO, 2023



Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode>).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO or WCO endorses any specific organization, products or services. The use of the FAO or WCO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons license. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the

Food and Agriculture Organization of the United Nations (FAO) or the World Customs Organization (WCO). FAO or WCO are not responsible for the content or accuracy of this translation. The original English edition shall be the authoritative edition."

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization <http://www.wipo.int/amc/en/mediation/rules> and any arbitration will be in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL)

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Sales, rights and licensing. WCO information products are available on the WCO website (www.wcoomdpublishings.org) and can be purchased through info@wcoomdpublishings.org. Requests for commercial use should be submitted to info@wcoomdpublishings.org. Queries regarding rights and licensing should be submitted to: copyright@wcoomdpublishings.org.

Contents

Section I

Fish	1
Crustaceans	74
Molluscs	82
Aquatic invertebrates	91
Section and chapter notes	94

Section II

Full description of fisheries and aquaculture products	100
--	-----

Section III

Pictures, basic information, main characteristics and geographic distribution of the most commercially important species	
Fish	112
Crustaceans	210
Molluscs	237
Aquatic invertebrates	282
Photo credits	284

Introduction

The classification of products is a key element in international trade. The Harmonized System (HS) of the World Customs Organization (WCO) provides an internationally recognized system of product classification. It is used for many purposes, including import duties, rules of origin, freight documents and statistics.

The HS was approved in 1983 and entered into force in 1988. Its official name is the "International Convention on the Harmonized Commodity Description and Coding System".

Before the HS, different approaches existed trying to address the coding of products since ancient times. However, a truly global system was only implemented with the adoption of the HS.

The HS is also an important tool for trade negotiations – it allows countries to negotiate trade agreements using a common language for products at the multilateral, regional, or bilateral levels. In addition, the HS allows countries to implement national control of specific products covered by international conventions or agreements, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

The HS is a nomenclature structure allowing the classification of any product under a unique six-digit code. The system is built in layers – sections, chapters, headings and subheadings. Chapters (two digits) describe broad categories of goods, while headings (four digits) group related products and subheadings (six digits) list the products themselves.

Example of a fish classification: frozen yellowfin tuna

SECTION I	LIVE ANIMALS; ANIMAL PRODUCTS
Chapter 03	Fish and crustaceans, molluscs and other aquatics invertebrates
Heading 0303	Frozen fish
Subheading 0303.42	Frozen Yellowfin tunas

While the HS at a six-digit level provides an internationally agreed basis, countries can freely create national subdivisions based on specific needs. The HS system is also used by the industry for many purposes, as it is internationally consistent and comprehensive enough to be able to classify every product.

The HS also has a set of six rules and principles to ensure uniform interpretation of the system and classification of products. Those rules are called "General Rules for the Interpretation of the Harmonized System" or "General Interpretative Rules (or GIRs)". Those rules should be applied hierarchically – Rule 1 takes precedence over Rule 2; Rule 2 over Rule 3; and so on. The "General Rules for the Interpretation of the Harmonized System" are also presented in this publication.

Fish is often one of the most complex commodities to classify, with several specificities. There is a multiplicity of phyla, species, and treatments, which create an intricate set of different layers covering different products and make it especially difficult to classify fisheries and aquaculture products.

This publication, developed by the Food and Agriculture Organization of the United Nations (FAO), with the active support of the WCO, builds on the Harmonized System: Nomenclature 2022 edition. It presents all possible classifications for fisheries and aquaculture products by species, with a full description of each HS code, to facilitate its use within the fisheries sector, including aquaculture.

This publication does not modify the structure of the HS or modify species grouping, as it is an auxiliary tool to facilitate classification and enhance understanding of the HS system from the angle of fisheries and aquaculture products.

The information presented herein was compiled by FAO staff with every effort made to ensure its accuracy and completeness. Users are kindly asked to report any eventual errors or deficiencies in this product to FAO GLOBEFISH (globefish@fao.org).

THE FAO GLOBEFISH TEAM

How to use this handbook

The second edition of the HS Codes for Fisheries and Aquaculture Products (HS Handbook) presents the commodity codes for fisheries and aquaculture products of the Harmonized System (HS) 2022 edition,¹ with a comprehensive description of each of the HS codes and images of the most commercially important species.

It includes products classified in the following HS chapters:

- **Chapter 3:** Fish and crustaceans, molluscs and other aquatic invertebrates
- **Chapter 5:** Products of animal origin, not elsewhere specified or included
- **Chapter 12:** Oil seeds and oleaginous fruits; miscellaneous grains, seed and fruit; industrial or medicinal plants; straw and fodder
- **Chapter 13:** Lac; gums, resins and other vegetable saps and extracts
- **Chapter 15:** Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes
- **Chapter 16:** Preparations of meat, of fish, of crustaceans, molluscs or other aquatic invertebrates
- **Chapter 23:** Residues and waste from the food industries; prepared animal fodder

The following table gives an overview of all classifications in the HS relevant to the fisheries and aquaculture sector. In general, fish, crustaceans, molluscs or aquatic invertebrates, including when they are filleted, dried, salted, brined or smoked, are classified under Chapter 3. Processed food preparations which contain at least 20 percent by weight of fish, crustaceans, molluscs or aquatic invertebrates are classified under Chapter 16.

HS classification of fisheries and aquaculture products

	Live	Fresh, chilled	Frozen	Dried, salted, in brine, smoked	Fillets: fresh, chilled, frozen	Fillets: dried, salted, in brine, smoked	Flours, meals, pellets	Prepared, preserved	Unfit for human consumption
Fish	0301	0302	0303	0305	0304	0305	0309.10 or 2301	1604	0511.91
Crustaceans	0306.30	0306.30	0306.10	0306.90			0309.90 or 2301	1605	0511.91
Molluscs	0307	0307	0307	0307			0309.90 or 2301	1605	0511.91
Other aquatic invertebrates	0308	0308	0308	0306			0309.90 or 2301	1605	0511.91
Seaweed, algae	1212 or 1302								
Oils	1504 1516.10 1517.90								

¹ Available at <https://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/hs-nomenclature-2022-edition/hs-nomenclature-2022-edition.aspx>

This publication is divided into three sections.

The first section presents all species which are directly referenced in the HS, with commodity codes for all possible classifications of their products and treatments. The species are listed in alphabetical order and divided by groups based on their phyla (fish, crustaceans, molluscs or aquatic invertebrates). This section is particularly useful to find the classification of a product from the common name of the species. If a species is not listed, it will usually be classified under one of the generic descriptions of "fish, crustaceans, molluscs or aquatic invertebrates, not elsewhere specified". These generic descriptions are found at the end of each respective group – fish on page 1, crustaceans on page 74, molluscs on page 82 and aquatic invertebrates on page 91.

In the first section, a plus sign (+) next to an HS code indicates that there is no explicit reference to the species or grouping of fish, crustaceans, molluscs or aquatic invertebrates listed on that page within the description of that particular HS code. Therefore, if an HS code does not have a plus sign, it means that the species is explicitly listed. For example, in the first section, live Alaska pollock is classified under HS code 0301.99 +, where the plus sign (+) indicates that there is no explicit reference to live Alaska pollock in the description of HS code 0301.99. On the other hand, fresh or chilled Alaska pollock, classified under HS code 0302.55, does not have a plus sign (+) and this indicates that the description of the HS code 0302.55 explicitly refers to fresh or chilled Alaska pollock.

The second section lists all HS codes for fisheries and aquaculture products with an exhaustive and comprehensive description of each code. They are listed in the order they appear in the HS and are particularly useful to search by commodity code. At the top of each page, the range of HS codes detailed on that page is shown. The exhaustive description avoids the use of generic terms, such as "other", in order to provide a comprehensive description of the product, including all possible exceptions.

Between the first and the second sections, there are two sets of complementary information – the "General Rules for the Interpretation of the Harmonized System" or "General Interpretative Rules (GIRs)" and a set of applicable Legal Notes to the respective chapters.

The "General Rules for the Interpretation of the Harmonized System" are a set of six rules and principles to ensure uniform interpretation of the system and classification of products. Those rules are applied hierarchically – Rule 1 takes precedence over Rule 2; Rule 2 over Rule 3; and so on.

The Legal Notes preceding each relevant chapter are an integral part of the HS. They delineate the scope and limits of sections, chapters, headings or subheadings, defining lists of products which are included or excluded, explaining the classification of a particular product or group of products, among other issues.

The first and second sections of the publication are natural complements of each other. After looking for a product in the first section and checking its HS code, the second section will provide a comprehensive description of that product. Likewise, having found an HS code in the second section, the first section may be used to crosscheck for other treatments of similar products. This system of complementary referencing can facilitate the process of product classification, in conjunction with the Harmonized System 2022 Edition.

The third section is a new section of the HS Handbook, where photos of the most commercially important species are shown. Each image contains relevant information and singularities of each species – scientific name, FAO names, main characteristics, and distribution.

The HS Handbook does not include product classifications for mammals, such as whales, dolphins and porpoises (mammals of the order Cetacea); manatees and dugongs (mammals of the order Sirenia); seals, sea lions and walruses (mammals of the suborder Pinnipedia).

Alaska Pollock

Theragra chalcogramma

(see also fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.55
Frozen	0303.67
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Albacore tunas

Thunnus alalunga

(see also longfinned tunas and tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.31
Frozen	0303.41
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.49 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.14 +
	whole or in pieces but not minced
	minced
Fillet	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Anchovies

Engraulis spp.

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.42
Frozen		0303.59 +
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.54
	not salted, not smoked	0305.54
Salted	but not dried or smoked	0305.63
In brine		0305.63
Prepared or preserved	whole or in pieces but not minced	1604.16
	minced	1604.20 +
Fillets	fresh or chilled	0304.49 +
	frozen	0304.89 +
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.59 +
	frozen	0304.99 +
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Atlantic bluefin tunas

Thunnus thynnus

(see also longfinned tunas and tunas of the genus *Thunnus*)

TREATMENT		HS CODE
Live		0301.94
Fresh or chilled		0302.35
Frozen		0303.45
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.59 +
	not salted, not smoked	0305.59 +
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.14 +
	minced	1604.20 +
Fillets	fresh or chilled	0304.49 +
	frozen	0304.87 +
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.59 +
	frozen	0304.99 +
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Atlantic salmon

Salmo salar

(see also salmonidae)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.14
Frozen	0303.13
Smoked	0305.41
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.11 +
	whole or in pieces but not minced
	minced
Fillets	0304.41
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.52 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Bregmacerotidae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.59 +
Frozen		0303.69 +
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.53
	not salted, not smoked	0305.53
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.19 +
	minced	1604.20 +
Fillets	fresh or chilled	0304.44
	frozen	0304.79 +
	dried, but not smoked	0305.32
	salted, but not smoked	0305.32
	in brine, but not smoked	0305.32
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.53
	frozen	0304.95
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Bigeye tunas

Thunnus obesus

(see also tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.34
Frozen	0303.44
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.59 +
	salted, but not smoked 0305.59 +
	not salted, not smoked 0305.59 +
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.14 +
	whole or in pieces but not minced 1604.20 +
	minced 1604.20 +
Fillets	0304.49 +
	fresh or chilled 0304.87 +
	frozen 0304.87 +
	dried, but not smoked 0305.39 +
	salted, but not smoked 0305.39 +
	in brine, but not smoked 0305.39 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	0304.59 +
	fresh or chilled 0304.99 +
	frozen 0304.99 +
Livers, roes and milt	0302.91 +
	fresh or chilled 0302.91 +
	frozen 0303.91 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Meals	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Blue whittings

Micromesistius poutassou, *Micromesistius australis*

(see also fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.56
Frozen	0303.68
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.53 +
	salted, but not smoked 0305.53 +
	not salted, not smoked 0305.53 +
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced 1604.20 +
	minced
Fillets	0304.44 +
	fresh or chilled 0304.79 +
	frozen 0304.79 +
	dried, but not smoked 0305.32 +
	salted, but not smoked 0305.32 +
	in brine, but not smoked 0305.32 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	0304.53 +
	fresh or chilled 0304.95 +
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled 0303.91 +
	frozen 0303.91 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0303.99 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Meals	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Bonito

Sarda spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.14
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Brisling

Sprattus sprattus

(see also sardinella, sardines and sprats)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.43
Frozen	0303.53
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.54 not salted, not smoked 0305.54
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.13 minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.89 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Capelin

Mallotus villosus

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Carp

Cyprinus spp., *Carassius* spp., *Ctenopharyngodon idellus*, *Hypophthalmichthys* spp., *Cirrhinus* spp., *Mylopharyngodon piceus*, *Catla catla*, *Labeo* spp., *Osteochilus hasselti*, *Leptobarbus hoeveni*, *Megalobrama* spp.

(see also sprats)

TREATMENT	HS CODE
Live	0301.93
Fresh or chilled	0302.73
Frozen	0303.25
Smoked	0305.44
	cooked before or during the smoking process 0305.44
	not cooked before or during the smoking process 0305.44
Dried	0305.52
	salted, but not smoked 0305.52
	not salted, not smoked 0305.52
Salted	0305.64
	but not dried or smoked 0305.64
In brine	0305.64
Prepared or preserved	1604.19 +
	whole or in pieces but not minced 1604.20 +
	minced 1604.20 +
Fillets	0304.39 +
	fresh or chilled 0304.39 +
	frozen 0304.69 +
	dried, but not smoked 0305.31
	salted, but not smoked 0305.31
	in brine, but not smoked 0305.31
	smoked, cooked before or during the smoking process 0305.44
	smoked, not cooked before or during the smoking process 0305.44
Other meat	0304.51
	fresh or chilled 0304.51
	frozen 0304.93
Livers, roes and milt	0302.91 +
	fresh or chilled 0302.91 +
	frozen 0303.91 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Meals	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Catfish

Pangasius spp., Silurus spp., Clarias spp., Ictalurus spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.72
Frozen	0303.24
Smoked	0305.44
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.52
	salted, but not smoked
	not salted, not smoked
Salted	0305.64
	but not dried or smoked
In brine	0305.64
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillet	0304.32
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.51
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Coalfish

Pollachius virens

(see also fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
	0301.99 +
Fresh or chilled	0302.53
Frozen	0303.65
Smoked	0305.49 +
	0305.49 +
Dried	0305.53 +
	0305.53 +
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	1604.20 +
Fillets	0304.44 +
	0304.73
	0305.32 +
	0305.32 +
	0305.32 +
	0305.49 +
	0305.49 +
Other meat	0304.53 +
	0304.95 +
Livers, roes and milt	0302.91 +
	0303.91 +
	0305.20 +
	0305.20 +
	0305.20 +
Heads, tails and maws	0302.99 +
	0303.99 +
	0305.72 +
	0305.72 +
	0305.72 +
	0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	0303.99 +
	0305.79 +
	0305.79 +
	0305.79 +
	0305.79 +
Fats	1504.20 +
	1516.10 +
	1517.90 +
Oils	1504.10 +
	1504.20 +
	1516.10 +
	1517.90 +
Flours	0309.10 +
	2301.20 +
Meals	0309.10 +
	2301.20 +
Pellets	0309.10 +
	2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +

Cobia

Rachycentron canadum

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.46
Frozen	0303.56
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Cod

Gadus morhua, *Gadus ogac*, *Gadus macrocephalus*(see also fish of the families *Bregmacerotidae*, *Eulichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99
Fresh or chilled	0302.51
Frozen	0303.63
Smoked	0305.49 +
	not cooked before or during the smoking process
	0305.49 +
Dried	0305.51
	salted, but not smoked
	0305.51
	not salted, not smoked
	0305.62
Salted	0305.62
In brine	0305.62
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	1604.20 +
	minced
Fillets	0304.44 +
	fresh or chilled
	0304.71
	frozen
	0305.32 +
	dried, but not smoked
	0305.32 +
	salted, but not smoked
	0305.32 +
	in brine, but not smoked
	0305.49 +
	smoked, cooked before or during the smoking process
	0305.49 +
	smoked, not cooked before or during the smoking process
	0305.49 +
Other meat	0304.53 +
	fresh or chilled
	0304.95 +
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	0303.91 +
	frozen
	0305.20 +
	dried
	0305.20 +
	smoked
	0305.20 +
	salted
	0305.20 +
	in brine
	0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled
	0303.99 +
	frozen
	0305.72 +
	dried
	0305.72 +
	smoked
	0305.72 +
	salted
	0305.72 +
	in brine
	0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	0303.99 +
	frozen
	0305.79 +
	dried
	0305.79 +
	smoked
	0305.79 +
	salted
	0305.79 +
	in brine
	0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	2301.20 +
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	2301.20 +
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	2301.20 +
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Crevalles

Caranx spp.

(see also jacks, horse mackerel and jack mackerel)

TREATMENT	HS CODE
Live	+
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Danube salmon

Hucho hucho
(see also Salmonidae)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.14
Frozen	0303.13
Smoked	0305.41
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.11 +
	whole or in pieces but not minced
	minced
Fillets	0304.41
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.52 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Dogfish

(see also sharks)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.81
Frozen	0303.81
Smoked	cooked before or during the smoking process 0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.59 +
	not salted, not smoked 0305.59 +
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.19 +
	minced 1604.20 +
Fillets	fresh or chilled 0304.47
	frozen 0304.88
	dried, but not smoked 0305.39 +
	salted, but not smoked 0305.39 +
	in brine, but not smoked 0305.39 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.56
	frozen 0304.96
Livers, roes and milt	fresh or chilled 0302.91 +
	frozen 0303.91 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Shark fins	fresh or chilled 0302.92 +
	frozen 0303.92 +
	dried 0305.71 +
	smoked 0305.71 +
	salted 0305.71 +
	in brine 0305.71 +
	prepared or preserved, whole or in pieces but not minced 1604.18 +
	prepared or preserved, minced 0305.20 +

TREATMENT	HS CODE
Heads and maws	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +
Other edible offal and fins	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Eels

Anguilla spp.

TREATMENT	HS CODE
Live	0301.92
Fresh or chilled	0302.74
Frozen	0303.26
Smoked	0305.44
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.52
	salted, but not smoked
	not salted, not smoked
Salted	0305.64
	but not dried or smoked
In brine	0305.64
Prepared or preserved	1604.17
	whole or in pieces but not minced
	minced
Fillets	0304.39 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.51
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Euclichthyidae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Bregmacerotidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.59 +
Frozen	0303.69 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Flat fish

Pleuronectidae, Bothidae, Citharidae, Cynoglossidae, Scotthalmidae, Soleidae
(see also halibut, plaice, sole and turbot)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.29 +
Frozen	0303.39 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.59 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.43
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0305.20 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1517.90 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	1504.10 +
	fit for human consumption
	unfit for human consumption
Meals	2301.20 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0309.10 +
	unfit for human consumption
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Gadidae, fish of the family

(see also Alaska pollock, blue whiting, coalfish, cod, haddock, hake, and fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.59 +
Frozen	0303.69 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Haddock

Melanogrammus aeglefinus

(see also fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.52
Frozen	0303.64
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.53 +
	salted, but not smoked 0305.53 +
	not salted, not smoked 0305.69 +
Salted	0305.69 +
	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced 1604.20 +
	minced 0304.44 +
Fillets	0304.44 +
	fresh or chilled 0304.72
	frozen 0305.32 +
	dried, but not smoked 0305.32 +
	salted, but not smoked 0305.32 +
	in brine, but not smoked 0305.32 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	0304.53 +
	fresh or chilled 0304.95 +
	frozen 0302.91 +
Livers, roes and milt	0302.91 +
	fresh or chilled 0303.91 +
	frozen 0305.20 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.72 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 2301.20 +
Meals	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Hake

Merluccius spp., *Urophycis* spp.

(see also fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.54
Frozen	0303.66
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Halibut

Reinhardtius hippoglossoides, *Hippoglossus hippoglossus*, *Hippoglossus stenolepis*
(see also flat fish)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.21
Frozen	0303.31
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.59 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.43 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	2301.20 +
	fit for human consumption
	unfit for human consumption
Meals	2301.20 +
	fit for human consumption
	unfit for human consumption
Pellets	2301.20 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Herrings

Clupea harengus, Clupea pallasii

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.41
Frozen		0303.51
Smoked	cooked before or during the smoking process	0305.42
	not cooked before or during the smoking process	0305.42
Dried	salted, but not smoked	0305.54
	not salted, not smoked	0305.54
Salted	but not dried or smoked	0305.61
In brine		0305.61
Prepared or preserved	whole or in pieces but not minced	1604.12
	minced	1604.20 +
Fillets	fresh or chilled	0304.49 +
	frozen	0304.86
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.42
	smoked, not cooked before or during the smoking process	0305.42
Other meat	fresh or chilled	0304.59 +
	frozen	0304.99 +
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Horse mackerel

Trachurus spp.

(see also jack mackerel, crevalles and jacks)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.45
Frozen	0303.55
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Indian mackerel

Rastrelliger spp.

(see also mackerel and seerfishes)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.15 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Jack mackerel

Trachurus spp.

(see also crevalles, horse mackerel and jacks)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.45
Frozen	0303.55
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.54 not salted, not smoked 0305.54
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.19 + minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.89 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Jacks

Caranx spp.

(see also crevalles, horse mackerel and jack mackerel)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.54 not salted, not smoked 0305.54
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.19 + minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.89 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Kawakawa

Euthynnus affinis

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Longfinned tunas

Thunnus alalunga

(see also albacore tunas and tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.31
Frozen	0303.41
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.14 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Mackerel

Scomber scombrus, *Scomber australasicus*, *Scomber japonicus*

(see also Indian mackerel and seerfishes)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.44
Frozen		0303.54
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.54
	not salted, not smoked	0305.54
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.15
	minced	1604.20 +
Fillets	fresh or chilled	0304.49 +
	frozen	0304.89 +
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.59 +
	frozen	0304.99 +
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Macrouridae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.59 +
Frozen	0303.69 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Marlins

Istiophoridae

(see also sailfishes and spearfish)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.49 +
Frozen		0303.59 +
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.54
	not salted, not smoked	0305.54
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.19 +
	minced	1604.20 +
Fillets	fresh or chilled	0304.49 +
	frozen	0304.89 +
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.59 +
	frozen	0304.99 +
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Melanonidae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Bregmacrotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Merlucciidae*, *Moridae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.59 +
Frozen	0303.69 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Merlucciidae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Moridae* and *Muraenolepididae*)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.59 +
Frozen		0303.69 +
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.53
	not salted, not smoked	0305.53
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.19 +
	minced	1604.20 +
Fillets	fresh or chilled	0304.44
	frozen	0304.79 +
	dried, but not smoked	0305.32
	salted, but not smoked	0305.32
	in brine, but not smoked	0305.32
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.53
	frozen	0304.95
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Moridae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae* and *Muraenolepididae*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.59 +
Frozen	0303.69 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.53
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.44
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.53
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Muraenolepididae, fish of the family

(see also Alaska pollock, blue whittings, coalfish, cod, haddock, hake, and fish of the families *Bregmacerotidae*, *Euclichthyidae*, *Gadidae*, *Macrouridae*, *Melanonidae*, *Merlucciidae* and *Moridae*)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.59 +
Frozen		0303.69 +
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.53
	not salted, not smoked	0305.53
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.19 +
	minced	1604.20 +
Fillets	fresh or chilled	0304.44
	frozen	0304.79 +
	dried, but not smoked	0305.32
	salted, but not smoked	0305.32
	in brine, but not smoked	0305.32
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.53
	frozen	0304.95
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Nile perch

Lates niloticus

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.79 +
Frozen	0303.29 +
Smoked	0305.44
	cooked before or during the smoking process 0305.44
	not cooked before or during the smoking process 0305.44
Dried	0305.52
	salted, but not smoked 0305.52
	not salted, not smoked 0305.52
Salted	0305.64
	but not dried or smoked 0305.64
In brine	0305.64
Prepared or preserved	1604.19 +
Fillet	1604.20 +
	minced 0304.33
	fresh or chilled 0304.63
	frozen 0305.31
	dried, but not smoked 0305.31
	salted, but not smoked 0305.31
	in brine, but not smoked 0305.31
	smoked, cooked before or during the smoking process 0305.44
	smoked, not cooked before or during the smoking process 0305.44
Other meat	0304.51
	fresh or chilled 0304.93
	frozen 0302.91 +
Livers, roes and milt	0303.91 +
	frozen 0305.20 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.72 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.79 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 2301.20 +
Meals	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Pacific bluefin tunas

Thunnus orientalis

(see also tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.94
Fresh or chilled	0302.35
Frozen	0303.45
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.14 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Pacific salmon

Oncorhynchus gorbuscha, *Oncorhynchus keta*, *Oncorhynchus tshawytscha*, *Oncorhynchus kisutch*, *Oncorhynchus masou*, *Oncorhynchus rhodurus*
(see also Salmonidae and sockeye salmon (red salmon))

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.13
Frozen	0303.12
Smoked	0305.41
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.11 +
	whole or in pieces but not minced
	minced
Fillets	0304.41
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.52 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Pacific saury

Cololabis spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Plaice

Pleuronectes platessa

(see also flat fish)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.22
Frozen	0303.32
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.43 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	0305.20 +
	smoked
	0305.20 +
	salted
	0305.20 +
	in brine
	0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	0303.99 +
	dried
	0305.72 +
	smoked
	0305.72 +
	salted
	0305.72 +
	in brine
	0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	0303.99 +
	dried
	0305.79 +
	smoked
	0305.79 +
	salted
	0305.79 +
	in brine
	0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Rays

Rajidae

(see also skates)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.82
Frozen		0303.82
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.59 +
	not salted, not smoked	0305.59 +
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.19 +
	minced	1604.20 +
Fillets	fresh or chilled	0304.48
	frozen	0304.88
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.57
	frozen	0304.97
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Sailfishes

Istiophoridae

(see also marlins and spearfish)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Salmonidae

(see also Atlantic salmon, Danube salmon, Pacific salmon, sockeye salmon [red salmon] and trout)

TREATMENT		HS CODE
Live		0301.99 +
Fresh or chilled		0302.19 +
Frozen		0303.19 +
Smoked	cooked before or during the smoking process	0305.49 +
	not cooked before or during the smoking process	0305.49 +
Dried	salted, but not smoked	0305.59 +
	not salted, not smoked	0305.59 +
Salted	but not dried or smoked	0305.69 +
In brine		0305.69 +
Prepared or preserved	whole or in pieces but not minced	1604.11
	minced	1604.20 +
Fillets	fresh or chilled	0304.49 +
	frozen	0304.89 +
	dried, but not smoked	0305.39 +
	salted, but not smoked	0305.39 +
	in brine, but not smoked	0305.39 +
	smoked, cooked before or during the smoking process	0305.49 +
	smoked, not cooked before or during the smoking process	0305.49 +
Other meat	fresh or chilled	0304.52
	frozen	0304.99 +
Livers, roes and milt	fresh or chilled	0302.91 +
	frozen	0303.91 +
	dried	0305.20 +
	smoked	0305.20 +
	salted	0305.20 +
	in brine	0305.20 +
Heads, tails and maws	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.72 +
	smoked	0305.72 +
	salted	0305.72 +
	in brine	0305.72 +

TREATMENT		HS CODE
Other edible offal and fins	fresh or chilled	0302.99 +
	frozen	0303.99 +
	dried	0305.79 +
	smoked	0305.79 +
	salted	0305.79 +
	in brine	0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified	1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified	1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	1517.90 +
Flours	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.10 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Sardinella

Sardinella spp.
(see also brisling, sardines and sprats)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.43
Frozen	0303.53
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.13
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Sardines

Sardina pilchardus, *Sardinops* spp.
(see also brisling, sardinella and sprats)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.43
Frozen	0303.53
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.54 not salted, not smoked 0305.54
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.13 minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.89 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99+ frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Scads

Decapтерus spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Seabass

Dicentrarchus spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.84
Frozen	0303.84
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.59 + not salted, not smoked 0305.59 +
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.19 + minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.89 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Seabream

Sparidae

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.85
Frozen	0303.89 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Seerfishes

Scomberomorus spp.

(see also Indian mackerel and mackerel)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.15 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Sharks

(see also dogfish)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.81
Frozen	0303.81
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.59 + not salted, not smoked 0305.59 +
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.19 + minced 1604.20 +
Fillets	fresh or chilled 0304.47 frozen 0304.88 dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.56 frozen 0304.96
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Shark fins	fresh or chilled 0302.92 + frozen 0303.92 + dried 0305.71 + smoked 0305.71 + salted 0305.71 + in brine 0305.71 + prepared or preserved, whole or in pieces but not minced 1604.18 + prepared or preserved, minced 0305.20 +
Heads and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	in brine 0305.72 + fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Silver pomfrets

Pampus spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Skates

Rajidae

(see also rays)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.82
Frozen	0303.82
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.48
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.57
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Skipjack

Euthynnus (Katsuwonus) pelamis

(see also stripe-bellied bonito and tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.33
Frozen	0303.43
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.59 + not salted, not smoked 0305.59 +
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.14 minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.87 dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Snakeheads

Channa spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.79 +
Frozen	0303.29 +
Smoked	0305.44
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.52
	salted, but not smoked
	not salted, not smoked
Salted	0305.64
	but not dried or smoked
In brine	0305.64
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillet	0304.39 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.51
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Sockeye salmon (red salmon)

Oncorhynchus nerka

(see also Pacific salmon and Salmonidae)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.13 +
Frozen	0303.11
Smoked	cooked before or during the smoking process 0305.41 + not cooked before or during the smoking process 0305.41 +
Dried	salted, but not smoked 0305.59 + not salted, not smoked 0305.59 +
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.11 + minced 1604.20 +
Fillets	fresh or chilled 0304.41 + frozen 0304.81 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.41 + smoked, not cooked before or during the smoking process 0305.41 +
Other meat	fresh or chilled 0304.52 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Sole

Solea spp.

(see also flat fish)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.23
Frozen	0303.33
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.43 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Southern bluefin tunas

Thunnus maccoyii

(see also tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.95
Fresh or chilled	0302.36
Frozen	0303.46
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.59 +
	salted, but not smoked 0305.59 +
	not salted, not smoked 0305.59 +
Salted	0305.69 +
	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.14 +
	whole or in pieces but not minced 1604.20 +
	minced 1604.20 +
Fillets	0304.49 +
	fresh or chilled 0304.87 +
	frozen 0304.87 +
	dried, but not smoked 0305.39 +
	salted, but not smoked 0305.39 +
	in brine, but not smoked 0305.39 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	0304.59 +
	fresh or chilled 0304.99 +
	frozen 0304.99 +
Livers, roes and milt	0302.91 +
	fresh or chilled 0302.91 +
	frozen 0303.91 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.19 +
	fit for human consumption 0309.19 +
	unfit for human consumption 2301.20 +
Meals	0309.19 +
	fit for human consumption 0309.19 +
	unfit for human consumption 2301.20 +
Pellets	0309.19 +
	fit for human consumption 0309.19 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Spearfish

Istiophoridae

(see also marlins and sailfishes)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.49 +
Frozen	0303.59 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.54
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Sprats

Sprattus sprattus

(see also brisling, sardinella and sardines)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.43
Frozen	0303.53
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.54 not salted, not smoked 0305.54
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.13 minced 1604.20 +
Fillets	fresh or chilled 0304.49 + frozen 0304.89 + dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.59 + frozen 0304.99 +
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Stripe-bellied bonito

Euthynnus (Katsuwonus) pelamis

(see also skipjack and tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.33
Frozen	0303.43
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.14
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Swordfish

Xiphias gladius

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.47
Frozen	0303.57
Smoked	cooked before or during the smoking process 0305.49 + not cooked before or during the smoking process 0305.49 +
Dried	salted, but not smoked 0305.54 not salted, not smoked 0305.54
Salted	but not dried or smoked 0305.69 +
In brine	0305.69 +
Prepared or preserved	whole or in pieces but not minced 1604.19 + minced 1604.20 +
Fillets	fresh or chilled 0304.45 frozen 0304.84 dried, but not smoked 0305.39 + salted, but not smoked 0305.39 + in brine, but not smoked 0305.39 + smoked, cooked before or during the smoking process 0305.49 + smoked, not cooked before or during the smoking process 0305.49 +
Other meat	fresh or chilled 0304.54 frozen 0304.91
Livers, roes and milt	fresh or chilled 0302.91 + frozen 0303.91 + dried 0305.20 + smoked 0305.20 + salted 0305.20 + in brine 0305.20 +
Heads, tails and maws	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.72 + smoked 0305.72 + salted 0305.72 + in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	fresh or chilled 0302.99 + frozen 0303.99 + dried 0305.79 + smoked 0305.79 + salted 0305.79 + in brine 0305.79 +
Fats	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 + and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 + and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 + edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Meals	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Pellets	fit for human consumption 0309.10 + unfit for human consumption 2301.20 +
Dead	unfit for human consumption 0511.91 +
Products not elsewhere specified	unfit for human consumption 0511.91 +

Tilapias

Oreochromis spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.71
Frozen	0303.23
Smoked	0305.44
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.52
	salted, but not smoked
	not salted, not smoked
Salted	0305.64
	but not dried or smoked
In brine	0305.64
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.31
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
	0305.44
Other meat	0304.51
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Toothfish

Dissostichus spp.

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.83
Frozen	0303.83
Smoked	0305.49 +
	not cooked before or during the smoking process
	0305.49 +
Dried	0305.59 +
	salted, but not smoked
	0305.59 +
	not salted, not smoked
	0305.69 +
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	1604.20 +
	minced
Fillets	0304.46
	fresh or chilled
	0304.85
	frozen
	0305.39 +
	dried, but not smoked
	0305.39 +
	salted, but not smoked
	0305.39 +
	in brine, but not smoked
	0305.39 +
	smoked, cooked before or during the smoking process
	0305.49 +
	smoked, not cooked before or during the smoking process
	0305.49 +
Other meat	0304.55
	fresh or chilled
	0304.92
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	0303.91 +
	frozen
	0305.20 +
	dried
	0305.20 +
	smoked
	0305.20 +
	salted
	0305.20 +
	in brine
	0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled
	0303.99 +
	frozen
	0305.72 +
	dried
	0305.72 +
	smoked
	0305.72 +
	salted
	0305.72 +
	in brine
	0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	0303.99 +
	frozen
	0305.79 +
	dried
	0305.79 +
	smoked
	0305.79 +
	salted
	0305.79 +
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	2301.20 +
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	2301.20 +
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	2301.20 +
	unfit for human consumption
Dead	0511.91 +
	unfit for human consumption
Products not elsewhere specified	0511.91 +

Trout

Salmo trutta, *Oncorhynchus mykiss*, *Oncorhynchus clarki*, *Oncorhynchus aguabonita*, *Oncorhynchus gilae*, *Oncorhynchus apache*, *Oncorhynchus chrysogaster*
(see also Salmonidae)

TREATMENT	HS CODE
Live	0301.91
Fresh or chilled	0302.11
Frozen	0303.14
Smoked	0305.43
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
	but not dried or smoked
In brine	0305.69 +
Prepared or preserved	1604.11 +
	whole or in pieces but not minced
	minced
Fillets	0304.42
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
	0305.43
Other meat	0304.52 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	1517.90 +
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Tunas of the genus *Thunnus*

not elsewhere specified

(see also albacore tunas, Atlantic bluefin tunas, bigeye tunas, longfinned tunas, Pacific bluefin tunas, skipjack, stripe-bellied bonito, southern bluefin tunas and yellowfin tunas)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.39 +
Frozen	0303.49 +
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.59 +
	salted, but not smoked 0305.59 +
	not salted, not smoked 0305.69 +
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.14
	whole or in pieces but not minced 1604.20 +
	minced 1604.20 +
Fillets	0304.49 +
	fresh or chilled 0304.87
	frozen 0304.87
	dried, but not smoked 0305.39 +
	salted, but not smoked 0305.39 +
	in brine, but not smoked 0305.39 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	0304.59 +
	fresh or chilled 0304.99 +
	frozen 0304.99 +
Livers, roes and milt	0302.91 +
	fresh or chilled 0302.91 +
	frozen 0303.91 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0302.99 +
	frozen 0303.99 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0303.99 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.10 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1516.10 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Meals	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Turbots

Psetta maxima

(see also flat fish)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.24
Frozen	0303.34
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.59 +
	salted, but not smoked 0305.59 +
	not salted, not smoked 0305.69 +
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced 1604.20 +
	minced 0304.43 +
Fillets	0304.83 +
	fresh or chilled 0305.39 +
	frozen 0305.39 +
	dried, but not smoked 0305.39 +
	salted, but not smoked 0305.39 +
	in brine, but not smoked 0305.39 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0305.49 +
Other meat	0304.59 +
	fresh or chilled 0304.99 +
	frozen 0302.91 +
Livers, roes and milt	0303.91 +
	fresh or chilled 0305.20 +
	frozen 0305.20 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.72 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.79 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
Flours	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 0309.10 +
Meals	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 0309.10 +
Pellets	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 0511.91 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption 0511.91 +

Yellowfin tunas

Thunnus albacares

(see also tunas of the genus *Thunnus*)

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.32
Frozen	0303.42
Smoked	0305.49 +
	not cooked before or during the smoking process 0305.49 +
Dried	0305.59 +
	salted, but not smoked 0305.59 +
	not salted, not smoked 0305.69 +
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.14 +
	whole or in pieces but not minced 1604.20 +
	minced 0304.49 +
Fillets	0304.87 +
	fresh or chilled 0305.39 +
	frozen 0305.39 +
	dried, but not smoked 0305.39 +
	salted, but not smoked 0305.39 +
	in brine, but not smoked 0305.49 +
	smoked, cooked before or during the smoking process 0305.49 +
	smoked, not cooked before or during the smoking process 0304.59 +
Other meat	0304.99 +
	fresh or chilled 0302.91 +
Livers, roes and milt	0303.91 +
	frozen 0305.20 +
	dried 0305.20 +
	smoked 0305.20 +
	salted 0305.20 +
	in brine 0305.20 +
Heads, tails and maws	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.72 +
	dried 0305.72 +
	smoked 0305.72 +
	salted 0305.72 +
	in brine 0305.72 +

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled 0303.99 +
	frozen 0305.79 +
	dried 0305.79 +
	smoked 0305.79 +
	salted 0305.79 +
	in brine 0305.79 +
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified 1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified 1516.10 +
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared 1517.90 +
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 0309.10 +
Meals	2301.20 +
	fit for human consumption 0309.10 +
	unfit for human consumption 2301.20 +
Pellets	0309.10 +
	fit for human consumption 2301.20 +
	unfit for human consumption 0511.91 +
Dead	0511.91 +
Products not elsewhere specified	0511.91 +

Fish

not elsewhere specified

TREATMENT	HS CODE
Live	0301.99 +
Fresh or chilled	0302.89 +
Frozen	0303.89 +
Smoked	0305.49 +
	cooked before or during the smoking process
	not cooked before or during the smoking process
Dried	0305.59 +
	salted, but not smoked
	not salted, not smoked
Salted	0305.69 +
In brine	0305.69 +
Prepared or preserved	1604.19 +
	whole or in pieces but not minced
	minced
Fillets	0304.49 +
	fresh or chilled
	frozen
	dried, but not smoked
	salted, but not smoked
	in brine, but not smoked
	smoked, cooked before or during the smoking process
	smoked, not cooked before or during the smoking process
Other meat	0304.59 +
	fresh or chilled
	frozen
Livers, roes and milt	0302.91 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Heads, tails and maws	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine

TREATMENT	HS CODE
Other edible offal and fins	0302.99 +
	fresh or chilled
	frozen
	dried
	smoked
	salted
	in brine
Fats	1504.20 +
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Oils	1504.10 +
	liver oils and their fractions, whether or not refined, but not chemically modified
	and their fractions, other than liver oils, whether or not refined, but not chemically modified
	and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
	edible mixtures or preparations, excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
Flours	0309.10 +
	fit for human consumption
	unfit for human consumption
Meals	0309.10 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.10 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Cold-water prawns

Pandalus spp.

(see also cold-water shrimps, shrimps and prawns)

TREATMENT		HS CODE
Live		0306.35
Fresh	in shell	0306.35
	not in shell	0306.35
Chilled	in shell	0306.35
	not in shell	0306.35
Frozen	in shell, cooked by steaming or by boiling in water	0306.35
	in shell	0306.16
	not in shell	0306.16
Smoked	in shell, cooked by steaming or by boiling in water	0306.16
	in shell, not cooked before or during the smoking process	0306.95 +
	in shell, cooked before or during the smoking process	0306.95 +
	not in shell, not cooked before or during the smoking process	0306.95 +
	not in shell, cooked before or during the smoking process	0306.95 +
Dried	in shell	0306.95 +
	not in shell	0306.95 +
	in shell, cooked by steaming or by boiling in water	0306.95 +
Salted	in shell	0306.95 +
	not in shell	0306.95 +
	in shell, cooked by steaming or by boiling in water	0306.95 +
In brine	in shell	0306.95 +
	not in shell	0306.95 +
	in shell, cooked by steaming or by boiling in water	0306.95 +
Prepared or preserved	not in airtight container	1605.21 +
	in airtight container	1605.29 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Cold-water shrimp

Crangon crangon

(see also cold-water prawns, shrimps and prawns)

TREATMENT		HS CODE
Live		0306.35
Fresh	in shell	0306.35
	not in shell	0306.35
Chilled	in shell	0306.35
	not in shell	0306.35
Frozen	in shell, cooked by steaming or by boiling in water	0306.35
	in shell	0306.16
	not in shell	0306.16
Smoked	in shell, cooked by steaming or by boiling in water	0306.16
	in shell, not cooked before or during the smoking process	0306.95 +
	in shell, cooked before or during the smoking process	0306.95 +
	not in shell, not cooked before or during the smoking process	0306.95 +
	not in shell, cooked before or during the smoking process	0306.95 +
Dried	in shell	0306.95 +
	not in shell	0306.95 +
	in shell, cooked by steaming or by boiling in water	0306.95 +
Salted	in shell	0306.95 +
	not in shell	0306.95 +
	in shell, cooked by steaming or by boiling in water	0306.95 +
In brine	in shell	0306.95 +
	not in shell	0306.95 +
	in shell, cooked by steaming or by boiling in water	0306.95 +
Prepared or preserved	not in airtight container	1605.21 +
	in airtight container	1605.29 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Crabs

TREATMENT		HS CODE
Live		0306.33
Fresh	in shell	0306.33
	not in shell	0306.33
Chilled	in shell	0306.33
	not in shell	0306.33
	in shell, cooked by steaming or by boiling in water	0306.33
Frozen	in shell	0306.14
	not in shell	0306.14
	in shell, cooked by steaming or by boiling in water	0306.14
Smoked	in shell, not cooked before or during the smoking process	0306.93
	in shell, cooked before or during the smoking process	0306.93
	not in shell, not cooked before or during the smoking process	0306.93
	not in shell, cooked before or during the smoking process	0306.93
Dried	in shell	0306.93
	not in shell	0306.93
	in shell, cooked by steaming or by boiling in water	0306.93
Salted	in shell	0306.93
	not in shell	0306.93
	in shell, cooked by steaming or by boiling in water	0306.93
In brine	in shell	0306.93
	not in shell	0306.93
	in shell, cooked by steaming or by boiling in water	0306.93
Prepared or preserved		1605.10
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Lobster

Homarus spp.

(see also Norway lobster, rock lobster and sea crawfish)

TREATMENT		HS CODE
Live		0306.32
Fresh	in shell	0306.32
	not in shell	0306.32
Chilled	in shell	0306.32
	not in shell	0306.32
Frozen	in shell, cooked by steaming or by boiling in water	0306.32
	in shell	0306.12
	not in shell	0306.12
	in shell, cooked by steaming or by boiling in water	0306.12
Smoked	in shell, not cooked before or during the smoking process	0306.92
	in shell, cooked before or during the smoking process	0306.92
	not in shell, not cooked before or during the smoking process	0306.92
	not in shell, cooked before or during the smoking process	0306.92
Dried	in shell	0306.92
	not in shell	0306.92
	in shell, cooked by steaming or by boiling in water	0306.92
Salted	in shell	0306.92
	not in shell	0306.92
	in shell, cooked by steaming or by boiling in water	0306.92
In brine	in shell	0306.92
	not in shell	0306.92
	in shell, cooked by steaming or by boiling in water	0306.92
Prepared or preserved		1605.30
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Norway lobster

Nephrops norvegicus

(see also lobster, rock lobster and sea crawfish)

TREATMENT		HS CODE
Live		0306.34
Fresh	in shell	0306.34
	not in shell	0306.34
Chilled	in shell	0306.34
	not in shell	0306.34
	in shell, cooked by steaming or by boiling in water	0306.34
Frozen	in shell	0306.15
	not in shell	0306.15
	in shell, cooked by steaming or by boiling in water	0306.15
Smoked	in shell, not cooked before or during the smoking process	0306.94
	in shell, cooked before or during the smoking process	0306.94
	not in shell, not cooked before or during the smoking process	0306.94
	not in shell, cooked before or during the smoking process	0306.94
Dried	in shell	0306.94
	not in shell	0306.94
	in shell, cooked by steaming or by boiling in water	0306.94
Salted	in shell	0306.94
	not in shell	0306.94
	in shell, cooked by steaming or by boiling in water	0306.94
In brine	in shell	0306.94
	not in shell	0306.94
	in shell, cooked by steaming or by boiling in water	0306.94
Prepared or preserved		1605.30 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Prawns

(see also shrimps, and cold-water shrimps and prawns)

TREATMENT		HS CODE
Live		0306.36
Fresh	in shell	0306.36
	not in shell	0306.36
Chilled	in shell	0306.36
	not in shell	0306.36
	in shell, cooked by steaming or by boiling in water	0306.36
Frozen	in shell	0306.17
	not in shell	0306.17
	in shell, cooked by steaming or by boiling in water	0306.17
Smoked	in shell, not cooked before or during the smoking process	0306.95
	in shell, cooked before or during the smoking process	0306.95
	not in shell, not cooked before or during the smoking process	0306.95
	not in shell, cooked before or during the smoking process	0306.95
	in shell	0306.95
Dried	not in shell	0306.95
	in shell, cooked by steaming or by boiling in water	0306.95
	in shell	0306.95
Salted	not in shell	0306.95
	in shell, cooked by steaming or by boiling in water	0306.95
	in shell	0306.95
In brine	not in shell	0306.95
	in shell, cooked by steaming or by boiling in water	0306.95
	in shell	0306.95
Prepared or preserved	not in airtight container	1605.21
	in airtight container	1605.29
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Rock lobster

Palinurus spp., Panulirus spp., Jasus spp.

(see also sea crawfish, lobster and Norway lobster)

TREATMENT		HS CODE
Live		0306.31
Fresh	in shell	0306.31
	not in shell	0306.31
Chilled	in shell	0306.31
	not in shell	0306.31
	in shell, cooked by steaming or by boiling in water	0306.31
Frozen	in shell	0306.11
	not in shell	0306.11
	in shell, cooked by steaming or by boiling in water	0306.11
Smoked	in shell, not cooked before or during the smoking process	0306.91
	in shell, cooked before or during the smoking process	0306.91
	not in shell, not cooked before or during the smoking process	0306.91
	not in shell, cooked before or during the smoking process	0306.91
Dried	in shell	0306.91
	not in shell	0306.91
	in shell, cooked by steaming or by boiling in water	0306.91
Salted	in shell	0306.91
	not in shell	0306.91
	in shell, cooked by steaming or by boiling in water	0306.91
In brine	in shell	0306.91
	not in shell	0306.91
	in shell, cooked by steaming or by boiling in water	0306.91
Prepared or preserved		1605.30 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Sea crawfish

Palinurus spp., *Panulirus* spp., *Jasus* spp.

(see also rock lobster, lobster and Norway lobster)

TREATMENT		HS CODE
Live		0306.31
Fresh	in shell	0306.31
	not in shell	0306.31
Chilled	in shell	0306.31
	not in shell	0306.31
	in shell, cooked by steaming or by boiling in water	0306.31
Frozen	in shell	0306.11
	not in shell	0306.11
	in shell, cooked by steaming or by boiling in water	0306.11
Smoked	in shell, not cooked before or during the smoking process	0306.91
	in shell, cooked before or during the smoking process	0306.91
	not in shell, not cooked before or during the smoking process	0306.91
	not in shell, cooked before or during the smoking process	0306.91
Dried	in shell	0306.91
	not in shell	0306.91
	in shell, cooked by steaming or by boiling in water	0306.91
Salted	in shell	0306.91
	not in shell	0306.91
	in shell, cooked by steaming or by boiling in water	0306.91
In brine	in shell	0306.91
	not in shell	0306.91
	in shell, cooked by steaming or by boiling in water	0306.91
Prepared or preserved		1605.30 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Shrimp

(see also prawns, and cold-water shrimps and prawns)

TREATMENT		HS CODE
Live		0306.36
Fresh	in shell	0306.36
	not in shell	0306.36
Chilled	in shell	0306.36
	not in shell	0306.36
	in shell, cooked by steaming or by boiling in water	0306.36
Frozen	in shell	0306.17
	not in shell	0306.17
	in shell, cooked by steaming or by boiling in water	0306.17
Smoked	in shell, not cooked before or during the smoking process	0306.95
	in shell, cooked before or during the smoking process	0306.95
	not in shell, not cooked before or during the smoking process	0306.95
	not in shell, cooked before or during the smoking process	0306.95
Dried	in shell	0306.95
	not in shell	0306.95
	in shell, cooked by steaming or by boiling in water	0306.95
Salted	in shell	0306.95
	not in shell	0306.95
	in shell, cooked by steaming or by boiling in water	0306.95
In brine	in shell	0306.95
	not in shell	0306.95
	in shell, cooked by steaming or by boiling in water	0306.95
Prepared or preserved	not in airtight container	1605.21
	in airtight container	1605.29
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Crustaceans

not elsewhere specified

TREATMENT		HS CODE
Live		0306.39 +
Fresh	in shell	0306.39 +
	not in shell	0306.39 +
Chilled	in shell	0306.39 +
	not in shell	0306.39 +
	in shell, cooked by steaming or by boiling in water	0306.39 +
Frozen	in shell	0306.19 +
	not in shell	0306.19 +
	in shell, cooked by steaming or by boiling in water	0306.19 +
Smoked	in shell, not cooked before or during the smoking process	0306.99 +
	in shell, cooked before or during the smoking process	0306.99 +
	not in shell, not cooked before or during the smoking process	0306.99 +
	not in shell, cooked before or during the smoking process	0306.99 +
Dried	in shell	0306.99 +
	not in shell	0306.99 +
	in shell, cooked by steaming or by boiling in water	0306.99 +
Salted	in shell	0306.99 +
	not in shell	0306.99 +
	in shell, cooked by steaming or by boiling in water	0306.99 +
In brine	in shell	0306.99 +
	not in shell	0306.99 +
	in shell, cooked by steaming or by boiling in water	0306.99 +
Prepared or preserved		1605.40 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Abalone

Haliotis spp.

TREATMENT		HS CODE
Live		0307.81
Fresh or chilled	in shell	0307.81
	not in shell	0307.81
Frozen	in shell	0307.83
	not in shell	0307.83
Smoked	in shell, not cooked before or during the smoking process	0307.87
	in shell, cooked before or during the smoking process	0307.87
	not in shell, not cooked before or during the smoking process	0307.87
	not in shell, cooked before or during the smoking process	0307.87
Dried	in shell	0307.87
	not in shell	0307.87
Salted	in shell	0307.87
	not in shell	0307.87
In brine	in shell	0307.87
	not in shell	0307.87
Prepared or preserved		1605.57
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified		0511.91 +

Ark shells

Families Arcidae, Arctidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae, Veneridae
(see also clams and cockles)

TREATMENT		HS CODE
Live		0307.71
Fresh or chilled	in shell	0307.71
	not in shell	0307.71
Frozen	in shell	0307.72
	not in shell	0307.72
Smoked	in shell, not cooked before or during the smoking process	0307.79
	in shell, cooked before or during the smoking process	0307.79
	not in shell, not cooked before or during the smoking process	0307.79
	not in shell, cooked before or during the smoking process	0307.79
Dried	in shell	0307.79
	not in shell	0307.79
Salted	in shell	0307.79
	not in shell	0307.79
In brine	in shell	0307.79
	not in shell	0307.79
Prepared or preserved		1605.56
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified		0511.91 +

Clams

Families Arcidae, Arctidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae, Veneridae
(see also ark shells and cockles)

TREATMENT		HS CODE
Live		0307.71
Fresh or chilled	in shell	0307.71
	not in shell	0307.71
Frozen	in shell	0307.72
	not in shell	0307.72
Smoked	in shell, not cooked before or during the smoking process	0307.79
	in shell, cooked before or during the smoking process	0307.79
	not in shell, not cooked before or during the smoking process	0307.79
	not in shell, cooked before or during the smoking process	0307.79
Dried	in shell	0307.79
	not in shell	0307.79
Salted	in shell	0307.79
	not in shell	0307.79
In brine	in shell	0307.79
	not in shell	0307.79
Prepared or preserved		1605.56
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Cockles

Families Arcidae, Arctidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae, Veneridae
(see also ark shells and clams)

TREATMENT		HS CODE
Live		0307.71
Fresh or chilled	in shell	0307.71
	not in shell	0307.71
Frozen	in shell	0307.72
	not in shell	0307.72
Smoked	in shell, not cooked before or during the smoking process	0307.79
	in shell, cooked before or during the smoking process	0307.79
	not in shell, not cooked before or during the smoking process	0307.79
	not in shell, cooked before or during the smoking process	0307.79
Dried	in shell	0307.79
	not in shell	0307.79
Salted	in shell	0307.79
	not in shell	0307.79
In brine	in shell	0307.79
	not in shell	0307.79
Prepared or preserved		1605.56
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Cuttle fish

(see also squid)

TREATMENT		HS CODE
Live		0307.42
Fresh or chilled		0307.42
Frozen		0307.43
Smoked	not cooked before or during the smoking process	0307.49
	cooked before or during the smoking process	0307.49
Dried		0307.49
Salted		0307.49
In brine		0307.49
Prepared or preserved		1605.54
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Mussels

Mytilus spp., Perna spp.

TREATMENT		HS CODE
Live		0307.31
Fresh or chilled	in shell	0307.31
	not in shell	0307.31
Frozen	in shell	0307.32
	not in shell	0307.32
Smoked	in shell, not cooked before or during the smoking process	0307.39
	in shell, cooked before or during the smoking process	0307.39
	not in shell, not cooked before or during the smoking process	0307.39
	not in shell, cooked before or during the smoking process	0307.39
Dried	in shell	0307.39
	not in shell	0307.39
Salted	in shell	0307.39
	not in shell	0307.39
In brine	in shell	0307.39
	not in shell	0307.39
Prepared or preserved		1605.53
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Octopus

Octopus spp.

TREATMENT	HS CODE
Live	0307.51
Fresh or chilled	0307.51
Frozen	0307.52
Smoked	0307.59
	not cooked before or during the smoking process
	cooked before or during the smoking process
Dried	0307.59
Salted	0307.59
In brine	0307.59
Prepared or preserved	1605.55
Flours	0309.90 +
	fit for human consumption
	unfit for human consumption
Meals	0309.90 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.90 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +

Oysters

TREATMENT	HS CODE
Live	0307.11
Fresh or chilled	0307.11
	in shell
	not in shell
Frozen	0307.12
	in shell
	not in shell
Smoked	0307.19
	in shell, not cooked before or during the smoking process
	in shell, cooked before or during the smoking process
	not in shell, not cooked before or during the smoking process
	not in shell, cooked before or during the smoking process
Dried	0307.19
	in shell
	not in shell
Salted	0307.19
	in shell
	not in shell
In brine	0307.19
	in shell
	not in shell
Prepared or preserved	1605.51
Flours	0309.90 +
	fit for human consumption
	unfit for human consumption
Meals	0309.90 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.90 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +
	unfit for human consumption

Queen scallops

of the family *Pectinidae*

(see also scallops)

TREATMENT		HS CODE
Live		0307.21
Fresh or chilled	in shell	0307.21
	not in shell	0307.21
Frozen	in shell	0307.22
	not in shell	0307.22
Smoked	in shell, not cooked before or during the smoking process	0307.29
	in shell, cooked before or during the smoking process	0307.29
	not in shell, not cooked before or during the smoking process	0307.29
	not in shell, cooked before or during the smoking process	0307.29
Dried	in shell	0307.29
	not in shell	0307.29
Salted	in shell	0307.29
	not in shell	0307.29
In brine	in shell	0307.29
	not in shell	0307.29
Prepared or preserved		1605.52
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Scallops

of the family *Pectinidae*
(see also queen scallops)

TREATMENT		HS CODE
Live		0307.21
Fresh or chilled	in shell	0307.21
	not in shell	0307.21
Frozen	in shell	0307.22
	not in shell	0307.22
Smoked	in shell, not cooked before or during the smoking process	0307.29
	in shell, cooked before or during the smoking process	0307.29
	not in shell, not cooked before or during the smoking process	0307.29
	not in shell, cooked before or during the smoking process	0307.29
Dried	in shell	0307.29
	not in shell	0307.29
Salted	in shell	0307.29
	not in shell	0307.29
In brine	in shell	0307.29
	not in shell	0307.29
Prepared or preserved		1605.52
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified		0511.91 +

Snails

TREATMENT		HS CODE
Live		0307.60
Fresh or chilled	in shell	0307.60
	not in shell	0307.60
Frozen	in shell	0307.60
	not in shell	0307.60
Smoked	in shell, not cooked before or during the smoking process	0307.60
	in shell, cooked before or during the smoking process	0307.60
	not in shell, not cooked before or during the smoking process	0307.60
	not in shell, cooked before or during the smoking process	0307.60
Dried	in shell	0307.60
	not in shell	0307.60
Salted	in shell	0307.60
	not in shell	0307.60
In brine	in shell	0307.60
	not in shell	0307.60
Prepared or preserved		1605.58
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified		0511.91 +

Squid

(see also cuttle fish)

TREATMENT	HS CODE
Live	0307.42
Fresh or chilled	0307.42
Frozen	0307.43
Smoked	0307.49
	not cooked before or during the smoking process
	cooked before or during the smoking process
Dried	0307.49
Salted	0307.49
In brine	0307.49
Prepared or preserved	1605.54
Flours	0309.90 +
	fit for human consumption
	unfit for human consumption
Meals	0309.90 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.90 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +

Stromboid conchs

Strombus spp.

TREATMENT	HS CODE
Live	0307.82
Fresh or chilled	0307.82
	in shell
	not in shell
Frozen	0307.84
	in shell
	not in shell
Smoked	0307.88
	in shell, not cooked before or during the smoking process
	in shell, cooked before or during the smoking process
	not in shell, not cooked before or during the smoking process
	not in shell, cooked before or during the smoking process
Dried	0307.88
	in shell
	not in shell
Salted	0307.88
	in shell
	not in shell
In brine	0307.88
	in shell
	not in shell
Prepared or preserved	1605.59 +
Flours	0309.90 +
	fit for human consumption
	unfit for human consumption
Meals	0309.90 +
	fit for human consumption
	unfit for human consumption
Pellets	0309.90 +
	fit for human consumption
	unfit for human consumption
Dead	0511.91 +
Products not elsewhere specified	0511.91 +

Molluscs

not elsewhere specified

TREATMENT		HS CODE
Live		0307.91 +
Fresh or chilled	in shell	0307.91 +
	not in shell	0307.91 +
Frozen	in shell	0307.92 +
	not in shell	0307.92 +
Smoked	in shell, not cooked before or during the smoking process	0307.99 +
	in shell, cooked before or during the smoking process	0307.99 +
	not in shell, not cooked before or during the smoking process	0307.99 +
	not in shell, cooked before or during the smoking process	0307.99 +
Dried	in shell	0307.99 +
	not in shell	0307.99 +
Salted	in shell	0307.99 +
	not in shell	0307.99 +
In brine	in shell	0307.99 +
	not in shell	0307.99 +
Prepared or preserved		1605.59 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Jellyfish

Rhopilema spp.

TREATMENT		HS CODE
Live		0308.30
Fresh or chilled		0308.30
Frozen		0308.30
Smoked	not cooked before or during the smoking process	0308.30
	cooked before or during the smoking process	0308.30
Dried		0308.30
Salted		0308.30
In brine		0308.30
Prepared or preserved		1605.63
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Sea cucumbers

Stichopus japonicus, *Holothuroidea*

TREATMENT		HS CODE
Live		0308.11
Fresh or chilled		0308.11
Frozen		0308.12
Smoked	not cooked before or during the smoking process	0308.19
	cooked before or during the smoking process	0308.19
Dried		0308.19
Salted		0308.19
In brine		0308.19
Prepared or preserved		1605.61
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead		0511.91 +
Products not elsewhere specified		0511.91 +

Sea urchins

Strongylocentrotus spp., *Paracentrotus lividus*, *Loxechinus albus*, *Echinus esculentus*

TREATMENT		HS CODE
Live		0308.21
Fresh or chilled		0308.21
Frozen		0308.22
Smoked	not cooked before or during the smoking process	0308.29
	cooked before or during the smoking process	0308.29
Dried		0308.29
Salted		0308.29
In brine		0308.29
Prepared or preserved		1605.62
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead		0511.91 +
Products not elsewhere specified		0511.91 +

Aquatic invertebrates

not elsewhere specified

TREATMENT		HS CODE
Live		0308.90 +
Fresh or chilled		0308.90 +
Frozen		0308.90 +
Smoked	not cooked before or during the smoking process	0308.90 +
	cooked before or during the smoking process	0308.90 +
Dried		0308.90 +
Salted		0308.90 +
In brine		0308.90 +
Prepared or preserved		1605.69 +
Flours	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Meals	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Pellets	fit for human consumption	0309.90 +
	unfit for human consumption	2301.20 +
Dead	unfit for human consumption	0511.91 +
Products not elsewhere specified	unfit for human consumption	0511.91 +

Section and chapter notes

Each section or chapter of the Harmonized System can have notes, commonly named "Legal Notes", and form an integral part of the HS Convention. Section and chapter notes directly or indirectly linked to the fish and fish products are presented herein. They should be read in conjunction with the respective chapter, heading or subheading of the HS.

In addition, there are Explanatory Notes which provide a commentary on the scope of each heading, giving a list of the main products included and excluded, together with technical descriptions of the goods concerned (their appearance, properties, method of production and uses) and practical guidance for their identification. Where appropriate, the Explanatory Notes also clarify the scope of particular subheadings.

The Explanatory Notes do not form an integral part of the Harmonized System Convention, but they constitute the official interpretation of the HS at the international level and are an indispensable complement to the System, as approved by the Council of the WCO.

The Explanatory Notes are drafted by the Harmonized System Committee and adopted by the Council of Customs Cooperation. They can be purchased via the WCO online bookshop (<http://wcoomdpublishings.org/>).

NOTES

Section I – Live animals; animal products

Section note

1. Any reference in this Section to a particular genus or species of an animal, except where the context otherwise requires, includes a reference to the young of that genus or species.
2. Except where the context otherwise requires, throughout the Nomenclature any reference to "dried" products also covers products which have been dehydrated, evaporated or freeze-dried.

Chapter 3 – Fish and crustaceans, molluscs and other aquatic invertebrates

Notes

1. This Chapter does not cover:

(a) Mammals of heading 01.06 – whales, dolphins and porpoises (mammals of the order Cetacea); manatees and dugongs (mammals of the order Sirenia); seals, sea lions and walruses (mammals of the suborder Pinnipedia);

(b) Meat of mammals of heading 01.06 (heading 02.08 – meat and edible meat offal, fresh chilled or frozen; or 02.10 – meat and edible meat offal, salted, in brine, dried or smoked, and edible flours and meals of meat of meat offal);

(c) Fish (including livers, roes and milt thereof) or crustaceans, molluscs or other aquatic invertebrates, dead and unfit or unsuitable for human consumption by reason of either their species or their condition (Chapter 5 – Products of animal origin, not elsewhere specified or included); flours, meals or pellets of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption (heading 23.01 – Flours, meals and pellets, of meat or meat offal, of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption; greaves); or

(d) Caviar or caviar substitutes prepared from fish eggs (heading 16.04).

2. In this Chapter the term "pellets" means products which have been agglomerated either directly by compression or by the addition of a small quantity of binder.

Chapter 5 – Products of animal origin, not elsewhere specified or included

Notes

1. This Chapter does not cover:

(a) Edible products (other than guts, bladders and stomachs of animals, whole and pieces thereof, and animal blood, liquid or dried);

(b) Hides or skins (including furskins) other than goods of heading 05.05 and parings and similar waste of raw hides or skins of heading 05.11 (Chapter 41 – Raw hides and skins (other than furskins) and leather; or 43 – Furskins and artificial fur; manufactures thereof);

(c) Animal textile materials, other than horsehair and horsehair waste (Section XI – Textiles and textile articles); or

(d) Prepared knots or tufts for broom or brush making (heading 96.03 – Brooms, brushes (including brushes constituting parts of machines, appliances or vehicles), hand-operated mechanical floor sweepers, not motorized, mops and feather dusters; prepared knots and tufts for broom or brush making; paint pads and rollers; squeegees (other than roller squeegees)).

2. For the purposes of heading 05.01 (Human hair, unworked, whether or not washed or scoured; waste of human hair), the sorting of hair by length (provided the root ends and tip ends respectively are not arranged together) shall be deemed not to constitute working.

3. Throughout the Nomenclature, elephant, hippopotamus, walrus, narwhal and wild boar tusks, rhinoceros horns and the teeth of all animals are regarded as “ivory”.

4. Throughout the Nomenclature, the expression “horsehair” means hair of the manes or tails of equine or bovine animals. Heading 05.11 (Animal products not elsewhere specified or included; dead animals of Chapter 1 or 3, unfit for human consumption) covers, inter alia, horsehair and horsehair waste, whether or not put up as a layer with or without supporting material.

Section II – Vegetable products

Section note

1. In this Section the term “pellets” means products which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 percent by weight.

Chapter 12 – Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder

Notes

1. Heading 12.07 (Other oil seeds and oleaginous fruits, whether or not broken) applies, inter alia, to palm nuts and kernels, cotton seeds, castor oil seeds, sesame seeds, mustard seeds, safflower seeds, poppy seeds and shea nuts (karite nuts). It does not apply to products of heading 08.01 (Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled) or 08.02 (Other nuts, fresh or dried, whether or not shelled or peeled) or to olives (Chapter 7 [Edible vegetables and certain roots and tubers]) or Chapter 20 (Preparations of vegetables, fruit, nuts or other parts of plants).

2. Heading 12.08 (Flours and meals of oil seeds or oleaginous fruits, other than those of mustard) applies not only to non-defatted flours and meals but also to flours and meals which have been partially defatted or defatted and wholly or partially refatted with their original oils. It does not, however, apply to residues of headings 23.04

(Oil-cake and other solid residues, whether or not ground or not in the form of pellets, resulting from the extraction of soyabean oil) to 23.06 (Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of vegetable fats or oils, other than those resulting from the extraction of soyabean oil or of ground-nut oil).

3. For the purposes of heading 12.09 (Seeds, fruits and spores, of a kind used for sowing), beet seeds, grass and other herbage seeds, seeds of ornamental flowers, vegetable seeds, seeds of forest trees, seeds of fruit trees, seeds of vetches (other than those of the species *Vicia faba*) or of lupines are to be regarded as "seeds of a kind used for sowing". Heading 12.09 does not, however, apply to the following even if for sowing:

(a) Leguminous vegetables or sweet corn (Chapter 7);

(b) Spices or other products of Chapter 9;

(c) Cereals (Chapter 10); or

(d) Products of headings 12.01 (Soyabeans, whether or not broken) to 12.07 (Other soil seeds and oleaginous fruits, whether or not broken) or 12.11 (Plants and parts of plants (including seeds and fruits), of a kind used primarily in perfumery, in pharmacy or for insecticidal, fungicidal or similar purposes, fresh, chilled, frozen or dried, whether or not cut, crushed or powdered).

4. Heading 12.11 applies, inter alia, to the following plants or parts thereof: basil, borage, ginseng, hyssop, liquorice, all species of mint, rosemary, rue, sage and wormwood. Heading 12.11 does not, however, apply to:

(a) Medicaments of Chapter 30 (Pharmaceutical products);

(b) Perfumery, cosmetic or toilet preparations of Chapter 33 (Essential oils and resinoids; perfumery, cosmetic or toilet preparations); or

(c) Insecticides, fungicides, herbicides, disinfectants or similar products of heading 38.08.

5. For the purposes of heading 12.12 (Locust beans, seaweeds and other algae, sugar beet and sugar cane, fresh, chilled, frozen or dried, whether or not ground; fruit stones and kernels and other vegetable products (including unroasted chicory roots of the variety *Cichorium intybus sativum*) of a kind used primarily for human consumption, not elsewhere specified or included), the term "seaweeds and other algae" does not include:

(a) Dead single-cell micro-organisms of heading 21.02 (Yeasts [active or inactive]); other single-cell micro-organisms, dead (but not including vaccines of heading 30.02); prepared baking powders);

(b) Cultures of micro-organisms of heading 30.02 (Human blood; animal blood prepared for therapeutic, prophylactic or diagnostic uses; antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes; vaccines, toxins, cultures of micro-organisms [excluding yeasts] and similar products); or

(c) Fertilisers of heading 31.01 (Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products) or 31.05 (Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this Chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg).

Subheading note

1. For the purposes of subheading 1205.10 (Low erucic acid rape or colza seeds), the expression "low erucic acid rape or colza seeds" means rape or colza seeds yielding a fixed oil which has an erucic acid content of less than 2 percent by weight and yielding a solid component which contains less than 30 micromoles of glucosinolates per gram.

Chapter 13 – Lac; gums, resins and other vegetable saps and extracts

Notes

1. Heading 13.02 (Vegetables saps and extracts; pectic substances, pectinates and pectates; agar-agar and other mucilages and thickeners, whether or not modified, derived from vegetable products) applies, *inter alia*, to liquorice extract and extract of pyrethrum, extract of hops, extract of aloes and opium.

The heading does not apply to :

- (a) Liquorice extract containing more than 10 percent by weight of sucrose or put up as confectionery (heading 17.04);
- (b) Malt extract (heading 19.01);
- (c) Extracts of coffee, tea or maté (heading 21.01);
- (d) Vegetable saps or extracts constituting alcoholic beverages (Chapter 22);
- (e) Camphor, glycyrrhizin or other products of heading 29.14 or 29.38;
- (f) Concentrates of poppy straw containing not less than 50 percent by weight of alkaloids (heading 29.39);
- (g) Medicaments of heading 30.03 or 30.04 or blood-grouping reagents (heading 30.06);
- (h) Tanning or dyeing extracts (heading 32.01 or 32.03);
- (ij) Essential oils, concretes, absolutes, resinoids, extracted oleoresins, aqueous distillates or aqueous solutions of essential oils or preparations based on odoriferous substances of a kind used for the manufacture of beverages (Chapter 33); or

(k) Natural rubber, balata, gutta-percha, guayule, chicle or similar natural gums (heading 40.01).

Section III – Animals or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes

Chapter 15 – Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes

Notes

1. This Chapter does not cover:

- (a) Pig fat or poultry fat of heading 02.09;
- (b) Cocoa butter, fat or oil (heading 18.04);
- (c) Edible preparations containing by weight more than 15 percent of the products of heading 04.05 (generally Chapter 21);
- (d) Greaves (heading 23.01) or residues of headings 23.04 to 23.06;
- (e) Fatty acids, prepared waxes, medicaments, paints, varnishes, soap, perfumery, cosmetic or toilet preparations, sulphonated oils or other goods of Section VI; or
- (f) Factice derived from oils (heading 40.02).

2. Heading 15.09 (Olive oil and its fractions, whether or not refined, but not chemically modified) does not apply to oils obtained from olives by solvent extraction (heading 15.10 – Other oils and their fractions, obtained solely from olives, whether or not refined, but not chemically modified, including blends of these oils or fractions with oils or fractions of olive oil, whether virgin or not).

3. Heading 15.18 (Animal or vegetable fats and oils and their fractions, boiled, oxidised, dehydrated, sulphurised, blown, polymerised by heat in vacuum or in inert gas or otherwise chemically modified, excluding those of heading 15.16; inedible mixtures or preparations of animal or vegetable fats or oils or of fractions of different fats or oils of this Chapter, not elsewhere specified or included) does not cover fats or oils or their fractions, merely denatured, which are to be classified in the heading appropriate to the corresponding undenatured fats and oils and their fractions.

4. Soap-stocks, oil foots and dregs, stearin pitch, glycerol pitch and wool grease residues fall in heading 15.22 (Vegetable waxes [other than triglycerides], beeswax, other insect waxes and spermaceti, whether or not refined or coloured).

Subheading note

1. For the purposes of subheadings 1514.11 (Crude oil) and 1514.19 (Other low erucic acid rape or colza oil and its fractions except crude oil), the expression "low erucic acid rape or colza oil" means the fixed oil which has an erucic acid content of less than 2 percent by weight.

Section IV – Prepared food stuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes

Section note

1. In this Section the term "pellets" means products which have been agglomerated either directly by compression or by the addition of a binder in a proportion not exceeding 3 percent by weight.

Chapter 16 – Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates

Notes

1. This Chapter does not cover meat, meat offal, fish, crustaceans, molluscs or other aquatic invertebrates, prepared or preserved by the processes specified in Chapter 2 (Meat

and edible meat offal) or 3 (Fish and crustaceans, molluscs and other aquatic invertebrates) or heading 05.04 (Guts, bladders and stomachs of animals [other than fish], whole and pieces thereof, fresh, chilled, frozen, salted, in brine, dried or smoked).

2. Food preparations fall in this Chapter provided that they contain more than 20 percent by weight of sausage, meat, meat offal, blood, fish or crustaceans, molluscs or other aquatic invertebrates, or any combination thereof. In cases where the preparation contains two or more of the products mentioned above, it is classified in the heading of Chapter 16 corresponding to the component or components which predominate by weight. These provisions do not apply to the stuffed products of heading 19.02 or to the preparations of heading 21.03 (Sauces and preparations therefor; mixed condiments and mixed seasonings; mustard flour and meal and prepared mustard) or 21.04 (Soups and broths and preparations therefor; homogenised composite food preparations).

Subheading note

1. For the purposes of subheading 1602.10 (Homogenised preparations), the expression "homogenised preparations" means preparations of meat, meat offal or blood, finely homogenised, put up for retail sale as food suitable for infants or young children or for dietetic purposes, in containers of a net weight content not exceeding 250 g. For the application of this definition no account is to be taken of small quantities of any ingredients which may have been added to the preparation for seasoning, preservation or other purposes. These preparations may contain a small quantity of visible pieces of meat or meat offal. This subheading takes precedence over all other subheadings of heading 16.02 – other prepared or preserved meat, meat offal or blood.

2. The fish, crustaceans, molluscs and other aquatic invertebrates specified in the subheadings of heading 16.04 (Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs) or 16.05 (Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved) under their common names only, are of the same species as those mentioned in Chapter 3 under the same name.

Chapter 23 – Residue and waste from the food industries; prepared animal fodder

Notes

1. Heading 23.09 (Preparations of a kind used in animal feeding) includes products of a kind used in animal feeding, not elsewhere specified or included, obtained by processing vegetable or animal materials to such an extent that they have lost the essential characteristics of the original material, other than vegetable waste, vegetable residues and by-products of such processing.

Subheading note

1. For the purposes of subheading 2306.41 (Oil-cake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of low erucic acid rape or colza seeds), the expression "low erucic acid rape or colza seeds" means seeds as defined in Subheading Note 1 to Chapter 12 – Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder.

Full description of fisheries and aquaculture products

0301.11	Freshwater ornamental fish, live
0301.19	Ornamental fish, live; excluding freshwater ornamental fish
0301.91	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhynchus aguabonita</i> , <i>Oncorhynchus gilae</i> , <i>Oncorhynchus apache</i> and <i>Oncorhynchus chrysogaster</i>), live; excluding ornamental
0301.92	Eels (<i>Anguilla</i> spp.), live; excluding ornamental
0301.93	Carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), live; excluding ornamental
0301.94	Atlantic and Pacific bluefin tunas (<i>Thunnus thynnus</i> , <i>Thunnus orientalis</i>), live; excluding ornamental
0301.95	Southern bluefin tunas (<i>Thunnus maccoyii</i>), live; excluding ornamental
0301.99	Fish, live; excluding Atlantic bluefin tunas, carp, eels, Pacific bluefin tunas, southern bluefin tunas, trout, and also excluding ornamental
0302.11	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhynchus aguabonita</i> , <i>Oncorhynchus gilae</i> , <i>Oncorhynchus apache</i> and <i>Oncorhynchus chrysogaster</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.13	Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorbuscha</i> , <i>Oncorhynchus keta</i> , <i>Oncorhynchus tshawytscha</i> , <i>Oncorhynchus kisutch</i> , <i>Oncorhynchus masou</i> and <i>Oncorhynchus rhodurus</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.14	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.19	Salmonidae, fresh or chilled; excluding Atlantic salmon, Danube salmon, Pacific salmon, trout, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.21	Halibut (<i>Reinhardtius hippoglossoides</i> , <i>Hippoglossus hippoglossus</i> , <i>Hippoglossus stenolepis</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.22	Plaice (<i>Pleuronectes platessa</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0302.23	Sole (<i>Solea</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.24	Turbots (<i>Psetta maxima</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.29	Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scopthalmidae and Citharidae), fresh or chilled; excluding halibut, plaice, sole, turbot, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.31	Albacore or longfinned tunas (<i>Thunnus alalunga</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.32	Yellowfin tunas (<i>Thunnus albacares</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.33	Skipjack or stripe-bellied bonito (<i>Euthynnus [Katsuwonus] pelamis</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.34	Bigeye tunas (<i>Thunnus obesus</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.35	Atlantic and Pacific bluefin tunas (<i>Thunnus thynnus</i> , <i>Thunnus orientalis</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.36	Southern bluefin tunas (<i>Thunnus maccoyii</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.39	Tunas (of the genus <i>Thunnus</i>), fresh or chilled; excluding albacore tunas, Atlantic bluefin tunas, bigeye tunas, longfinned tunas, Pacific bluefin tunas, skipjack, stripe-bellied bonito, southern bluefin tunas, yellowfin tunas, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.41	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0302.42	Anchovies (<i>Engraulis</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.43	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops</i> spp.), sardinella (<i>Sardinella</i> spp.), brislings or sprats (<i>Sprattus sprattus</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.44	Mackerel (<i>Scomber scombrus</i> , <i>Scomber australasicus</i> , <i>Scomber japonicus</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.45	Jack and horse mackerel (<i>Trachurus</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.46	Cobia (<i>Rachycentron canadum</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.47	Swordfish (<i>Xiphias gladius</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.49	Indian mackerels (<i>Rastrelliger</i> spp.), seerfishes (<i>Scomberomorus</i> spp.), jacks, crevalles (<i>Caranx</i> spp.), silver pomfrets (<i>Pampus</i> spp.), Pacific saury (<i>Cololabis saira</i>), scads (<i>Decapterus</i> spp.), capelin (<i>Mallotus villosus</i>), Kawakawa (<i>Euthynnus affinis</i>), bonitos (<i>Sarda</i> spp.), marlins, sailfishes, spearfish (<i>Istiophoridae</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.51	Cod (<i>Gadus morhua</i> , <i>Gadus ogac</i> , <i>Gadus macrocephalus</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.52	Haddock (<i>Melanogrammus aeglefinus</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.53	Coalfish (<i>Pollachius virens</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0302.54	Hake (<i>Merluccius</i> spp., <i>Urophycis</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.55	Alaska pollock (<i>Theragra chalcogramma</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.56	Blue whittings (<i>Micromesistius poutassou</i> , <i>Micromesistius australis</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.59	Fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, fresh or chilled; excluding cod, haddock, coalfish, hake, Alaska pollock, blue whittings, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.71	Tilapias (<i>Oreochromis</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.72	Catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.73	Carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.74	Eels (<i>Anguilla</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.79	Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.81	Dogfish and other sharks, fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.82	Rays and skates (<i>Rajidae</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0302.83	Toothfish (<i>Dissostichus</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.84	Seabass (<i>Dicentrarchus</i> spp.), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.85	Seabream (<i>Sparidae</i>), fresh or chilled; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.89	Fish, fresh or chilled; excluding Salmonidae, flat fish, tunas, skipjack, stripe-bellied bonito, herrings, anchovies, sardines, sardinella, brisling, sprats, mackerel, jack mackerel, horse mackerel, cobia, swordfish, Indian mackerels, seerfishes, jacks, crevalles, silver pomfrets, Pacific saury, scads, capelin, Kawakawa, bonitos, marlins, sailfishes, spearfish, tilapias, catfish, carp, eels, Nile perch, snakeheads, dogfish, sharks, rays, skates, toothfish, seabass, seabream, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0302.91	Livers, roes and milt, fresh or chilled
0302.92	Shark fins, fresh or chilled
0302.99	Fish fins, heads, tails, maws and other edible fish offal, fresh or chilled; excluding livers, roes, milt and shark fins
0303.11	Sockeye salmon (red salmon) (<i>Oncorhynchus nerka</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.12	Pacific salmon (<i>Oncorhynchus gorbuscha</i> , <i>Oncorhynchus keta</i> , <i>Oncorhynchus tshawytscha</i> , <i>Oncorhynchus kisutch</i> , <i>Oncorhynchus masou</i> and <i>Oncorhynchus rhodurus</i>), frozen; excluding sockeye salmon (red salmon), and also excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.13	Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0303.14	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhynchus aguabonita</i> , <i>Oncorhynchus gilae</i> , <i>Oncorhynchus apache</i> and <i>Oncorhynchus chrysogaster</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.19	Salmonidae, frozen; excluding Pacific salmon, Atlantic salmon, Danube salmon, trout, and also excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.23	Tilapias (<i>Oreochromis</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.24	Catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.25	Carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.26	Eels (<i>Anguilla</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.29	Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.31	Halibut (<i>Reinhardtius hippoglossoides</i> , <i>Hippoglossus hippoglossus</i> , <i>Hippoglossus stenolepis</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.32	Plaice (<i>Pleuronectes platessa</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.33	Sole (<i>Solea</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.34	Turbots (<i>Psetta maxima</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.39	Flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae), frozen; excluding halibut, plaice, sole, turbot, and also excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0303.41	Albacore or longfinned tunas (<i>Thunnus alalunga</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.42	Yellowfin tunas (<i>Thunnus albacares</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.43	Skipjack or stripe-bellied bonito (<i>Euthynnus [Katsuwonus] pelamis</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.44	Bigeye tunas (<i>Thunnus obesus</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.45	Atlantic and Pacific bluefin tunas (<i>Thunnus thynnus</i> , <i>Thunnus orientalis</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.46	Southern bluefin tunas (<i>Thunnus maccoyii</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.49	Tunas (of the genus <i>Thunnus</i>), frozen; excluding albacore tunas, Atlantic bluefin tunas, bigeye tunas, longfinned tunas, Pacific bluefin tunas, skipjack, southern bluefin tunas, stripe-bellied bonito, yellowfin tunas, and also excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.51	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.53	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops</i> spp.), sardinella (<i>Sardinella</i> spp.), brislings or sprats (<i>Sprattus sprattus</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.54	Mackerel (<i>Scomber scombrus</i> , <i>Scomber australasicus</i> , <i>Scomber japonicus</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.55	Jack and horse mackerel (<i>Trachurus</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0303.56	Cobia (<i>Rachycentron canadum</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.57	Swordfish (<i>Xiphias gladius</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.59	Anchovies (<i>Engraulis</i> spp.), Indian mackerels (<i>Rastrelliger</i> spp.), seerfishes (<i>Scomberomorus</i> spp.), jacks, crevalles (<i>Caranx</i> spp.), silver pomfrets (<i>Pampus</i> spp.), Pacific saury (<i>Cololabis saira</i>), scads (<i>Decapterus</i> spp.), capelin (<i>Mallotus villosus</i>), Kawakawa (<i>Euthynnus affinis</i>), bonitos (<i>Sarda</i> spp.), marlins, sailfishes, spearfish (Istiophoridae), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.63	Cod (<i>Gadus morhua</i> , <i>Gadus ogac</i> , <i>Gadus macrocephalus</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.64	Haddock (<i>Melanogrammus aeglefinus</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.65	Coalfish (<i>Pollachius virens</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.66	Hake (<i>Merluccius</i> spp., <i>Urophycis</i> spp.), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.67	Alaska pollock (<i>Theragra chalcogramma</i>), frozen; excluding fillets and meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.68	Blue whittings (<i>Micromesistius poutassou</i> , <i>Micromesistius australis</i>), frozen; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.69	Fish of the families (Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae), frozen; excluding cod, haddock, coalfish, hake, Alaska pollock, blue whittings, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.81	Dogfish and other sharks, frozen; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.82	Rays and skates (<i>Rajidae</i>), frozen; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal

0303.83	Toothfish (<i>Dissostichus</i> spp.), frozen; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.84	Seabass (<i>Dicentrarchus</i> spp.), frozen; excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.89	Fish, frozen; excluding Salmonidae, tilapias, catfish, carp, eels, Nile perch, snakeheads, flat fish, tunas, skipjack, stripe-bellied bonito, herrings, sardines, sardinella, brisling, sprats, mackerel, jack mackerel, horse mackerel, cobia, swordfish, anchovies, Indian mackerels, seerfishes, jacks, crevalles, silver pomfrets, Pacific saury, scads, capelin, Kawakawa, bonitos, marlins, sailfishes, spearfish, dogfish, sharks, rays, skates, toothfish, seabass, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, and also excluding fillets and other meat (whether or not minced), livers, roes, milt, fins, heads, tails, maws and other edible offal
0303.91	Livers, roes and milt, frozen
0303.92	Shark fins, frozen
0303.99	Fish fins, heads, tails, maws and other edible fish offal, frozen; excluding livers, roes, milt and shark fins
0304.31	Fillets of tilapias (<i>Oreochromis</i> spp.), fresh or chilled
0304.32	Fillets of catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), fresh or chilled
0304.33	Fillets of Nile perch (<i>Lates niloticus</i>), fresh or chilled
0304.39	Fillets of carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.) and snakeheads (<i>Channa</i> spp.), fresh or chilled
0304.41	Fillets of Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorbusha</i> , <i>Oncorhynchus keta</i> , <i>Oncorhynchus tshawytscha</i> , <i>Oncorhynchus kisutch</i> , <i>Oncorhynchus masou</i> and <i>Oncorhynchus rhodurus</i>), Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>), fresh or chilled
0304.42	Fillets of trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhynchus aguabonita</i> , <i>Oncorhynchus gilae</i> , <i>Oncorhynchus apache</i> and <i>Oncorhynchus chrysogaster</i>), fresh or chilled
0304.43	Fillets of flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scopthalmidae and Citharidae), fresh or chilled

0304.44	Fillets of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, fresh or chilled
0304.45	Fillets of swordfish (<i>Xiphias gladius</i>), fresh or chilled
0304.46	Fillets of toothfish (<i>Dissostichus</i> spp.), fresh or chilled
0304.47	Fillets of dogfish and other sharks, fresh or chilled
0304.48	Fillets of rays and skates (<i>Rajidae</i>), fresh or chilled
0304.49	Fillets of fish, fresh or chilled; excluding tilapias, catfish, carp, eels, Nile perch, snakeheads, Pacific salmon, Atlantic salmon, Danube salmon, trout, flat fish, swordfish, toothfish, dogfish, sharks, rays, skates, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae
0304.51	Meat of tilapias (<i>Oreochromis</i> spp.), catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.), Nile perch (<i>Lates niloticus</i>), and snakeheads (<i>Channa</i> spp.), fresh or chilled (whether or not minced); excluding fillets
0304.52	Meat of Salmonidae, fresh or chilled (whether or not minced); excluding fillets
0304.53	Meat of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, fresh or chilled (whether or not minced); excluding fillets
0304.54	Meat of swordfish (<i>Xiphias gladius</i>), fresh or chilled (whether or not minced); excluding fillets
0304.55	Meat of toothfish (<i>Dissostichus</i> spp.), fresh or chilled (whether or not minced); excluding fillets
0304.56	Meat of dogfish and other sharks, fresh or chilled (whether or not minced); excluding fillets
0304.57	Meat of rays and skates (<i>Rajidae</i>), fresh or chilled (whether or not minced); excluding fillets
0304.59	Meat of fish, fresh or chilled (whether or not minced); excluding tilapias, catfish, carp, eels, Nile perch, snakeheads, Salmonidae, swordfish, toothfish, dogfish, sharks, rays, skates, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, and also excluding fillets

0304.61	Fillets of tilapias (<i>Oreochromis</i> spp.), frozen
0304.62	Fillets of catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), frozen
0304.63	Fillets of Nile perch (<i>Lates niloticus</i>), frozen
0304.69	Fillets of carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.) and snakeheads (<i>Channa</i> spp.), frozen
0304.71	Fillets of cod (<i>Gadus morhua</i> , <i>Gadus ogac</i> , <i>Gadus macrocephalus</i>), frozen
0304.72	Fillets of haddock (<i>Melanogrammus aeglefinus</i>), frozen
0304.73	Fillets of coalfish (<i>Pollachius virens</i>), frozen
0304.74	Fillets of hake (<i>Merluccius</i> spp., <i>Urophycis</i> spp.), frozen
0304.75	Fillets of Alaska pollock (<i>Theragra chalcogramma</i>), frozen
0304.79	Fillets of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, frozen; excluding cod, haddock, coalfish, hake, Alaska pollock
0304.81	Fillets of Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorbusha</i> , <i>Oncorhynchus keta</i> , <i>Oncorhynchus tshawytscha</i> , <i>Oncorhynchus kisutch</i> , <i>Oncorhynchus masou</i> and <i>Oncorhynchus rhodurus</i>), Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>), frozen
0304.82	Fillets of trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhynchus aguabonita</i> , <i>Oncorhynchus gilae</i> , <i>Oncorhynchus apache</i> and <i>Oncorhynchus chrysogaster</i>), frozen
0304.83	Fillets of flat fish (Pleuronectidae, Bothidae, Cynoglossidae, Soleidae, Scophthalmidae and Citharidae), frozen
0304.84	Fillets of swordfish (<i>Xiphias gladius</i>), frozen
0304.85	Fillets of toothfish (<i>Dissostichus</i> spp.), frozen
0304.86	Fillets of herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), frozen
0304.87	Fillets of tunas (of the genus <i>Thunnus</i>), skipjack or stripe-bellied bonito (<i>Euthynnus [Katsuwonus] pelamis</i>), frozen
0304.88	Fillets of dogfish, other sharks, rays and skates (<i>Rajidae</i>), frozen

0304.89	Fillets of fish, frozen; excluding tilapias, catfish, carp, eels, Nile perch, snakeheads, Pacific salmon, Atlantic salmon, Danube salmon, trout, flat fish, swordfish, toothfish, herrings, tunas, skipjack, striped-bellied bonito, dogfish, sharks, rays, skates, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae
0304.91	Meat of swordfish (<i>Xiphias gladius</i>), frozen (whether or not minced); excluding fillets
0304.92	Meat of toothfish (<i>Dissostichus</i> spp.), frozen (whether or not minced); excluding fillets
0304.93	Meat of tilapias (<i>Oreochromis</i> spp.), catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.), Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), frozen (whether or not minced); excluding fillets
0304.94	Meat of Alaska pollock (<i>Theragra chalcogramma</i>), frozen (whether or not minced); excluding fillets
0304.95	Meat of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, frozen (whether or not minced); excluding Alaska pollock, and also excluding fillets
0304.96	Meat of dogfish and other sharks, frozen (whether or not minced); excluding fillets
0304.97	Meat of rays and skates (<i>Rajidae</i>), frozen (whether or not minced); excluding fillets
0304.99	Meat of fish, frozen (whether or not minced); excluding swordfish, toothfish, tilapias, catfish, carp, eels, Nile perch, snakeheads, dogfish, sharks, rays, skates, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, and also excluding fillets
0305.20	Livers, roes and milt of fish, dried, salted or in brine
0305.31	Fillets of tilapias (<i>Oreochromis</i> spp.), catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.), Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), dried, salted or in brine; excluding smoked fillets

0305.32	Fillets of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, dried, salted or in brine; excluding smoked fillets
0305.39	Fillets of fish, dried, salted or in brine; excluding tilapias, catfish, carp, eels, Nile perch, snakeheads, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, and also excluding smoked fillets
0305.41	Pacific salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorbuscha</i> , <i>Oncorhynchus keta</i> , <i>Oncorhynchus tshawytscha</i> , <i>Oncorhynchus kisutch</i> , <i>Oncorhynchus masou</i> and <i>Oncorhynchus rhodurus</i>), Atlantic salmon (<i>Salmo salar</i>) and Danube salmon (<i>Hucho hucho</i>), smoked, whether or not cooked before or during the smoking process, including fillets; excluding edible offal
0305.42	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), smoked, whether or not cooked before or during the smoking process, including fillets; excluding edible offal
0305.43	Trout (<i>Salmo trutta</i> , <i>Oncorhynchus mykiss</i> , <i>Oncorhynchus clarki</i> , <i>Oncorhynchus aguabonita</i> , <i>Oncorhynchus gilae</i> , <i>Oncorhynchus apache</i> and <i>Oncorhynchus chrysogaster</i>), smoked, whether or not cooked before or during the smoking process, including fillets; excluding edible offal
0305.44	Tilapias (<i>Oreochromis</i> spp.), catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.), Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), smoked, whether or not cooked before or during the smoking process, including fillets; excluding edible offal
0305.49	Fish, smoked, whether or not cooked before or during the smoking process, including fillets; excluding Pacific salmon, Atlantic salmon, Danube salmon, herrings, trout, tilapias, catfish, carp, eels, Nile perch, snakeheads, and also excluding edible offal
0305.51	Cod (<i>Gadus morhua</i> , <i>Gadus ogac</i> , <i>Gadus macrocephalus</i>), dried, whether or not salted; excluding smoked fish and edible offal

0305.52	Tilapias (<i>Oreochromis</i> spp.), catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.), Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), dried, whether or not salted; excluding smoked fish and edible offal
0305.53	Fillets of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, dried, whether or not salted; excluding cod, and also excluding smoked fish and edible offal
0305.54	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), Anchovies (<i>Engraulis</i> spp.), sardines (<i>Sardina pilchardus</i> , <i>Sardinops</i> spp.), sardinella (<i>Sardinella</i> spp.), brisling or sprats (<i>Sprattus sprattus</i>), mackerel (<i>Scomber scombrus</i> , <i>Scomber australasicus</i> , <i>Scomber japonicus</i>), Indian mackerels (<i>Rastrelliger</i> spp.), seerfishes (<i>Scomberomorus</i> spp.), jack and horse mackerel (<i>Trachurus</i> spp.), jacks, crevalles (<i>Caranx</i> spp.), cobia (<i>Rachycentron canadum</i>), silver pomfrets (<i>Pampus</i> spp.), Pacific saury (<i>Cololabis saira</i>), scads (<i>Decapterus</i> spp.), capelin (<i>Mallotus villosus</i>), swordfish (<i>Xiphias gladius</i>), Kawakawa (<i>Euthynnus affinis</i>), bonitos (<i>Sarda</i> spp.), marlins, sailfishes, spearfish (<i>Istiophoridae</i>), dried, whether or not salted; excluding smoked fish and edible offal
0305.59	Fish, dried, whether or not salted; excluding tilapias, catfish, carp, eels, Nile perch, snakeheads, herrings, anchovies, sardines, sardinella, brisling, sprats, mackerel, Indian mackerels, seerfishes, jack mackerel, horse mackerel, jacks, crevalles, cobia, silver pomfrets, Pacific saury, scads, capelin, swordfish, Kawakawa, bonitos, marlins, sailfishes, spearfish, fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae, and also excluding smoked fish and edible offal
0305.61	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), salted or in brine; excluding dried or smoked fish and edible offal
0305.62	Cod (<i>Gadus morhua</i> , <i>Gadus ogac</i> , <i>Gadus macrocephalus</i>), salted or in brine; excluding dried or smoked fish and edible offal
0305.63	Anchovies (<i>Engraulis</i> spp.), salted or in brine; excluding dried or smoked fish and edible offal

0305.64	Tilapias (<i>Oreochromis</i> spp.), catfish (<i>Pangasius</i> spp., <i>Silurus</i> spp., <i>Clarias</i> spp., <i>Ictalurus</i> spp.), carp (<i>Cyprinus</i> spp., <i>Carassius</i> spp., <i>Ctenopharyngodon idellus</i> , <i>Hypophthalmichthys</i> spp., <i>Cirrhinus</i> spp., <i>Mylopharyngodon piceus</i> , <i>Catla catla</i> , <i>Labeo</i> spp., <i>Osteochilus hasselti</i> , <i>Leptobarbus hoeveni</i> , <i>Megalobrama</i> spp.), eels (<i>Anguilla</i> spp.), Nile perch (<i>Lates niloticus</i>) and snakeheads (<i>Channa</i> spp.), salted or in brine; excluding dried or smoked fish and edible offal
0305.69	Fish, salted or in brine; excluding herrings, cod, anchovies, tilapias, catfish, carp, eels, Nile perch, snakeheads, and also excluding dried or smoked fish and edible offal
0305.71	Shark fins, dried, salted, in brine, smoked, whether or not cooked before or during the smoking process
0305.72	Fish heads, tails and maws, dried, salted, in brine, smoked, whether or not cooked before or during the smoking process
0305.79	Fish fins and other edible offal, dried, salted, in brine, smoked, whether or not cooked before or during the smoking process; excluding shark fins, fish heads, tails and maws
0306.11	Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), frozen, whether in shell or not, but not cooked; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), frozen, in shell, cooked by steaming or by boiling in water; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>)
0306.12	Lobsters (<i>Homarus</i> spp.), frozen, whether in shell or not, but not cooked; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Lobsters (<i>Homarus</i> spp.), frozen, in shell, cooked by steaming or by boiling in water; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>)
0306.14	Crabs, frozen, whether in shell or not, but not cooked Crabs, frozen, in shell, cooked by steaming or by boiling in water
0306.15	Norway lobster (<i>Nephrops norvegicus</i>), frozen, whether in shell or not, but not cooked; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.) Norway lobster (<i>Nephrops norvegicus</i>), frozen, in shell, cooked by steaming or by boiling in water; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.)

0306.16	Cold-water shrimps and prawns (<i>Pandalus</i> spp., <i>Crangon crangon</i>), frozen, whether in shell or not, but not cooked Cold-water shrimps and prawns (<i>Pandalus</i> spp., <i>Crangon crangon</i>), frozen, in shell, cooked by steaming or by boiling in water
0306.17	Shrimps and prawns, frozen, whether in shell or not, but not cooked; excluding cold-water shrimps and prawns Shrimps and prawns, frozen, in shell, cooked by steaming or by boiling in water; excluding cold-water shrimps and prawns
0306.19	Crustaceans, frozen, whether in shell or not, but not cooked; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns Crustaceans, frozen, in shell, cooked by steaming or by boiling in water; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns
0306.31	Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), live, fresh or chilled, whether in shell or not, but not cooked; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), chilled, in shell, cooked by steaming or by boiling in water; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>)
0306.32	Lobsters (<i>Homarus</i> spp.), live, fresh or chilled, whether in shell or not, but not cooked; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Lobsters (<i>Homarus</i> spp.), chilled, in shell, cooked by steaming or by boiling in water; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>)
0306.33	Crabs, live, fresh or chilled, whether in shell or not, but not cooked Crabs, chilled, in shell, cooked by steaming or by boiling in water
0306.34	Norway lobsters (<i>Nephrops norvegicus</i>), live, fresh or chilled, whether in shell or not, but not cooked; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.) Norway lobsters (<i>Nephrops norvegicus</i>), chilled, in shell, cooked by steaming or by boiling in water; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.)
0306.35	Cold-water shrimps and prawns (<i>Pandalus</i> spp., <i>Crangon crangon</i>), live, fresh or chilled, whether in shell or not, but not cooked Cold-water shrimps and prawns (<i>Pandalus</i> spp., <i>Crangon crangon</i>), chilled, in shell, cooked by steaming or by boiling in water

0306.36	Shrimps and prawns, live, fresh or chilled, whether in shell or not, but not cooked; excluding cold-water shrimps and prawns Shrimps and prawns, chilled, in shell, cooked by steaming or by boiling in water; excluding cold-water shrimps and prawns
0306.39	Crustaceans, live, fresh or chilled, whether in shell or not, but not cooked; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns Crustaceans, chilled, in shell, cooked by steaming or by boiling in water; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns
0306.91	Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), dried, salted or in brine, whether in shell or not, but not cooked; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), dried, salted or in brine, in shell, cooked by steaming or by boiling in water; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), smoked, whether in shell or not, whether or not cooked before or during the smoking process; excluding lobsters (<i>Homarus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>)
0306.92	Lobsters (<i>Homarus</i> spp.), dried, salted or in brine, whether in shell or not, but not cooked; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Lobsters (<i>Homarus</i> spp.), dried, salted or in brine, in shell, cooked by steaming or by boiling in water; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>) Lobsters (<i>Homarus</i> spp.), smoked, whether in shell or not, whether or not cooked before or during the smoking process; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), and Norway lobsters (<i>Nephrops norvegicus</i>)
0306.93	Crabs, dried, salted or in brine, whether in shell or not, but not cooked Crabs, dried, salted or in brine, in shell, cooked by steaming or by boiling in water Crabs, smoked, whether in shell or not, whether or not cooked before or during the smoking process

0306.94	Norway lobsters (<i>Nephrops norvegicus</i>), dried, salted or in brine, whether in shell or not, but not cooked; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.) Norway lobsters (<i>Nephrops norvegicus</i>), dried, salted or in brine, in shell, cooked by steaming or by boiling in water; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.) Norway lobsters (<i>Nephrops norvegicus</i>), smoked, whether in shell or not, whether or not cooked before or during the smoking process; excluding rock lobster and other sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), lobsters (<i>Homarus</i> spp.)
0306.95	Shrimps and prawns, dried, salted or in brine, whether in shell or not, but not cooked Shrimps and prawns, dried, salted or in brine, in shell, cooked by steaming or by boiling in water Shrimps and prawns, smoked, whether in shell or not, whether or not cooked before or during the smoking process
0306.99	Crustaceans, dried, salted or in brine, whether in shell or not, but not cooked; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns Crustaceans, dried, salted or in brine, in shell, cooked by steaming or by boiling in water; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns Crustaceans, smoked, whether in shell or not, whether or not cooked before or during the smoking process; excluding rock lobster, sea crawfish, lobsters, crabs, Norway lobsters, shrimps, prawns
0307.11	Oysters, live, fresh or chilled, whether in shell or not
0307.12	Oysters, frozen, whether in shell or not
0307.19	Oysters, dried, salted or in brine, whether in shell or not Oysters, smoked, whether in shell or not, whether or not cooked before or during the smoking process
0307.21	Scallops, including queen scallops (of the family <i>Pectinidae</i>), live, fresh or chilled, whether in shell or not
0307.22	Scallops, including queen scallops (of the family <i>Pectinidae</i>), frozen, whether in shell or not

0307.29	Scallops, including queen scallops (of the family <i>Pectinidae</i>), dried, salted or in brine, whether in shell or not
	Scallops, including queen scallops (of the family <i>Pectinidae</i>), smoked, whether in shell or not, whether or not cooked before or during the smoking process
0307.31	Mussels (<i>Mytilus</i> spp., <i>Perna</i> spp.), live, fresh or chilled, whether in shell or not
0307.32	Mussels (<i>Mytilus</i> spp., <i>Perna</i> spp.), frozen, whether in shell or not
0307.39	Mussels (<i>Mytilus</i> spp., <i>Perna</i> spp.), dried, salted or in brine, whether in shell or not
	Mussels (<i>Mytilus</i> spp., <i>Perna</i> spp.), smoked, whether in shell or not, whether or not cooked before or during the smoking process
0307.42	Cuttle fish and squid, live, fresh or chilled
0307.43	Cuttle fish and squid, frozen
0307.49	Cuttle fish and squid, dried, salted or in brine
	Cuttle fish and squid, smoked, whether or not cooked before or during the smoking process
0307.51	Octopus (<i>Octopus</i> spp.), live, fresh or chilled
0307.52	Octopus (<i>Octopus</i> spp.), frozen
0307.59	Octopus (<i>Octopus</i> spp.), dried, salted or in brine
	Octopus, smoked, whether or not cooked before or during the smoking process
0307.60	Snails, live, fresh, chilled, frozen, dried, salted or in brine, whether in shell or not; excluding sea snails
	Snails, smoked, whether in shell or not, whether or not cooked before or during the smoking process; excluding sea snails
0307.71	Clams, cockles and ark shells (families Arcidae, Arctiidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae), live, fresh or chilled, whether in shell or not
0307.72	Clams, cockles and ark shells (families Arcidae, Arctiidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae), frozen, whether in shell or not
0307.79	Clams, cockles and ark shells (families Arcidae, Arctiidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae), dried, salted or in brine, whether in shell or not
	Clams, cockles and ark shells (families Arcidae, Arctiidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae), smoked, whether in shell or not, whether or not cooked before or during the smoking process

0307.81	Abalone (<i>Haliotis</i> spp.), live, fresh or chilled, whether in shell or not
0307.82	Stromboid conchs (<i>Strombus</i> spp.), live, fresh or chilled, whether in shell or not
0307.83	Abalone (<i>Haliotis</i> spp.), frozen, whether in shell or not
0307.84	Stromboid conchs (<i>Strombus</i> spp.), frozen, whether in shell or not
0307.87	Abalone (<i>Haliotis</i> spp.), dried, salted or in brine, whether in shell or not
	Abalone (<i>Haliotis</i> spp.), smoked, whether in shell or not, whether or not cooked before or during the smoking process
0307.88	Stromboid conchs (<i>Strombus</i> spp.), dried, salted or in brine, whether in shell or not
	Stromboid conchs (<i>Strombus</i> spp.), smoked, whether in shell or not, whether or not cooked before or during the smoking process
0307.91	Molluscs, live, fresh or chilled, whether in shell or not; excluding oysters, scallops, including queen scallops, mussels, cuttle fish, squid, octopus, snails, clams, cockles, ark shells, abalone, stromboid conchs
0307.92	Molluscs, frozen, whether in shell or not; excluding oysters, scallops, including queen scallops, mussels, cuttle fish, squid, octopus, snails, clams, cockles, ark shells, abalone, stromboid conchs
0307.99	Molluscs, dried, salted or in brine, whether in shell or not; excluding oysters, scallops, including queen scallops, mussels, cuttle fish, squid, octopus, snails, clams, cockles, ark shells, abalone, stromboid conchs
	Molluscs, smoked, whether in shell or not, whether or not cooked before or during the smoking process; excluding oysters, scallops, including queen scallops, mussels, cuttle fish, squid, octopus, snails, clams, cockles, ark shells, abalone, stromboid conchs
0308.11	Sea cucumbers (<i>Stichopus japonicus</i> , Holothuroidea), live, fresh or chilled
0308.12	Sea cucumbers (<i>Stichopus japonicus</i> , Holothuroidea), frozen
0308.19	Sea cucumbers (<i>Stichopus japonicus</i> , Holothuroidea), dried, salted or in brine
	Sea cucumbers (<i>Stichopus japonicus</i> , Holothuroidea), smoked, whether or not cooked before or during the smoking process
0308.21	Sea urchins (<i>Strongylocentrotus</i> spp., <i>Paracentrotus lividus</i> , <i>Loxechinus albus</i> , <i>Echinus esculentus</i>), live, fresh or chilled
0308.22	Sea urchins (<i>Strongylocentrotus</i> spp., <i>Paracentrotus lividus</i> , <i>Loxechinus albus</i> , <i>Echinus esculentus</i>), frozen

0308.29	Sea urchins (<i>Strongylocentrotus</i> spp., <i>Paracentrotus lividus</i> , <i>Loxechinus albus</i> , <i>Echinus esculentus</i>), dried, salted or in brine Sea urchins (<i>Strongylocentrotus</i> spp., <i>Paracentrotus lividus</i> , <i>Loxechinus albus</i> , <i>Echinus esculentus</i>), smoked, whether or not cooked before or during the smoking process
0308.30	Jellyfish (<i>Rhopilema</i> spp.), live, fresh, chilled, frozen, dried, salted or in brine Jellyfish (<i>Rhopilema</i> spp.), smoked, whether or not cooked before or during the smoking process
0308.90	Aquatic invertebrates, live, fresh, chilled, dried, salted or in brine; excluding crustaceans, molluscs, sea cucumbers, sea urchins, jellyfish Aquatic invertebrates, smoked, whether or not cooked before or during the smoking process; excluding crustaceans, molluscs, sea cucumbers, sea urchins, jellyfish
0309.10	Flours, meals and pellets of fish, fit for human consumption
0309.90	Flours, meals and pellets of crustaceans, molluscs and other aquatic invertebrates, fit for human consumption
0511.91	Products of fish or crustaceans, molluscs or other aquatic invertebrates, not elsewhere specified or included, unfit for human consumption Dead fish, unfit for human consumption
1212.21	Seaweeds and other algae, fresh, chilled, frozen or dried, fit for human consumption, whether or not ground
1212.29	Seaweeds and other algae, fresh, chilled, frozen or dried, unfit for human consumption, whether or not ground
1302.31	Agar-agar
1504.10	Fish-liver oils and their fractions, whether or not refined; excluding chemically modified oils and their fractions
1504.20	Fats and oils and their fractions, of fish, whether or not refined; excluding chemically modified oils and their fractions, and liver oils
1504.30	Fats and oils and their fractions, of marine mammals, whether or not refined; excluding chemically modified oils and their fractions
1516.10	Fats and oils and their fractions, partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
1517.90	Fats or oils or of fractions, edible mixtures or preparations of different fats or oils; excluding partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared
1603.00	Extracts and juices of meat, fish, crustaceans, molluscs or other aquatic invertebrates

1604.11	Salmon (<i>Oncorhynchus nerka</i> , <i>Oncorhynchus gorbusha</i> , <i>Oncorhynchus keta</i> , <i>Oncorhynchus tshawytscha</i> , <i>Oncorhynchus kisutch</i> , <i>Oncorhynchus masou</i> , <i>Oncorhynchus rhodurus</i> , <i>Salmo salar</i> , <i>Hucho hucho</i>), prepared or preserved, whole or in pieces; excluding minced fish
1604.12	Herrings (<i>Clupea harengus</i> , <i>Clupea pallasii</i>), prepared or preserved, whole or in pieces; excluding minced fish
1604.13	Sardines (<i>Sardina pilchardus</i> , <i>Sardinops</i> spp.), sardinella (<i>Sardinella</i> spp.), brislings or sprats (<i>Sprattus sprattus</i>), prepared or preserved, whole or in pieces; excluding minced fish
1604.14	Tunas (of the genus <i>Thunnus</i>), skipjack (<i>Euthynnus [Katsuwonus] pelamis</i>), and bonito (<i>Sarda</i> spp.), prepared or preserved, whole or in pieces; excluding minced fish
1604.15	Mackerel (<i>Scomber scombrus</i> , <i>Scomber australasicus</i> , <i>Scomber japonicus</i>), prepared or preserved, whole or in pieces; excluding minced fish
1604.16	Anchovies (<i>Engraulis</i> spp.), prepared or preserved, whole or in pieces; excluding minced fish
1604.17	Eels (<i>Anguilla</i> spp.), prepared or preserved, whole or in pieces; excluding minced fish
1604.18	Shark fins, prepared or preserved, whole or in pieces; excluding minced fish
1604.19	Fish, prepared or preserved, whole or in pieces; excluding salmon, herrings, sardines, sardinella, brisling, sprats, tunas, skipjack, bonito, mackerel, anchovies, eels, shark fins, and also excluding minced fish
1604.20	Fish, prepared or preserved, minced
1604.31	Caviar
1604.32	Caviar substitutes, prepared from fish eggs
1605.10	Crab, prepared or preserved
1605.21	Shrimps and prawns, prepared or preserved, not in airtight container
1605.29	Shrimps and prawns, prepared or preserved, in airtight container
1605.30	Lobster (<i>Homarus</i> spp.), prepared or preserved; excluding rock lobster and sea crawfish (<i>Palinurus</i> spp., <i>Panulirus</i> spp., <i>Jasus</i> spp.), Norway lobsters (<i>Nephrops norvegicus</i>)
1605.40	Crustaceans, prepared or preserved; excluding crab, shrimps, prawns, lobster
1605.51	Oysters, prepared or preserved
1605.52	Scallops, including queen scallops (of the family <i>Pectinidae</i>), prepared or preserved

1605.53	Mussels (<i>Mytilus</i> spp., <i>Perna</i> spp.), prepared or preserved
1605.54	Cuttle fish and squid, prepared or preserved
1605.55	Octopus (<i>Octopus</i> spp.), prepared or preserved
1605.56	Clams, cockles and ark shells (families Arcidae, Arctidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae and Veneridae), prepared or preserved
1605.57	Abalone (<i>Haliotis</i> spp.), prepared or preserved
1605.58	Snails, prepared or preserved; excluding sea snails
1605.59	Molluscs, prepared or preserved; excluding oysters, scallops, including queen scallops, mussels, cuttle fish, squid, octopus, clams, cockles, ark shells, abalone, snails
1605.61	Sea cucumbers (<i>Stichopus japonicus</i> , Holothuroidea), prepared or preserved
1605.62	Sea urchins (<i>Strongylocentrotus</i> spp., <i>Paracentrotus lividus</i> , <i>Loxechinus albus</i> , <i>Echinus esculentus</i>), prepared or preserved
1605.63	Jellyfish (<i>Rhopilema</i> spp.), prepared or preserved
1605.69	Aquatic invertebrates, prepared or preserved; excluding crustaceans, molluscs, sea cucumbers, sea urchins, jellyfish
2301.20	Flours, meals and pellets of fish or of crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption

Alaska pollock

Theragra chalcogramma



Theragra chalcogramma (Pallas, 1814)

SIZE: Max L 91 cm

FAO NAMES: *Eng* Alaska pollock (= walleye pollock)

Esp Colín de Alaska

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** lower jaw slightly protruding; small chin barbel present; **C.** eye diameter 3.9 times to 4.8 times in head length.

DISTRIBUTION: Eastern Pacific from the eastern Sea of Bering to Japan along the Aleutian Arc and the Okhotsk Sea, and to Carmel (United States of America).

Albacore tunas – longfinned tunas

Thunnus alalunga



Thunnus alalunga (Bonnaterre, 1788)

SIZE: Max L 120 cm (fork length)

FAO NAMES: *Eng* Albacore

Esp Atún blanco

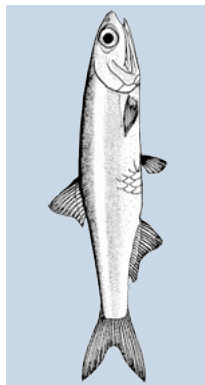
MAIN CHARACTERISTICS:

A. Pectoral fin very long (greater than 80 percent of head length), going well beyond origin of second dorsal fin, reaching well past end of its base; **B.** finlets are dark; **C.** caudal fin has a white margin.

DISTRIBUTION: Cosmopolitan, present in temperate and tropical waters of all continents. Mediterranean: rare in eastern basin.

Anchovies

Engraulis spp.



Engraulis anchoita (Hubbs and Marini, 1935)

SIZE: Max L 14 cm

FAO NAMES: *Eng* Argentine anchovy

Esp Anchoita

MAIN CHARACTERISTICS:

A. Elongate and slender body, section is oval, it is covered in caducous cycloid scales; **B.** mouth inferior, wide, upper jaw is long, reaching to front margin of pre-operculum; snout pointed, conical, prominent; **C.** colour blackish-blue dorsally, silvery on flanks and ventrally.

DISTRIBUTION: Southwest Atlantic: from southern Brazil (24° south) to Patagonia (Argentina) (48° south).



Engraulis japonicus (Temminck and Schlegel, 1846)

SIZE: Max L 18 cm

FAO NAMES: *Eng* Japanese anchovy

Esp Anchoita japonesa

MAIN CHARACTERISTICS:

A. Elongate and slender body, section is oval, it is covered in caducous cycloid scales; **B.** mouth inferior, wide, upper jaw is long, almost extended to pre-opercular margin; snout pointed, conical, clearly protruding; **C.** colour green azure dorsally, silvery on flanks and ventrally.

DISTRIBUTION: Western Pacific: from southern Sakhalin Islands, Sea of Japan and Pacific coasts of Japan southward to almost Canton/Taiwan Province of China; rare records from the Philippines, Manado, Ujung Pandang, Sulawesi and Indonesia.



Engraulis encrasicolus (Linnaeus, 1758)

SIZE: Max L 20 cm (standard length)

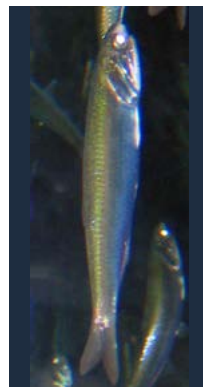
FAO NAMES: *Eng* European anchovy

Esp Boquerón

MAIN CHARACTERISTICS:

A. Elongate and slender body, section is oval, it is covered in caducous cycloid scales; **B.** mouth inferior, wide, upper jaw is long, almost extended to pre-opercular margin; snout pointed, conical, clearly protruding; **C.** colour green-azure dorsally, silvery on flanks and ventrally.

DISTRIBUTION: Mediterranean: common (also in the Black Sea). Eastern Atlantic: common, from southern Norway to Skagerrak and Kattegat (absent from Baltic Sea), and from the United Kingdom of Great Britain and Northern Ireland to Angola.



Engraulis mordax (Girard, 1854)

SIZE: Max L 24.8 cm (standard length)

FAO NAMES: *Eng* Californian anchovy

Esp Anchoa de California

MAIN CHARACTERISTICS:

A. Elongate and slender body, section is rather round, it is covered in caducous cycloid scales; **B.** mouth inferior, wide, maxilla moderate, tip sharply pointed, reaching to or almost to hind border of pre-operculum; tip of lower jaw below nostril; snout sharply pointed, conical, clearly protruding; **C.** colour green-azure dorsally, silvery on flanks and ventrally.

DISTRIBUTION: Northeast Pacific: from northern Vancouver Island (Canada) southward to Cape San Lucas (Mexico).



Engraulis ringens (Jenyns, 1842)

SIZE: Max L 20 cm (standard length)

FAO NAMES: *Eng* Anchoveta (= Peruvian anchovy)
Esp Anchoveta

MAIN CHARACTERISTICS:

A. Elongate and slender body, section is rather round, it is covered in caducous cycloid scales; **B.** mouth inferior, wide, maxilla short, tip bluntly rounded, reaching to but not beyond front border of pre-operculum; tip of lower jaw in front of nostril; snout pointed, conical, clearly protruding; **C.** colour green-azure dorsally, silvery on flanks and ventrally.

DISTRIBUTION: Southeast Pacific: from northern Peru to Chile.

Atlantic bluefin tunas

Thunnus thynnus



Thunnus thynnus (Linnaeus, 1758)

SIZE: Max L 120 cm (fork length)

FAO NAMES: *Eng* Atlantic bluefin tuna

Esp Atún rojo del Atlántico

MAIN CHARACTERISTICS:

A. Pectoral fin very short (less than 80 percent of head length, 16.8 percent to 21.7 percent of fork length), never reaching interspace between the dorsal fins; **B.** finlets are dusky yellow with black borders; **C.** lateral caudal-peduncle keel is black in adults.

DISTRIBUTION: Mediterranean: common. Atlantic: east from Scandanavia to Canary Islands (Spain); there is a subpopulation in South Africa; west, from Labrador (Canada) to northern Brazil.

Atlantic salmon

Salmo salar



Salmo salar (Linnaeus, 1758)

SIZE: Max L 150 cm

FAO NAMES: *Eng* Atlantic salmon

Esp Salmón del Atlántico

MAIN CHARACTERISTICS:

A. Black X-shaped spots are positioned above lateral line, red spots are absent; **B.** colour blue, green or tawny dorsally, silvery on flanks, white-silvery ventrally (marine specimens).

DISTRIBUTION: Anadromous species. Northeastern Atlantic and tributary rivers: from northern Portugal to the Gulf of Gascoigne up to Iceland, the Barents Sea, the Sea of Kara, the White Sea and the Baltic Sea. Northwestern Atlantic: from Québec (Canada) to the Connecticut River (United States). Introduced to New Zealand, Chile, southern Argentina and Australia.

Bigeye tunas

Thunnus obesus



Thunnus obesus (Lowe, 1839)

SIZE: Max L over 200 cm (fork length)

FAO NAMES: *Eng* Bigeye tuna

Esp Patudo

MAIN CHARACTERISTICS:

A. Pectoral fin moderate in length in large specimens, very elongate in smaller specimens (greater than 80 percent of head length, 22 percent to 31 percent of fork length), not reaching end of second dorsal fin base; **B.** finlets are bright yellow edged with black; **C.** eye well developed.

DISTRIBUTION: Cosmopolitan, swimming in tropical and subtropical waters of all oceans and surrounding seas, between 40° north and 40° south (not present in the Mediterranean).

Blue whittings

Micromesistius poutassou, *Micromesistius australis*



Micromesistius poutassou (Risso, 1827)

SIZE: Max L 50 cm

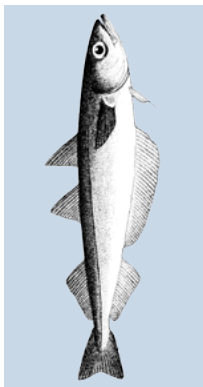
FAO NAMES: *Eng* Blue whiting (= Poutassou)

Esp Bacaladilla

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; space between second dorsal and third dorsal greater than length of base of first dorsal; **B.** first anal fin base very long; **C.** 26 to 34 gill rakers on first arch.

DISTRIBUTION: Mediterranean: widespread in the western basin, rare in the eastern basin. Eastern Atlantic: from the Barents Sea, Iceland, Greenland, Spitzbergen to Skagerrak and Kattegat down to southern Morocco. Western Atlantic: occasional visitor off southern coasts of the United States.



Micromesistius australis (Norman, 1937)

SIZE: Max L 90 cm

FAO NAMES: *Eng* Southern blue whiting

Esp Polaca austral

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; space between second dorsal and third dorsal greater than length of base of first dorsal; **B.** first anal fin base very long; **C.** 38 to 48 gill rakers on first arch.

DISTRIBUTION: Southwest Atlantic and southeast Pacific: from the Falkland Islands (Malvinas) and Argentine Patagonia to southern Chile; also off South Georgia, South Shetland, South Orkney islands and around the South Island of New Zealand.

Bonito

Sarda spp.



Sarda australis (Macleay, 1881)

SIZE: Max L 180 cm (fork length)

FAO NAMES *Eng* Australian bonito

Esp Bonito austral

MAIN CHARACTERISTICS:

A. Five to ten dark, slightly oblique lines running forward and downward (dorsal lines closer to being horizontal than in other species of *Sarda*); **B.** supramaxillary bone wide; **C.** total gill rakers on first arch 19 to 27.

DISTRIBUTION: Southwest Pacific: from southeastern Australia to Norfolk Island and New Zealand.



Sarda orientalis (Temminck and Schlegel, 1844)

SIZE: Max L 102 cm (fork length)

FAO NAMES: *Eng* Striped bonito

Esp Bonito mono

MAIN CHARACTERISTICS:

A. Five to 11 slightly oblique lines running forward and downward; **B.** supramaxillary bone narrow; **C.** total gill rakers on first arch 8 to 13.

DISTRIBUTION: Indo-Pacific: from Durban to northern KwaZulu-Natal (South Africa), the Seychelles, Red Sea, west coast of India and Sri Lanka. Western Pacific: northern waters of Honshu (Japan); rare in the Indo-Australian archipelago, present in western Australia; Eastern Pacific: Hawaii, Pacific coast of United States to southern Baja California (Mexico), Peru and the Galapagos Islands (Ecuador).



Sarda chiliensis (Cuvier, 1832)

SIZE: Max L 102 cm

FAO NAMES *Eng* Eastern Pacific bonito

Esp Bonito del Pacífico oriental

MAIN CHARACTERISTICS:

A. Five to ten dark, slightly oblique lines running forward and downward; **B.** supramaxillary bone wide; **C.** total gill rakers on first arch 23 to 27.

DISTRIBUTION: Eastern Pacific: the northern subspecies *S. c. lineolata* occurs from Alaska to Cabo San Lucas (Baja California), the southern subspecies *S. c. chiliensis* from northern Peru to Talcahuano (Chile).



Sarda sarda (Bloch, 1793)

SIZE: Max L 91.4 cm (fork length)

FAO NAMES *Eng* Atlantic bonito

Esp Bonito del Atlántico

MAIN CHARACTERISTICS:

A. Five to 11 dark, slightly oblique lines running forward and downward (dorsal lines with a greater angle than in other species of *Sarda*); **B.** 20 to 23 spines in first dorsal fin.

DISTRIBUTION: Mediterranean: common. Atlantic: common, present (east) from Scandinavia to South Africa and (west) from Massachusetts (United States) to northern Argentina.

Bregmacerotidae, fish of the family



Bregmaceros maclellandi (Thompson, 1840)

SIZE: Max L 9.6 cm

FAO NAMES: *Eng* Unicorn cod

Esp Bregmacero

MAIN CHARACTERISTICS:

A. Two dorsal fins, first consisting of a single long and delicate ray, the second long with a large notch at center as in anal fin; **B.** pelvic fins are jugular, with five rays, the outer three drawn out into free filaments; **C.** colour brownish becoming silvery below.

DISTRIBUTION: Indian Ocean: from the Arabian Sea to Bay of Bengal.

Brisling – Sprat

Sprattus sprattus



Sprattus sprattus (Linnaeus, 1758)

SIZE: Max L 16 cm

FAO NAMES: *Eng* European sprat Brisling

Esp Espadín

MAIN CHARACTERISTICS:

A. Lower jaw is protruding and upper jaw has no deep medial notch; bony ridges are absent from operculum; **B.** pelvic fins positioned slightly before anterior margin of dorsal fin base; **C.** colour blue-greenish dorsally, silvery on flanks and ventrally, no dark spots on flanks.

DISTRIBUTION: Mediterranean: common, abundant in the Adriatic. Northeastern Atlantic: common, from Lofoten Islands to the North Sea and the Baltic Sea, up to Morocco.

Capelin

Mallotus villosus



Mallotus villosus (Müller, 1776)

SIZE: Max L 20 cm

FAO NAMES: *Eng* Capelin

Esp Capelán

MAIN CHARACTERISTICS:

A. Elongate, slender body, covered in very small scales; lateral line is complete and extended to caudal peduncle;
B. upper jaw is extended to the centre of eye, lower jaw is slightly protruding; **C.** colour green-olive, bright green dorsally, silvery ventrally, presence of a silvery belt on flanks.

DISTRIBUTION: Northeastern Atlantic and inland waters: anadromous, present from the White Sea to the Baltic Sea and southern Norway down to southern part of the North Sea, United Kingdom of Great Britain and Northern Ireland and to northern and western coasts of France.

Carp

Cyprinus spp., *Carassius* spp., *Ctenopharyngodon idellus*, *Hypophthalmichthys* spp., *Cirrhinus* spp., *Mylopharyngodon piceus*, *Catla catla*, *Labeo* spp., *Osteochilus hasselti*, *Leptobarbus hoeveni*, *Megalobrama* spp.



***Carassius auratus* (Linnaeus, 1758)**

SIZE: Max L 48 cm

FAO NAMES *Eng* Goldfish

Esp Pez rojo

MAIN CHARACTERISTICS:

A. Body rather elongated, stocky, dorsally arched, covered in medium-sized scales; **B.** terminal mouth, rather short, curved upwards; lips rather thin, without barbels; **C.** wild specimens: grey-golden, red-tawnyish, red-golden, tawny-greenish; ornamental specimens: red to orange, yellow, white, blue, with or without black spots and combination of several colours.

DISTRIBUTION: Freshwater species which can adapt to any environment, originating from East Asia and then introduced throughout the world.



***Catla catla* (Hamilton, 1822)**

(actually accepted as *Gibelion catla* [Hamilton, 1822])

SIZE: Max L 182 cm

FAO NAMES *Eng* Catla

Esp –

MAIN CHARACTERISTICS:

A. Body rather elongated, stocky, dorsally arched, covered in conspicuously large scales; **B.** terminal mouth, rather short, curved upwards, with a prominent protruding lower jaw, lips rather thin, without barbels; **C.** colour greyish dorsally, silvery-white ventrally; fins are dark.

DISTRIBUTION: Freshwater species. Asia: Pakistan, India, Bangladesh, Nepal and Myanmar. Introduced elsewhere.



***Carassius carassius* (Linnaeus, 1758)**

SIZE: Max L about 80 cm

FAO NAMES: *Eng* Crucian carp

Esp Carpin

MAIN CHARACTERISTICS:

A. Body rather tall, stocky, arched, sometimes growing a dorsal hump evident in old and more well-fed specimens, covered in medium-sized scales; **B.** terminal mouth, rather short, small, curved upwards; lips rather thin, without barbels; **C.** colour grey-golden, red-tawnyish, red-golden, tawny-greenish; round dark spots on caudal peduncle which disappears from adults.

DISTRIBUTION: Freshwater species, can adapt to any environment. Europe: everywhere but North Sea basin in Sweden and Norway. Asia: centre and south of continent.



***Cirrhinus mrigala* (Hamilton, 1822)**

SIZE: Max L 99 cm

FAO NAMES: *Eng* Mrigal carp

Esp –

MAIN CHARACTERISTICS:

A. Body streamlined, its depth about equal to length of head, covered in cycloid scales; **B.** terminal mouth, broad; lower lip most indistinct; a pair of short rostral barbels is present; **C.** colour usually dark grey above, silvery ventrally; dorsal fin greyish; pectoral, pelvic and anal fins orange-tipped.

DISTRIBUTION: Freshwater species. Asia: Pakistan, India, Nepal, Myanmar, the Lao People's Democratic Republic, Thailand and Bangladesh. Introduced into Peninsular India and Sri Lanka, Viet Nam, China, Mauritius, Japan, Malaysia, the Philippines and the Russian Federation – inland waters, FAO Major Fishing Area 07.



Ctenopharyngodon idella (Valenciennes, 1844)

SIZE: Max L 150 cm

FAO NAMES: *Eng* Grass carp (= white amur)

Esp Carpa china

MAIN CHARACTERISTICS:

A. Body stocky, spindle-shaped, rather elongate, covered in large cycloid tawny-edged scales; **B.** terminal mouth, wide, thick, without barbels, extended to anterior margin of eye; pharynx teeth are laterally compressed, on each side, in only two rows; **C.** colour tawny-greenish, tawny-greyish dorsally, lighter on flanks with golden or silvery highlights.

DISTRIBUTION: Freshwater species introduced from Asia to nearly all continents. Europe: introduced everywhere, especially in Eastern Europe.



Hypophthalmichthys molitrix (Valenciennes, 1844)

SIZE: Max L 105 cm

FAO NAMES: *Eng* Silver carp

Esp Carpa plateada

MAIN CHARACTERISTICS:

A. Body stocky, oval-shaped, compressed, covered in small scales; **B.** head is large, mouth is tilted upwards, it is rather big, without barbels; eyes are rather small, at same level as mouth angle; **C.** a ridge on pelvic margin of body, it extends from the throat to anus; **D.** colour greenish, green-tawnyish, silver highlights dorsally; fins are tawnyish or tawny-greenish.

DISTRIBUTION: Freshwater species. Herbivorous species introduced from northeast China and southeast Siberia; one of the most farmed species in the world.



Cyprinus carpio (Linnaeus, 1758)

SIZE: Max L 120 cm

FAO NAMES: *Eng* Common carp

Esp Carpa común

MAIN CHARACTERISTICS:

A. A polymorphic species; body rather stocky, which may be elongate in wild specimens, body may be more or less tall and arched; scales are different in quantity and spread in different specimens; **B.** terminal mouth, rather small, protrusible, thick-lipped, with two pairs of barbels; **C.** colour variable, tawnyish, tawny-olive, green-greyish dorsally, golden highlights on flanks, yellow-whitish ventrally.

DISTRIBUTION: Freshwater species. Europe: present everywhere but in northern Scandinavia and Scotland. Asia: from Amur River basin to Indochina and Japan.



Hypophthalmichthys nobilis (Richardson, 1845)

SIZE: Max L 146 cm

FAO NAMES: *Eng* Bighead carp

Esp Carpa cabezona

MAIN CHARACTERISTICS:

A. Body stocky, oval-shaped, compressed, covered in small scales; **B.** head is large, mouth is tilted upwards, it is rather big, without barbels; eyes are quite small, at same level as mouth angle; **C.** a ridge on pelvic margin of body, not extended beyond the origin of ventral fins; **D.** colour greenish, green-tawnyish, silver highlights dorsally; fins are tawnyish or tawny-greenish.

DISTRIBUTION: Freshwater species. Introduced from southern China; one of the most farmed species in the world.



Labeo rohita (Hamilton, 1822)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Roho labeo
Esp Labeo Roho

MAIN CHARACTERISTICS:

A. Body moderately elongate, covered in cycloid scales (absent on head); **B.** snout fairly depressed, projecting beyond mouth (small and inferior), without lateral lobe; eyes not visible from outside of head; **C.** lips thick and fringed with a distinct inner fold to each lip, a pair of small maxillary barbels concealed in lateral groove; **D.** colour bluish on back, silvery on flanks and ventrally.

DISTRIBUTION: Freshwater species. Asia: Pakistan, India, Bangladesh, Thailand, Myanmar and Nepal.



Leptobarbus hoevenii (Bleeker, 1851)

SIZE: Max L 100 cm (standard length)

FAO NAMES: *Eng* Hoven's carp
Esp Barbo de Hoven

MAIN CHARACTERISTICS:

A. Body rather stocky, moderately elongate, covered in large shiny cycloid scales (absent on head); mouth with four well-developed barbels; **B.** the fins are wide, triangular; five branched anal fin rays; **C.** colour golden brown with metallic reflections; juveniles with black longitudinal stripe.

DISTRIBUTION: Freshwater species. Asia: from Thailand to Sumatra and Borneo.



Megalobrama amblycephala (Yih, 1955)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Wuchang bream
Esp Carpa de Wuchang

MAIN CHARACTERISTICS:

A. Body rather tall, compressed and arched, covered in rather small scales; **B.** blunt snout with terminal mouth, rather small; eye small; **C.** colour dark tawny, black grey dorsally, with silvery shades ventrally; fins green grey colored.

DISTRIBUTION: Freshwater species native to China. Asia: middle reaches of Yangtze River (China), Newshan Lake and Yuli Lake; introduced to Japan, the Philippines, Taiwan Province of China and Israel.



Mylopharyngodon piceus (Richardson, 1846)

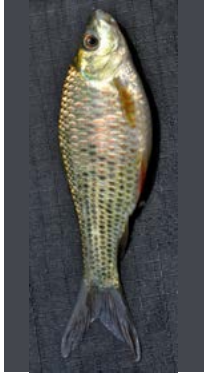
SIZE: Max L 180 cm

FAO NAMES: *Eng* Black carp
Esp Carpa negra

MAIN CHARACTERISTICS:

A. Body stocky, spindle-shaped, rather elongate, covered in large tawny-edged cycloid scales; **B.** snout somewhat pointed, terminal mouth, wide, without barbels, extended to anterior margin of eye; throat teeth form a single row of four to five large molariform teeth on each side; **C.** colour dark brownish-grey, dark greenish-brown (not truly black), paler ventrally; more or less dark grey fins, with greenish or brownish reflections.

DISTRIBUTION: Freshwater species. Asia: Amur River basin to southern China and far eastern Russian Federation. Introduced to Europe, Viet Nam and the United States.



Osteochilus hasseltii (Valenciennes, 1842)

(actually accepted as *O. vittatus* [Valenciennes, 1842])

SIZE: Max L 32 cm (standard length)

FAO NAMES: *Eng* Nilem carp

Esp –

MAIN CHARACTERISTICS:

A. Body oval shaped; 15 to 18 branched dorsal fin rays; 16 scale rows around the caudal peduncle, 25 to 30 total gill rakers; **B.** mouth with large rostral and maxillary barbels; papillae on both upper and lower lips; **C.** a caudal spot and orange flecking on the flanks are present; a black midlateral stripe is absent; sometimes a spot above pectoral fin is present.

DISTRIBUTION: Freshwater species from Myanmar to Thailand, Indonesia and China.

Catfish

Pangasius spp., *Silurus* spp., *Clarias* spp., *Ictalurus* spp.



***Pangasius bocourti* (Sauvage, 1880)**

SIZE: Max L 120 cm

FAO NAMES: Eng Basa catfish

Esp –

MAIN CHARACTERISTICS:

A. Body stout and heavy, compressed, totally scaleless; **B.** head rounded, broader than long; blunt snout with broad white band on muzzle; **C.** 31 to 34 anal fin rays; **D.** colour blue-black dorsally, silvery-white ventrally; fins are dark.

DISTRIBUTION: Freshwater species. Asia: Mekong and Chao Phraya basins.



***Pangasius larnaudii* (Bocourt, 1866)**

SIZE: Max L 130 cm

FAO NAMES: Eng Spot pangasius

Esp –

MAIN CHARACTERISTICS:

A. Body stocky, rather elongate, totally scaleless; **B.** dorsal and pectoral fins with a strong spine and a long, filamentous ray (less prolonged in adults); **C.** 28 to 32 anal fin rays; **D.** a large black spot above the base of the pectoral fin, black submarginal caudal fin stripes.

DISTRIBUTION: Freshwater species. Asia: Mekong and Chao Phraya basins.



***Pangasius hypophthalmus* (Sauvage, 1878)**

(actually accepted as *Pangasionodon hypophthalmus* [Sauvage, 1878])

SIZE: Max L 130 cm

FAO NAMES: Eng Striped catfish

Esp Panga

MAIN CHARACTERISTICS:

A. Body elongate, compressed, totally scaleless; **B.** two very small barbels around mouth, which large specimens do not have; **C.** colour uniformly greyish in adults, whitish ventrally, fins are dark grey or blackish; juveniles display two long blackish bands; a black band on each lobe of caudal fin.

DISTRIBUTION: Freshwater species. In Southeast Asia, the Mekong and Chao Phraya basins, introduced in other rivers for farming.



***Pangasius pangasius* (Hamilton, 1822)**

SIZE: Max L 300 cm

FAO NAMES: Eng Pangas catfish

Esp –

MAIN CHARACTERISTICS:

A. Maxillary barbel extends to gill aperture; **B.** eye is small, its diameter more than seven times in head length (in 18 cm long specimens); **C.** 29 to 32 anal fin rays; **D.** caudal fin is bright yellow in adults.

DISTRIBUTION: Freshwater species. Asia: from large rivers of Indian subcontinent to Myanmar, Cambodia and Viet Nam.



Pangasius sanitwongsei (Smith, 1931)

SIZE: Max L 250 cm

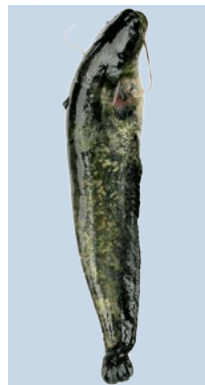
FAO NAMES: *Eng* Giant pangasius

Esp –

MAIN CHARACTERISTICS:

A. Body stocky, totally scaleless, head is broad; **B.** first soft ray of dorsal, pectoral and pelvic fins prolonged into a filament; **C.** a ridge on pelvic margin of body, it extends from the throat to anus; **D.** fins dusky, black tips on first few anal fin rays in individuals of all sizes, particularly in juveniles.

DISTRIBUTION: Freshwater species. Asia: Mekong and Chao Phraya basins.



Silurus glanis (Linnaeus, 1758)

SIZE: Max L 500 cm

FAO NAMES: *Eng* Wels (= Som) catfish

Esp Siluro

MAIN CHARACTERISTICS:

A. Body elongated, stocky, naked, anterior portion cylindrical, posterior portion compressed; **B.** mouth very wide, small and conical teeth are present on both jaws; two pairs of mental barbels; **C.** colour green-olive, blackish, bluish, tawnyish dorsally, lighter on flanks and belly with yellow-whitish tones.

DISTRIBUTION: Freshwater species. Europe: central and eastern part of the continent, but also in some lakes of southern Sweden. Asia: from the Middle East to the Caspian Sea and the Sea of Aral.



Silurus asotus (Linnaeus, 1758)

SIZE: Max L 130 cm

FAO NAMES: *Eng* Amur catfish

Esp –

MAIN CHARACTERISTICS:

A. Body elongated, head much depressed, tail laterally compressed; **B.** one pair of maxillary barbels, longer than the head; one pair of mandibular barbels, about one-fifth to one-third the length of the maxillary barbel; **C.** anal base very long, no adipose fin; **D.** colour greenish, green-tawnyish, dark grey, with irregular white dots on the side.

DISTRIBUTION: Freshwater species. Asia: Japan (Honshu, Shikoku and Kyushu), the Korean Peninsula, Taiwan Province of China, China, Viet Nam and Russian Federation.



Silurus meridionalis (Chen, 1977)

SIZE: Max L 114 cm

FAO NAMES: *Eng* Chinese large-mouth catfish

Esp –

MAIN CHARACTERISTICS:

A. Body elongated, stocky, naked, anterior portion cylindrical, posterior portion compressed; **B.** head large with a protruding lower jaw, mouth very wide, small and conical teeth are present on both jaws; one pair of mandibular barbels; **C.** five to six dorsal fin rays, 77 to 88 anal fin rays; **D.** colour generally brownish with poorly visible horizontal stripes.

DISTRIBUTION: Freshwater species. Asia: middle Yangtze River basin (China).



Clarias batrachus (Linnaeus, 1758)

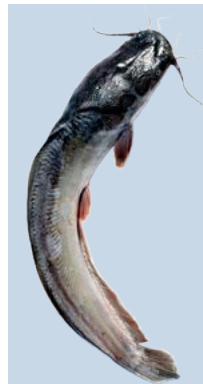
SIZE: Max L 47 cm

FAO NAMES: *Eng* Philippine catfish
Esp –

MAIN CHARACTERISTICS:

A. Body elongate, compressed, scaleless; head with a median occipital process narrow and angular, more or less triangular, its length about two times in its width; **B.** inner edge of pectoral spine serrated, outer edge rough; **C.** colour grey, greyish-brown, often covered laterally in small white spots.

DISTRIBUTION: Freshwater species. Asia: Java, Indonesia and the Philippines. Introduced elsewhere.



Clarias gariepinus (Burchell, 1822)

SIZE: Max L 170 cm

FAO NAMES: *Eng* North African catfish
Esp Pez-gato

MAIN CHARACTERISTICS:

A. Body elongate, compressed, scaleless; head big, with median occipital process narrow and acute, bearing evident granules; **B.** anterior edge of pectoral spine serrated; **C.** colour yellow, sand, grey-greenish, grey-blackish, green-olive, whitish ventrally, some tawnyish, grey-greenish spots.

DISTRIBUTION: Freshwater species originating from Africa (Nile, Niger and several rivers in South Africa), introduced in other continents. West Asia: Israel, Jordan, Lebanon, the Syrian Arab Republic and southern Türkiye. Asia: Mekong. Europe: angling reservoirs.



Clarias fuscus (Lacepède, 1803)

SIZE: Max L 24.5 cm

FAO NAMES: *Eng* Hong Kong catfish
Esp –

MAIN CHARACTERISTICS:

A. Body elongate, compressed, scaleless; head with a median occipital process narrow and angular; **B.** caudal fin rounded, dorsal and anal fins long; **C.** colour yellowish-brown, dark grey, with white dots on the sides.

DISTRIBUTION: Freshwater species. Asia: China, Taiwan Province of China, the Philippines, Viet Nam and the island of Ishigakijima (Japan). Also present in Hawaii (United States).



Clarias macrocephalus (Günther, 1864)

SIZE: Max L 120 cm

FAO NAMES: *Eng* Bighead catfish
Esp –

MAIN CHARACTERISTICS:

A. Body elongate, compressed, scaleless; head big, with a broad rounded occipital process that forms most of posterior margin of skull; **B.** pectoral spine not serrated; dorsal fin very high; **C.** colour grey-greenish, green-olive, clearer ventrally.

DISTRIBUTION: Freshwater species. Asia: from Thailand to Viet Nam. Introduced to China, Malaysia, Guam (Micronesia) and the Philippines.



Ictalurus furcatus (Valenciennes, 1840)

SIZE: Max L 165 cm

FAO NAMES: *Eng* Blue catfish

Esp Bagre azul

MAIN CHARACTERISTICS:

A. Body moderately strong, elongated, scaleless, cylinder-shaped anteriorly, compressed posteriorly; **B.** head large, broad and depressed; mouth wide, subterminal with four pairs of barbels; **C.** anal fin bears a straight edge; **D.** colour bluish-grey dorsally, flanks silvery-grey, whitish or greyish on belly.

DISTRIBUTION: Freshwater species. United States: Mississippi River and Platte River basin southward to the Gulf of Mexico; Gulf Slope from Escambia River drainage, Alabama and Florida, to Rio Grande drainage in Texas and New Mexico.



Ictalurus punctatus (Rafinesque, 1818)

SIZE: Max L 132 cm

FAO NAMES: *Eng* Channel catfish

Esp Bagre de canal

MAIN CHARACTERISTICS:

A. Body elongate, slender, cylinder-shaped anteriorly, compressed posteriorly; **B.** head wide, depressed; mouth wide, with four pairs of barbels; **C.** anal fin bears a rounded edge; **D.** colour grey-bluish dorsally and laterally; whitish ventrally; blackish spots on flanks and dorsally; fins and barbels are blackish.

DISTRIBUTION: Freshwater species. Europe (farmed). North America: central-western regions, then introduced everywhere, to Mexico.



Ictalurus melas (Rafinesque, 1820)

(actually accepted as *Ameiurus melas* [Rafinesque, 1820])

SIZE: Max L 66 cm

FAO NAMES: *Eng* Black bullhead

Esp Bagre torito negro

MAIN CHARACTERISTICS:

A. Body elongate, stocky, cylinder-shaped anteriorly, compressed posteriorly; **B.** head large, broad and depressed; mouth wide, subterminal with four pairs of barbels; **C.** anal fin bears a rounded edge; **D.** colour tawny-blackish, green-blackish dorsally, lighter on flanks; yellowish or white-yellowish ventrally; tawny, blackish fins.

DISTRIBUTION: Freshwater species. Europe (everywhere, variable presence). North America: central-western regions, then introduced everywhere, to Mexico.

Coalfish

Pollachius virens



Pollachius virens (Linnaeus, 1758)

SIZE: Max L 130 cm

FAO NAMES: *Eng* Saithe (= Pollock)

Esp Carbonero (= Colín)

MAIN CHARACTERISTICS:

A. Three dorsal fins (relatively close together) and two anal fins (separated by a small gap) are present; **B.** in large specimens barbel is absent from chin, when present, it is small; almost straight, light (grey or white) lateral line; **C.** colour greyish dorsally, silvery-white ventrally; fins are dark.

DISTRIBUTION: Northern Atlantic: from Greenland, Iceland, Spitzbergen, Barents Sea, New Zemlja and White Sea to the Skagerrak, United Kingdom of Great Britain and Northern Ireland, until the Gulf of Gascoigne to the east; from Greenland to North Carolina (United States) to the west.

Cobia

Rachycentron canadum



Rachycentron canadum (Linnaeus, 1766)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Cobia

Esp Cobia

MAIN CHARACTERISTICS:

A. Elongate, subcylindrical body, covered in small scales, deeply embedded in its thick skin; **B.** anterior portion of lateral line is slightly wavy; **C.** colour dark-tawnyish dorsally, yellowish ventrally, a bluish stripe (becoming lighter through ageing) on flanks, with a wide whitish edge, dorsally and ventrally; edge of tail is whitish.

DISTRIBUTION: Cosmopolitan, present in all temperate and tropical waters of the globe, with the exception of southern Pacific.

Cod

Gadus morhua, *Gadus ogac*, *Gadus macrocephalus*



Gadus morhua (Linnaeus, 1758)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Atlantic cod

Esp Bacalao del Atlántico

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** predorsal length less than about 33 percent of total length; **C.** yellowish or orange-greyish round spots on back and flanks; peritoneum silvery.

DISTRIBUTION: Northeastern Atlantic: from the south-western Sea of Kara and the Barents Sea to the Spitzbergen, and from Greenland to the Gulf of Gascoigne (Baltic Sea included); Northwestern Atlantic: from Greenland to North Carolina (United States).



Gadus macrocephalus (Tilesius, 1810)

SIZE: Max L 119 cm

FAO NAMES: *Eng* Pacific cod

Esp Bacalao del Pacífico

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** predorsal length more than about 33 percent of total length; **C.** several rounded brown spots or vermiculations are present, dorsally and laterally; margins of unpaired fins are whitish.

DISTRIBUTION: Eastern Pacific: from the Sea of Bering to Yellow Sea and Japan along the Aleutian Islands and south to California (United States).



Gadus ogac (Richardson, 1836)

SIZE: Max L 77 cm

FAO NAMES: *Eng* Greenland cod

Esp Bacalao de Groenlandia

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** predorsal length less than about 33 percent of total length; **C.** body unspotted, with yellowish or bronze indistinct marblings on flanks and ventrally; peritoneum blackish.

DISTRIBUTION: Arctic: from Greenland to Alaska (United States). Western Atlantic: up to southern Canadian coasts (the Miramichi, Gulf of St Lawrence and Cape Breton Island). Northeast Atlantic: White Sea.

Crevalles – Jacks

Caranx spp.



Caranx crysos (Mitchill, 1815)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Blue runner
Esp Cojinúa negra

MAIN CHARACTERISTICS:

A. Adipose eyelid covers posterior portion of eye; **B.** breast completely scaled; **C.** posterior part of lateral line with 46 to 56 strong scutes; **D.** colour light olive to dark blue-green, with silvery-grey to golden hues below; a dark spot on rear margin of opercle.

DISTRIBUTION: Mediterranean: western basin. Eastern Atlantic: from Senegal to Angola. Western Atlantic: from Nova Scotia (Canada) to Brazil and Argentina, including the Gulf of Mexico, Bermuda, the Bahamas and the Caribbean.



Caranx hippos (Linnaeus, 1766)

SIZE: Max L 124 cm

FAO NAMES: *Eng* Crevalle jack
Esp Jurel común

MAIN CHARACTERISTICS:

A. Front of head steep; **B.** breast naked except for a small median patch of prepelvic scales; **C.** posterior part of lateral line with 23 to 35 strong scutes; **D.** a dark spot on upper rear margin of opercle; a broad black area on pectoral fin.

DISTRIBUTION: Mediterranean: western basin. Eastern Atlantic: from Portugal to Angola. Western Atlantic: from Nova Scotia (Canada), northern Gulf of Mexico and the Greater Antilles, to Uruguay.



Caranx heberi (Bennett, 1830)

SIZE: Max L 88 cm

FAO NAMES: *Eng* Blacktip trevally
Esp Jurel cocolí

MAIN CHARACTERISTICS:

A. Adipose eyelid only slightly developed; **B.** breast naked (completely scaled in some specimens) except for a small or large median patch of prepelvic scales; **C.** posterior part of lateral line with 30 to 40 strong scutes; **D.** caudal fin with bright yellow, olive-yellow to dusky; distal half of upper lobe dark or black, particularly in juveniles.

DISTRIBUTION: Indo-West Pacific: from East Africa, Madagascar and the Persian Gulf to Indonesia, the Arafura Sea, Ambon, Papua New Guinea and Fiji, north to the Ryukyu Islands, south to northern Australia. Absent from the Red Sea.



Caranx lugubris (Poey, 1860)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Black jack
Esp Jurel negro

MAIN CHARACTERISTICS:

A. Profile of head strongly convex dorsally, slightly concave ventrally; **B.** breast completely scaled; **C.** posterior part of lateral line with 26 to 32 strong scutes, usually blackish; **D.** second dorsal fin lobe very elongate, longer than head; **E.** colour uniform grey, dark olive-grey, to brown, dark brown or black.

DISTRIBUTION: Circumtropical: widely distributed in subtropical and tropical waters worldwide, apparently restricted to oceanic insular habitats.



Caranx rhonchus (Geoffroy Saint-Hilaire, 1817)

SIZE: Max L 60 cm

FAO NAMES: *Eng* False scad
Esp Macarela real

MAIN CHARACTERISTICS:

A. Terminal soft rays of second dorsal and anal fins composed each of a partially detached finlet without distal interradiial membrane; **B.** posterior part of lateral line with 24 to 32 strong scutes, anterior curved part with up to three scutes; **C.** a dark spot on upper rear margin of opercle; sometimes a narrow yellowish stripe from head to caudal fin; lobe of second dorsal fin with a distinct black blotch edged with white distally.

DISTRIBUTION: Mediterranean: coast of Africa, Sicily (Italy) and Greece. Eastern Atlantic: from Morocco to Namibia.



Caranx sexfasciatus (Quoy and Gaimard, 1825)

SIZE: Max L 120 cm

FAO NAMES: *Eng* Bigeye trevally
Esp Jurel voráz

MAIN CHARACTERISTICS:

A. Dorsal profile of head moderately convex; **B.** breast completely scaled; **C.** posterior part of lateral line with 27 to 36 blackish strong scutes; **D.** colour silvery-olive to iridescent blue-green dorsally, without small black spots; lobe of second dorsal fin with a white tip; a small black spot on upper margin of opercle.

DISTRIBUTION: Indo-Pacific: from Red Sea and East Africa to Hawaii (United States), north to southern Japan and the Ogasawara Islands (Japan), south to Australia and New Caledonia. Eastern Pacific: from Mexico to Ecuador, including the Galapagos Islands (Ecuador).

Danube salmon

Hucho hucho



Hucho hucho (Linnaeus, 1758)

SIZE: Max L 150 cm

FAO NAMES: *Eng* Huchen

Esp Salmón del Danubio

MAIN CHARACTERISTICS:

A. Head long, flat dorsally, its length 22 percent to 24 percent standard length; **B.** 13 to 19 total gill rakers on first gill arch; **C.** colour brown to grey-green dorsally; completely covered with minute black speckles, never has red spots.

DISTRIBUTION: Freshwater species. Europe: restricted to the Danube River and its tributaries and occasionally in lakes within the Danube basin; introduced into other European river basins.

Dogfish – Sharks



Alopias superciliosus (Lowe, 1841)

SIZE: Max L 488 cm

FAO NAMES: *Eng* Bigeye thresher
Esp Zorro ojón

MAIN CHARACTERISTICS:

A. Caudal fin very long, with rather developed terminal lobe; **B.** large, oval-shaped eyes, in dorsolateral position, reaching dorsal portion of head; **C.** rather long snout; **D.** colour tawnyish, grey-bluish dorsally and laterally, lighter ventrally, with greyish or creamy tones; base of pectoral fins is not white, posterior margin of pectoral fins is dark.

DISTRIBUTION: Tropical waters of all oceans and surrounding seas. Mediterranean: western basin. Eastern Atlantic: Portugal to Angola.



Carcharhinus albimarginatus (Rüppell, 1837)

SIZE: Max L 300 cm

FAO NAMES: *Eng* Silvertip shark
Esp Tiburón de puntas blancas

MAIN CHARACTERISTICS:

A. First dorsal, pectoral, pelvic and caudal fins with extremely conspicuous white tips and posterior edges; **B.** first dorsal fin and pectoral fins angular, not expanded; **C.** an interdorsal ridge is present; **D.** colour dark grey, grey-brown above, white below.

DISTRIBUTION: Indo-Pacific: from Red Sea and East Africa, (including Madagascar, Seychelles, Aldabra Group, Mauritius and the Chagos Archipelago) east to Tuamotu Islands, northward to Japan and southward to Australia.



Alopias vulpinus (Bonnaterre, 1788)

SIZE: Max L 760 cm

FAO NAMES: *Eng* Thresher
Esp Zorro

MAIN CHARACTERISTICS:

A. Caudal fin very long, with rather developed terminal lobe; **B.** small eyes, in lateral position, not reaching dorsal portion of head; **C.** short snout; **D.** colour tawnyish, grey-bluish, slate grey or blackish dorsally, on flanks and on lower snout; white ventrally up to the base of the pectoral fin.

DISTRIBUTION: Tropical and temperate waters of all oceans and surrounding seas. Mediterranean: frequent. Eastern Atlantic: from Norway and the United Kingdom of Great Britain and Northern Ireland to Ghana and Côte d'Ivoire; also South Africa.



Carcharhinus brevipinna (Müller and Henle, 1839)

SIZE: Max L 300 cm

FAO NAMES: *Eng* Spinner shark
Esp Tiburón aleta negra

MAIN CHARACTERISTICS:

A. Upper labial furrows noticeably elongated and prominent; **B.** height of first dorsal fin over 2.2 times in the interdorsal space; **C.** snout long, narrow, pointed; **D.** colour grey, white below; unpaired and pectoral fins black tipped.

DISTRIBUTION: Western Atlantic: from North Carolina (United States) to northern Gulf of Mexico, the Bahamas and Cuba, and from southern Brazil to northern Argentina. Eastern Atlantic: Spain to Namibia, including the Mediterranean. Indo-West Pacific: Red Sea south to South Africa and eastward to Indonesia, north to Japan, south to Australia.



Carcharhinus falciformis (Müller and Henle, 1839)

SIZE: Max L 350 cm

FAO NAMES: *Eng* Silky shark
Esp Tiburón jaquetón

MAIN CHARACTERISTICS:

A. Interdorsal ridge present; **B.** first dorsal origin well behind pectoral free rear tips; inner margin of second dorsal very long, usually over twice fin height; **C.** snout long, narrow, pointed; **D.** colour dark grey, with a bronze tint dorsally, whitish ventrally; all fins with a dusky tip except first dorsal fin.

DISTRIBUTION: Circumtropical species, oceanic and coastal.



Carcharhinus longimanus (Poeey, 1861)

SIZE: Max L 400 cm

FAO NAMES: *Eng* Oceanic whitetip shark
Esp Tiburón oceánico

MAIN CHARACTERISTICS:

A. Pectoral and first dorsal fins very broad distally and broadly rounded apically, only slightly tapering toward their apices; **B.** colour grey-bronze, brown or bluish above, white ventrally sometimes with a yellow tinge; most fin tips mottled white in adults; juveniles with black blotches or tips on most fins and with black dorsal saddle marks on the caudal peduncle.

DISTRIBUTION: Circumglobal species, primarily oceanic, in tropical to warm temperate waters.



Carcharhinus limbatus (Müller and Henle, 1839)

SIZE: Max L 275 cm

FAO NAMES: *Eng* Blacktip shark
Esp Tiburón macuira

MAIN CHARACTERISTICS:

A. Interdorsal ridge absent; **B.** second dorsal height 1.1 times to 1.6 times in inner margin length; **C.** snout longer and pointed, internarial space 1.3 times to 1.7 times in preoral snout; **D.** colour grey, grey-brown above, white ventrally; pectorals, second dorsal and ventral caudal lobe with a black tip.

DISTRIBUTION: Cosmopolitan species, widespread in all tropical and subtropical continental waters.



Carcharhinus melanopterus (Quoy and Gaimard, 1824)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Blacktip reef shark
Esp Tiburón de puntas negras

MAIN CHARACTERISTICS:

A. Interdorsal ridge absent; **B.** first dorsal fin large and falcate, with a rounded apex; origin of first dorsal fin usually over pectoral free rear tips; **C.** colour usually light brown above, white ventrally; first dorsal fin with a broad black blotch at its apex, highlighted below with white, other fins generally with less prominent black fin tips.

DISTRIBUTION: Eastern Mediterranean. Indo-Pacific: from East Africa, Persian Gulf and Red Sea to the Hawaiian Islands and the Tuamotu Archipelago, northward to Japan and southward to Australia.



Carcharhinus plumbeus (Nardo, 1827)

SIZE: Max L 250 cm

FAO NAMES: *Eng* Sandbar shark

Esp Tiburón trozo

MAIN CHARACTERISTICS:

A. First dorsal fin very high, originating in front of or over pectoral insertions or at least nearer to them than pectoral free rear tips; **B.** anterior nasal flaps usually low and inconspicuous; **C.** colour uniformly greyish, tawny-greyish dorsally, whitish ventrally.

DISTRIBUTION: Mediterranean: quite common. Eastern Atlantic: from Portugal to the Gulf of Guinea and the Democratic Republic of the Congo. Western Atlantic: from southern Massachusetts (United States) to southern Brazil. Indo-Pacific: South Africa, Arabian Peninsula, Viet Nam, China, Japan, to Australia and Hawaii.



Galeocerdo cuvier (Péron and Lesueur, 1822)

SIZE: Max L 750 cm

FAO NAMES: *Eng* Tiger shark

Esp Tintorera tigre

MAIN CHARACTERISTICS:

A. Upper labial furrows very long, extending to front of eyes; spiracles present and relatively large; **B.** prominent lateral keels on caudal peduncle; **C.** colour grey with black or dusky vertical bars and spots on back, obscure or absent on adults.

DISTRIBUTION: Circumglobal in tropical and temperate seas. Western Atlantic: Massachusetts (United States) to Uruguay, including Gulf of Mexico and the Caribbean. Eastern Atlantic: Iceland to Angola. Indo-Pacific: Red Sea and East Africa to Hawaii and Tahiti, northward to southern Japan, southward to New Zealand. Eastern Pacific: southern California (United States) to Peru.



Negaprion acutidens (Rüppell, 1837)

SIZE: Max L 380 cm

FAO NAMES: *Eng* Sicklefin lemon shark

Esp Tiburón segador

MAIN CHARACTERISTICS:

A. Second dorsal fin nearly or quite as large as first dorsal; **B.** snout short, preoral underside of head length much less than mouth width; **C.** dorsal, pectoral and pelvic fins strongly falcate; **D.** colour yellowish-brown above, paler below.

DISTRIBUTION: Indo-Pacific: from Red Sea and South Africa (including Mauritius, Seychelles, Madagascar) to the Philippines, northward to Viet Nam, southward to Australia. Also from Palau, Marshall Islands and Tahiti. Recorded from Taiwan Province of China.



Prionace glauca (Linnaeus, 1758)

SIZE: Max L 400 cm

FAO NAMES: *Eng* Blue shark

Esp Tiburón azul

MAIN CHARACTERISTICS:

A. Very short labial furrows; **B.** pectoral fin very long, falciform, sub-acute tip; **C.** a transverse pre-caudal pit on the dorsal margin of caudal peduncle and one on the ventral peduncle; **D.** colour blue-greenish, blue-greyish, more or less shiny dorsally; whitish ventrally.

DISTRIBUTION: Cosmopolitan, widely spread in all temperate and tropical waters. Eastern Atlantic: from Norway to South Africa, including the Mediterranean. Indo-West Pacific: East Africa to Indonesia, Japan, Australia, New Caledonia and New Zealand. Eastern Pacific: from Gulf of Alaska to Chile.



Cetorhinus maximus (Gunnerus, 1765)

SIZE: Max L 1 520 cm

FAO NAMES: *Eng* Basking shark
Esp Peregrino

MAIN CHARACTERISTICS:

A. Five pairs of enormous gill openings (without operculum) positioned laterally and encircling head, extending up to almost median dorsal and ventral line of head; **B.** snout conical, long and compressed, with a more or less distinct tip in juveniles or short, conical, with rounded tip in adults; **C.** a strong caudal keel on each side of caudal peduncle; **D.** colour grey-tawnyish, slate grey, grey-blackish dorsally, sometimes lighter ventrally.

DISTRIBUTION: Cold, temperate and warm, temperate waters of both hemispheres.



Hexanchus griseus (Bonnaterre, 1788)

SIZE: Max L 482 cm

FAO NAMES: *Eng* Bluntnose sixgill shark
Esp Cañabota gris

MAIN CHARACTERISTICS:

A. Presence of six gill openings very long; **B.** head large, profile of snout is rather rounded; **C.** dorsal fin small, its distance from beginning of caudal fin is equal to or a bit longer than its base; **D.** colour tawnyish, greyish (dark or blackish), lighter ventrally; lateral line is bright.

DISTRIBUTION: Circumglobal, spread in temperate and tropical waters of all oceans, even if not common.



Isurus oxyrinchus (Rafinesque, 1810)

SIZE: Max L 445 cm

FAO NAMES: *Eng* Shortfin mako
Esp Marrajo dientuso

MAIN CHARACTERISTICS:

A. Body spindle-shaped, rather slender; conical, long and pointed snout; **B.** a keel is present on each side of the caudal peduncle, absence of secondary keels on caudal fin base; **C.** tiny pelvic, anal and second dorsal fin; **D.** colour blue-greyish, more or less dark dorsally, whitish ventrally.

DISTRIBUTION: Cosmopolitan, present in the temperate and tropical waters of the whole globe.



Lamna nasus (Bonnaterre, 1788)

SIZE: Max L 350 cm

FAO NAMES: *Eng* Porbeagle
Esp Marrajo sardinero

MAIN CHARACTERISTICS:

A. Body spindle-shaped, bluff-bodied, very large centrally; conical, rather long snout, covered in large mucous pores; **B.** a short secondary keel is positioned on base of caudal fin, almost parallel to the main one; **C.** very small pelvic, anal and second dorsal fin; **D.** colour deep blue or grey-bluish dorsally, becoming white ventrally, posterior apical process of second dorsal fin is white.

DISTRIBUTION: Cosmopolitan, present in the temperate and cold waters of the whole globe, except northern Pacific. Present in southern Pacific in Chile, New Zealand and Australia.



Carcharias taurus (Rafinesque, 1810)

SIZE: Max L 320 cm

FAO NAMES: *Eng* Sand tiger shark

Esp Toro bacota

MAIN CHARACTERISTICS:

A. Snout short, narrowly rounded in dorsoventral view; **B.** colour light grey-tawnyish dorsally, lighter ventrally; presence (often) of rounded tawny-yellowish or reddish spots.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from Morocco to Gulf of Guinea and Cameroon, including the Canary Islands and Cabo Verde. Western Atlantic: Gulf of Maine to Florida, the Gulf of Mexico, Bahamas and Bermuda, southern Brazil and Argentina. Indo-Pacific: South Africa, Mozambique, Red Sea, Japan, Australia, Viet Nam and China.



Odontaspis ferox (Risso, 1810)

SIZE: Max L 410 cm

FAO NAMES: *Eng* Smalltooth sand tiger

Esp Solrayo

MAIN CHARACTERISTICS:

A. Snout long and conical; **B.** labial furrows present on lower jaw; **C.** colour grey dorsally, lighter ventrally; presence (sometimes) of blackish and tawnyish spots on flanks, tips of fins are sometimes blackish in juveniles.

DISTRIBUTION: Mediterranean: present but rare. Eastern Atlantic: from the Gulf of Gascoigne to Morocco and Madeira. Western Atlantic: Yucatan Shelf (Mexico) to Brazil. Pacific: from Japan, Australia (New South Wales), New Zealand, Hawaiian Islands, to Southern California and Gulf of California (United States).



Rhincodon typus (Smith, 1828)

SIZE: Max L 2 000 cm

FAO NAMES: *Eng* Whale shark

Esp Tiburón ballena

MAIN CHARACTERISTICS:

A. Body huge, with a broad, flat head and truncated snout; **B.** immense transverse, virtually terminal mouth in front of eyes; **C.** colour an unmistakable checkerboard pattern of light spots, horizontal and vertical stripes on a dark background.

DISTRIBUTION: Circumglobal species in tropical and warm temperate seas, oceanic and coastal.



Sphyrna lewini (Griffith and Smith, 1834)

SIZE: Max L 430 cm

FAO NAMES: *Eng* Scalloped hammerhead

Esp Cornuda común

MAIN CHARACTERISTICS:

A. Head broad, narrow bladed head, anterior margin very broadly arched in adults; anterior margin of head with a prominent median indentation; **B.** first dorsal origin slightly behind pectoral insertions; **C.** colour light grey or greyish-brown above, shading to white ventrally; pectoral fin tips dusky, a dark blotch on lower caudal fin lobe.

DISTRIBUTION: Circumglobal in coastal warm temperate and tropical seas.



Sphyrna mokarran (Rüppell, 1837)

SIZE: Max L 610 cm

FAO NAMES: *Eng* Great hammerhead
Esp Cornuda gigante

MAIN CHARACTERISTICS:

A. Anterior margin of head nearly straight in adults, with a median indentation; **B.** pelvic fins high and falcate, first dorsal fin markedly falcate, second dorsal fin high with a short inner margin and deeply concave posterior margin; **C.** colour grey-brown above, light ventrally; fin markings absent.

DISTRIBUTION: Circumglobal species, in coastal warm temperate and tropical seas.



Sphyrna zigaena (Linnaeus, 1758)

SIZE: Max L 500 cm

FAO NAMES: *Eng* Smooth hammerhead
Esp Cornuda cruz (= Pez martillo)

MAIN CHARACTERISTICS:

A. Head broad, narrow bladed, anterior margin broadly arched in adults, without a median indentation; **B.** anal base about as large as second dorsal base; first dorsal fin moderately falcate, its origin over pectoral insertions; **C.** colour dark olive, dark grey-brown above, white ventrally; undersides of pectoral fin tips dusky.

DISTRIBUTION: Widespread in temperate and tropical seas.



Sphyrna tiburo (Linnaeus, 1758))

SIZE: Max L 150 cm

FAO NAMES: *Eng* Bonnethead
Esp Cornuda de corona

MAIN CHARACTERISTICS:

A. Head shovel-shaped and narrow, not winglike, its width 18 percent to 25 percent of total length; **B.** anterior margin of head not notched, semicircular in outline; **C.** colour grey or grey-brown above, light ventrally, often with small dark spots on sides of body.

DISTRIBUTION: Western Atlantic: from North Carolina to southern Brazil (with the exception of Rhode Island), including Cuba, the Bahamas and Gulf of Mexico. Eastern Pacific: from Southern California (United States) to Ecuador.



Squalus acanthias (Linnaeus, 1758)

SIZE: Max L 160 cm

FAO NAMES: *Eng* Picked dogfish
Esp Mielga

MAIN CHARACTERISTICS:

A. Spines are present on anterior margin of dorsal fins, spine of second dorsal reaches apex of fin; **B.** precaudal pit present; **C.** nasal flap ending with two lobes; **D.** colour greyish, grey-tawnyish, whitish on belly; small white spots on flanks.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from Iceland to the Barents Sea to Morocco, Canary Islands (Spain) and South Africa. Western Atlantic: from Greenland and Labrador (Canada) to Florida (United States) and Cuba, Uruguay and Argentina. Pacific: from the Bering Sea to Baja California (Mexico); Japan and northern China; Chile, southern Australia and New Zealand.



Squalus blainville (Risso, 1827)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Longnose spurdog
Esp Galludo

MAIN CHARACTERISTICS:

A. Spines are present on anterior margin of dorsal fins, spine of second dorsal does not reach apex of fin; **B.** precaudal pit present; **C.** nasal flap ending with one lobe; **D.** colour greyish, more or less tawnyish dorsally, whitish ventrally; dorsal fins have whitish margin.

DISTRIBUTION: Tropical and subtropical waters of the whole world. Mediterranean: common. Eastern Atlantic: from Gulf of Gascoigne to Namibia. Western Atlantic: from North Carolina (United States) to the Gulf of Mexico.



Galeorhinus galeus (Linnaeus, 1758)

SIZE: Max L 193 cm

FAO NAMES: *Eng* Tope shark
Esp Cazón

MAIN CHARACTERISTICS:

A. First dorsal fin much bigger than second (similar to anal fin); **B.** long pointed snout; **C.** colour greyish, grey-tawnyish, whitish ventrally; posterior margin of pectoral fins is whitish.

DISTRIBUTION: Widespread in temperate waters. Mediterranean: common. Eastern Atlantic: present from Iceland, Scandinavia and the United Kingdom of Great Britain and Northern Ireland to Mauritania and South Africa. Western Atlantic: present from southern Brazil to Argentina. Eastern Pacific: Australia and New Zealand, as well as British Columbia (Canada) to the Gulf of California and from Peru to Chile.



Mustelus asterias (Cloquet, 1819)

SIZE: Max L 140 cm

FAO NAMES: *Eng* Starry smooth-hound
Esp Musola dentada

MAIN CHARACTERISTICS:

A. Mouth arched, inferior position, labial furrows do not reach level of anterior margin of mouth (upper labial furrows are longer than labial folds); **B.** absence of a fringed posterior margin in both dorsal fins; **C.** colour greyish, uniformly tawny-greyish dorsally, whitish ventrally; several small white spots dorsally and on flanks.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from the North Sea and the United Kingdom of Great Britain and Northern Ireland to Mauritania, including the Canary Islands and Madeira.



Mustelus mento (Cope, 1877)

SIZE: Max L 130 cm

FAO NAMES: *Eng* Speckled smooth-hound
Esp Musola fina

MAIN CHARACTERISTICS:

A. Mouth arched, inferior position, labial furrows do not reach level of anterior margin of mouth (upper labial furrows are longer than labial folds); **B.** a thin edge with corneous filaments is present on posterior margin of both dorsal fins; **C.** colour greyish, uniformly tawny-greyish dorsally, whitish ventrally; several small white spots dorsally (sometimes plain coloured).

DISTRIBUTION: Eastern Pacific: from Peru to southern Chile, including the Galapagos (Ecuador) and Juan Fernández Islands.



Mustelus mustelus (Linnaeus, 1758)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Smooth-hound
Esp Musola

MAIN CHARACTERISTICS:

A. Mouth arched, inferior position, labial furrows do not reach level of anterior margin of mouth (upper labial furrows are longer than labial folds); **B.** absence of a fringed posterior margin in both dorsal fins; **C.** colour greyish, uniformly grey bluish dorsally and on flanks, whitish ventrally.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: common from the United Kingdom of Great Britain and Northern Ireland to South Africa.



Mustelus schmitti (Springer, 1939)

SIZE: Max L 92 cm

FAO NAMES: *Eng* Narrownose smooth-hound
Esp Gatuso

MAIN CHARACTERISTICS:

A. Mouth arched, inferior position, labial furrows do not reach level of anterior margin of mouth (upper labial furrows are longer than labial folds); **B.** a thin dark edge with corneous filaments is present on posterior margin of both dorsal fins; **C.** colour uniformly greyish dorsally and on flanks, whitish ventrally; several white spots dorsally and on upper flanks, a dark edge on posterior margin of both dorsal fins.

DISTRIBUTION: Southeastern Atlantic: common from southernmost part of Brazil to northern Argentina.



Mustelus punctulatus (Risso, 1827)

SIZE: Max L 190 cm

FAO NAMES: *Eng* Blackspotted smooth-hound
Esp Musola pimienta

MAIN CHARACTERISTICS:

A. Mouth arched, inferior position, labial furrows do not reach level of anterior margin of mouth (upper labial furrows are longer than labial folds); **B.** a thin dark edge with corneous filaments is present on posterior margin of both dorsal fins; **C.** colour greyish, uniformly tawny-greyish dorsally, whitish ventrally; small blackish spots dorsally and on flanks, a dark edge on posterior margin of both dorsal fins.

DISTRIBUTION: Mediterranean: quite common. Eastern Atlantic: southern Portugal to Western Sahara.



Triakis semifasciata (Girard, 1855)

SIZE: Max L 198 cm

FAO NAMES: *Eng* Leopard shark
Esp Tollo leopardo

MAIN CHARACTERISTICS:

A. Snout bluntly rounded in dorsoventral view; mouth arcuate, lower jaw with convex edges; **B.** first dorsal fin with posteroventrally sloping posterior margin; **C.** colour grey with a bold colour pattern of black saddles and a few large black spots.

DISTRIBUTION: Eastern Pacific: from Oregon (United States) to the Gulf of California.

Eels

Anguilla spp.



Anguilla anguilla (Linnaeus, 1758)

SIZE: Max L 50 cm

FAO NAMES: *Eng* European eel
Esp Anguila europea

MAIN CHARACTERISTICS:

A. Dorsal fin long, its origin 10.5 percent to 12.5 percent of total length in advance of anus; pelvic fins absent; **B.** mouth small, about one quarter of head length; **C.** vertebrae 110 to 119; **D.** colouration green-brown, plain without distinct markings.

DISTRIBUTION: Mediterranean and inland waters in the area. Eastern Atlantic and inland waters in the area: from the White Sea and Iceland to Morocco. Introduced to Asia, South and Central America. The spawning area is a wide area in the Atlantic, close to the Sargasso Sea and Bermuda Islands.



Anguilla bengalensis bengalensis (Gray, 1831)

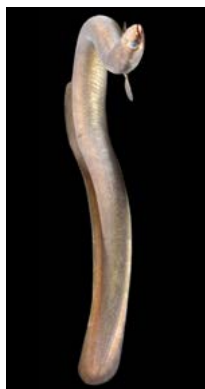
SIZE: Max L 200 cm

FAO NAMES: *Eng* Indian mottled eel
Esp –

MAIN CHARACTERISTICS:

A. Dorsal fin long, its origin 10.5 percent to 12.5 percent of total length in advance of anus; pelvic fins absent; **B.** mouth rather large, about one-third of head length; **C.** vertebrae 106 to 115; **D.** colouration marbled.

DISTRIBUTION: Indian Ocean: from Pakistan to India, Sri Lanka, Myanmar and Indonesia, and inland waters in the area.



Anguilla australis australis (Richardson, 1841)

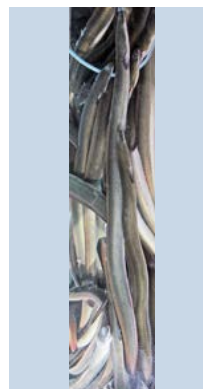
SIZE: Max L 130 cm

FAO NAMES: *Eng* Short-finned eel
Esp Anguila australiana

MAIN CHARACTERISTICS:

A. Dorsal fin short, its origin is situated above or near anus; pelvic fins absent; **B.** mouth small, about one quarter of head length; **C.** vertebrae 110 to 119; **D.** colouration plain without distinct markings, often light brown, olive.

DISTRIBUTION: Southwest Pacific: waters of eastern Australia, New Caledonia and New Zealand and inland waters in the area. The spawning area is around the south of Solomon Islands.



Anguilla japonica (Temminck and Schlegel, 1846)

SIZE: Max L 150 cm

FAO NAMES: *Eng* Japanese eel
Esp Anguila japonesa

MAIN CHARACTERISTICS:

A. Dorsal fin long, its origin 8.5 percent to 9.5 percent of total length in advance of anus; pelvic fins absent; **B.** mouth small, about one quarter of head length; **C.** vertebrae 112 to 119; **D.** colouration plain without distinct markings.

DISTRIBUTION: North western Pacific: from northern Philippines to Viet Nam, China, the Korean Peninsula and Japan, and inland waters in the area. The spawning area is in the northwestern Pacific, west of Guam.



Anguilla marmorata (Quoy and Gaimard, 1824)

SIZE: Max L 70 cm

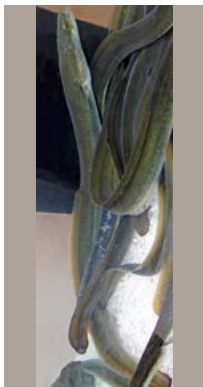
FAO NAMES: *Eng* Giant mottled eel

Esp –

MAIN MAIN CHARACTERISTICS:

A. Dorsal fin long, its origin 15.5 percent to 16.5 percent of total length in advance of anus; pelvic fins absent; **B.** mouth rather large, about one-third of head length; **C.** vertebrae 100 to 110; **D.** colour yellowish to olive or brown, mottled with dark greenish-brown.

DISTRIBUTION: Indo-Pacific: widely distributed from East Africa and India to French Polynesia, the Galapagos Islands (Ecuador) and Fiji, north to southern Japan; inland waters in the area.



Anguilla rostrata (Lesueur, 1817)

SIZE: Max L 152 cm

FAO NAMES: *Eng* American eel

Esp Anguila americana

MAIN CHARACTERISTICS:

A. Dorsal fin long, its origin 8.5 percent to 9.5 percent of total length in advance of anus; pelvic fins absent; **B.** mouth small, about one quarter of head length; **C.** vertebrae 103 to 111; **D.** colouration plain without distinct markings.

DISTRIBUTION: Western North Atlantic: from Greenland and Canada to Trinidad and Tobago, including the Gulf of Mexico, Panama, and much of the West Indies; the spawning area is in the Sargasso Sea.

Euclichthyidae, fish of the family



Euclichthys (McCulloch, 1926 [genus])

SIZE: Max L 35 cm

FAO NAMES: *Eng* Eucla cod

Esp –

MAIN CHARACTERISTICS:

A. Body long and tapering; **B.** mouth large, chin barbel absent;
C. two nearly contiguous dorsal fins, the first high and short based, the second long based, extending to base of caudal fin; pelvic fins with four to six long, completely separate filamentous rays; asymmetrical caudal fin.

DISTRIBUTION: Indo-West Pacific: the three species belonging to this family live in the waters of New Zealand, Australia and New Caledonia.

Flat fish

Pleuronectidae [**Halibut** (*Reinhardtius hippoglossoides*, *Hippoglossus hippoglossus*, *Hippoglossus stenolepis*), **Plaice** (*Pleuronectes platessa*)], Bothidae, Citharidae, Cynoglossidae, Scophthalmidae [**Turbots** (*Psetta maxima*)], Soleidae [**Sole** (*Solea* spp.)]



Atheresthes stomias (Jordan and Gilbert, 1880)

SIZE: Max L 84 cm

FAO NAMES: *Eng* Arrow-tooth flounder
Esp Halibut del Pacífico

MAIN CHARACTERISTICS:

A. Mouth very large, with two rows of sharp arrow-shaped teeth on upper jaw; **B.** upper eye situated on upper margin of head; **C.** lateral line nearly straight with a slight curve over pectoral fin; **D.** preopercle curve, C-shaped.

DISTRIBUTION: North Pacific: from eastern Bering Sea to San Simeon, California (United States); north and south of Alaska Peninsula and Aleutian Islands.



Eopsetta jordani (Lockington, 1879)

SIZE: Max L 53 cm

FAO NAMES: *Eng* Petrale sole
Esp Limanda petrale

MAIN CHARACTERISTICS:

A. Mouth large with sharply pointed teeth (two rows on upper jaw); posterior edge of lower jaw rounded; maxillary extends to below or slightly beyond middle of lower eye; **B.** lateral line with a low curve over pectoral fin; **C.** caudal fin indented near edges and longest in middle.

DISTRIBUTION: Eastern Pacific: from the Bering Sea and Aleutian Islands through the Gulf of Alaska to Islas Los Coronados (northern Baja California, Mexico).



Colistium guntheri (Hutton, 1873)

SIZE: Max L 91.4 cm

FAO NAMES: *Eng* –
Esp –
Brill/Patikinui (New Zealand)

MAIN CHARACTERISTICS:

A. Hook-like projecting snout extending below jaws; **B.** mouth small; **C.** lateral line nearly straight with a slight curve over pectoral fin; **D.** eyed side greenish-brown, brown-yellowish, with dark mottling in longitudinal lines.

DISTRIBUTION: Southwest Pacific: New Zealand waters.



Glyptocephalus cynoglossus (Linnaeus, 1758)

SIZE: Max L 60 cm (standard length)

FAO NAMES: *Eng* Witch flounder
Esp Mendo

MAIN CHARACTERISTICS:

A. Mouth very small, with thin lips, extending to below anterior part of lower eye; **B.** large mucous cavities on blind side of head; **C.** lateral line straight with a very slight curve above pectoral fin; **D.** last third of pectoral fin is dark.

DISTRIBUTION: Northeastern Atlantic: from the White Sea to the Gulf of Biscay and Iceland (absent from the English Channel and from the southern part of the North Sea). Northwestern Atlantic: Greenland to Cape Cod, Massachusetts (United States).



***Hippoglossoides platessoides* (Fabricius, 1780)**

SIZE: Max L 82.6 cm

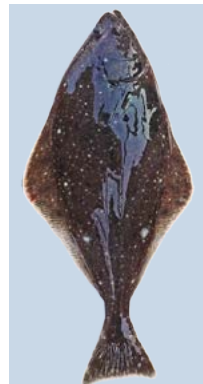
FAO NAMES: *Eng* American plaice (= Long rough dab)

Esp Platija americana

MAIN CHARACTERISTICS:

- A.** Mouth large, extended to about rear edge of lower eye;
- B.** eyes are big, their diameter is bigger than snout length;
- C.** lateral line straight with a slight curve above pectoral fin;
- D.** caudal fin margin rounded or with a blunt angle.

DISTRIBUTION: Northern Atlantic: east of the English Channel to the coasts of Murmansk and Iceland; west of Greenland to New York (United States).



***Hippoglossus stenolepis* (Schmidt, 1904)**

SIZE: Max L 258 cm

FAO NAMES: *Eng* Pacific halibut

Esp Fletán del Pacífico

MAIN CHARACTERISTICS:

- A.** Mouth large, stocky conical teeth (two rows on upper jaw, one on lower), extended to below the middle of lower eye;
- B.** interorbital distance flat to slightly concave; **C.** lateral line straight, strongly arched above pectoral fin; **D.** caudal fin slightly indented.

DISTRIBUTION: North Pacific: from the Sea of Japan and Okhotsk north to the Gulf of Anadyr and from the Bering Sea south to Point Camalu (northern Baja California, Mexico).



***Hippoglossus hippoglossus* (Linnaeus, 1758)**

SIZE: Max L 470 cm

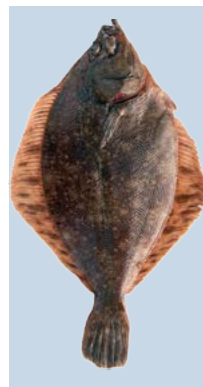
FAO NAMES: *Eng* Atlantic halibut

Esp Fletán del Atlántico

MAIN CHARACTERISTICS:

- A.** Mouth large with stocky conical teeth, extended to about the centre of lower eye; **B.** interorbital distance same-sized as or bigger than eye diameter; **C.** lateral line straight, strongly arched above pectoral fin; **D.** caudal fin concave, slightly indented.

DISTRIBUTION: Northern Atlantic: (east) from the Gulf of Biscay to the coasts of Murmansk and Iceland; (west) from Greenland to Cape Cod (Massachusetts, United States); successfully farmed in Norway.



***Lepidopsetta bilineata* (Ayres, 1855)**

SIZE: Max L 58 cm

FAO NAMES: *Eng* Rock sole

Esp Lengüado del Pacífico

MAIN CHARACTERISTICS:

- A.** Mouth small with fleshy lips; maxillary extends below the anterior edge of the lower eye; **B.** interorbital space narrow; **C.** lateral line straight with a high curve over pectoral fin; it bears 70 to 91 pores; **D.** eyed side rough-scaled; blind side white, with glossy highlights along myotome margins.

DISTRIBUTION: Northern Pacific: from Bering Sea and the eastern Aleutian Islands to Baja California (Mexico).



Limanda aspera (Pallas, 1814)

SIZE: Max L 49 cm

FAO NAMES: *Eng* Yellowfin sole
Esp Limanda japonesa

MAIN CHARACTERISTICS:

A. Mouth small with obtusely conical teeth; maxillary barely extends below the anterior edge of the lower eye; **B.** lateral line with a high curve over pectoral fin; accessory dorsal branch of lateral line absent; **C.** a narrow black line at base of dorsal and anal fins; **D.** both sides rough-scaled, dorsal and anal fins covered with scales.

DISTRIBUTION: Western Pacific: Korean Peninsula to Japan to Bering Sea, Alaska (United States) and British Columbia (Canada).



Limanda limanda (Linnaeus, 1758)

SIZE: Max L 40 cm (standard length)

FAO NAMES: *Eng* Common dab
Esp Lenguadina

MAIN CHARACTERISTICS:

A. Mouth rather small, maxillary not extended to half length of lower eye; **B.** lateral line straight with a marked curve over pectoral fin; **C.** colour light tawny to grey-tawnyish; **D.** eyed side rough-scaled.

DISTRIBUTION: Northeastern Atlantic: Gulf of Biscay to the White Sea and Iceland.



Limanda ferruginea (Storer, 1839)

SIZE: Max L 64 cm

FAO NAMES: *Eng* Yellowtail flounder
Esp Limanda

MAIN CHARACTERISTICS:

A. mouth small; maxillary not extended to half length of lower eye; **B.** eyes are close, separated by a tall and narrow ridge; **C.** lateral line straight with a marked curve over pectoral fin; **D.** several rounded, irregular spots, rusty-red coloured, spread on body and fins; **E.** eyed side rough-scaled.

DISTRIBUTION: Northeastern Atlantic: from island of Newfoundland to Chesapeake Bay (United States).



Microstomus kitt (Walbaum, 1792)

SIZE: Max L 65 cm

FAO NAMES: *Eng* Lemon sole
Esp Mendo limón

MAIN CHARACTERISTICS:

A. Mouth very small, lips are protruding, not reaching anterior part of lower eye; **B.** eyes large, bulging; **C.** lateral line straight and slightly curved above pectoral fin; **D.** eyed side with smooth skin.

DISTRIBUTION: Northeastern Atlantic: from the Gulf of Biscay to the White Sea and Iceland.



Parophrys vetulus (Girard, 1854)

SIZE: Max L 49 cm

FAO NAMES: *Eng* English sole
Esp Soya inglesa

MAIN CHARACTERISTICS:

A. Snout pointed with small and asymmetrical mouth (jaws are stronger on the blind side); maxillary extends to anterior edge of the lower eye; **B.** upper eye visible from the blind side; narrow, high ridge between eyes; **C.** lateral line straight with a slight curve over pectoral fin; accessory dorsal branch of lateral line long; **D.** scales smooth on front half of body, ctenoid on rear half.

DISTRIBUTION: Eastern Pacific: from the Bering Sea and Aleutian Islands to San Cristobal Bay (Mexico).



Platichthys stellatus (Pallas, 1787)

SIZE: Max L 91 cm

FAO NAMES: *Eng* Starry flounder
Esp –

MAIN CHARACTERISTICS:

A. Mouth small, maxillary extended below anterior part of lower eye; **B.** lateral line straight and slightly curved above pectoral fin, lacking an accessory dorsal branch; **C.** unpaired fins with prominent oblique dark bars alternate with yellowish to orange bars; **D.** both sides rough scaled; skin is very rough, covered in small bony star-shaped tubercles.

DISTRIBUTION: Northern Pacific: from Japan to the Bering Sea, Alaska down to Santa Barbara, California (United States); species is euryhaline.



Platichthys flesus (Linnaeus, 1758)

SIZE: Max L 60 cm

FAO NAMES: *Eng* European flounder
Esp Platija europea

MAIN CHARACTERISTICS:

A. Mouth small, just reaching anterior margin of lower eye; **B.** bony tubercles on head and on anterior portion of lateral line; **C.** a row of small, pointed tubercles runs along base of dorsal and anal fins; **D.** lateral line straight and slightly curved above pectoral fin.

DISTRIBUTION: Mediterranean: western basin, Adriatic Sea, rare along North African coasts. Northeastern Atlantic: from the White Sea to Gibraltar (species is euryhaline).



Pleuronectes platessa Linnaeus, 1758

SIZE: Max L 100 cm (standard length)

FAO NAMES: *Eng* European plaice
Esp Solla europea

MAIN CHARACTERISTICS:

A. Mouth small, extended to anterior third of lower eye; four to seven small bony ridges on postorbital crest; **B.** lateral line straight and slightly curved above pectoral fin; **C.** eyed side with smooth skin; **D.** large rounded spots of shiny red to orange colour on body and fins.

DISTRIBUTION: Mediterranean: rare. Northeastern Atlantic: from White Sea to the Gulf of Cadex.



Pseudopleuronectes herzensteini (Jordan and Snyder, 1901)

SIZE: Max L 50 cm (standard length)

FAO NAMES: *Eng* Yellow striped flounder
Esp Acedía del Japón

MAIN CHARACTERISTICS:

A. Mouth small; area between eyes nearly naked; **B.** lateral line with a distinct curve above pectoral fin; **C.** a yellow band along dorsal and ventral margin of posterior part of body on blind side; **D.** no black bars on dorsal and anal fins (blind side).

DISTRIBUTION: Northwest Pacific: inland Sea of Japan and Wakasa Bay, the Kuril Islands, Sakhalin, Primorskii Krai, east coast of the Korean Peninsula, the Yellow Sea, Gulf of Bo Hai and middle East China Sea.



Bothus pantherinus (Rüppell, 1830)

SIZE: Max L 39 cm

FAO NAMES: *Eng* Yellowfin sole
Esp Limanda japonesa

MAIN CHARACTERISTICS:

A. Both eyes on left side, separated by a wide space; **B.** eyed side with all scales ctenoid; **C.** males bear much longer pectoral fin rays than females; **D.** eyed side brown with paler and darker spots, blotches and rings; a large dark blotch on middle of straight section of lateral line.

DISTRIBUTION: Indo-Pacific: from East Africa, the Red Sea and the Persian Gulf to Hawaiian Islands, Marquesas and Society Islands, north to southern Japan, south to Lord Howe Island.



Reinhardtius hippoglossoides (Walbaum, 1792)

SIZE: Max L 80 cm

FAO NAMES: *Eng* Greenland halibut
Esp Fletán negro

MAIN CHARACTERISTICS:

A. Mouth very large, with strong conical, sharply pointed teeth; upper eye situated on upper margin of head; **B.** lateral line nearly straight with a slight slope over pectoral fin; **C.** preopercle angular, L-shaped; **D.** caudal fin slightly concave.

DISTRIBUTION: Northeastern Atlantic: from the United Kingdom of Great Britain and Northern Ireland to Norway, Iceland and western Greenland. Northwestern Atlantic: from Island of Newfoundland (Canada) to northwestern Greenland. Northern Pacific: Japan to California (United States).



Citharus linguatula (Linnaeus, 1758)

SIZE: Max L 30 cm

FAO NAMES: *Eng* Spotted flounder
Esp Solleta

MAIN CHARACTERISTICS:

A. Body is flat, it is covered in large scales which are slightly ctenoid; **B.** head very elongate and pointed; mouth terminal, big, lower jaw is protruding; **C.** both eyes are usually positioned on left side; **D.** eyed side grey-yellowish, margins of scales are dark, a little dark spot is present on bases of last rays of dorsal and anal fins.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: present from Portugal to Angola.



Cynoglossus bilineatus (Lacepède, 1802)

SIZE: Max L 44 cm (standard length)

FAO NAMES: *Eng* Fourlined tonguesole
Esp –

MAIN CHARACTERISTICS:

A. Lips on ocular side not fringed; **B.** rostral hook short; corner of mouth reaching posteriorly beyond lower eye, nearer to gill opening than to tip of snout; **C.** two lateral lines on both sides; **D.** scales ctenoid on eyed side, cycloid on blind side; **E.** eyed side brown, an irregular dark blotch is present on gill cover.

DISTRIBUTION: Indo-West Pacific: from Persian Gulf, Pakistan, the west coast of India and Sri Lanka, to Indonesia, the Philippines, Japan, the east of Papua New Guinea and the north and east coasts of Australia.



Cynoglossus canariensis (Steindachner, 1882)

SIZE: Max L 60 cm (standard length)

FAO NAMES: *Eng* Canary tonguesole
Esp Lengua de Canarias

MAIN CHARACTERISTICS:

A. Lips on ocular side not fringed; **B.** rostral hook short and just reaching to vertical through anterior margin of anterior nostril; angle of mouth extending beyond vertical through posterior margin of lower eye, nearer to tip of snout than to branchial opening; **C.** three lateral lines on eyed side; **D.** scales ctenoid on eyed side anteriorly, cycloid posteriorly; scales cycloid on blind side; **E.** eyed side brownish.

DISTRIBUTION: Eastern Central Atlantic: from Mauritania and the Canary Islands to Angola.



Cynoglossus lingua (Hamilton, 1822)

SIZE: Max L 45 cm

FAO NAMES: *Eng* Long tongue sole
Esp –

MAIN CHARACTERISTICS:

A. Lips on ocular side not fringed; **B.** snout obtusely pointed; rostral hook short; corner of mouth reaching well beyond vertical through posterior margin of lower eye, much nearer to gill opening than to tip of snout; **C.** ocular side bears two lateral lines, lateral line absent on blind side; **D.** scales ctenoid on eyed side, cycloid on blind side; **E.** eyed side reddish-brown.

DISTRIBUTION: Indo-West Pacific: from Red Sea and western coast of India to Malay Archipelago including Thailand, Viet Nam, the Philippines and Indonesia.



Cynoglossus senegalensis (Kaup, 1858)

SIZE: Max L 66.5 cm

FAO NAMES: *Eng* Senegalese tonguesole
Esp Lengua del Senegal

MAIN CHARACTERISTICS:

A. Lips on ocular side not fringed; **B.** rostral hook short extending only to vertical through anterior margin of anterior nostril, maxilla extending slightly beyond vertical through posterior margin of lower eye; angle of mouth extending just posterior to vertical through posterior margin of lower eye; **C.** two to three lateral lines on eyed side, one on blind side; **D.** scales ctenoid on eyed side, cycloid on blind side; **E.** eyed side dark greenish-brown or blackish.

DISTRIBUTION: Eastern Atlantic: from Mauritania to Angola; São Tomé Island.



Paraplagusia bilineata (Bloch, 1787)

SIZE: Max L about 35 cm

FAO NAMES: *Eng* Doublelined tonguesole
Esp Lengua de dos líneas

MAIN CHARACTERISTICS:

A. Lips on ocular side fringed with tentacles; **B.** rostral hook reaching posteriorly well beyond vertical through posterior margin of lower eye; **C.** ocular side bears two lateral lines, lateral line absent on blind side; **D.** scales ctenoid on both sides; **E.** eyed side brown, sometimes spotted or marbled with darker patches.

DISTRIBUTION: Indo-West Pacific: from east coast of Africa and Red Sea to the Philippines, northward to southern Japan, southward to Papua New Guinea and northeastern Australia.



Paraplagusia japonica (Temminck and Schlegel, 1846)

SIZE: Max L 36.2 cm

FAO NAMES: *Eng* – Black cow-tongue
Esp –

MAIN CHARACTERISTICS:

A. Lips on ocular side fringed with tentacles; **B.** rostral hook reaching below rear border of lower eye; **C.** ocular side bears three lateral lines, lateral line absent on blind side; **D.** scales ctenoid on ocular side, cycloid on blind side.

DISTRIBUTION: Western Pacific: from Japan, the Korean Peninsula to Taiwan Province of China and Papua New Guinea.



Scophthalmus maximus (Linnaeus, 1758)

formerly *Psetta maxima* (Linnaeus, 1758)

SIZE: Max L 100 cm (standard length)

FAO NAMES: *Eng* Turbot
Esp Rodaballo

MAIN CHARACTERISTICS:

A. Several bony tubercles on eyed side which are absent from blind side (present in subspecies *P. maxima maeotica*); **B.** eyes are small and well separated; **C.** eyed side grey-tawnyish, lighter and darker spots.

DISTRIBUTION: Mediterranean and Black Sea. Eastern Atlantic: from Arctic Circle (Norway) to Iceland and Morocco.



Scophthalmus rhombus (Linnaeus, 1758)

SIZE: Max L 75 cm

FAO NAMES: *Eng* Brill
Esp Rémol

MAIN CHARACTERISTICS:

A. Body covered in smooth scales, without bony tubercles; **B.** first rays of dorsal fin are ramified and do not have interradiial membrane in distal portion; **C.** eyed side grey-tawnyish, olive green, lighter and darker spots.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from Norway to Morocco.



Brachirus orientalis (Bloch and Schneider, 1801)

SIZE: Max L 30 cm (standard length)

FAO NAMES: *Eng* Oriental sole
Esp Lenguado oriental

MAIN CHARACTERISTICS:

A. Eyes separated by small scaly interorbital space; **B.** lateral line with high rounded arch on head not directed posteriorly, ending above upper eye; **C.** eyed side grey or brown, with three longitudinal rows of small dark patches of scales with obvious sensory filaments; **D.** eyed side pectoral fin with black blotch.

DISTRIBUTION: Indo-West Pacific: from Red Sea to Persian Gulf, India and Sri Lanka, the Malay Peninsula and Archipelago, Taiwan Province of China, China, the Philippines, southern Japan, Papua New Guinea and northern Australia.



Dicologlossa cuneata (Moreau, 1881)

SIZE: Max L 30 cm (standard length)

FAO NAMES: *Eng* Wedge sole
Esp Acedía

MAIN CHARACTERISTICS:

A. Anterior nostril of blind side is tubular-shaped; **B.** lateral line straight with an angular S-shaped supratemporal branch above head; **C.** colour tawny-chocolate or tawny-greyish with blue-blackish spots forming longitudinal lines along the dorsal and ventral edges and along the median line of body; **D.** pectoral fin of eyed side with an oblong black spot not reaching posterior margin of fin; **E.** caudal fin black-edged.

DISTRIBUTION: Mediterranean: spotted in the western basin. Eastern Atlantic: Gulf of Gascoigne to South Africa (very common along the coasts of Morocco and Mauritania).



Microchirus theophilus (Risso, 1810)

SIZE: Max L 46 cm (standard length)

FAO NAMES: *Eng* Bastard sole
Esp Acevía senegalesa

MAIN CHARACTERISTICS:

A. Lateral line straight with an angular S-shaped supratemporal branch above head; **B.** eyed side greyish to reddish-brown; **C.** margins of dorsal and anal fins are blackish with a white rim; **D.** pectoral fin of eyed side blackish distally; **E.** caudal fin with white-rimmed blackish edge.

DISTRIBUTION: Eastern Atlantic: from British Isles and Portugal to Senegal, including the Canary Islands (Spain).



Pegusa lascaris (Risso, 1810)

SIZE: Max L 40 cm (standard length)

FAO NAMES: *Eng* Sand sole
Esp Lenguado de arena

MAIN CHARACTERISTICS:

A. Anterior nostril of blind side is rosette-shaped, with radial septa; **B.** lateral line straight, with supratemporal branch arched above head; **C.** eyed side uniform yellowish-brown, with small brown spots; **D.** pectoral fin of eyed side with a distinct black patch towards end of middle finrays; the patch is surrounded by both white and yellow areas.

DISTRIBUTION: Mediterranean: rather common. Eastern Atlantic: from the United Kingdom of Great Britain and Northern Ireland to South Africa.



Solea senegalensis (Kaup, 1858)

SIZE: Max L about 60 cm (standard length)

FAO NAMES: *Eng* Senegalese sole
Esp Lenguado senegalés

MAIN CHARACTERISTICS:

A. Pectoral fin of eyed side has grey-yellowish rays; interradial membrane is blackish; **B.** eyed side grey-tawnyish to reddish-brown with several small azure spots in life; **C.** caudal fin uniformly coloured.

DISTRIBUTION: Mediterranean: present in the western basin. Eastern Atlantic: from the Gulf of Gascoigne to Senegal.



Synaptura cadenati (Chabanaud, 1948)

SIZE: Max L 35 cm

FAO NAMES: *Eng* Guinean sole
Esp Lenguado de Guinea

MAIN CHARACTERISTICS:

A. Pectoral fin of eyed side with a white margin laterally and distally; **B.** eyed side grey-tawnyish, tawny-purplish; blackish spots and several whitish spots are scattered all over the body; **C.** margin of unpaired fins is white.

DISTRIBUTION: Eastern Atlantic: Senegal to the Democratic Republic of the Congo.



Solea solea (Linnaeus, 1758)

SIZE: Max L 70 cm (standard length)

FAO NAMES: *Eng* Common sole
Esp Lenguado común

MAIN CHARACTERISTICS:

A. Anterior nostril of blind side is tubular; **B.** eyed side tawny-greyish with some darker irregular spots; **C.** pectoral fin of eyed side with a black spot positioned on posterior dorsal part.

DISTRIBUTION: Mediterranean and Black Sea: of variable spread on Mediterranean coasts. Eastern Atlantic: from Scandinavia to Senegal including Cabo Verde.



Zebrias zebra (Bloch, 1787)

SIZE: Max L 19 cm

FAO NAMES: *Eng* Zebra sole
Esp Lenguadillo acebrado

MAIN CHARACTERISTICS:

A. Twenty to 25 blackish brown cross bands, arranged in pairs, extended onto fins, where they bend posteriorly; **B.** eyed side yellow-brown; **C.** caudal fin black, white-bordered, with pale yellow spots.

DISTRIBUTION: Western Pacific: from Gulf of Thailand to northern China Sea, southern Japan, and southward to Borneo and Indonesia.

Gadidae, fish of the family



Boreogadus saida (Lepechin, 1774)

SIZE: Max L 40 cm

FAO NAMES: *Eng* Polar cod
Esp Bacalao polar

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** lower jaw slightly longer; **C.** very small chin barbel; **D.** fins with pale margin.

DISTRIBUTION: Arctic Ocean: circumpolar; North Atlantic: White Sea, Iceland and southern Greenland into the Miramichi River, New Brunswick in Canada. North Pacific: from Bering Sea to Cape Olyutorski, the Pribilof Islands and Bristol Bay.



Merlangius merlangus (Linnaeus, 1758)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Whiting
Esp Plegonero

MAIN CHARACTERISTICS:

A. Three dorsal fins (separated by small spaces) and two anal fins (contiguous) are present; **B.** chin barbel absent or small; **C.** caudal fin with truncated or concave margin; **D.** a black spot above base of pectoral fin.

DISTRIBUTION: Mediterranean: common, in particular in the northern Adriatic and in the Black Sea. Northeastern Atlantic: from the Barents Sea and Ireland to Portugal.



Eleginus gracilis (Tilesius, 1810)

SIZE: Max L 55 cm

FAO NAMES: *Eng* Saffron cod
Esp Bacalao del Artico

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** 14 to 25 gill rakers on first arch; **C.** dorsally dark grey-green to brown, mottled.

DISTRIBUTION: North Pacific: from the Yellow Sea, Chemulpo, the Korean Peninsula in the southwest to Sitka (Alaska) in the southeast; beyond the Bering Strait from Cape Lisburne in the Chukchi Sea and east to Dease Strait (south coast of Victoria Island).



Pollachius pollachius (Linnaeus, 1758)

SIZE: Max L 130 cm

FAO NAMES: *Eng* Pollack
Esp Abadejo

MAIN CHARACTERISTICS:

A. Three dorsal fins (relatively close together) and two anal fins (separate from each other) are present; **B.** barbel is absent from chin; **C.** greenish, greyish lateral line, curved above pectoral fins.

DISTRIBUTION: Mediterranean: presence of this species is disputed. Northeastern Atlantic: from northern Norway, the Faroe Islands and Iceland to the Skagerrak, the Kattegat and the United Kingdom of Great Britain and Northern Ireland, southwards to the Gulf of Gascoigne.

Haddock

Melanogrammus aeglefinus



Melanogrammus aeglefinus (Linnaeus, 1758)

SIZE: Max L 112 cm

FAO NAMES: *Eng* Haddock

Esp Eglefino

MAIN CHARACTERISTICS:

A. Three dorsal fins and two anal fins are present, all separate from each other; **B.** Lateral line dark, continuous to the end of body, or nearly so; **C.** a large black spot between lateral line and first dorsal fin; **D.** caudal fin shallowly forked

DISTRIBUTION: Northeastern Atlantic: from the White Sea to the Barents Sea, Iceland, the Spitzbergen, the Skagerrak, the Kattegat, the United Kingdom of Great Britain and Northern Ireland and Ireland to the Gulf of Gascoigne. Northwestern Atlantic: from Greenland to Hatteras Head.

Hake – (*Merlucciidae*, fish of the family)

Merluccius spp., *Urophycis* spp.



Merluccius australis (Hutton, 1872)

SIZE: Max L 155 cm

FAO NAMES: *Eng* Southern hake
Esp Merluza austral

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 144 to 171 small scales along lateral line; **C.** first arch with 11 to 15 gill rakers.

DISTRIBUTION: Western Atlantic and Eastern Pacific; Patagonia, New Zealand.



Merluccius capensis (Castelnau, 1861)

SIZE: Max L 140 cm

FAO NAMES: *Eng* Shallow-water Cape hake
Esp Merluza del Cabo

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 132 to 149 small scales along lateral line; **C.** first arch with 15 to 20 gill rakers.

DISTRIBUTION: Southeast Atlantic: Baie Farte (Angola), around the Cape of Good Hope to KwaZulu-Natal (South Africa). Also, in the Valdivian Bank.



Merluccius bilinearis (Mitchill, 1814)

SIZE: Max L 76 cm

FAO NAMES: *Eng* Silver hake
Esp Merluza norteamericana

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 101 to 110 large scales along lateral line; **C.** first arch with 16 to 20 gill rakers.

DISTRIBUTION: Western Atlantic: from southern coasts of Newfoundland to North Carolina (sometimes Florida and Bahamas).



Merluccius gayi gayi (Guichenot, 1848)

SIZE: Max L 87 cm

FAO NAMES: *Eng* South Pacific hake
Esp Merluza del Pacífico sur

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 106 to 130 large scales along lateral line; **C.** first arch with 18 to 25 gill rakers.

DISTRIBUTION: Eastern Pacific: Peru to Central Chile (Chiloé Island).



Merluccius hubbsi (Marini, 1933)

SIZE: Max L 95 cm

FAO NAMES: *Eng* Argentine hake
Esp Merluza argentina

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 120 to 142 large scales along lateral line; **C.** first arch with 12 to 16 gill rakers.

DISTRIBUTION: Southwestern Atlantic: from southern Brazil to the Magellan Strait.



Merluccius paradoxus (Franca, 1960)

SIZE: Max L 115 cm

FAO NAMES: *Eng* Deep-water Cape hake
Esp Merluza de altura del Cabo

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 121 to 143 small scales along lateral line; **C.** first arch with 17 to 23 gill rakers.

DISTRIBUTION: Southeastern Atlantic: from Namibia (Cape Frio) south to the Agulhas Bank and east to East London (South Africa).



Merluccius merluccius (Linnaeus, 1758)

SIZE: Max L 140 cm

FAO NAMES: *Eng* European hake
Esp Merluza europea

MAIN CHARACTERISTICS:

A. Two dorsal and one anal fins are present; barbel is absent from chin; **B.** 127 to 156 small scales along lateral line; **C.** first arch with 8 to 11 gill rakers.

DISTRIBUTION: Mediterranean: common, also present along the southern coast of the Black Sea. Eastern Atlantic: common from Norway to Iceland and Mauritania.



Urophycis chuss (Walbaum, 1792)

SIZE: Max L 66 cm

FAO NAMES: *Eng* Red hake
Esp Locha roja

MAIN CHARACTERISTICS:

A. Two dorsal fins and one anal fin are present; a barbel is present on chin; **B.** first dorsal fin with an elongated ray; **C.** pelvic fin reaching near anterior end of anal fin; **D.** about seven scale rows between first dorsal fin and lateral line.

DISTRIBUTION: Northwest Atlantic: from the Gulf of St Lawrence and southern Nova Scotia (Canada) to North Carolina (United States).



Urophycis tenuis (Chabanaud, 1948)

SIZE: Max L 35 cm

FAO NAMES: *Eng* Guinean sole

Esp Lenguado de Guinea

MAIN CHARACTERISTICS:

A. Two dorsal fins and one anal fin are present; a barbel is present on chin; **B.** first dorsal fin with an elongated ray; **C.** pelvic fin rarely reaching beyond origin of anal fin; **D.** 11 or more scale rows between first dorsal fin and lateral line.

DISTRIBUTION: Western Atlantic: from Labrador and the Grand Banks of Newfoundland (Canada) to North Carolina (United States) and to Iceland in the east and Florida (United States) in the south.

Herrings

Clupea harengus, *Clupea pallasii*



Clupea harengus (Linnaeus, 1758)

SIZE: Max L 45 cm (standard length)

FAO NAMES: *Eng* Atlantic herring
Esp Arenque del Atlántico

MAIN CHARACTERISTICS:

A. Pelvic fin rays eight or ten, fin posterior to anterior margin of dorsal fin base; operculum smooth and without bony radiating striae; **B.** vertebrae 51 to 60; **C.** colour dark blue, greenish dorsally, silvery ventrally, sometimes flanks and opercula display golden or pink shadings, black spots are absent.

DISTRIBUTION: Northeastern Atlantic: from the Gulf of Gascoigne to the Barents Sea, the White Sea, Spitzbergen Islands, Iceland and Baltic Sea. Northwestern Atlantic: from Greenland and Labrador (Canada) to South Carolina (United States).



Clupea pallasii (Valenciennes, 1847)

SIZE: Max 46 cm

FAO NAMES: *Eng* Pacific herring
Esp Arenque del Pacífico

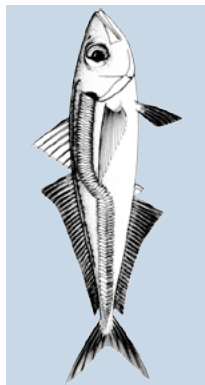
MAIN CHARACTERISTICS:

A. Pelvic fin rays eight or ten, fin posterior to anterior margin of dorsal fin base; operculum smooth and without bony radiating striae; **B.** vertebrae 49 to 57; **C.** colour dark blue, olivaceous dorsally, silvery ventrally.

DISTRIBUTION: Arctic: White Sea eastward to Ob inlet. Western Pacific: Anadyr Bay, eastern coasts of Kamchatka, possibly the Aleutian Islands southward to Japan and west coast of the Korean Peninsula. Eastern Pacific: Kent Peninsula at 107° west and Beaufort Sea southward to northern Baja California (Mexico).

Horse mackerel – Jack mackerel

Trachurus spp.



Trachurus capensis (Castelnau, 1861)

SIZE: Max L 60 cm

FAO NAMES: *Eng* Cape horse mackerel

Esp Jurel del Cabo

MAIN CHARACTERISTICS:

A. Dorsal accessory lateral line extends up to the 19th to 27th soft ray of second dorsal fin; **B.** maximum of eight scutes in curved part of lateral line 4.8 percent to 5.2 percent of standard length; **C.** 49 to 56 lower gill rakers on first arch (including rudiments).

DISTRIBUTION: Eastern Atlantic: from Gulf of Guinea to South Africa.



Trachurus mediterraneus (Steindachner, 1868)

SIZE: Max L 60 cm

FAO NAMES: *Eng* Mediterranean horse mackerel

Esp Jurel mediterráneo

MAIN CHARACTERISTICS:

A. Dorsal accessory lateral line extends up to between eighth spine of first dorsal fin and fourth soft ray of second dorsal fin; **B.** total scutes and scales in lateral line 75 to 89; maximum of eight scutes in curved part of lateral line 3.3 percent to 4.3 percent of standard length; **C.** 36 to 41 lower gill rakers on first arch (including rudiments).

DISTRIBUTION: Mediterranean and Black Sea: common. Eastern Atlantic: from the Gulf of Gascoigne to Mauritania.



Trachurus japonicus (Temminck and Schlegel, 1844)

SIZE: Max L 50 cm

FAO NAMES: *Eng* Japanese jack mackerel

Esp Jurel japonés

MAIN CHARACTERISTICS:

A. Dorsal accessory lateral line extends to about below the origin of second dorsal fin; **B.** total scutes in lateral line 69 to 73; **C.** 37 to 41 lower gill rakers on first arch.

DISTRIBUTION: Northwest Pacific: from southern Japan to Korean Peninsula, and to the East China Sea.



Trachurus murphyi (Nichols, 1920)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Chilean jack mackerel

Esp Jurel chileno

MAIN CHARACTERISTICS:

A. Dorsal accessory lateral line extends up to the first to fifth soft ray of second dorsal fin; **B.** total scutes and scales in lateral line 89 to 107; maximum of eight scutes in curved part of lateral line 61 percent to 85 percent the eye diameter; **C.** 42 to 45 lower gill rakers on first arch (excluding rudiments).

DISTRIBUTION: Northwest Atlantic: from the Gulf of St Lawrence and southern Nova Scotia (Canada) to North Carolina (United States).



Trachurus novaezelandiae (Richardson, 1843)

SIZE: Max L 50 cm

FAO NAMES: *Eng* Yellowtail horse mackerel
Esp –

MAIN CHARACTERISTICS:

A. Dorsal accessory lateral line extends up to the first to fifth soft ray of second dorsal fin (usually first to second); **B.** anterior curved part of the lateral line slanted; **C.** 35 to 45 lower gill rakers on first arch (including rudiments); **D.** caudal fin yellowish.

DISTRIBUTION: Southwest Pacific: southern Australian waters from Exmouth Gulf (Western Australia) to Wide Bay (Queensland), including New Zealand.



Trachurus trachurus (Linnaeus, 1758)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Atlantic horse mackerel
Esp Jurel

MAIN CHARACTERISTICS:

A. Dorsal accessory lateral line extends up to the 23rd to 31st soft ray of second dorsal fin; **B.** total scutes and scales in lateral line 66 to 79; maximum of eight scutes in curved part of lateral line 6.3 percent to 8.2 percent of standard length; **C.** 41 to 48 lower gill rakers on first arch (including rudiments).

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Norway to South Africa.



Trachurus symmetricus (Ayres, 1855)

SIZE: Max L 81 cm

FAO NAMES: *Eng* Pacific jack mackerel
Esp Chicharro ojotón

MAIN CHARACTERISTICS:

A. Two dorsal accessory lateral lines extend up to between eighth spine of first dorsal fin and second soft ray of second dorsal fin; **B.** total scutes and scales in lateral line 87 to 111; maximum of eight scutes in curved part of lateral line 25 percent to 44 percent the eye diameter; **C.** 38 to 43 lower gill rakers on first arch (excluding rudiments).

DISTRIBUTION: Eastern Pacific: from southeastern Alaska to southern Baja California (Mexico), including the Gulf of California.

Indian mackerel

Rastrelliger spp.



Rastrelliger brachysoma (Bleeker, 1851)

SIZE: Max L 34.5 cm (fork length)

FAO NAMES: *Eng* Short mackerel

Esp Caballa rechoncha

MAIN CHARACTERISTICS:

A. Two small keels on each side of caudal peduncle; **B.** adipose eyelids cover front and rear of eye; **C.** depth at margin of gill cover 3.7 to 4.3 times in fork length.

DISTRIBUTION: Central Indo-West Pacific: from Andaman Sea to Fiji, including Thailand, Indonesia, Papua New Guinea, the Philippines and Solomon Islands.



Rastrelliger kanagurta (Cuvier, 1817)

SIZE: Max L 38 cm

FAO NAMES: *Eng* Indian mackerel

Esp Caballa de la India

MAIN CHARACTERISTICS:

A. Two small keels on each side of caudal peduncle; **B.** adipose eyelids cover front and rear of eye; **C.** depth at margin of gill cover 4.3 times to 5.2 times in fork length; **D.** a black spot near lower margin of pectoral fin.

DISTRIBUTION: Mediterranean: entered eastern basin from the Red Sea through the Suez Canal. Indo-Pacific: widespread from the African coasts and the Red Sea eastward to Indonesia, the Philippines and southern Japan, southwards to Papua New Guinea and northern Australia.

Kawakawa

Euthynnus affinis



Euthynnus affinis (Cantor, 1849)

SIZE: Max L about 100 cm (fork length)

FAO NAMES: *Eng* Kawakawa

Esp Bacoreta oriental

MAIN CHARACTERISTICS:

A. A larger keel between two smaller keels on each side of caudal peduncle; **B.** separation between dorsal fins very short; **C.** teeth on vomer absent; **D.** some black rounded spots, variable in number and brightness, are present on flanks, between pectoral and pelvic fins; dark, oblique, broken lines above lateral line.

DISTRIBUTION: Indo-Pacific: from South Africa to Indonesia, Japan, northern Australia and Hawaii, as well as the Red Sea.

Mackerel

Scomber scombrus, *Scomber australasicus*, *Scomber japonicus*



Scomber scombrus (Linnaeus, 1758)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Atlantic mackerel

Esp Caballa del Atlántico

MAIN CHARACTERISTICS:

A. Two small keels on each side of caudal peduncle; **B.** adipose eyelids cover front and rear of eye; **C.** space between end of first dorsal fin groove and origin of second dorsal fin is greater than length of groove, about 1.5 times as long; **D.** transversal blackish lines dorsally, reaching below lateral line ventrally; belly white, unmarked.

DISTRIBUTION: Mediterranean: common. Northern Atlantic: common, present (east) from Norway to Western Sahara and (west) from Labrador (Canada) to North Carolina (United States).



Scomber japonicus (Houttuyn, 1782)

SIZE: Max L 50 cm (fork length)

FAO NAMES: *Eng* Chub mackerel

Esp Estornino

MAIN CHARACTERISTICS:

A. Two keels on each side of caudal peduncle; **B.** adipose eyelids cover front and rear of eye; **C.** space between end of first dorsal fin groove and origin of second dorsal fin about equal to or less than length of groove; distance from tenth dorsal spine to origin of second dorsal fin less than distance between first and last spine; **D.** back bears narrow lines which zigzag and undulate.

DISTRIBUTION: Indo-Pacific: from the Cape of Good Hope (South Africa) to the Red Sea and northern Indian Ocean; present also from China to Japan and the Philippines.



Scomber australasicus (Cuvier 1832)

SIZE: Max L 44 cm (fork length)

FAO NAMES: *Eng* Blue mackerel

Esp Caballa pintoja

MAIN CHARACTERISTICS:

A. Two small keels on each side of caudal peduncle; **B.** adipose eyelids cover front and rear of eye; **C.** space between end of first dorsal fin groove and origin of second dorsal fin is approximately equal to length of groove; distance from tenth dorsal spine to origin of second dorsal fin is greater than distance between first to tenth spine; **D.** back bears narrow oblique lines which zigzag and undulate; belly is pearly white with thin, wavy, broken lines appearing as speckling.

DISTRIBUTION: Pacific: from New Zealand and Australia to Japan and China, Hawaiian and Mexican waters.

Macrouridae, fish of the family



Albatrossia pectoralis (Gilbert, 1892)

SIZE: Max L 210 cm

FAO NAMES: *Eng* Giant grenadier
Esp –

MAIN CHARACTERISTICS:

A. Snout low, slightly protruding beyond the mouth, without a spinous terminal scute; mouth large; **B.** chin barbel small.

DISTRIBUTION: North Pacific: from northern Japan to the Okhotsk and Bering seas, east to the Gulf of Alaska, south to northern Baja California (Mexico).



Coryphaenoides rupestris (Gunnerus, 1765)

SIZE: Max L 110 cm

FAO NAMES: *Eng* Roundnose grenadier
Esp Granadero de roca

MAIN CHARACTERISTICS:

A. A stout suborbital ridge from snout tip to near posteroventral angle of preopercle; snout broad, rounded; **B.** a small barbel on chin; **C.** upper jaw extends to posterior third of orbits or beyond; **D.** underside of head fully scaled.

DISTRIBUTION: Northeastern Atlantic: Iceland to Greenland southwards to North Africa (20° north). Northwestern Atlantic: from Greenland to Andros Island (the Bahamas).



Coryphaenoides acrolepis (Bean, 1884)

SIZE: Max L 104 cm

FAO NAMES: *Eng* Pacific grenadier
Esp –

MAIN CHARACTERISTICS:

A. A stout suborbital ridge from snout tip to near posteroventral angle of preopercle; snout prominent; **B.** a small barbel on chin; **C.** upper jaw extends to posterior third of orbits.

DISTRIBUTION: North Pacific: from Enoshima (Japan) northward to Okhotsk and Bering seas, south along North American coasts to northern Mexico.

Marlins – Sailfishes – Spearfish

Istiophoridae



Istiompax indica (Cuvier, 1832)

SIZE: Max L 465 cm (fork length)

FAO NAMES: *Eng* Black marlin

Esp Aguja negra

MAIN CHARACTERISTICS:

A. Anterior part of first dorsal fin lower than body depth; **B.** pectoral fins rigid, not able to be folded back against sides of body; **C.** lateral line single; **D.** colour dark blue dorsally, silvery-white ventrally; sometimes dark stripes on body.

DISTRIBUTION: Indo-Pacific: tropical and subtropical waters, occasionally entering temperate waters.



Istiophorus platypterus (Shaw, 1792)

SIZE: Max L 348 cm (fork length)

FAO NAMES: *Eng* Indo-Pacific sailfish

Esp Pez vela del Indo-Pacífico

MAIN CHARACTERISTICS:

A. First dorsal fin sail-like, much higher than maximum body depth; **B.** pelvic fin rays very long, almost reaching to anus; **C.** body dark blue dorsally, light blue splattered with brown laterally, and silvery-white ventrally; about twenty rows of longitudinal stripes on sides, each stripe composed of many light blue round dots.

DISTRIBUTION: Indo-Pacific: throughout tropical, subtropical, and sometimes temperate waters. Mediterranean: entered from Red Sea via Suez Canal.



Istiophorus albicans (Latreille, 1804)

SIZE: Max L 315 cm

FAO NAMES: *Eng* Atlantic sailfish

Esp Pez vela del Atlántico

MAIN CHARACTERISTICS:

A. Anterior part of first dorsal fin taller than body depth throughout most of its length; **B.** lateral line almost straight, curved above pectoral fin; **C.** pelvic fins very long, almost reaching to anus; **D.** colour blue-blackish dorsally, silvery-white on belly; presence on flanks of some twenty vertical lines made by several bluish spots.

DISTRIBUTION: Atlantic Ocean: throughout tropical and temperate waters, northward to the Gulf of Maine (United States) and the United Kingdom of Great Britain and Northern Ireland, southward to South America. Also present in the Mediterranean Sea.



Kajikia audax (Philippi, 1887)

SIZE: Max L 420 cm

FAO NAMES: *Eng* Striped marlin

Esp Marlin rayado

MAIN CHARACTERISTICS:

A. Anterior part of first dorsal fin taller than body depth, low posteriorly; **B.** lateral line single, almost straight, curved above pectoral fin; **C.** pelvic fins shorter than pectoral fins in larger specimens; **D.** colour dark-blue dorsally, silvery-white on belly; about 20 conspicuous vertical bluish stripes on body.

DISTRIBUTION: Indo-Pacific: throughout tropical, subtropical and temperate waters.



Makaira mazara (Jordan and Snyder, 1901)

SIZE: Max L 500 cm

FAO NAMES: *Eng* Indo-Pacific blue marlin

Esp Aguja azul del Indo-Pacífico

MAIN CHARACTERISTICS:

A. Anterior part of first dorsal fin lower than body depth;
B. pectoral fins not rigid, able to be folded back against sides of body; **C.** lateral line looped; **D.** colour blue dorsally, silvery-white ventrally, with about fifteen obscure vertical bars.

DISTRIBUTION: Indo-Pacific: throughout tropical, subtropical and sometimes temperate waters, common in equatorial waters.



Makaira nigricans (Lacépède, 1802)

SIZE: Max L 500 cm

FAO NAMES: *Eng* Blue marlin

Esp Aguja azul

MAIN CHARACTERISTICS:

A. Anterior part of first dorsal fin lower than body depth;
B. pectoral fins rigid, not able to be folded back against sides of body; **C.** lateral line not straight, lateral line system reticulated and difficult to see in large specimens; **D.** colour dark blue to chocolate brown dorsally, silvery-white ventrally, with several vertical bars consisting of pale blue spots on body.

DISTRIBUTION: Atlantic Ocean: throughout tropical and temperate waters.

Melanonidae, fish of the family



Melanonus zugmayeri (Norman, 1930)

SIZE: Max L 28 cm

FAO NAMES: *Eng* Arrowtail

Esp –

MAIN CHARACTERISTICS:

A. Two dorsal fins, second confluent with the pointed caudal fin; **B.** barbel on chin is absent; **C.** colour pale to dark brown.

DISTRIBUTION: Atlantic, Indian and Pacific: tropical and temperate waters (rare in the temperate northeast Atlantic).

Moridae, fish of the family



Mora moro (Risso, 1810)

Size: MAX L 80 cm

FAO NAMES *Eng* Common mora
Esp Mollera moranella

MAIN CHARACTERISTICS:

A. Two dorsal fins and one anal fin (deeply indented at mid-length) are present; **B.** a barbel is present on chin; **C.** pelvic fins with one or two rays longer than the others; caudal fin margin concave; **D.** eye diameter greater than snout length; **E.** narrow caudal peduncle; **F.** colour greyish, tawny-greyish.

DISTRIBUTION: Mediterranean: infrequent. Eastern Atlantic: from Iceland to Western Sahara. Pacific: Southern Australia and New Zealand.



Pseudophycis bachus (Forster, 1801)

Size: MAX L 90 cm

FAO NAMES *Eng* Red codling
Esp Brotolilla

MAIN CHARACTERISTICS:

A. Two dorsal fins (the second long based) and one long-based anal fin (not greatly indented) are present; **B.** a barbel is present on chin; **C.** five to six pelvic fin rays, two somewhat elongated; caudal fin margin rounded or truncated; **D.** colour chiefly reddish-pink shading to paler ventrally; black spot at base of pectoral fin; vertical fins with dark margins.

DISTRIBUTION: Southwest Pacific: New Zealand and Australia (from Sydney to Adelaide) and around Tasmania.

Muraenolepididae, fish of the family



***Muraenolepis* spp.** (Günther, 1880)

SIZE: Max L 40 cm

FAO NAMES: *Eng* Moray cods nei
Esp Gadimorenas nep

MAIN CHARACTERISTICS:

A. Two dorsal fins are present, first dorsal with a single ray; single anal fin; dorsal, caudal and anal fins joined together;

B. chin with barbel; **C.** colour greyish-brown to reddish, often with iridescent reflections.

DISTRIBUTION: Restricted to the cold-temperate waters of the southern Hemisphere.

Nile perch

Lates niloticus



Lates niloticus (Linnaeus, 1758)

SIZE: Max L 200 cm

FAO NAMES: *Eng* Nile perch

Esp Perca del Nilo

MAIN CHARACTERISTICS:

A. Mouth subterminal, lower jaw protruding and upper jaw extended to or beyond posterior margin of eye; **B.** posterior margin of preopercle finely serrated, its lower margin displays three to four stocky spines; **C.** colour tawnyish, dark greyish or green-olive uniformly dorsally, lighter silvery ventrally.

DISTRIBUTION: Widespread in inland waters in Africa: rivers Nile, Senegal, Volta, Congo, Niger; lakes Chad, Rudolph, Albert and Abaja; introduced in Lake Victoria; found almost everywhere in West Africa, except in the Gambia.

Pacific bluefin tunas

Thunnus orientalis



Thunnus orientalis (Temminck and Schlegel, 1844)

SIZE: Max L 350 cm (fork length)

FAO NAMES: *Eng* Pacific bluefin tuna

Esp Atún aleta azul del Pacífico

MAIN CHARACTERISTICS:

A. Pectoral fin very short (less than 80 percent of head length, 16.8 percent to 21 percent of fork length), never reaching interspace between the dorsal fins; **B.** finlets yellowish-gray with black borders; **C.** lateral caudal peduncle keel is black in adults.

DISTRIBUTION: North Pacific: from Gulf of Alaska to southern California and Baja California (Mexico) and from Sakhalin Island in the southern Sea of Okhotsk south to northern Philippines. Off Western Australia, Gulf of Papua and New Zealand waters.

Pacific salmon

Oncorhynchus gorbuscha, *Oncorhynchus keta*, *Oncorhynchus tshawytscha*, *Oncorhynchus kisutch*, *Oncorhynchus masou*, *Oncorhynchus rhodurus*



Oncorhynchus gorbuscha (Walbaum, 1792)

SIZE: Max L 76 cm

FAO NAMES: *Eng* Pink (= humpback) salmon
Esp Salmón rosado

MAIN CHARACTERISTICS:

A. Elongate black spots dorsally, on upper flanks, on adipose fin and on both lobes of caudal fin (oval-shaped, some of them big as eye); **B.** colour steel blue, green blue dorsally, silvery on flanks, white-silvery ventrally (marine specimens).

DISTRIBUTION: Anadromous species. Pacific and tributary rivers: California to the Strait of Bering and the Sea of Japan. Arctic Ocean: from the Strait of Bering to the Mackenzie River and the Kola Peninsula (the White Sea). Europe: introduced several times in the White Sea and in the Sea of Barents.



Oncorhynchus kisutch (Walbaum, 1792)

SIZE: Max L 108 cm

FAO NAMES: *Eng* Coho (= silver) salmon
Esp Salmón plateado

MAIN CHARACTERISTICS:

A. Rounded black spots dorsally, on upper flanks, on base of dorsal fin and on upper lobe of caudal fin (a few scattered spots); **B.** steel blue, with green highlights dorsally, bright silvery on flanks, white-silvery ventrally (marine specimens); white gums at the base of the teeth.

DISTRIBUTION: Anadromous species. Western Pacific and tributary rivers: from Chamalu Bay in Baja California (Mexico) to northwestern Alaska and from the northern Sea of Japan (Hokkaido) to the Anadyr River. Europe: southern France.



Oncorhynchus keta (Walbaum, 1792)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Chum (= Keta= Dog) salmon
Esp Keta

MAIN CHARACTERISTICS:

A. Absence of evident black spots on back, flanks and fins; back and flanks may display blackish dots; margins of caudal, anal and pectoral fins display black shadings; **B.** colour steel blue dorsally and on upper portion of head; silvery on flanks, white-silvery on belly (marine specimens).

DISTRIBUTION: Anadromous species. North Pacific and tributary rivers: from Sacramento River (United States) to the Bering Sea and the Ohotsk Sea, southwards to the Korean Peninsula and the Sea of Japan. Arctic Ocean: from Mackenzie River to the Lena River. Introduced in New Zealand and the Islamic Republic of Iran.



Oncorhynchus masou masou (Brevoort, 1856)

SIZE: Max L 79 cm

FAO NAMES: *Eng* Masu (= cherry) salmon
Esp Salmón japonés

MAIN CHARACTERISTICS:

A. Small dark spots dorsally and on upper flanks, on adipose fin and on proximal part of dorsal and caudal fins; **B.** colour steel blue dorsally, silvery on flanks, white-silvery ventrally (marine specimens).

DISTRIBUTION: Northern Pacific and surrounding rivers. Present along the coasts of Japan and the Korean Peninsula.



Oncorhynchus rhodurus (Jordan and McGregor, 1925)

(considered a subspecies of *O. masou*: *O. masou rhodurus*)

SIZE: Max L up to 70 cm

FAO NAMES: *Eng* –

Esp –

Japanese Biwamasu

MAIN CHARACTERISTICS:

A. Matching those of *Oncorhynchus masou masou*.

DISTRIBUTION: Anadromous species endemic to Lake Biwa in Shiga Prefecture (Japan), introduced to Lake Ashi and Lake Chūzenji.



Oncorhynchus tshawytscha (Walbaum, 1792)

SIZE: Max L 150 cm

FAO NAMES: *Eng* Chinook (= spring= king) salmon

Esp Salmón real

MAIN CHARACTERISTICS:

A. Some rounded small-sized black spots present on back, head, upper flanks and on fins, particularly on both lobes of caudal fin (more numerous in dorsal lobe anyway); **B.** colour dark greenish to blue-black, with golden highlights dorsally and on upper flanks, silvery on flanks, white-silvery on belly (marine specimens); inside of mouth completely black.

DISTRIBUTION: Anadromous species. Northern Pacific and tributary rivers: from California to northwestern Alaska (United States), from northern Japan (Hokkaido Island) to Anadyr River as well as the Sea of Japan. Arctic Ocean and tributaries. New Zealand.

Pacific saury

Cololabis spp.



Cololabis saira (Brevoort, 1856)

SIZE: Max L 40 cm (standard length)

FAO NAMES: *Eng* Pacific saury

Esp Paparda del Pacífico

MAIN CHARACTERISTICS:

A. Posterior dorsal and anal fins modified into finlets; caudal fin broadly and finely forked; **B.** both jaws pointed, short and stout; **C.** colour dark green to blue on dorsal surface, silvery below, with small bright blue blotches distributed haphazardly on sides.

DISTRIBUTION: North Pacific: from the Korean Peninsula and Japan eastward to Gulf of Alaska and southward to Mexico.

Rays – Skates

Rajidae



Dipturus innominatus (Garrick and Paul, 1974)

SIZE: Max L 240 cm

FAO NAMES: Eng New Zealand smooth skate

Esp –

MAIN CHARACTERISTICS:

A. Smooth skin (except in large specimens); **B.** snout pointed; tail thin with one to three rows of spines; **C.** dorsal face is greyish to greyish-brown with large darker, regularly-spaced spots or blotches; ventral face is lighter grey to white in colour.

DISTRIBUTION: Southwest Pacific: waters of New Zealand.



Leucoraja naevus (Müller and Henle, 1841)

SIZE: Max L 71 cm

FAO NAMES: Eng Cuckoo ray

Esp Raya santiguosa

MAIN CHARACTERISTICS:

A. Rhomboidal disc, wider than long, apices of pectoral fins are rounded and anterior margins are sinuous; snout has short and pointed rostrum; **B.** dorsal face is light grey-tawnyish, okra; a large black ocellus with yellowish spots and veins on each pectoral fin; ventral face is whitish.

DISTRIBUTION: Mediterranean: very rare in eastern basin. Eastern Atlantic: common in northwestern European waters, present from Shetland Islands, North Sea, Ireland and Kattegat southwards to northern Morocco and Senegal.



Dipturus oxyrinchus (Linnaeus, 1758)

SIZE: Max L 150 cm

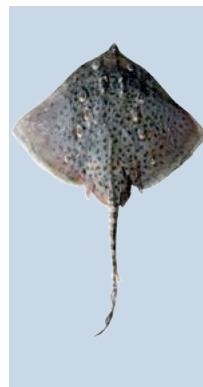
FAO NAMES: Eng Longnosed skate

Esp Raya picuda

MAIN CHARACTERISTICS:

A. Rhomboidal disc, apices of pectoral fins acute, anterior margins are clearly concave, snout very long and pointed; snout is one-third longer than disc width; **B.** a median series of 4 to 11 atrophic spines is present on tail; **C.** dorsal face is light brown, dusky brown, grey; presence of many light spots (more or less distinct) and black dots; ventral face is dark brown to blue-grey (lighter in young).

DISTRIBUTION: Mediterranean: infrequent. Eastern Atlantic: from Faroe Islands, Shetland Islands, Norway, North Sea and Skagerrak to Senegal and Madeira.



Raja clavata (Linnaeus, 1758)

SIZE: Max L 105 cm

FAO NAMES: Eng Thornback ray

Esp Raya de clavos

MAIN CHARACTERISTICS:

A. Rhomboidal disc, wider than long, lateral angles pointed and anterior margins almost straight; snout short, rostrum short and a bit obtuse; **B.** skin entirely spiny (back), more or less spiny ventrally, adults display big curved spines on large plates; **C.** dorsal face is highly variable, marble-veined or uniformly grey-tawnyish, with blackish or black-yellowish spots; ventral face is whitish.

DISTRIBUTION: Mediterranean and Black Sea. Eastern Atlantic: from Scandinavia and Iceland to Morocco and Namibia.



Raja miraletus (Linnaeus, 1758)

SIZE: Max L 63 cm

FAO NAMES: *Eng* Brown ray
Esp Raya de espejos

MAIN CHARACTERISTICS:

A. Rhomboidal disc, wider than long, anterior margins almost straight, lateral angles quite pointed; snout and rostrum short, protruding and pointed; **B.** dorsal skin smooth (with the exception of snout and anterior margin of disc); **C.** dorsal face is yellow-tawnyish, covered in greyish spots; a large ocellus with blue centre, surrounded by two concentric rings on each pectoral fin, the outer one is yellow-orange; ventral face is whitish.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Gulf of Gascoigne to South Africa.



Raja undulata (Lacepède, 1802)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Undulate ray
Esp Raya mosaica

MAIN CHARACTERISTICS:

A. Rhomboidal disc, wider than long, anterior margins sinuous; snout short, rostrum is just visible; **B.** dorsal skin covered in spines with the exception of pelvic fins and of some areas in posterior and central parts of disc; **C.** dorsal face is grey-tawnyish, okra, several black-tawnyish wavy bands are present, they display rounded white spots at their edges; ventral face is whitish and tail end is grey-tawnyish.

DISTRIBUTION: Mediterranean: rare. Eastern Atlantic: from southern Ireland and the United Kingdom of Great Britain and Northern Ireland, southwards to Senegal.



Raja radula (Delaroche, 1809)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Rough ray
Esp –

MAIN CHARACTERISTICS:

A. Rhomboidal disc, wider than long, anterior margins just sinuous; snout short and obtuse, rostrum is just visible; **B.** skin covered in several spines on back; a median series of several small spines extended from nape to first dorsal fin; **C.** dorsal face is grey-tawnyish, grey-yellowish, with several whitish spots and wavy black or tawny-blackish transverse bands; a large ocellus with a large black centre or black-tawnyish centre circled by a large yellowish ring on each pectoral fin.

DISTRIBUTION: Mediterranean: present everywhere. Eastern Atlantic: present along the coast of northern Morocco.



Zearaja nasuta (Müller and Henle, 1841)

SIZE: Max L 118 cm

FAO NAMES: *Eng* New Zealand rough skate
Esp –

MAIN CHARACTERISTICS:

A. Rhomboidal disc, wider than long, apices of pectoral fins are acute and anterior margins are sinuous; rough skin; snout has an elongate and pointed rostrum; **B.** relatively broad tail with three rows of conical spines; **C.** dorsal face is brown, mottled with pale and darker spots, occasionally with an ocellus of uniform tawny-blackish tone present on each pectoral fin; ventral face whitish.

DISTRIBUTION: Southwest Pacific: waters of New Zealand.

Salmonidae

***Brachymystax lenok*** (Pallas, 1773)**SIZE:** Max L up to 100 cm**FAO NAMES:** *Eng* Lenok
Esp Sharp-nosed lenok**MAIN CHARACTERISTICS:**

A. Mouth small, terminal, with the upper jaw longer than the inferior, tapered and narrow head and sharp snout; **B.** jaws hinge below orbit; **C.** colour golden (juveniles) to reddish-brown (adults) with numerous black dots; in juveniles there are dark parr marks on flanks, in adults red to purple blotches.

DISTRIBUTION: Freshwater species. Asia: widespread in inland waters of Siberia, the Korean Peninsula and north China (Amur Basin).

***Coregonus autumnalis*** (Pallas, 1776)**SIZE:** Max L 65 cm (standard length)**FAO NAMES:** *Eng* Cuckoo ray
Esp Raya santiguosa**MAIN CHARACTERISTICS:**

A. Mouth terminal with upper and lower jaws of equal size; snout short; maxilla extends to below the middle of the eye; **B.** first gill arch with 41 to 48 gill rakers; **C.** colour silvery with greenish to brownish hues on the back becoming silver or whitish ventrally; fins pale or with very light dusting of pigment.

DISTRIBUTION: Freshwater and marine species. Europe: almost all drainages of Arctic Ocean in Eurasia from Mezen eastward. North America: from Cape Barrow to Coronation Bay. Introduced in many rivers and lakes of the Russian Federation – inland waters, FAO Major Fishing Area 07.

***Coregonus albula*** (Linnaeus, 1758)**SIZE:** Max L 48 cm**FAO NAMES:** *Eng* Vendace
Esp Corégono blanco**MAIN CHARACTERISTICS:**

A. Head length 20 percent to 25 percent standard length; mouth superior with upper jaw shorter than lower one; **B.** first gill arch with 34 to 52 gill rakers; **C.** colour bluish to dark green on back, silvery ventrally; dorsal, anal and caudal fins with darker outer edges.

DISTRIBUTION: Freshwater, anadromous and marine species. Europe: Baltic basin, lakes of upper Volga drainage, White sea and North Sea basin, northern Finland; anadromous in Gulf of Finland and marine in northernmost part of Gulf of Bothnia.

***Coregonus clupeaformis*** (Mitchill, 1818)**SIZE:** Max L possibly 125 cm**FAO NAMES:** *Eng* Lake (= common) whitefish
Esp Coregono de lago**MAIN CHARACTERISTICS:**

A. Head with concave dorsal profile; usually a hump behind the head in adult; snout rounded, mouth subterminal; upper jaw extending to anterior margin of eye; upper lip vertical or overhanging; **B.** first gill arch with 23 to 37 gill rakers; **C.** colour olive green to olive blue dorsally, silvery laterally; fins are clear to black tipped.

DISTRIBUTION: Freshwater species. North America: from Alaska and most of Canada southward to New England, the Great Lakes basin, and central Minnesota (United States); introduced into high Andean lakes in southern Latin America.



Coregonus maraena (Bloch, 1779)

SIZE: Max L 130 cm

FAO NAMES: *Eng* Maraena whitefish
Esp –

MAIN CHARACTERISTICS:

A. Snout elongate at least in males; mouth small, inferior; upper jaw reaching below the anterior part of eye; **B.** 20 to 36 total gill rakers on first gill arch; **C.** back is dark with a greenish or blue-green tinge, becoming whitish on belly; fins are usually gray with a darker edge; tip of the snout is often dark.

DISTRIBUTION: Freshwater, anadromous and landlocked species. Baltic basin: Swedish coast; in southern Baltic from the Schlei to Gulf of Finland. Southeast North Sea basin. Landlocked in several lakes in Poland, Sweden and Russian Federation.



Coregonus nasus (Pallas, 1776)

SIZE: Max L 61 cm (standard length)

FAO NAMES: *Eng* Broad whitefish
Esp –

MAIN CHARACTERISTICS:

A. Head profile rounded anteriorly; adults without a distinct hump behind the head; snout short, stout, with hump at level of nostrils; mouth inferior; profile of the upper lip vertical or overhanging; **B.** 18 to 25 total gill rakers on first gill arch; **C.** colour olive brown to almost black dorsally, white to yellowish on belly.

DISTRIBUTION: Freshwater, estuarine anadromous species. Eurasia and North America: distributed throughout Arctic and Bering Sea drainages from Volonga and Pechora to Alaska.



Coregonus migratorius (Georgi, 1775)

SIZE: Max L 56 cm

FAO NAMES: *Eng* –
Esp –
Russian Omul

MAIN CHARACTERISTICS:

A. Body slender; mouth terminal; large eye; **B.** 35 to 55 total gill rakers on first gill arch; **C.** colour darker dorsally, whitish ventrally.

DISTRIBUTION: Freshwater species. Asia: Lake Baikal in northern Siberia. Also enters the tributaries Kichera, Verkhnyaya Anagara, Chivyrkui, Barguzin and Selenga.



Coregonus sardinella (Valenciennes, 1848)

SIZE: Max L 47 cm

FAO NAMES: *Eng* Sardine cisco
Esp –

MAIN CHARACTERISTICS:

A. Head length 18 percent to 20 percent standard length; mouth superior with the lower jaw projecting beyond the upper jaw; maxilla extends to below the anterior half of eye **B.** 41 to 53 total gill rakers on first gill arch; **C.** colour brown-blackish to dark green hues on back, silver on sides becoming whitish on belly; pelvic fins are dusky or black in adults.

DISTRIBUTION: Freshwater, lacustrine and semi-anadromous species. Arctic Ocean basin: from Pechora drainage to eastern Siberia; North America eastward to Bathurst (Canada).



Coregonus ussuriensis (Berg, 1906)

SIZE: Max L 60 cm

FAO NAMES: Eng Amur whitefish

Esp –

MAIN CHARACTERISTICS:

A. Upper jaw large and broad, protruding above the lower jaw; **B.** 25 to 30 total gill rakers on first gill arch; **C.** colour greyish-green on back, silver on sides becoming whitish on belly; adipose and caudal fins slightly tinged with pale yellow; pectoral, pelvic and caudal fins greyish-yellow.

DISTRIBUTION: Freshwater, anadromous and marine species. Asia: endemic to the Amur basin, lives in Amur River, in Zeya River, Ussuri River, Lake Khanka, Amur estuary, lakes of Sakhalin and in southern Sea of Okhotsk.



Salvelinus alpinus (Linnaeus, 1758)

SIZE: Max L 107 cm

FAO NAMES: Eng Arctic char

Esp Trucha alpina

MAIN CHARACTERISTICS:

A. Body fusiform, depth about 16 percent to 20 percent standard length; **B.** maxillary extending to posterior margin of eye or beyond it; **C.** colour steel blue, greenish or grey-silvery dorsally, lighter on flanks, white-yellowish ventrally; several rosy, white or yellowish spots on back and flanks; when spawning, lower flanks, belly and anal fin as well as paired fins become orange or red orange.

DISTRIBUTION: Anadromous species in northernmost areas of distribution; sedentary in freshwaters of other areas. Present in the northernmost areas of Europe (also in Alpine areas), Asia and United States.



Salvelinus malma (Walbaum, 1792)

SIZE: Max L 127

FAO NAMES: Eng Dolly varden

Esp Salvelino

MAIN CHARACTERISTICS:

A. Usually 20 to 24 total gill rakers on first gill arch; **B.** numerous very small (smaller than eye diameter) white spots are present on the back and sides, orange to red spots scattered on side; **C.** colour of non-spawning anadromous fish is olive green on the back, becoming silver or white on belly.

DISTRIBUTION: Freshwater, anadromous species. Arctic and Northwest to Northeast Pacific: Hokkaido (Japan) and from the eastern Korean Peninsula through the Okhotsk and Bering Seas to Canada and northeastern United States.



Salvelinus namaycush (Walbaum, 1792)

SIZE: Max L 150 cm

FAO NAMES: Eng Lake trout (= char)

Esp –

MAIN CHARACTERISTICS:

A. Sixteen to 26 total gill rakers on first gill arch; **B.** numerous irregular pale (whitish, rarely orange) markings are present over the whole body with the exception of the throat, belly and paired fins; red spots are absent; **C.** colour ranges from silver to olive to a greenish-grey or a black or brownish-grey, the back is usually darker.

DISTRIBUTION: Freshwater, anadromous species. North America: from northern Canada and Alaska southward to New England (United States) and Great Lakes basin (Canada/ United States); introduced to many areas outside its native range.



Thymallus arcticus (Pallas, 1776)

SIZE: Max L 76 cm

FAO NAMES: *Eng* Arctic grayling

Esp Tímalo ártico

MAIN CHARACTERISTICS:

A. Mouth terminal; maxilla reaching middle of eye, which is rather small; **B.** 14 to 22 (usually 16 to 17) total gill rakers on first gill arch; **C.** colour purple-blue to blue-grey dorsally, silvery-grey to blue on sides with a scattering of dark spots, red spots on body; dorsal fin with several rows of multicoloured spots.

DISTRIBUTION: Freshwater species, widespread in Arctic Ocean basin, in lakes and streams throughout Alaska and northern Canada, in Siberia from Ob to Yenisei drainages, in Europe in some tributaries of Pechora, Korotaikha and Kara rivers.

Sardinella

Sardinella spp.



Sardinella aurita (Valenciennes, 1847)

SIZE: Max L 41 cm

FAO NAMES: *Eng* Round sardinella
Esp Alacha

MAIN CHARACTERISTICS:

A. Pelvic fin with nine rays; **B.** lower gill rakers fine and numerous, more than 80; **C.** colour blue-greenish dorsally, silvery on flanks and ventrally, golden line between dorsum and flanks and black spot on hind part of operculum.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Portugal to Angola and South Africa. Western Atlantic: from Massachusetts (United States) to Argentina. Western Pacific: from the Philippines to Japan.



Sardinella gibbosa (Bleeker, 1849)

SIZE: Max L 29.6 cm

FAO NAMES: *Eng* Goldstripe sardinella
Esp Sardinela dorada

MAIN CHARACTERISTICS:

A. Pelvic fin with eight rays; **B.** 40 to 68 lower gill rakers on first arch; **C.** colour blue-green dorsally, silvery on flanks and ventrally; tip of dorsal fin and margin of caudal fin dusky, remainder of caudal fin very faintly yellow.

DISTRIBUTION: Indian Ocean: northern and western parts, Gulf of Aden, Gulf of Oman, eastward to southern part of India, on eastern coast to Andhra; possibly to the Andaman Islands.



Sardinella brasiliensis (Steindachner, 1879)

SIZE: Max L 27 cm

FAO NAMES: *Eng* Brazilian sardinella
Esp Sardinela del Brasil

MAIN CHARACTERISTICS:

A. Pelvic fin with eight rays; **B.** anterior gill rakers on the lower limbs of the second and third gill arches very strongly curled downward; **C.** colour bluish-black dorsally, silvery on flanks and ventrally; a thin golden stripe between back and flanks.

DISTRIBUTION: Western Atlantic: from Gulf of Mexico, Caribbean, West Indies southward to Brazil and northern Uruguay.



Sardinella lemuru (Bleeker, 1853)

SIZE: Max L 23 cm (standard length)

FAO NAMES: *Eng* Bali sardinella
Esp Sardinela de Bali

MAIN CHARACTERISTICS:

A. Pelvic fin with nine rays; **B.** 77 to 188 lower gill rakers on first gill arch; **C.** colour dark blue dorsally, silvery-white ventrally, head yellowish-silver; a faint golden spot behind gill opening, followed by a faint golden midlateral line; a black spot at posterior border of operculum; dorsal, pectoral and anal fins yellowish-white, pelvic whitish, caudal greyish with a black tip.

DISTRIBUTION: Eastern Indian Ocean: Phuket, Thailand; southern coasts of East Java and Bali and Western Australia. Western Pacific: from Java Sea, the Philippines, China, Hong Kong SAR, Taiwan Province of China to southern Japan and the Korean Peninsula.



Sardinella longiceps (Valenciennes, 1847)

SIZE: Max L 23 cm (standard length)

FAO NAMES: *Eng* Indian oil sardine
Esp Sardinela aceitera

MAIN CHARACTERISTICS:

A. Pelvic fin with nine rays; **B.** lower gill rakers fine and numerous, 150 to 255; **C.** colour blue-green dorsally, silvery on flanks and ventrally; a black spot on hind edge of operculum (absence of underlying silver pigment) and a golden patch on body behind it; gold also on upper part of preopercle; dorsal fin tip dusky, bases of caudal fin lobes and margin of fin dusky.

DISTRIBUTION: Indian Ocean: northern and western parts, Gulf of Aden, Gulf of Oman, eastward to southern part of India, on eastern coast to Andhra; possibly to the Andaman Islands.



Sardinella maderensis (Lowe, 1838)

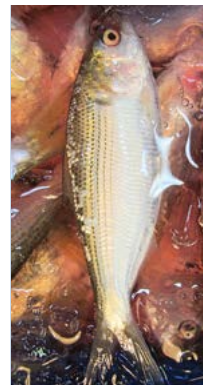
SIZE: Max L 30 cm (standard length)

FAO NAMES: *Eng* Madeiran sardinella
Esp Machuelo

MAIN CHARACTERISTICS:

A. Pelvic fin with eight rays; **B.** 70 to 166 lower gill rakers on first gill arch; **C.** colour blue-green dorsally, silvery-white ventrally, a faint gold midlateral line, preceded by a gold, green or faint black spot on body posterior to operculum; pectoral fin black between white fin rays in upper part, caudal fin dark grey, caudal-fin tips black; no black spot on hind part of operculum.

DISTRIBUTION: Eastern Atlantic: from southeastern Spain southward to Angola (a single record from Namibia); Madeira (Portugal) and Canary Islands (Spain) where it is common. Southern Mediterranean and penetrating the Suez Canal.



Sardinella zunasi (Bleeker, 1854)

SIZE: Max L 25 cm

FAO NAMES: *Eng* Japanese sardinella
Esp Sardinela del Japón

MAIN CHARACTERISTICS:

A. Pelvic fin with eight rays; **B.** 48 to 57 lower gill rakers on first gill arch; **C.** colour dark blue dorsally with yellowish shades, silvery-white ventrally, head yellowish-silver with a blackish spot behind the operculum on the lateral line; caudal fin greyish-yellowish.

DISTRIBUTION: Western Pacific: from southern coasts of Japan (Honshu) southward to Taiwan Province of China.

Sardines

Sardina pilchardus, *Sardinops* spp.



Sardina pilchardus (Walbaum, 1792)

SIZE: Max L 27.5 cm (standard length)

FAO NAMES: *Eng* European pilchard (= sardine)

Esp Sardina europea

MAIN CHARACTERISTICS:

A. Lower opercle displays three to five small bony ridges heading towards subopercle; **B.** dorsal fin originates more closely to snout than to the origin of the caudal fin; **C.** colour green-azure, green-olive dorsally, white-silvery ventrally, sometimes upper flanks display a series of little black blurred spots.

DISTRIBUTION: Mediterranean and Black Sea. Northern Atlantic: common, from Iceland (rarely) to the North Sea southwards to Senegal.



Sardinops sagax (Jenyns, 1842)

SIZE: Max L 39.5 cm (standard length)

FAO NAMES: *Eng* South American pilchard

Esp Sardina sudamericana

MAIN CHARACTERISTICS:

A. Opercle displays radiating bony striae; **B.** dorsal fin originates more closely to snout than to the origin of the caudal fin; **C.** colour blue-green dorsally, silvery-white on belly; presence on flanks of one to three series of dark spots.

DISTRIBUTION: Indo-Pacific: from southern Africa to Australia, Peru, Chile, California (United States) and Japan.

Scads

Decapterus spp.



Decapterus macarellus (Cuvier, 1833)

SIZE: Max L 46 cm

FAO NAMES: *Eng* Mackerel scad
Esp Macarela caballa

MAIN CHARACTERISTICS:

A. Anterior part of lateral line only slightly arched; 24 to 40 scutes only along posterior half of straight part of lateral line; **B.** predorsal scales extending forward to anterior margin of pupil.

DISTRIBUTION: Circumtropical species. Western Atlantic: from Nova Scotia (Canada) and Bermuda to Brazil (Rio de Janeiro). Eastern Atlantic: from St Helena, Ascension, Cabo Verde, Azores, Madeira to Gulf of Guinea. Indo-West Pacific: from the Red Sea and South Africa to the Marquesas Islands, north to southern Japan, south to Australia.



Decapterus maruadsi (Temminck and Schlegel, 1843)

SIZE: Max L 30 cm

FAO NAMES: *Eng* Japanese scad
Esp Macarela japonesa

MAIN CHARACTERISTICS:

A. Thirty to 37 scutes are present along entire straight part of lateral line; **B.** predorsal scales extending to above front margin of pupil; **C.** all fins pale yellow; tips of anterior rays of second dorsal fin white.

DISTRIBUTION: Western Pacific: from southern Japan to the East China Sea and to the Mariana Islands.



Decapterus macrosoma (Bleeker, 1851)

SIZE: Max L 35 cm

FAO NAMES: *Eng* Shortfin scad
Esp Macarela alicorta

MAIN CHARACTERISTICS:

A. Straight part of lateral line with 14 to 29 scales; 24 to 40 scutes are present only along posterior three quarters of straight part; **B.** predorsal scales extending to above posterior margin of eye, not forward to beyond posterior margin of pupil.

DISTRIBUTION: Indo-West Pacific: widely distributed from East Africa to Hawaii, including Japan and Australia. Absent from the Persian Gulf. Eastern Central Pacific: from the west coast of Baja California (Mexico) to Peru, including the southern two thirds of the Sea of Cortez.



Decapterus punctatus (Cuvier, 1829)

SIZE: Max L 30 cm

FAO NAMES: *Eng* Round scad
Esp Macarela chuparaco (= surela)

MAIN CHARACTERISTICS:

A. Thirty-two to 46 scutes are present along entire straight part of lateral line; **B.** posterior end of upper jaw concave dorsally, rounded and expanded below; **C.** 1 to 14 small black spots, centred on scales, on curved part of lateral line (rather arched).

DISTRIBUTION: Western Atlantic: from Nova Scotia (Canada) to Rio de Janeiro (Brazil), including the Gulf of Mexico and the Caribbean. Eastern Atlantic: from Morocco and Madeira (Portugal) to South Africa, including the Canary Islands (Spain), Cabo Verde, Ascension and St Helena islands.



Decapterus russelli (Rüppell, 1830)

SIZE: Max L 45 cm

FAO NAMES: *Eng* Indian scad

Esp Macarela indica

MAIN CHARACTERISTICS:

A. Straight part of lateral line with 0 to 4 scales and 30 to 40 scutes; **B.** predorsal scales not extending to middle of eye;

C. posterior end of upper jaw squarish.

DISTRIBUTION: Indo-West Pacific: widely distributed from East Africa to Australia, including Japan and Arafura Sea.

Seabass

Dicentrarchus spp.



Dicentrarchus labrax (Linnaeus, 1758)

SIZE: Max L 103 cm

FAO NAMES: *Eng* European seabass

Esp Lubina

MAIN CHARACTERISTICS:

A. Body oblong, slightly compressed; **B.** two dorsal fins very close together but not contiguous are present; **C.** colour grey-greenish dorsally, silvery on flanks and whitish ventrally, a small dark spot is present on upper opercular margin, small blackish spots are present in juveniles.

DISTRIBUTION: Mediterranean: common in the whole basin (also present but rare in the Black Sea) where it is farmed intensively. Eastern Atlantic: present from Norway to Senegal.



Dicentrarchus punctatus (Bloch, 1792)

SIZE: Max L 70 cm

FAO NAMES: *Eng* Spotted seabass

Esp Baila

MAIN CHARACTERISTICS:

A. Body oblong, slightly compressed; **B.** two dorsal fins very close together but not contiguous are present; **C.** colour black-bluish dorsally, silvery on flanks and whitish ventrally, an evident dark spot is present on upper opercular margin, blackish spots are present all over the body.

DISTRIBUTION: Mediterranean: southern basin only. Eastern Atlantic: from the English Channel (rarely) to Senegal, including the Canary Islands (Spain).

Seabream

Sparidae



Acanthopagrus australis (Günther, 1859)

SIZE: Max L 75 cm

FAO NAMES: *Eng* Surf bream
Esp –

MAIN CHARACTERISTICS:

A. Both jaws with moderately compressed teeth in front, followed by several rows of molar-like teeth; **B.** upper profile of head straight (sometimes a bulge above eye is present); **C.** margin of soft-rayed part of anal fin nearly straight; **D.** pelvic, anal and ventral part of caudal fins are yellowish.

DISTRIBUTION: Only in eastern Australian waters, from Townsville (Queensland) south to the Gippsland Lakes in Victoria.



Argyrops spinifer (Forsskål, 1775)

SIZE: Max L 70 cm

FAO NAMES: *Eng* King soldier bream
Esp Sargo real

MAIN CHARACTERISTICS:

A. Profile of snout is steep, an evident hump on nape in very large adults; **B.** at least third to fifth, sometimes to seventh, dorsal spines elongate, filamentous (extended to caudal fin in juveniles); **C.** caudal fin not margined in black.

DISTRIBUTION: Indo-Pacific Ocean: widespread distributed from Red Sea to KwaZulu-Natal (South Africa), Indo-Malaysian region, Japan and northern Australia.



Acanthopagrus bifasciatus (Forsskål, 1775)

SIZE: Max L 50 cm

FAO NAMES: *Eng* Twobar seabream
Esp Sargo de dos bandas

MAIN CHARACTERISTICS:

A. Both jaws with moderately compressed teeth in front, followed by several rows of molar-like teeth; **B.** two typical black vertical bands on head; **C.** pectoral, dorsal, caudal fins and snout are canary yellow; **D.** anal and pelvic fins are blackish.

DISTRIBUTION: Indian Ocean: from Red Sea to KwaZulu-Natal (South Africa) to Indo-Malaysian region (typical coral reef species).



Cheimerius nufar (Valenciennes, 1830)

SIZE: Max L 75 cm

FAO NAMES: *Eng* Santer seabream
Esp Dentón nufar

MAIN CHARACTERISTICS:

A. Molariform teeth are absent; outer teeth canines, some enlarged in front of jaws; **B.** first two dorsal spines are short, third and seventh elongated, shorter in adults; **C.** gill rakers 13 to 15 on lower limb of first arch; **D.** six dark pink bars across head (through eye) and body in juveniles; caudal fin margin is blackish.

DISTRIBUTION: Western Indian Ocean: from Red Sea south to Mossel Bay (South Africa) and east to India and Sri Lanka. Eastern Atlantic: along the coast of South Africa.



Chrysoblephus gibbiceps (Valenciennes, 1830)

SIZE: Max L 75 cm

FAO NAMES: *Eng* Red stumpnose seabream

Esp Sargo cabezón

MAIN CHARACTERISTICS:

A. Enlarged canines in front of each jaw; a series of molars is present laterally, the outer the largest; **B.** body ovate, its depth 2 times to 2.4 times in standard length; a big hump on forehead in adult males, increasingly spongy and pitted with age; **C.** colour silvery-pink, darker above, with golden reflections; five to seven dark red vertical bars on side; numerous dark blotches on body.

DISTRIBUTION: Southeast Atlantic/Western Indian Ocean: from the Cape of Good Hope northward to KwaZulu-Natal (South Africa).



Chrysophrys auratus (Forster, 1801)

SIZE: Max L 130 cm

FAO NAMES: *Eng* Silver seabream

Esp Dorada del Pacífico

MAIN CHARACTERISTICS:

A. Large canine-like teeth on anterior portions of both jaws, followed by various rows of molar-shaped teeth; **B.** an evident hump on nape, due to hyperostosis, in adult males; **C.** colour golden pink to reddish, bronze red; small azure spots on upper flanks; caudal fin margin is blackish, margin of ventral lobe of tail is white in its distal third.

DISTRIBUTION: Eastern Pacific: in New Zealand and Australian waters, where it is also farmed.



Dentex angolensis (Poll and Maul, 1953)

SIZE: Max L 37 cm

FAO NAMES: *Eng* Angolan dentex

Esp Dentón angoleño

MAIN CHARACTERISTICS:

A. Some rows of canine-like teeth laterally on each jaw, the strongest teeth in the outermost row; four to six big frontal canines equally developed; **B.** dorsal spines (12) increase in length from the first to the fourth and fifth, the following decreasing in length; **C.** dorsal profile of head straight; suborbital space wide; **D.** red margin of caudal fin fork absent.

DISTRIBUTION: Eastern Atlantic: common, from Morocco to Angola.



Dentex dentex (Linnaeus, 1758)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Common dentex

Esp Dentón

MAIN CHARACTERISTICS:

A. Some rows of canine-like teeth laterally on each jaw, the strongest teeth in the outermost row; four to six big frontal canines equally developed; **B.** dorsal spines (11) increase in length from the first to the fourth and fifth, the following decreasing in length; **C.** eye is small; **D.** several dark spots and other azure spots on head, back and flanks.

DISTRIBUTION: Mediterranean: common, but declining. Eastern Atlantic: United Kingdom of Great Britain and Northern Ireland to Senegal.



Dentex gibbosus (Rafinesque, 1810)

SIZE: Max L 106 cm (fork length)

FAO NAMES: *Eng* Pink dentex
Esp Sama de pluma

MAIN CHARACTERISTICS:

A. Some rows of canine-like teeth laterally on each jaw, the strongest teeth in the outermost row; four to six developed canines anteriorly in each jaw; **B.** first two spines very short, the following decrease in length from the third and/or fourth one; third, fourth and fifth spines are long, more or less filamentous; **C.** profile of head humped in adults; **D.** caudal fin margin blackish; a small black spot on body behind rear end of base of dorsal fin.

DISTRIBUTION: Mediterranean: more frequent in the western basin. Eastern Atlantic: Portugal to Angola.



Dentex maroccanus (Valenciennes, 1830)

SIZE: Max L 45 cm

FAO NAMES: *Eng* Morocco dentex
Esp Sama marroquí

MAIN CHARACTERISTICS:

A. Some rows of canine-like teeth laterally on each jaw, the strongest teeth in the outermost row; four to six upper and lower big frontal canines equally developed; **B.** dorsal spines (12) increase in length from the first to the fourth and fifth, the following decreasing in length; **C.** eye diameter is bigger than suborbital space; **D.** fork of caudal fin is red-edged.

DISTRIBUTION: Mediterranean: eastern and southern basins. Eastern Atlantic: common, present from the Gulf of Biscay to the Gulf of Guinea.



Diplodus sargus (Linnaeus, 1758)

SIZE: Max L 45 cm

FAO NAMES: *Eng* White seabream
Esp Sargo

MAIN CHARACTERISTICS:

A. Eight quadrangular incisor-like teeth on each jaw, followed by three to five rows of molar-like teeth on upper jaw, by two to three rows on lower jaw; **B.** four to nine black vertical lines on each flank; **C.** margin of operculum, "armpits" and the tail are black; **D.** a black saddle-shaped band not extended to the lower margin of peduncle.

DISTRIBUTION: Mediterranean, eastern Atlantic from Gulf of Gascoigne to South Africa (including Cabo Verde). Western Indian Ocean: South Africa, Mauritius and Madagascar.



Evynnis tumifrons (Temminck and Schlegel, 1843)

SIZE: Max L 35 cm (standard length)

FAO NAMES: *Eng* Yellowback seabream
Esp –

MAIN CHARACTERISTICS:

A. Front of upper jaw with four strong canines and lower jaw with four to six canines, a single row of molar teeth on both jaws; **B.** a large yellow blotch on snout; **C.** three large yellow blotches on body below base of dorsal fin; **D.** caudal fin not margined in black.

DISTRIBUTION: Western Pacific: from Japan (excluding Ogasawara and the Ryukyu Islands) to southern Korean Peninsula, the East and South China seas, and Taiwan Province of China.



Pagellus bellottii (Steindachner, 1882)

SIZE: Max L 42 cm

FAO NAMES: *Eng* Red pandora
Esp Breca chata

MAIN CHARACTERISTICS:

A. Several rows of small and conical teeth are positioned anteriorly on each jaw, followed by some rows of molar-shaped teeth; **B.** head profile regularly convex; snout is acute, same-sized or bigger than eye diameter; scales are extended to half length of interorbital distance; **C.** anal fin with ten soft rays; base of fin is longer than snout.

DISTRIBUTION: Mediterranean: present in southwestern basin. Eastern Atlantic: common from Gibraltar to Angola and Canary Islands.



Pagellus erythrinus (Linnaeus, 1758)

SIZE: Max L 60 cm

FAO NAMES: *Eng* Common pandora
Esp Breca

MAIN CHARACTERISTICS:

A. Several rows of small and conical teeth are positioned anteriorly on each jaw, followed by some rows of molar-shaped teeth; **B.** head profile straight; snout is acute, longer than eye diameter; **C.** anal fin with eight to nine soft rays; base of fin is shorter than snout.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Scandinavia (rare) to Angola.



Pagrus major (Temminck and Schlegel, 1843)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Japanese seabream
Esp Dorada del Japón

MAIN CHARACTERISTICS:

A. Molar-like teeth are present laterally on each jaw; four to six stronger canine-like teeth are positioned frontally in each jaw; **B.** first two spines of dorsal fin well developed; all spines tough and not elongated; **C.** margin of caudal fin is blackish; margin of ventral lobe is white; numerous small bright blue spots on upper sides.

DISTRIBUTION: Western Pacific: from Japan to northeastern part of South China Sea (this species is farmed, also in Europe).



Pagrus pagrus (Linnaeus, 1758)

SIZE: Max L 91 cm

FAO NAMES: *Eng* Red porgy
Esp Pargo

MAIN CHARACTERISTICS:

A. Molar-like teeth are present laterally on each jaw; four to six stronger canine-like teeth are positioned frontally in each jaw; **B.** first two spines not much shorter than the following; filamentous spines are absent; **C.** tips of caudal fin are white and edge of posterior notch is blackish.

DISTRIBUTION: Mediterranean: common, also farmed. Eastern Atlantic: United Kingdom of Great Britain and Northern Ireland to Angola. Western Atlantic: North Carolina (United States) to northern Argentina.



***Rhabdosargus sarba* (Forsskål, 1775)**

SIZE: Max L 80 cm

FAO NAMES: *Eng* Goldlined seabream

Esp Sargo dorado

MAIN CHARACTERISTICS:

A. In both jaws are present moderately compressed, enlarged, incisor-like, subequal teeth in front, followed by several rows of molar-like teeth; one enlarged molar posteriorly on each jaw; **B.** body fairly deep, its depth about two times in standard length; **C.** a bright, yellow band on belly; longitudinal golden lines on body; pectoral and pelvic fins dusky yellowish, anal fin yellowish; lower lobe of caudal fin yellowish.

DISTRIBUTION: Western Indian Ocean: from Red Sea (especially common in the north) to Persian Gulf.



***Sparus aurata* (Linnaeus, 1758)**

SIZE: Max L 70 cm

FAO NAMES: *Eng* Gilthead seabream

Esp Dorada

MAIN CHARACTERISTICS:

A. Two to four series of molar-like teeth are present laterally on each jaw, those on outermost series are more developed; four to six stronger canine-like teeth are positioned frontally in each jaw; **B.** a golden stripe between eyes; **C.** a large black spot on origin of lateral line; a reddish spot on upper opercular margin.

DISTRIBUTION: Mediterranean: common, intensively farmed in the whole Mediterranean basin. Eastern Atlantic: from Senegal to the United Kingdom of Great Britain and Northern Ireland.

Seerfishes

Scomberomorus spp.



Scomberomorus commerson (Lacepède 1800)

SIZE: Max L about 220 cm (fork length)

FAO NAMES: *Eng* Narrow-barred Spanish mackerel

Esp Carite estriado Indo-Pacífico

MAIN CHARACTERISTICS:

A. A larger keel between two smaller keels on each side of caudal peduncle; **B.** lateral line abruptly curving downward below second dorsal fin; **C.** three to eight gill rakers on first arch; **D.** several (up to 40 in adults) vertical, thin, wavy dark bands on flanks.

DISTRIBUTION: Mediterranean: eastern basin, entered from the Red Sea. Indo-Pacific: South Africa to Australia and Fiji, including Japan and China, as well as Red Sea.



Scomberomorus maculatus (Mitchill, 1815)

SIZE: Max L 91 cm (fork length)

FAO NAMES: *Eng* Atlantic Spanish mackerel

Esp Carite atlántico

MAIN CHARACTERISTICS:

A. A larger keel between two smaller keels on each side of caudal peduncle; **B.** lateral line descending gradually; **C.** anterior third of first dorsal fin black; **D.** several rows of small yellow to bronze spots on sides, at most about the diameter of eye.

DISTRIBUTION: Western North Atlantic: from Maine to Gulf of Mexico and Yucatan; not present in the waters of Bermuda and most of the West Indies.



Scomberomorus guttatus (Bloch and Schneider, 1801)

SIZE: Max L 76 cm (fork length)

FAO NAMES: *Eng* Indo-Pacific king mackerel

Esp Carite del Indo-Pacífico

MAIN CHARACTERISTICS:

A. A larger keel between two smaller keels on each side of caudal peduncle; **B.** head length is 20.2 percent to 21.5 percent of fork length; body depth is 22.8 percent to 25.2 percent of fork length; **C.** many small auxiliary branches anteriorly on lateral line; **D.** 15 to 18 spines on first dorsal fin (black anteriorly); **E.** sides bear about three irregular rows of small, dark, round spots.

DISTRIBUTION: Indo-Pacific: from the Persian Gulf to India, Sri Lanka, Borneo, the Gulf of Thailand, China, Hong Kong SAR and Sea of Japan (this species does not extend beyond Java Island [Indonesia]).



Scomberomorus niphonius (Cuvier, 1832)

SIZE: Max L 100 cm (fork length)

FAO NAMES: *Eng* Japanese Spanish mackerel

Esp Carite oriental

MAIN CHARACTERISTICS:

A. A larger keel between two smaller keels on each side of caudal peduncle; **B.** lateral line descending gradually; **C.** 19 to 21 spines in first dorsal fin; anterior quarter of fin is black; **D.** seven or more rows of longitudinal spots (some spots connected together) on flanks.

DISTRIBUTION: Northwest Pacific: present in the subtropical and temperate waters of China, the Yellow Sea and Sea of Japan north to Vladivostok (Russian Federation).

Silver pomfrets

Pampus spp.



Pampus argenteus (Euphrasen, 1788)

SIZE: Max L 60 cm (standard length)

FAO NAMES: *Eng* Silver pomfret

Esp Palometón platero

MAIN CHARACTERISTICS:

A. Body firm, very deep, oval, compressed; **B.** pelvic fins absent; caudal fin deeply forked; posterior margin of dorsal and anal fins deeply indented; **C.** colour slightly darker bluish or greyish on back, silvery-white on sides, fins yellowish with dark margins.

DISTRIBUTION: Indo-West Pacific: from Persian Gulf to Indonesia, northward to Hokkaido (Japan). Extralimital captures have been made from the Adriatic, North Sea and off Hawaii (United States).

Skipjack – Stripe-bellied bonito

Euthynnus (Katsuwonus) pelamis



Euthynnus (Katsuwonus) pelamis (Linnaeus, 1758)

SIZE: Max L 100 cm (fork length)

FAO NAMES: *Eng* Skipjack tuna

Esp Listado

MAIN CHARACTERISTICS:

A. A larger keel between two smaller keels on each side of caudal peduncle; **B.** corselet is evident; **C.** separation between dorsal fins is very short; **D.** four to six longitudinal stripes which are very evident on flanks and belly.

DISTRIBUTION: Cosmopolitan (tropical and temperate waters of all oceans and adjacent seas); present in the Mediterranean.

Snakeheads

Channa spp.



Channa argus (Cantor, 1842)

SIZE: Max L 100 cm

FAO NAMES: *Eng* Snakehead

Esp Cabeza de serpiente

MAIN CHARACTERISTICS:

A. Body long, covered in heavy scales, mouth wide; **B.** dorsal fin elongate, longer than anal fin, with 49 to 54 rays; anal fin elongate with 32 to 38 rays; **C.** lateral line scales 59 to 60; **D.** two longitudinal rows of large angular dark blotches on sides of body; an irregular blotch-like dark marking on the caudal peduncle.

DISTRIBUTION: Freshwater species. Asia: China and western and southern Korean Peninsula. Japan. Introduced in the United States.



Channa micropeltes (Cuvier, 1831)

SIZE: Max L 130 cm (standard length)

FAO NAMES: *Eng* Indonesian snakehead

Esp Cabeza de serpiente rojo

MAIN CHARACTERISTICS:

A. Body long, covered in heavy scales, mouth wide; **B.** dorsal fin elongate, longer than anal fin; **C.** 82 to 100 small uninterrupted scales on lateral line; **D.** a broad, dark longitudinal stripe in adults on sides of body; two black longitudinal stripes with a bright orange intermediate area in juveniles.

DISTRIBUTION: Freshwater species. Asia: Mekong and Chao Phraya basins; the Malay Peninsula, and Sumatra and Borneo islands.



Channa maculata (Lacepède, 1801)

SIZE: Max L 20 cm

FAO NAMES: *Eng* Blotched snakehead

Esp –

MAIN CHARACTERISTICS:

A. Body long, covered in heavy scales, mouth wide; **B.** dorsal fin elongate, longer than anal fin, with 40 to 46 rays; anal fin elongate with 26 to 30 rays; **C.** lateral line scales 41 to 60; **D.** three longitudinal rows of oblong dark blotches on sides of body; a complete bar-like dark mark preceded by pale bar-like areas on the caudal peduncle.

DISTRIBUTION: Freshwater species. Asia: middle Japan, southern China, Viet Nam, Taiwan Province of China and the Philippines.



Channa pleurophthalma (Bleeker, 1851)

SIZE: Max L 40 cm

FAO NAMES: *Eng* –

Esp –

MAIN CHARACTERISTICS:

A. Body long, covered in heavy scales, mouth wide; **B.** dorsal fin elongate, longer than anal fin, with 40 to 43 rays; anal fin elongate with 28 to 31 rays; **C.** colour iridescent greenish or bluish with two to three big black patches outlined in orange and an additional ocellus on both the opercle and caudal fin.

DISTRIBUTION: Freshwater species. Asia: Sumatra, Indonesia and Borneo.

Sockeye salmon (red salmon)

Oncorhynchus nerka



Oncorhynchus nerka (Walbaum, 1792)

SIZE: Max L 84 cm

FAO NAMES: *Eng* Sockeye (= red) salmon

Esp Salmón rojo

MAIN CHARACTERISTICS:

A. Black spots are absent from back and head; **B.** colour steel blue, green-blue dorsally and on upper portion of head; silvery on flanks, white-silvery on belly (marine specimens); in freshwater specimens, males are light red, grey-reddish, head is blue-greenish to olive green, upper jaws are dark blue.

DISTRIBUTION: Anadromous species. Northern Pacific and tributary rivers, abundant from California to northwestern Alaska (United States) and from southern Japan (Hokkaido) to Anadyr River. Arctic Ocean and tributaries (scarce).

Southern bluefin tunas

Thunnus maccoyii



Thunnus maccoyii (Castelnau, 1872)

SIZE: Max L 225 cm (fork length)

FAO NAMES: *Eng* Southern bluefin tuna

Esp Atún rojo del Sur

MAIN CHARACTERISTICS:

A. Pectoral fin very short (less than 80 percent of head length), never reaching interspace between the dorsal fins; **B.** 31 to 43 gill rakers are positioned on first arch; **C.** lateral caudal peduncle keel is yellow in adults; finlets are dusky yellow with a narrow black border.

DISTRIBUTION: Present in any ocean below 30° south.

Swordfish

Xiphias gladius



Xiphias gladius (Linnaeus, 1758)

SIZE: Max L 221 cm

FAO NAMES: *Eng* Swordfish

Esp Pez espada

MAIN CHARACTERISTICS:

A. Upper jaw is extended into a long, flat rostrum called sword which covers one-third of total fish length; **B.** pelvic fins are absent; **C.** two widely-spaced dorsal fins are present in adults, first dorsal fin long, very tall, triangular, second dorsal fin small.

DISTRIBUTION: Temperate and tropical waters of all oceans and surrounding seas. Mediterranean: present and frequent in some areas such as the Messina Strait.

Tilapias

Oreochromis spp.



Oreochromis aureus (Steindachner, 1864)

SIZE: Max L 45.7 cm

FAO NAMES: *Eng* Blue tilapia

Esp Tilapia azul

MAIN CHARACTERISTICS:

A. Colour bright metallic blue on the head, a vermillion edge to the dorsal fin and a more intense pink on the caudal margin in breeding males; females with edges of dorsal and caudal fins in a paler more orange colour; **B.** caudal fin with a broad pink to bright red distal margin without regular dark vertical stripes.

DISTRIBUTION: Freshwater species. Africa/Eurasia: present in Jordan Valley, Lower Nile, Chad Basin, Benue (Nigeria), middle and upper Niger, Senegal River. Introduced in warm water ponds of United States, South East Asia and South and Central America.



Oreochromis niloticus (Linnaeus, 1758)

SIZE: Max L 60 cm (standard length)

FAO NAMES: *Eng* Nile tilapia

Esp Tilapia del Nilo

MAIN CHARACTERISTICS:

A. Body deep with a relatively small head; **B.** regular vertical stripes on caudal fin; **C.** colour bluish-pink, sometimes with a dark throat in males; females usually brownish, silvery-white ventrally with about ten thin vertical bars.

DISTRIBUTION: Freshwater species. Africa: occurs in coastal rivers of Israel, in Nile basin (including lakes Albert, Edward and Tana), Jebel Marra, Lake Kivu, Lake Tanganyika, Awash River, various Ethiopian lakes, Omo River system, Lake Turkana, Suguta River and Lake Baringo. Introduced in many countries.



Oreochromis mossambicus (Peters, 1852)

SIZE: Max L 39 cm (standard length)

FAO NAMES: *Eng* Mozambique tilapia

Esp Tilapia del Mozambique

MAIN CHARACTERISTICS:

A. Snout of adult males pointed, with a concave upper profile; **B.** non-breeding males and females silvery with two to five mid-lateral blotches and some of a more dorsal series; breeding males black with white lower parts of head and red margins to dorsal and caudal fins.

DISTRIBUTION: Freshwater species. Africa: present in Lower Zambezi, Lower Shire and coastal plains from Zambezi Delta to Algoa Bay. Occurs southwards to the Brak River (Eastern Cape Province) and in the Limpopo River system of South Africa. Introduced in many countries.

Toothfish

Dissostichus spp.



Dissostichus eleginoides (Smitt, 1898)

SIZE: Max L 215 cm

FAO NAMES: *Eng* Patagonian toothfish

Esp Austrorluza negra

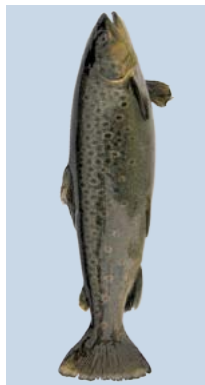
MAIN CHARACTERISTICS:

A. Two lateral lines are present, the lower one starts below or in front of the middle of the second dorsal fin; scales on upper line 88 to 104, on lower line 61 to 77; **B.** fusiform body, head depressed; **C.** colour greyish-brown with dark bars more or less visible; spiny dorsal fin edged distally in black.

DISTRIBUTION: Southeast Pacific and Southwest Atlantic: southern Chile to Patagonia (Argentina) and the Falkland Islands (Malvinas). Southwest Pacific: Macquarie Island. Southern Ocean: South Georgia. Also known from sub-Antarctic islands.

Trout

Salmo trutta, *Oncorhynchus mykiss*, *Oncorhynchus clarki*,
Oncorhynchus aguabonita, *Oncorhynchus gilae*, *Oncorhynchus apache*, *Oncorhynchus chrysogaster*



Salmo trutta (Linnaeus, 1758)

SIZE: Max L 140 cm (standard length)

FAO NAMES: *Eng* Sea trout
Esp Trucha marina

MAIN CHARACTERISTICS:

A. Colour rather variable: olive, grey-greenish, grey-silvery, grey-tawnyish dorsally, silvery or tawnyish on flanks; black spots or red and orange-red spots are present on upper flanks and on head, sometimes white-edged; caudal fin is spotless; **B.** posterior part of vomer toothed in adults.

DISTRIBUTION: Freshwater, lacustrine and anadromous species. Europe: whole continent. Introduced widely (western Asia, India, Pakistan, Nepal, northwestern Africa, North and South America, Japan, New Zealand and Australia).



Oncorhynchus clarkii (Richardson, 1836)

SIZE: Max L 99 cm

FAO NAMES: *Eng* Cutthroat trout
Esp –

MAIN CHARACTERISTICS:

A. Colour: usually body yellowish-green with lower sides and belly somewhat reddish; a rosy band on side from cheek to tail; **B.** a red or orange "cutthroat" mark along the underside of lower jaw; **C.** irregular dark spots are present on body and fins (except pelvic fin).

DISTRIBUTION: Freshwater, anadromous and marine species. Eastern Pacific: from northern parts of Prince William Sound (Alaska) southward to the Eel River in northern California (United States).



Oncorhynchus mykiss (Walbaum, 1792)

SIZE: Max L 122 cm

FAO NAMES: *Eng* Rainbow trout
Esp Trucha arco iris

MAIN CHARACTERISTICS:

A. Colour metallic blue, greenish-blue dorsally, lighter with silvery highlights on flanks, whitish on belly; presence of a more or less tall band, extending from the operculum to the caudal peduncle, rosy to deep red; **B.** several blackish dots are present on flanks, particularly dorsally, but also on caudal, dorsal fin and adipose fin.

DISTRIBUTION: Freshwater, anadromous and marine species. Originating from a vast area of North America, hydrographically tributary of the Pacific Ocean. Introduced everywhere in the world.



Oncorhynchus aguabonita (Lacepède, 1801)

SIZE: Max L 20 cm

FAO NAMES: *Eng* Golden trout
Esp –

MAIN CHARACTERISTICS:

A. Colour deep olive green on back, yellow to bright gold on sides, usually with a red band running along the lateral line; belly and cheeks bright red to bright orange; **B.** random dark spots scattered on back and adipose fin (edged in black) with a few below the lateral line; regular dark spots following the rays of dorsal and caudal fins.

DISTRIBUTION: Freshwater species. North America: native to the southern Sierra Nevada, present in upper Kern River basin, Tulare and Kern counties in California. Introduced for sportfishing into multiple western states of United States.



Oncorhynchus gilae (Miller, 1950)

SIZE: Max L 32 cm

FAO NAMES: *Eng* Gila trout
Esp –

MAIN CHARACTERISTICS:

A. Dorsal and caudal fins are particularly large in proportion to the body; **B.** colour medium-brown dorsally, pale reddish on the sides, light yellow ventrally; **C.** irregular black spots are randomly present on body, upper parts of the head and the adipose and caudal fins.

DISTRIBUTION: Freshwater species. North America: Gila River system in New Mexico and Arizona.



Oncorhynchus chrysogaster (Needham and Gard, 1964)

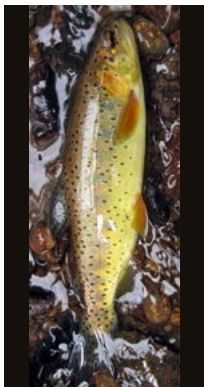
SIZE: Max L over 25.5 cm

FAO NAMES: *Eng* Mexican golden trout
Esp –

MAIN CHARACTERISTICS:

A. Overall body shape and fin placement nearly identical to *Oncorhynchus mykiss*; **B.** a lateral row of purplish parr marks usually remain distinct throughout the fish's life in most individuals.

DISTRIBUTION: Freshwater species. North America: Mexico.



Oncorhynchus apache (Miller, 1972)

SIZE: Max L 58 cm

FAO NAMES: *Eng* Apache trout
Esp –

MAIN CHARACTERISTICS:

A. Dorsal and caudal fins are particularly large in proportion to the body; **B.** colour olive or pale brown dorsally, pale yellow on sides, whitish ventrally; sides often bear distinct rounded pale purplish-gray parr marks along the lateral line; **C.** small black spots are randomly present on body, upper parts of the head and the adipose fin; dorsal, anal and caudal fins with regular small black spots along the fins' rays.

DISTRIBUTION: Freshwater species. North America: Upper Salt River and Little Colorado River systems (Colorado River drainage) in Arizona.

Tunas of the genus *Thunnus*



Thunnus atlanticus (Lesson, 1830)

SIZE: Max L 100 cm (fork length)

FAO NAMES: *Eng* Blackfin tuna
Esp Atún aleta negra

MAIN CHARACTERISTICS:

A. Pectoral fin moderately long (greater than 80 percent of head length, 22 percent to 31 percent of fork length), reaching beyond origin of second dorsal fin (not beyond end of its base); **B.** finlets are dusky with a trace of yellow; **C.** second dorsal and anal fins dusky with a silvery lustre; they are less than 20 percent of fork length.

DISTRIBUTION: Western Atlantic: from Massachusetts (United States) to Rio de Janeiro (Brazil) including the Caribbean.



Thunnus tonggol (Bleeker 1851)

SIZE: Max L 130 cm (fork length)

FAO NAMES: *Eng* Longtail tuna
Esp Atún tongol

MAIN CHARACTERISTICS:

A. Pectoral fin short to moderately long (greater than 80 percent of head length, 22 percent to 31 percent of fork length in smaller individuals and 16 percent to 22 percent in larger individuals), reaching beyond origin of second dorsal fin; **B.** finlets are yellowish-dusky with greyish margins; **C.** dorsal, pectoral and pelvic fins are blackish; colourless, elongated oval spots arranged in horizontal rows on lower sides and belly.

DISTRIBUTION: Indo-Pacific: from Red Sea and Somalia to Arabian Peninsula, India, Indonesian archipelago, Australia, southern Japan, the Philippines and Papua New Guinea.

Yellowfin tunas

Thunnus albacares



Thunnus albacares (Bonnaterre, 1788)

SIZE: Max L 195 cm (fork length)

FAO NAMES: *Eng* Yellowfin tuna
Esp Rabil

MAIN CHARACTERISTICS:

A. Pectoral fin moderately long (greater than 80 percent of head length, 22 percent to 31 percent of fork length), reaching beyond origin of second dorsal fin (not beyond end of its base); **B.** finlets are bright yellow with a narrow black border; **C.** second dorsal and anal fin very elongate, more than 20 percent of fork length, particularly in larger individuals.

DISTRIBUTION: Cosmopolitan, swimming in tropical and subtropical waters of all oceans and surrounding seas, between 40° north and 40° south (not present in the Mediterranean).

Cold-water prawns

Pandalus spp.



Pandalus borealis (Krøyer, 1838)

SIZE: Max L 18 cm (body)

FAO NAMES: *Eng* Northern prawn
Esp Camarón norteño

MAIN CHARACTERISTICS:

A. Rostrum well developed, curved upwards; its total length 1.4 times to 1.5 times longer than carapace; **B.** dorsal margin of rostrum bears 12 to 16 teeth; ventral margin bears six to eight teeth; **C.** colour uniformly pink, pale red.

DISTRIBUTION: Northern Atlantic: east from Spitzbergen Island and Greenland, to Iceland, Norway and the United Kingdom of Great Britain and Northern Ireland; west, down to 41° north, just south of the Gulf of Maine. Pacific Ocean: from Columbia River (State of Washington) to Alaska (United States) to the Bering Strait and Japan.



Pandalus eous (Makarov, 1935)

SIZE: Max L 15 cm (body)

FAO NAMES: *Eng* – Alaskan pink shrimp (= northern pink shrimp)
Esp –

MAIN CHARACTERISTICS:

A. Rostrum well developed, curved upwards; its total length is 1.6 times to 1.9 times longer than carapace; **B.** third and fourth abdominal segments have a sharp mid-dorsal spine at the posterior margin; **C.** colour uniformly pink, pale red, orange red.

DISTRIBUTION: Northeastern Pacific: from St Matthew Island to Columbia River (State of Washington); Western Pacific: from Sea of Japan to the Korean Peninsula and the Okhotsk Sea.



Pandalus dispar (Rathbun, 1902)

SIZE: Max L 20.8 cm (body length)

FAO NAMES: *Eng* Sidestripe shrimp
Esp Camarón de banda

MAIN CHARACTERISTICS:

A. Rostrum very elongate, bears dorsal teeth only on distal half; **B.** white stripes along carapace and abdomen; **C.** transverse white bands on pereopods.

DISTRIBUTION: North East Pacific: from Alaska (Bering Sea) to Canada and Oregon (Manhattan Beach).



Pandalus hypsinotus (Brandt in von Middendorf, 1851)

SIZE: Max L 25 cm (body)

FAO NAMES: *Eng* Coonstripe shrimp
Esp Camarón malacho

MAIN CHARACTERISTICS:

A. Distal portion of the rostrum strongly ascending and unarmed, except at the tip, which is oblique and armed with two fixed teeth; **B.** postrostral ridge on carapace highly crested in adults, extending nearly to posterodorsal margin of carapace; **C.** some white patches on the lower part of carapace, distinctive darker striped markings on abdomen.

DISTRIBUTION: Eastern Pacific: from Norton Sound (Alaska) to Puget Sound (State of Washington); Western Pacific: from western Bering Sea to the Sea of Japan and Korea Strait.



Pandalus japonicus (Balss, 1914)

SIZE: Max L 15 cm (body length)

FAO NAMES: *Eng* Morotoge shrimp
Esp Camarón morotoje

MAIN CHARACTERISTICS:

A. Dorsal margin of rostrum bears 20 or more teeth over almost entire length; distal part of the rostrum bent upward; tip is white; **B.** sinuous white stripes along carapace and abdomen; **C.** transverse white bands on pereopods.

DISTRIBUTION: Northeastern Pacific: coastal waters of Sakhalin, Sea of Japan (western and eastern coast of Hokkaido, Honshu), Korean Peninsula.



Pandalus platyceros (Brandt in von Middendorf, 1851)

SIZE: Max L 25 cm (body)

FAO NAMES: *Eng* Spot shrimp
Esp Camarón manchado

MAIN CHARACTERISTICS:

A. Two rather visible whitish spots on first and fifth abdominal segment; **B.** pereopods, antennulae and antennae bear alternate white and reddish transverse stripes; **C.** colour deep pink red or pink orange

DISTRIBUTION: Northeastern Pacific: present from the Strait of Bering to Southern California (San Diego), as well as in the waters of Japan and of the Korean Peninsula.

Cold-water shrimps

Crangon crangon



Crangon crangon (Linnaeus, 1758)

SIZE: Max L about 9 cm (body)

FAO NAMES: *Eng* Common shrimp

Esp Quisquilla

MAIN CHARACTERISTICS:

A. Carapace smooth, bears a median tooth on anterior fourth of dorsal portion; **B.** the first pair of pereopods bears a stocky pseudo-terminal claw, its dactylus being very thin and folded on anterior edge of propodus; **C.** colour greyish, yellowish or greenish at times, with small tawny-blackish dots.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: common from the White Sea to the Baltic Sea, southwards to the United Kingdom of Great Britain and Northern Ireland and Morocco.

Crabs



Cancer irroratus (Say, 1817–1818)

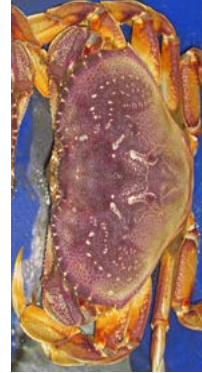
SIZE: Max L 15 cm (carapace width)

FAO NAMES: *Eng* Atlantic rock crab
Esp Jaiba de roca amarilla

MAIN CHARACTERISTICS:

A. Carapace with nine quadrangular teeth bearing granulate margins; **B.** surface of carapace yellowish, closely dotted with dark purplish brown, relatively smooth; **C.** ridges of pincers granulated.

DISTRIBUTION: Western Atlantic: from Labrador (Canada) to Miami (United States).



Metacarcinus magister (Dana, 1852)

SIZE: Max L over 32 cm (carapace width)

FAO NAMES: *Eng* Dungeness crab
Esp Buey del Pacífico

MAIN CHARACTERISTICS:

A. Carapace with nine lobiform teeth, margin of teeth is almost straight and slightly serrate; the posterior tooth is the largest
B. carapace with rows of white spots almost parallel to anterolateral margin; **C.** surface of carapace light tawny reddish with purplish highlights.

DISTRIBUTION: Eastern Pacific: Alaska to Aleutian Islands, southwards to Baja California (Mexico).



Cancer pagurus (Linnaeus, 1758)

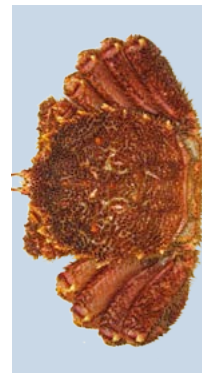
SIZE: Max L 28.5 cm (carapace width)

FAO NAMES: *Eng* Edible crab
Esp Buey de mar

MAIN CHARACTERISTICS:

A. Carapace with nine wide, blunt teeth with rounded tops; **B.** pincers bear no spines or spinules; **C.** massive black tipped pincers.

DISTRIBUTION: Mediterranean: present, but rare; North Eastern Atlantic: common (especially in the northernmost areas), northern Norway to Portugal and Morocco (rare), including Lofoten Island, and the United Kingdom of Great Britain and Northern Ireland, including the Shetland and Hebrides islands.



Erimacrus isenbeckii (Brandt, 1848)

SIZE: Max L about 7 cm (carapace width)

FAO NAMES: *Eng* Hair crab
Esp Cangrejo peludo

MAIN CHARACTERISTICS:

A. Carapace squarish, slightly longer than wide; **B.** entire surface of carapace covered with short bristles and tubercles; **C.** antero-lateral and postero-lateral margins of carapace with relatively dense setae and numerous sharp teeth.

DISTRIBUTION: Northern Pacific Ocean: present from the eastern part of Bering Sea to Korean Peninsula, Japan and California (United States).



Birgus latro (Linnaeus, 1767)

SIZE: Max L 15 cm (carapace width)

FAO NAMES: *Eng* Coconut crab

Esp –

MAIN CHARACTERISTICS:

A. Carapace pyriform, relatively well calcified; **B.** last two pairs of walking legs reduced, chelate; **C.** colour greenish-brown, bluish-grey, purplish-brown.

DISTRIBUTION: Indo-West Pacific (fully terrestrial): widely distributed; found on islands across the Indian Ocean (Seychelles, Andaman, Nicobar, Chagos) and on the islands of central Pacific as far east as the Gambier Islands; extirpated from many islands because it has been over-hunted.



Chaceon quinque-dens (Smith, 1879)

SIZE: Max L 18 cm (carapace width)

FAO NAMES: *Eng* Red crab

Esp Geriocangrejo rojo

MAIN CHARACTERISTICS:

A. Shallow, frontal teeth large, well developed rounded orbits; **B.** frontal teeth large, well developed; **C.** colour red to reddish-brown.

DISTRIBUTION: Western Atlantic: from Gulf of Maine to Florida (United States) and Gulf of Mexico.



Chaceon bicolor (Manning and Holthuis, 1989)

SIZE: Max L 18 cm (carapace width)

FAO NAMES: *Eng* Pacific golden crab

Esp –

MAIN CHARACTERISTICS:

A. Anterolateral margins of adults with five low, lobiform teeth, second and fourth reduced; **B.** median pair of frontal teeth narrower than laterals; **C.** colour purplish (anteriorly) and tan, or entirely cream-white.

DISTRIBUTION: Central eastern Pacific: New Caledonia, northwestern and eastern Australia, Loyalty Islands.



Hypothalassia armata (De Haan, 1835)

SIZE: Max L 15 cm (carapace width)

FAO NAMES: *Eng* Champagne crab

Esp –

MAIN CHARACTERISTICS:

A. Carapace is hexagonal, wider than long; **B.** scattered long setae on frontal region; **C.** colour reddish-brown, anterior portion of carapace is darker, spines are blackish, fingers of claw are black.

DISTRIBUTION: Eastern Pacific: along the coasts of Australia (although it has never been spotted in the north).



Macrocheira kaempferi (Temminck, 1836)

SIZE: Max L 30 cm (carapace width), 40 cm (carap. length)

FAO NAMES: *Eng* –

Esp –

Japanese name: Takaashigani

MAIN CHARACTERISTICS:

A. Rostrum constituted by two teeth curved outwards, distinctly divergent; **B.** first pair of pereopods clearly longer than the following pairs; **C.** leg span reaching 3.8 m from claw to claw: the largest crab in the world.

DISTRIBUTION: Pacific: only Japanese Archipelago waters.



Lithodes santolla (Molina, 1782)

SIZE: Max L about 20 cm (carapace width)

FAO NAMES: *Eng* Southern king crab

Esp Centolla patagónica

MAIN CHARACTERISTICS:

A. First pair of pereopods bears pincers, the right bigger than the left one; legs bearing spines thinner, longer and more acute than those on the carapace; uropods are absent; **B.** rostrum curved downwards, preceded by two pairs of smaller spines; **C.** brick red colour dorsally, lighter orange-yellowish ventrally.

DISTRIBUTION: Southeastern Pacific and Southwestern Atlantic: from the southern coast of Chile (Valdivia) to Cape Horn, Argentina and Uruguay.



Lithodes aequispinus (Benedict, 1895)

SIZE: Max L 15 cm (carapace width)

FAO NAMES: *Eng* Golden king crab

Esp Centolla dorada

MAIN CHARACTERISTICS:

A. First pair of pereopods bears pincers, the right pincer is often bigger than the left one; uropods are absent; **B.** rostrum with a long bifid central spine and two basal spines; **C.** colour golden-orange, golden-brownish.

DISTRIBUTION: Northeastern Pacific: from middle part of Bering Sea to Gulf of Alaska, San Diego (United States), Aleutian Islands and Japan (north part of Honshu).



Paralithodes brevipes (Milne-Edwards and Lucas, 1841)

SIZE: Max L about 16 cm (carapace width)

FAO NAMES: *Eng* Brown king crab

Esp Cangrejo real marrón

MAIN CHARACTERISTICS:

A. First pair of pereopods bears pincers, the right pincer is often bigger than the left one; four spines on the cardiac region of carapace; uropods are absent; **B.** rostrum rather short, with a prominent, blunt (sometimes swollen) central spine, and two lateral spines; **C.** colour brown-purplish.

DISTRIBUTION: Northeastern Pacific: from Bering Sea, west coasts of Kamchatka, Sea of Okhotsk, Kuril Islands and Sakhalin to Hokkaido Island (Japan).



Paralithodes camtschaticus (Tilesius, 1815)

SIZE: Max L 28 cm (carapace width)

FAO NAMES: *Eng* Red king crab
Esp Cangrejo real rojo

MAIN CHARACTERISTICS:

A. First pair of pereopods bears pincers, the right pincer is often bigger than the left one; uropods are absent; **B.** rostrum acute, with a prominent central spine and with two shorter lateral spines; **C.** colour dark red or burgundy, ventral surface of the legs brown pigmented.

DISTRIBUTION: North Pacific and Northeastern Atlantic: from the Bering Sea to Aleutian Islands, the Kamchatka Peninsula, the Sea of Okhotsk, Japan, to the Korean Peninsula and from Alaska (United States) and British Columbia (Canada); coasts of Norway.



Paralomis granulosa (Hombron and Jacquinot, 1846)

SIZE: Max L about 10 cm (carapace width)

FAO NAMES: *Eng* Softshell red crab
Esp Centollón

MAIN CHARACTERISTICS:

A. First pair of pereopods bears pincers, the right pincer is often bigger than the left one; carapace bears several small pointed tubercles, which may be scattered or merged into bigger tubercle; uropods are absent; **B.** rostrum short, dorsal margin of its basal portion bearing two spiniform teeth; **C.** colour brownish-orange, yellow-orange, with clearer orange shades ventrally.

DISTRIBUTION: Southeastern Pacific and Southwestern Atlantic: Patagonia, southern Chile to Rio de Janeiro (Brazil).



Paralithodes platypus (Brandt, 1851)

SIZE: Max L 22 cm (carapace width)

FAO NAMES: *Eng* Blue king crab
Esp Cangrejo real azul

MAIN CHARACTERISTICS:

A. First pair of pereopods bears pincers, the right pincer is often bigger than the left one; uropods are absent; **B.** rostrum with a short acute spine and two lateral spines; **C.** colour brown with royal blue highlights; ventral surface of the legs entirely whitish.

DISTRIBUTION: Pacific: from Chukchi Sea to Bering Sea, Sea of Okhotsk, Peter the Great Gulf (Sea of Japan) and off Hokkaido; also in the waters of the Diomed Islands, Point Hope, outer Kotzebue Sound, King Island, and the outer parts of Norton Sound.



Maja squinado (Herbst, 1788)

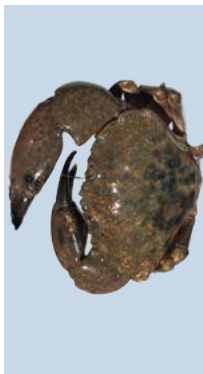
SIZE: Max L 22 cm (carapace length)

FAO NAMES: *Eng* Spinous spider crab
Esp Centolla europea

MAIN CHARACTERISTICS:

A. Carapace extremely rounded, slightly wider than long in adults, dorsal portion bears several hairs and tubercles (some tubercles are rather pointed); **B.** rostrum is formed by two diverging teeth; **C.** colour brownish-red to brownish-yellowish.

DISTRIBUTION: Mediterranean: common; Eastern Atlantic: the United Kingdom of Great Britain and Northern Ireland to Namibia.



Menippe mercenaria (Say, 1818)

SIZE: Max L 17 cm (carapace width)

FAO NAMES: *Eng* Black stone crab

Esp Cangrejo de piedra negro

MAIN CHARACTERISTICS:

A. Carapace nearly smooth, dark brownish red to black in older individuals, with dusky grey spots; **B.** large powerful claws with black tips, patch of parallel oblique striae on inside of hands; **C.** legs stout and hairy distally.

DISTRIBUTION: Western central Atlantic: from Connecticut (United States) to Gulf of Mexico, Yucatan, Cuba, the Bahamas, Jamaica and Belize.



Chionoecetes opilio (Fabricius, 1788)

SIZE: Max L 15 cm (carapace length)

FAO NAMES: *Eng* Queen crab

Esp Cangrejo de las nieves

MAIN CHARACTERISTICS:

A. Carapace length and width similar, branchial regions of carapace rather flattish; **B.** postero lateral corner bears a cluster of granules; **C.** legs and carapace light copper brown.

DISTRIBUTION: Western Atlantic: from Newfoundland and Greenland to the Gulf of Maine. Arctic Ocean: from Alaska to northern Siberia, Bering Sea, the Aleutian Islands, Kamchatka, Japan, the Korean Peninsula.



Pseudocarcinus gigas (Lamarck, 1818)

SIZE: Max L 45 cm (carapace width)

FAO NAMES: *Eng* Tasmanian giant crab

Esp –

MAIN CHARACTERISTICS:

A. Carapace wider than long, posterior portion is clearly narrow, lateral margins are diverging; **B.** claws blackish, well developed, dactylus very elongate; **C.** carapace red-orange, with cream marblings.

DISTRIBUTION: Pacific: southern Australian waters.



Necora puber (Linnaeus, 1767)

SIZE: Max L 8.4 cm (carapace width)

FAO NAMES: *Eng* Velvet swimcrab

Esp Nécora

MAIN CHARACTERISTICS:

A. Carapace rather flat; surface is granular and pubescent, without carinae; **B.** five anterolateral teeth (including lateral orbital angle), acute and about equal in size; **C.** frontal margin displays irregular grooves and about ten narrow and acute teeth scattered all over its surface.

DISTRIBUTION: Mediterranean: rare, only present along the Spanish coasts and off Marseille (France). Eastern Atlantic: Norway to Mauritania.



Ovalipes punctatus (De Haan, 1833)

SIZE: Max L 9.5 cm (carapace width)

FAO NAMES: *Eng* Sand crab

Esp –

MAIN CHARACTERISTICS:

A. Carapace surface finely granular, reddish brown to maroon; scattered dirty-white and darker spots on the posterolateral region; **B.** five anterolateral teeth (including lateral orbital angle), acute, large and about equal in size; **C.** gastric depression lighter coloured.

DISTRIBUTION: Pacific: throughout the northern and southern hemispheres in the Pacific (Japan, South China Sea, Queensland, Australia).



Carcinus aestuarii (Nardo, 1847)

SIZE: Max L 7.7 cm (carapace width)

FAO NAMES: *Eng* Mediterranean shore crab

Esp Cangrejo verde mediterráneo

MAIN CHARACTERISTICS:

A. Frontal margin bears three lobes; **B.** gonopods of male specimens (under abdomen) are always straight; **C.** dactylus of fifth pereopod is lanceolate.

DISTRIBUTION: Mediterranean and Black Sea: very common. Eastern Atlantic: present only in the Canary Islands (Spain). Has invaded the coastline of Japan.



Callinectes sapidus (Rathbun, 1896)

SIZE: Max L 22.7 cm (carapace width)

FAO NAMES: *Eng* Blue crab

Esp Cangrejo azul

MAIN CHARACTERISTICS:

A. Carapace width is twice its length; surface is rather smooth; colour is brownish green, bluish or greyish; apex of chelae is reddish; **B.** nine anterolateral teeth (including lateral orbital angle), acute, last tooth is well developed, conical and pointed; **C.** frontal margin bears two well developed triangular teeth.

DISTRIBUTION: Eastern Atlantic: very common from Nova Scotia to Maine, Massachusetts, Gulf of Mexico, Argentina, including Bermuda and Antilles; introduced to Japanese and European waters (Mediterranean, Black Sea, Baltic Sea, from France to Netherlands, North Sea) and in Hawaii (United States).



Carcinus maenas (Linnaeus, 1758)

SIZE: Max L 7.5 cm (carapace width)

FAO NAMES: *Eng* Green crab

Esp Cangrejo verde

MAIN CHARACTERISTICS:

A. Frontal margin bears three lobes; **B.** gonopods of male specimens (under abdomen) are strongly curved outwards; **C.** dactylus of fifth pereopod is lanceolate.

DISTRIBUTION: Eastern Atlantic: Norway to Mauritania, very common. Mediterranean: present in the westernmost area; has colonized the coastline of Australia, Tasmania, South Africa, South America, Japan and both coasts of the United States.



Charybdis (Charybdis) feriata (Linnaeus, 1758)

SIZE: Max L 20 cm (carapace width)

FAO NAMES: *Eng* Crucifix crab
Esp –

MAIN CHARACTERISTICS:

A. Frontal margin bears four teeth; six teeth on each anterolateral margin; **B.** white and brown stripes on upper portion of carapace often forming a cross on median portion of gastric region; **C.** scattered white spots on pereopods and pincers.

DISTRIBUTION: Indo-West Pacific: widely distributed from African coasts (including South Africa) to Japan and Australia (except for southern coast).



Portunus sanguinolentus (Herbst, 1783)

SIZE: Max L 20 cm (carapace width)

FAO NAMES: *Eng* Threespot swimming crab
Esp –

MAIN CHARACTERISTICS:

A. Nine teeth on each anterolateral margin, the last tooth two times to three times larger than preceding teeth; **B.** three prominent maroon to red spots surrounded by a cream white ring on posterior third of carapace.

DISTRIBUTION: Indo-Pacific: widely spread from East Africa to New Zealand.



Portunus pelagicus (Linnaeus, 1758)

SIZE: Max L 20 cm (carapace width)

FAO NAMES: *Eng* Blue swimming crab
Esp Jaiba azul

MAIN CHARACTERISTICS:

A. Frontal margin bears four acutely triangular teeth (median teeth small); **B.** nine teeth on each anterolateral margin, the last tooth two times to four times larger than preceding teeth; **C.** three spines on the inner margin of the chelipedal merus.

DISTRIBUTION: Mediterranean: present in the eastern basin (including Egypt), coming from the Red Sea through the Suez Channel; Indo-Pacific: widely spread from East Africa (including Red Sea) to beyond northern Australia, including Japan.



Portunus trituberculatus (Miers, 1876)

SIZE: Max L 15 cm (carapace width)

FAO NAMES: *Eng* Gazami crab
Esp Jaiba gazami

MAIN CHARACTERISTICS:

A. Frontal margin bears three acutely triangular teeth; **B.** nine teeth on each anterolateral margin, the last tooth much larger than preceding teeth; **C.** four spines on the inner margin of the chelipedal merus.

DISTRIBUTION: Indo-Pacific: widely spread from Bay of Bengal to the west, north and east of Australia, including Japan, the Korean Peninsula and China.



Scylla olivacea (Herbst, 1796)

SIZE: Max L 18 cm (carapace width)

FAO NAMES: *Eng* Orange mud crab

Esp –

MAIN CHARACTERISTICS:

A. Frontal margin usually bears four rounded teeth with shallow interspaces; nine teeth on each anterolateral margin, the last tooth similar to other teeth; **B.** palm of cheliped orange to yellowish, usually bears two reduced, blunt spines; **C.** outer surface of chelipedal carpus bears a short or very short, never spiniform, granule; **D.** carapace is tawnyish, tawny-greenish, sometimes orange.

DISTRIBUTION: Indo-Pacific: widely spread from India, Pakistan, Thailand and the whole Southeast Asia, to Australia.



Scylla serrata (Forskål, 1775)

SIZE: Max L 28 cm (carapace width)

FAO NAMES: *Eng* Indo-Pacific swamp crab

Esp Cangrejo de manglares

MAIN CHARACTERISTICS:

A. Frontal margin usually bears four sharp teeth; nine teeth on each anterolateral margin, the last tooth similar to other teeth; **B.** outer surface of palm of chelipeds greenish, bearing marblings in both sexes and usually pointed spines on anterior and posterior dorsal parts; **C.** carpus of cheliped bears two obvious spines on distal half of outer margin; **D.** carapace green, green olive to almost black, last pereopods bear marblings.

DISTRIBUTION: Indo-Pacific: widely spread from Red Sea and India to Australia, including Hawaii (United States) and Samoan islands.



Scylla paramamosain (Estampador, 1949)

SIZE: Max L 20 cm (carapace width)

FAO NAMES: *Eng* Green mud crab

Esp –

MAIN CHARACTERISTICS:

A. Frontal margin usually bears four rounded teeth with angular interspaces; nine teeth on each anterolateral margin, the last tooth similar to other teeth; **B.** palm of cheliped green to blue-greenish, usually bears two distinct, sharp spines on dorsal margin; **C.** outer surface of carpus of cheliped bears a short or very short, never spiniform, granule; **D.** lower surface and base of fixed finger of dactylus yellow to yellow-orange; **E.** carapace is green to light green.

DISTRIBUTION: Pacific: from the southern Sea of China to Java Sea, including Japan.



Scylla tranquebarica (Fabricius, 1798)

SIZE: Max L 20 cm (carapace width)

FAO NAMES: *Eng* Purple mud crab

Esp –

MAIN CHARACTERISTICS:

A. Frontal margin usually bears four rounded teeth with rounded interspaces; nine teeth on each anterolateral margin, the last tooth similar to other teeth; **B.** outer surface of palm of chelipeds (with two distinct spines on dorsal margin) brownish purple, without marblings; **C.** two obvious spines on distal half of outer margin of carpus of chelipeds; **D.** carapace very dark green to brownish to almost black, last pereopods bear marblings.

DISTRIBUTION: Indo-Pacific: widely spread, not common in the Philippines and Thailand.



Ranina ranina (Linnaeus, 1758)

SIZE: Max L 15 cm (carapace width)

FAO NAMES: *Eng* Spanner crab
Esp –

MAIN CHARACTERISTICS:

A. Carapace longitudinally oval, reddish to uniformly orange; **B.** abdomen clearly visible from dorsal view; **C.** fingers of claws strongly inclined, perpendicular to the major axis of claws.

DISTRIBUTION: Indo-Pacific: widely spread from the African coasts to the Philippines, Australia, Guam, New Caledonia and Hawaii (United States).



Eriocheir sinensis (Milne-Edwards, 1853)

SIZE: Max L about 9 cm (carapace width)

FAO NAMES: *Eng* Chinese mitten crab
Esp Cangrejo chino

MAIN CHARACTERISTICS:

A. Carapace quadrangular, slightly longer than wide, very convex; **B.** frontal medial teeth acutely triangular and sharp; **C.** upper margin of merus, carpus and propodus of pereopods bear setae.

DISTRIBUTION: It originates from the area between Vladivostok (Russian Federation) and southern China, including Japan and Taiwan Province of China; present practically everywhere in north and central Europe, extending its range from Europe to West Asia; reported in the United States, including Hawaii, and in Canada.



Ucides cordatus (Linnaeus, 1763)

SIZE: Max L 35 cm (body)

FAO NAMES: *Eng* Swamp ghost crab
Esp Cangrejo capuco fantasma

MAIN CHARACTERISTICS:

A. Carapace broadly egg-shaped, narrow posteriorly; **B.** legs of males bear very low silky hairs; **C.** carapace varies from bluish with some yellowish areas to green, yellow and brown; legs pinkish.

DISTRIBUTION: Western Central Atlantic: from southern Florida (United States) to Santa Catarina (Brazil) throughout the Antilles and northern coast of South America.

Lobsters

Homarus spp.



Homarus americanus (Milne-Edwards, 1837)

SIZE: Max L 65 cm (body)

FAO NAMES: *Eng* American lobster

Esp Bogavante americano

MAIN CHARACTERISTICS:

A. Rostrum with one or more teeth on ventral margin; **B.** claws of first pair of pereopods are big, flat, smooth and uneven;

C. body dark, blue-blackish, deep azure.

DISTRIBUTION: Western Atlantic: Newfoundland Island (Canada) to North Carolina (United States).



Homarus gammarus (Linnaeus, 1758)

SIZE: Max L about 60 cm (body)

FAO NAMES: *Eng* European lobster

Esp Bogavante

MAIN CHARACTERISTICS:

A. Ventral margin of rostrum does not bear any teeth; **B.** claws of first pair of pereopods are big, flat, smooth and unlike;

C. body blue-blackish, deep azure, with yellow and white veins.

DISTRIBUTION: Mediterranean: common (less frequent in eastern basin); Eastern Atlantic: Lofoten Island to Morocco.

Norway lobster

Nephrops norvegicus



Nephrops norvegicus (Linnaeus, 1758)

SIZE: Max L 24 cm (body)

FAO NAMES: *Eng* Norway lobster

Esp Cigala

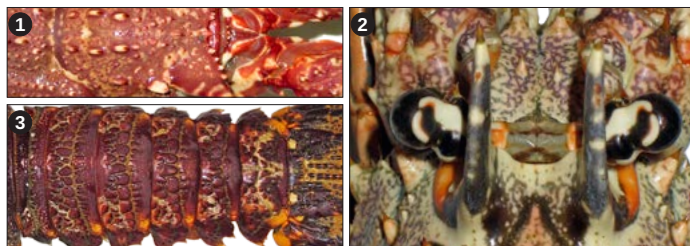
MAIN CHARACTERISTICS:

A. Abdominal segments bear one to two clear transverse piliferous grooves, which are broken in the middle; **B.** postorbital spines not reaching cervical groove; **C.** claws of first pair of pereopods are stocky, long, with longitudinal rows of spines and piliferous grooves.

DISTRIBUTION: Mediterranean: common; Eastern Atlantic: common, spread from Norway and Iceland to northern Morocco.

Rock lobster - Sea crawfish

Palinurus spp., *Panulirus* spp., *Jasus* spp.



- 1 Genus *Palinurus* (Weber, 1795) two strong triangular frontal horns on anterior margin of carapace separated by a concave edge with several denticles and a small rudimental central rostrum.
- 2 Genus *Panulirus* (White, 1847) two distinct, widely separated tooth-like frontal horns on anterior margin of carapace; a distinct antennular plate is present.
- 3 Genus *Jasus* (Parker, 1883) abdominal segments usually with squamiform sculpturation before transverse groove.



Palinurus elephas (Fabricius, 1787)

SIZE: Max L 50 cm (body)

FAO NAMES: *Eng* Common spiny lobster
Esp Langosta común

MAIN CHARACTERISTICS:

A. A pair of large symmetrical whitish spots is positioned on the first five abdominal segments; **B.** sixth abdominal segment with a single posteromedian white spot; **C.** legs bear longitudinal whitish bands.

DISTRIBUTION: Mediterranean: common, less frequent in the southeastern basin. Eastern Atlantic: spread from Norway to Morocco, including the Azores.



Palinurus charlestoni (Forest and Postel, 1964)

SIZE: Max L 50 cm (body)

FAO NAMES: *Eng* Cape Verde spiny lobster
Esp Langosta de Cabo Verde

MAIN CHARACTERISTICS:

A. Surface of abdominal segments is smooth with a marked transverse groove broken at median line level; **B.** a strong spine on anterodorsal portion of carpus of first pair of pereiopods; **C.** whitish marblings and spots all over the body; legs bear dark red ring-like bands on each segment.

DISTRIBUTION: Eastern Atlantic: only in waters of Cabo Verde.



Palinurus gilchristi (Stebbing, 1900)

SIZE: Max L about 31 cm (body)

FAO NAMES: *Eng* Southern spiny lobster
Esp Langosta del Sur

MAIN CHARACTERISTICS:

A. Abdominal segments two to five with anterior groove very deep and as long and hairy as the posterior groove; **B.** carapace pubescens before cervical groove.

DISTRIBUTION: Eastern Atlantic: waters of South Africa (Eastern and Western Cape); spotted along southeastern coasts of Madagascar.



Palinurus mauritanicus (Gruvel, 1911)

SIZE: Max L 75 cm (body)

FAO NAMES: *Eng* Pink spiny lobster

Esp Langosta mora

MAIN CHARACTERISTICS:

A. Abdominal segments bear an easily visible transverse groove which is broken at level of median line; **B.** carpus of first pair of pereopods without a strong spine on anterodorsal portion; **C.** legs bear uneven transverse whitish bands; whitish marblings and spots all over the body .

DISTRIBUTION: Mediterranean: not very common, in the western basin only; Eastern Atlantic: from United Kingdom of Great Britain and Northern Ireland to Senegal.



Panulirus cygnus (George, 1962)

SIZE: Max L about 40 cm (body)

FAO NAMES: *Eng* Australian spiny lobster

Esp Langosta de Australia

MAIN CHARACTERISTICS:

A. Abdominal segments bear a complete, pubescent groove with a straight anterior margin; **B.** legs display coloured longitudinal stripes.

DISTRIBUTION: Eastern Pacific: along the coasts of western Australia.



Panulirus argus (Latreille, 1804)

SIZE: Max L 45 cm (body)

FAO NAMES: *Eng* Caribbean spiny lobster

Esp Langosta común del Caribe

MAIN CHARACTERISTICS:

A. Four white-yellowish rounded spots are positioned on each side of the second and sixth abdominal segment; **B.** a dark stripe on posterior margin of tail fan.

DISTRIBUTION: Western Atlantic: from Northern Carolina (United States) to Brazil, including the Gulf of Mexico, Antilles and Bermuda, spotted in the waters of Côte d'Ivoire.



Panulirus gracilis (Streets, 1871)

SIZE: Max L 37 cm (body)

FAO NAMES: *Eng* Green spiny lobster

Esp Langosta barbona

MAIN CHARACTERISTICS:

A. Caudal margin of abdominal segments bear an evident but narrow whitish stripe, followed by a blackish stripe; **B.** hepatic region of carapace bears three big spines in a longitudinal queue and a smaller spine which is dorsal to the caudalmost spine (smaller spine is sometimes absent); **C.** antennular plate bears two pairs of well distanced stocky spines forming a quadrilateral.

DISTRIBUTION: Eastern Pacific: from Mexico (Baja California) to Peru, and the Galapagos Islands (Ecuador).



Panulirus homarus (Linnaeus, 1758)

SIZE: Max L 31 cm (body)

FAO NAMES: *Eng* Scalloped spiny lobster
Esp Langosta festoneada

MAIN CHARACTERISTICS:

A. Anterior margin of transverse groove (either complete or interrupted) in the middle of abdominal somites crenulated; **B.** antennular plate bears two pairs of well distanced stocky spines forming a quadrilateral, with additional very small spinules scattered in between; **C.** bright orange and blue markings between eyestalks.

DISTRIBUTION: Indian and Eastern Pacific: African coasts to Japan, Indonesia, New Caledonia and Australia, including the Marquesas Islands.



Panulirus japonicus (von Siebold, 1824)

SIZE: Max L 35 cm (body)

FAO NAMES: *Eng* Japanese spiny lobster
Esp Langosta japonesa

MAIN CHARACTERISTICS:

A. Body without distinct rounded whitish spots; **B.** the transverse grooves of abdominal segments three and four do not join the groove along the anterior margin of the corresponding pleuron; **C.** antennular plate bears only two spines.

DISTRIBUTION: West Pacific: from Japan (south of 38°30' north to Ryukyu Island) to the Korean Peninsula, China Sea, Taiwan Province of China.



Panulirus interruptus (Randall, 1840)

SIZE: Max L 60 cm (body)

FAO NAMES: *Eng* Mexican spiny lobster
Esp Langosta mexicana

MAIN CHARACTERISTICS:

A. Abdominal segments bear a broad transverse groove which is clearly broken in its central dorsal portion, margins of groove are straight and not crenulated; **B.** antennular plate bears two pairs of well distanced stocky spines forming a quadrilateral; smaller spines may also be present; **C.** body rather uniformly brownish-red, without light bands or spots.

DISTRIBUTION: Eastern Pacific: San Luis Obispo Bay (California, United States) to Baja California (Mexico); spotted in the Gulf of California.



Panulirus ornatus (Fabricius, 1798)

SIZE: Max L 60 cm (body)

FAO NAMES: *Eng* Ornate spiny lobster
Esp Langosta ornamentada

MAIN CHARACTERISTICS:

A. Anterior portion of abdominal segments with a rounded whitish spot on each side close to the base of pleura; a whitish stripe above the spot; surface of abdominal segments smooth; **B.** antennular plate bears two pairs of stocky spines forming a quadrilateral (spines are more developed anteriorly); smaller spines may also be present; **C.** legs display more or less complete transverse bands of a bluish or brownish colour.

DISTRIBUTION: Indo-Pacific: East African coast, including Madagascar and the Red Sea, to Japan, Australia and Fiji.



Panulirus regius (de Brito Capello, 1864)

SIZE: Max L 35 cm (body)

FAO NAMES: *Eng* Royal spiny lobster
Esp Langosta real

MAIN CHARACTERISTICS:

A. Abdominal segments (smooth, each segment bears a broad transverse groove which is broken on its median portion) display a transverse white band separated from posterior margin of segment from a dark band; **B.** abdominal segments display a small white or yellow-whitish spot at base of pleura.

DISTRIBUTION: Mediterranean: along Spanish and French coasts. Eastern Atlantic: Morocco (Cape Juby) to Angola, including the Canary Islands (Spain) and Cabo Verde.



Jasus edwardsii (Hutton, 1875)

SIZE: Max L about 58 cm (body)

FAO NAMES: *Eng* Red rock lobster
Esp Langosta roja

MAIN CHARACTERISTICS:

A. Carapace covered in several spines, the main spines not differing much from smaller ones; **B.** anterior portion (behind transverse groove) of first abdominal segment is entirely smooth; **C.** two or three transverse rows of well marked, scale-shaped, not very dense bas-reliefs along posterior portions of second to fifth abdominal segment.

DISTRIBUTION: Eastern Pacific: only New Zealand waters.



Panulirus versicolor (Latreille, 1804)

SIZE: Max L 40 cm (body)

FAO NAMES: *Eng* Painted spiny lobster
Esp Langosta colorete

MAIN CHARACTERISTICS:

A. Abdominal segments with an evident, narrow whitish stripe on caudal margin; stripe is black or blue-edged; **B.** carapace with evident black-bluish spots white-edged; **C.** antennal peduncles pink, the flagella white.

DISTRIBUTION: Indian and western Pacific: present from the coasts of East Africa (including the Red Sea) to Japan, northern Australia, Micronesia, Melanesia and French Polynesia



Jasus lalandii (Milne-Edwards, 1837)

SIZE: Max L 46 cm (body)

FAO NAMES: *Eng* Cape rock lobster
Esp Langosta del Cabo

MAIN CHARACTERISTICS:

A. Carapace covered in several spines, the main spines not differing much from smaller ones; **B.** anterior half of first abdominal segment displays sculpturation before and after transverse groove; **C.** three to four transverse rows of well marked, scale-shaped bas-reliefs are positioned on the posterior portions of second to fifth abdominal segment.

DISTRIBUTION: Eastern Atlantic: Namibia to Cape of Good Hope and eastwards to Algoa Bay.

Shrimps – Prawns



Aristaeomorpha foliacea (Risso, 1827)

SIZE: Max L 22.5 cm (body length)

FAO NAMES: Eng Giant red shrimp

Esp Gamba española

MAIN CHARACTERISTICS:

A. Rostrum long, narrow, curved upwards, with five to six stocky dorsal teeth on proximal part and some smaller teeth on distal part in females (shorter in males with only five to six dorsal teeth); **B.** a stocky hepatic spine on carapace; **C.** colour blood red.

DISTRIBUTION: Mediterranean: present, but rare; northeastern Atlantic: common (especially in the northernmost areas); northern Norway to Portugal and Morocco (rare), including Lofoten Island, United Kingdom of Great Britain and Northern Ireland, including the Shetland and Hebrides islands.



Aristeus antennatus (Risso, 1816)

SIZE: Max L 22 cm (body length)

FAO NAMES: Eng Blue and red shrimp

Esp Gamba rosada

MAIN CHARACTERISTICS:

A. Rostrum long, narrow and curved upwards, with three dorsal teeth in females (shorter in males); **B.** hepatic spine is absent from carapace; **C.** colour light red, rosy; purple shadings are present on dorsal portion of carapace.

DISTRIBUTION: Mediterranean: common (particularly in the eastern basin). Eastern Atlantic: Portugal to Morocco and Cabo Verde.



Aristaeopsis edwardsiana (Johnson, 1868)

SIZE: Max L 33.4 cm (body length)

FAO NAMES: Eng Scarlet shrimp

Esp Gamba carabinero

MAIN CHARACTERISTICS:

A. Rostrum long, narrow, curved upwards, with three dorsal teeth at base (shorter in males); **B.** several easily visible carinae are present on carapace; hepatic spine is absent; **C.** colour bright red, darker on dorsal portion.

DISTRIBUTION: Mediterranean: western basin. Eastern Atlantic: Portugal to South Africa. Western Atlantic: from Grand Bank to the Gulf of Mexico, southwards to Brazil (including Bermuda, the Caribbean Sea and French Guiana). Indo-Pacific: from African coasts to Australia, including Madagascar, the Arab Sea, India, Japan, the southern Sea of China and Indonesia.



Macrobrachium rosenbergii (de Man, 1879)

SIZE: Max L 34 cm (body length)

FAO NAMES: Eng Giant river prawn

Esp Langostino de río

MAIN CHARACTERISTICS:

A. Rostrum long, well developed and curved upwards forming a high basal crest above the eye; 1 to 14 teeth on dorsal margin, 8 to 14 ventrally; **B.** pereopods of second pair well developed and long, rich in spinules, with strong claws whose dactylus is as long as propodus; **C.** colour whitish, white-yellowish in young; bluish to more or less dark brownish in adult.

DISTRIBUTION: Tropical areas of Indo-Pacific region, from northwestern India to Viet Nam, the Philippines, Papua New Guinea, northern Australia; farmed in the United States, South America, Greece, Israel, Italy, etc.



Palaemon styliferus (Milne-Edwards, 1840)

SIZE: Max L 9 cm (body length)

FAO NAMES: *Eng* Roshna prawn

Esp Camarón rosna

MAIN CHARACTERISTICS:

A. Rostrum long and slender, it bears an elevated basal crest of five to seven teeth over the eye; **B.** ventral margin of rostrum bears six to ten teeth; distal part of dorsal margin toothless, except for one or two subdistal teeth; **C.** colour whitish translucent, distal part of rostrum dark reddish brown.

DISTRIBUTION: Indo-West Pacific: from Pakistan to India, Bangladesh, Thailand, South China Sea, Borneo and Indonesia.



Heterocarpus sibogae (de Man, 1917)

SIZE: Max L about 11 cm (body length)

FAO NAMES: *Eng* Mino nylon shrimp

Esp Camarón nailon mino

MAIN CHARACTERISTICS:

A. Rostrum is shorter than carapace; it bears 14 dorsal teeth; number of ventral teeth up to 11; **B.** first two abdominal segments with a marked dorsal carina; third and fourth abdominal segments bear a very long posteromedian overhanging spine; **C.** colour red, reddish, orange pink.

DISTRIBUTION: Indo-West Pacific: widely distributed from Madagascar to Arabian Sea, Andaman Sea, Japan, the Philippines, Indonesia, New Caledonia, northwest Australia and French Polynesia.



Heterocarpus reedi (Bahamonde, 1955)

SIZE: Max L 39 cm (body length)

FAO NAMES: *Eng* Chilean nylon shrimp

Esp Camarón nailon

MAIN CHARACTERISTICS:

A. Rostrum about as long as the carapace; it bears 8 to 15 dorsal teeth and 6 to 13 ventral teeth; **B.** two long lateral keels extending along almost the entire carapace; **C.** third abdominal segment with a notch on the midpoint of crest; **D:** colour red-orange, red-pink; rostrum whitish with reddish apex.

DISTRIBUTION: Eastern Pacific: in Chilean waters between 25° south (Taltal) and 39° south (Puerto Saavedra).



Metapenaeus affinis (Milne-Edwards, 1837)

SIZE: Max L 22.2 cm (body length)

FAO NAMES: *Eng* Jinga shrimp

Esp Camarón jinga

MAIN CHARACTERISTICS:

A. Rostrum is long, slightly curved; 8 to 11 teeth are present on dorsal margin only (present also on distal third); **B.** a slightly sinuous branchiocardic carina is present; carina reaches posterior expansion of hepatic spine; **C.** merus of fifth pereopod with a proximal notch, followed by a twisted, keeled tubercle in adult males; **D.** colour rosy-tawnyish, light pink to light green or green-bluish, with green or red-tawnyish dots.

DISTRIBUTION: Indo-Pacific: from Gulf of Oman to India, Malaysia, the Philippines, Taiwan Province of China and Papua New Guinea.



Metapenaeus dobsoni (Miers, 1878)

SIZE: Max L 13 cm (body length)

FAO NAMES: *Eng* Kadal shrimp
Esp Camarón kadal

MAIN CHARACTERISTICS:

A. Rostrum slightly curved downwards, extending beyond antennular peduncle; seven to ten teeth are present on proximal half of dorsal margin only; **B.** branchiocardiac groove almost reaching to middle of carapace; **C.** merus of fifth pereopod with one to two large triangular teeth in adult males; **D.** colour yellowish to tawnyish, with tawnyish, greenish or red dots.

DISTRIBUTION: Indo-Pacific: widely spread from western coasts of India to Thailand, Indonesia, the Philippines and Papua New Guinea.



Metapenaeus ensis (De Haan, 1844)

SIZE: Max L 18.9 cm (body length)

FAO NAMES: *Eng* Greasyback shrimp
Esp Camarón resbaloso

MAIN CHARACTERISTICS:

A. Rostrum nearly straight, rather narrow; 8 to 11 teeth are positioned on the whole dorsal margin only; **B.** in adult males, merus of fifth pereopod with a proximal notch followed by a long, inwardly curved spiny process and a row of tubercles; **C.** colour rosy to grey-greenish, with dense dark brown dots; uropods distally purple-blue, with reddish-brown margins.

DISTRIBUTION: Indo-Pacific: widely spread from eastern coasts of India to Japan, northern and western Australia, Papua New Guinea.



Metapenaeus endeavouri (Schmitt, 1926)

SIZE: Max L 17.5 cm (body length)

FAO NAMES: *Eng* Endeavour shrimp
Esp Camarón devo

MAIN CHARACTERISTICS:

A. Rostrum dark brown, very straight, directed upward; 10 to 12 teeth are positioned on the whole dorsal margin only; **B.** in adult males, merus of fifth pereopod with a proximal notch, followed by a keeled tubercle; **C.** body with numerous fine hairy areas; colour pale brown to pink or yellowish; tips of uropods brilliant blue.

DISTRIBUTION: Pacific: only northern and eastern Australian waters and the Gulf of Papua New Guinea.



Metapenaeus joyneri (Miers, 1880)

SIZE: Max L 15 cm (body length)

FAO NAMES: *Eng* Shiba shrimp
Esp Camarón siba

MAIN CHARACTERISTICS:

A. Rostrum slightly curved, not extending beyond antennular peduncle; seven to nine teeth are present on proximal half of dorsal margin only; **B.** in adult males merus of fifth pereopod with a proximal notch, followed by a keeled tubercle; **C.** colour pale yellow to bright yellow, with greenish or brown dots.

DISTRIBUTION: Western Pacific: from the Gulf of Tonkin to southeastern Korean Peninsula, Taiwan Province of China and southern Japan.



Metapenaeus monoceros (Fabricius, 1798)

SIZE: Max L 20 cm (body length)

FAO NAMES: *Eng* Speckled shrimp

Esp Gamba moteada

MAIN CHARACTERISTICS:

A. Rostrum straight, long; 9 to 12 teeth are positioned on the whole dorsal margin only; **B.** in adult males, merus of fifth pereopod with a proximal notch, followed by a long, inward-curved spiny process and a row of small tubercles; **C.** colour rosy to grey-greenish or whitish, with brown specks.

DISTRIBUTION: Mediterranean: present in the easternmost part. Indo-Pacific: widely spread from South Africa to Mauritius, India, the Bay of Bengal and Malay Peninsula.



Penaeus aztecus (Ives, 1891)

SIZE: Max L 23.6 cm (body length)

FAO NAMES: *Eng* Northern brown shrimp

Esp Camarón café norteño

MAIN CHARACTERISTICS:

A. Rostrum horizontal or slightly curved upwards; apex of rostrum straight and short; eight to nine teeth on dorsal margin, ventral margin bears two teeth; **B.** broad, well defined dorsolateral grooves on sixth abdominal segment; **C.** colour tawnyish with orange to yellowish shadings, to reddish or greenish; no dark spots on junction between third and fourth abdominal segment.

DISTRIBUTION: Western Atlantic: from Massachusetts to Florida (United States) and Gulf of Mexico to northwestern Yucatan (Mexico).



Parapenaeus longirostris (Lucas, 1846)

SIZE: Max L 19 cm (body length)

FAO NAMES: *Eng* Deep-water rose shrimp

Esp Gamba de altura

MAIN CHARACTERISTICS:

A. Rostrum slightly curved upwards; eight to nine teeth are positioned on upper margin only, last tooth is well distanced from the others; **B.** a complete longitudinal suture runs through the flank of carapace; **C.** colour pink-orange, purple shadings on carapace.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Portugal to Angola. Western Atlantic: Massachusetts (United States) to Venezuela (Bolivarian Republic of).



Penaeus brasiliensis (Latreille, 1817)

SIZE: Max L 25 cm (body length)

FAO NAMES: *Eng* Redspotted shrimp

Esp Camarón rosado con manchas

MAIN CHARACTERISTICS:

A. Rostrum slender, dorsally arched, apex straight and short; dorsal margin bears eight to nine teeth, ventral margin bears two teeth; **B.** broad, well defined (specimens from South America) or narrow (specimens from North America) dorsolateral grooves on sixth abdominal segment; **C.** colour rosy to red-tawnyish; a rounded red-tawnyish to tawnyish spot on junction between third and fourth abdominal segment.

DISTRIBUTION: Western Atlantic: present from North Carolina to southern Brazil (Rio Grande), including Yucatan (Mexico) and the Caribbean Sea.



Penaeus californiensis (Holmes, 1900)

SIZE: Max L 24 cm (body length)

FAO NAMES: *Eng* Yellowleg shrimp

Esp Camarón patiamarillo

MAIN CHARACTERISTICS:

A. Dorsal margin of rostrum bears 8 to 11 teeth, ventral margin bears two teeth; **B.** gastroorbital crest long, covering at least four-fifths of distance between hepatic spine and orbital margin; **C.** colour coffee-reddish.

DISTRIBUTION: Eastern Pacific: from San Francisco Bay, California (United States) to Gulf of California, Peru and Galapagos Islands (Ecuador).



Penaeus duorarum (Burkenroad, 1939)

SIZE: Max L 28 cm (body length)

FAO NAMES: *Eng* Northern pink shrimp

Esp Camarón rosado norteño

MAIN CHARACTERISTICS:

A. Rostrum well developed, tip is rather short; dorsal margin bears eight to nine teeth, ventral margin bears two teeth; **B.** dorsolateral grooves on sixth abdominal segment narrow but easily visible; **C.** colour more or less dark pink, reddish, bright lemon yellow or greyish; a rounded purple, brown, greyish red, or blue spot on junction between third and fourth abdominal segment.

DISTRIBUTION: Western Atlantic: from the Bay of Chesapeake to Florida, the Gulf of Mexico and Cape Catoche, including the Bermuda Islands and Mujeres Islands.



Penaeus chinensis (Osbeck, 1765)

SIZE: Max L about 18 cm (body length)

FAO NAMES: *Eng* Fleshy prawn

Esp Langostino carnososo

MAIN CHARACTERISTICS:

A. Rostrum slender, long; seven to ten teeth are positioned on dorsal margin (and on anterior third), three to five teeth on ventral margin; **B.** gastroorbital crest extending over posterior two-thirds of distance between hepatic spine and orbital margin; gastrofrontal crest absent; **C.** colour white-translucent to yellow, with dense small black-tawnyish dots.

DISTRIBUTION: Western Pacific: spread over the Yellow Sea, from northern China to the Korean Peninsula.



Penaeus indicus (Milne-Edwards, 1837)

SIZE: Max L 23 cm (body length)

FAO NAMES: *Eng* Indian white prawn

Esp Langostino blanco de la India

MAIN CHARACTERISTICS:

A. Rostrum slender, moderately high in large specimens; its tip is slightly curved, sigmoidal-shaped; seven to nine teeth are positioned on dorsal margin, three to six teeth on ventral margin; **B.** gastroorbital crest extending over posterior two-thirds of the distance between orbital margin and hepatic spine; hepatic crest absent; **C.** colour yellowish, green-yellowish to light pink, with green-olive or grey-bluish dots.

DISTRIBUTION: Indo-Pacific: from South Africa to northern Australia, including Red Sea, India, southern China, Malaysia and Indonesia (very rare in the Persian Gulf).



Penaeus japonicus (Spence Bate, 1888)

SIZE: Max L 30 cm (body length)

FAO NAMES: *Eng* Kuruma prawn
Esp Langostino japonés

MAIN CHARACTERISTICS:

A. Rostrum bears 9 to 11 teeth on dorsal margin extended to half length of carapace and only one stocky tooth on ventral margin; **B.** gastrofrontal crest and hepatic crest are present; **C.** colour pale yellowish, rosy; dark tawny, tawny-reddish transverse bands are present; band of last abdominal segment incomplete, not extended to ventral margin.

DISTRIBUTION: Mediterranean: in the eastern basin. Indian Ocean: common from South Africa to India; Pacific: Korean Peninsula, Japan, Papua New Guinea to Fiji.



Penaeus latisulcatus (Kishinouye, 1896)

SIZE: Max L 20.2 cm (body length)

FAO NAMES: *Eng* Western king prawn
Esp Langostino marfil

MAIN CHARACTERISTICS:

A. Rostrum is slender; it bears 9 to 12 teeth on dorsal margin and only one tooth on ventral margin; **B.** hepatic crest is present, gastrofrontal groove bifurcate posteriorly; **C.** colour pale yellow to tawnyish; a short reddish or tawnyish transverse stripe on pleura of first five abdominal segments.

DISTRIBUTION: Indo-Pacific: from South Africa to northern and southern Australia, including Red Sea, Malaysia, Japan, Korean Peninsula, Papua New Guinea and Fiji.



Penaeus kerathurus (Forskål, 1775)

SIZE: Max L 22.5 cm (body length)

FAO NAMES: *Eng* Caramote prawn
Esp Langostino

MAIN CHARACTERISTICS:

A. Tip of rostrum is slightly curved upwards; rostrum bears 8 to 13 teeth on dorsal margin and only one stocky tooth on ventral margin; **B.** gastrofrontal crest present; gastrofrontal groove bifurcate posteriorly; **C.** colour rosy, yellow-rosy, grey-yellowish; copper-green, mauve-green or tawnyish bands are present; band of last abdominal segment continuous and reaching ventral margin.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: common from the United Kingdom of Great Britain and Northern Ireland to Angola.



Penaeus merguensis (de Man, 1888)

SIZE: Max L 24 cm (body length)

FAO NAMES: *Eng* Banana prawn
Esp Langostino banana

MAIN CHARACTERISTICS:

A. Tip of rostrum horizontally straight, rostral crest very high and broadly triangular in large specimens; rostrum bears six to nine teeth on dorsal margin, three to six teeth on ventral margin; **B.** hepatic crest and gastrofrontal crest absent, gastroorbital crest varying from distinct to nearly absent; **C.** colour rosy to pale yellow or grey-greenish, with grey-greenish or grey-bluish dots.

DISTRIBUTION: Indo-Pacific: widely spread from Gulf of Oman (Arabian Sea) to northern Australia, including southern China and the Philippines.



Penaeus monodon (Fabricius, 1798)

SIZE: Max L 35 cm (body length)

FAO NAMES: *Eng* Giant tiger prawn
Esp Langostino jumbo

MAIN CHARACTERISTICS:

A. Rostrum bears six to eight teeth on dorsal margin and three teeth on ventral margin; **B.** hepatic crest almost horizontal, well separated from base of antennal crest; **C.** colour tawnyish to grey-greenish, bluish or reddish; dark brown and mud-yellow stripes are present on abdomen, mud-yellow transverse bands on carapace.

DISTRIBUTION: Indo-Pacific: widely spread from southeastern Africa to Red Sea, India, China, Japan, Australia and Papua New Guinea.



Penaeus occidentalis (Streets, 1871)

SIZE: Max L 24 cm (body length)

FAO NAMES: *Eng* Western white shrimp
Esp Camarón blanco del Pacífico

MAIN CHARACTERISTICS:

A. Rostrum bears 9 to 12 teeth on dorsal margin (teeth are also positioned on anterior third of rostrum) and three to five teeth on ventral margin; **B.** dorsolateral grooves are absent from sixth segment, gastrofrontal crest is absent; adrostral crest and adrostral groove short, extended to (or just slightly beyond) epigastric tooth; **C.** colour rosy to pink-yellowish, azure-greenish.

DISTRIBUTION: Eastern Pacific: from Mexico to Peru.



Penaeus notialis (Pérez Farfante, 1967)

SIZE: Max L 20 cm (body length)

FAO NAMES: *Eng* Southern pink shrimp
Esp Camarón rosado sureño

MAIN CHARACTERISTICS:

A. Apex of rostrum slender, short; dorsal margin of rostrum bears eight to ten teeth, ventral margin bears two teeth; **B.** dorsolateral grooves on sixth abdominal segment are broad, well defined; **C.** colour rosy to yellowish, to light tawnyish; dark spots on junction between third and fourth abdominal segment often absent.

DISTRIBUTION: Eastern Atlantic: from Mauritania to Angola. Western Atlantic: Caribbean Sea to southern Brazil.



Penaeus penicillatus (Alcock, 1905)

SIZE: Max L 21.2 cm (body length)

FAO NAMES: *Eng* Redtail prawn
Esp Camarón rabo colorado

MAIN CHARACTERISTICS:

A. Rostrum slender and long (taller in adult specimens), apex is straight, rostral crest slightly elevated to moderately high; seven to nine teeth on dorsal margin, three to five teeth on ventral margin; **B.** hepatic crest absent; **C.** colour whitish, greenish, pink-yellowish, rosy; uropods are green or red, margin of uropods is red.

DISTRIBUTION: Indo-Pacific: from northeastern Arab Sea (Pakistan and northwestern India) to China (including Taiwan Province of China) and Indonesia.



Penaeus plebejus (Hess, 1865)

SIZE: Max L about 30 cm (body length)

FAO NAMES: *Eng* Eastern king prawn
Esp Langostino real oriental

MAIN CHARACTERISTICS:

A. Rostrum is slender; it bears 10 to 11 teeth on dorsal margin and only one tooth on ventral margin; **B.** hepatic crest is present; gastrofrontal groove divided into three at posterior end; **C.** body uniformly coloured, cream-yellow to cream-pink; a faint dark vertical bar on pleura of abdominal segments; antennal flagella whitish.

DISTRIBUTION: Pacific: only in eastern Australian waters, from southern Queensland to Victoria and Lord Howe Island.



Penaeus semisulcatus (De Haan, 1844)

SIZE: Max L 25 cm (body length)

FAO NAMES: *Eng* Green tiger prawn
Esp Langostino tigre verde

MAIN CHARACTERISTICS:

A. Rostrum bears six to eight teeth on dorsal margin and three teeth on ventral margin; **B.** gastrofrontal crest absent; **C.** colour light tawnyish, sometimes greenish, juveniles are creamy white; tawnyish transverse stripes are present on body; uropods distally brown-bluish to brown-greenish, tips bluish or reddish.

DISTRIBUTION: Mediterranean: in the eastern basin. Indo-Pacific: from South Africa to India, Sri Lanka, Japan, the Philippines, Papua New Guinea, northern Australia to Fiji.



Penaeus schmitti (Burkenroad, 1936)

SIZE: Max L 23.5 cm (body length)

FAO NAMES: *Eng* Southern white shrimp
Esp Langostino blanco sureño

MAIN CHARACTERISTICS:

A. Tip of rostrum is slender and long, almost half the length of rostrum; rostrum bears seven to nine teeth on dorsal margin and two teeth on ventral margin; **B.** gastrofrontal crest absent; a very small dorsolateral groove, without easily visible margins, is positioned along flanks of carina of sixth abdominal segment **C.** colour translucent, with pale blue to greyish, greenish or yellowish shadings.

DISTRIBUTION: Western Atlantic: from the Caribbean Sea (including the Greater and Lesser Antilles, the Virgin Islands and Cuba) to southern Brazil.



Penaeus setiferus (Linnaeus, 1767)

SIZE: Max L 25.7 cm (body length)

FAO NAMES: *Eng* Northern white shrimp
Esp Camarón blanco norteño

MAIN CHARACTERISTICS:

A. Tip of rostrum is slender and long, almost half the length of rostrum; rostrum bears usually seven to nine teeth on dorsal margin and two teeth on ventral margin; **B.** gastrofrontal crest absent; dorsolateral groove on sixth segment is just visible, it bear no lips; **C.** colour light bluish, greyish, greenish; rosy tones on rostrum and flanks; greyish transverse stripes are present on carapace and on abdominal segments.

DISTRIBUTION: Western Atlantic: from Fire Island, New York, to Florida, and in the Gulf of Mexico (from Florida to Campeche in Mexico).



Penaeus stylirostris (Stimpson, 1871)

SIZE: Max L 26.3 cm (body length)

FAO NAMES: *Eng* Blue shrimp
Esp Camarón azul

MAIN CHARACTERISTICS:

A. Rostrum bears five to ten teeth on dorsal margin (teeth are absent from anterior third of rostrum) and three to eight teeth on ventral margin; **B.** gastrofrontal crest absent; **C.** colour white-rosy, red-yellowish, grey-greenish, light azure-violet.

DISTRIBUTION: Eastern Pacific: Mexico (Baja California) to Peru.



Xiphopenaeus kroyeri (Heller, 1862)

SIZE: Max L 14 cm (body length)

FAO NAMES: *Eng* Atlantic seabob
Esp Camarón siete barbas

MAIN CHARACTERISTICS:

A. Rostrum is as long as or longer than carapace, tip styloid and curved upwards; proximal portion of dorsal margin only bears five teeth; **B.** fourth and fifth pair of pereopods thin and much longer than the previous ones, dactylus is very elongate; **C.** colour whitish dorsally, ventrally yellowish or greyish; apex of rostrum reddish; uropods yellowish, distally rosy.

DISTRIBUTION: Western Atlantic: from northern Carolina (United States) to southern Brazil (Santa Catarina) including the Gulf of Mexico, the Antilles and the Caribbean Sea.



Penaeus vannamei (Boone, 1931)

SIZE: Max L 23 cm (body length)

FAO NAMES: *Eng* Whiteleg shrimp
Esp Camarón patiblanco

MAIN CHARACTERISTICS:

A. Rostrum is slender and straight, tip is slightly curved downwards; rostrum bears eight to nine teeth on dorsal margin and one to two teeth on ventral margin (posterior tooth situated at level of or anterior to anterior dorsal tooth); **B.** gastrofrontal crest absent; **C.** light-coloured, with whitish, grey-greenish or grey-yellowish tones.

DISTRIBUTION: Eastern Pacific: from the Gulf of California to northern Peru; this species is also cultured in many countries of the world.



Pleoticus muelleri (Spence Bate, 1888)

SIZE: Max L 19 cm (body length)

FAO NAMES: *Eng* Argentine red shrimp
Esp Camarón langostín argentino

MAIN CHARACTERISTICS:

A. Rostrum is straight, short, extended to level of second article of antennular segment, ventral margin is almost straight, with 7 to 13 equidistant teeth on dorsal margin only; **B.** postorbital spine moderately developed; **C.** colour yellowish to red-yellowish, red or red-orange.

DISTRIBUTION: Western Atlantic: from southern Brazil (20° south) to southern Argentina (Santa Cruz, Patagonia).

Abalone

Haliotis spp.



Dorsal view



Ventral view

Haliotis discus (Reeve, 1846)

SIZE: Max L over 10 cm

FAO NAMES: *Eng* Japanese abalone
Esp Abulón japonés

MAIN CHARACTERISTICS:

A. Shell oval, not very large, flattened, similar in shape to an ear, robust, with clearly visible transverse growth striae on the external face; **B.** very developed spire with the last turn, bearing a series of rounded holes, of which only four to six are open; **C.** outer shell brown-greenish, sometimes with purple hues; inner shell mother-of-pearl, with greenish reflections.

DISTRIBUTION: Pacific: waters of Japan, China, the Korean Peninsula; also present in the waters of Chile.



Dorsal view



Ventral view

Haliotis rubra (Leach, 1814)

SIZE: Max L 20 cm

FAO NAMES: *Eng* Blacklip abalone
Esp Oreja de mar de labios negros

MAIN CHARACTERISTICS:

A. Shell large, rounded-oval, obliquely wrinkled, spirally ridged (some ridges larger than others, feeble radial lines cross the ridges); **B.** shell slightly angular at the row of holes (about six, elevated, circular) near its margin, markedly escavate below the margin; **C.** outer shell dark red, brown-greenish, sometimes with purple hues; inner shell silvery.

DISTRIBUTION: Southern Indo-Pacific: present from New South Wales to Western Australia, including Tasmania.



Dorsal view



Ventral view

Haliotis glabra (Gmelin, 1791)

SIZE: Max L 5 cm

FAO NAMES: *Eng* Glistening abalone
Esp –

MAIN CHARACTERISTICS:

A. Shell oval shape, with low spire, not protruding; almost smooth outer surface, with low spiral grooves and radial lines crossing them; **B.** spire with the last turn bearing a series of rounded or oval-shaped holes, just slightly raised above the surface of the shell, of which only the last five to six are open; **C.** outer shell from brownish-green to brownish-grey, with cream or whitish spots and lines; inner shell mother-of-pearl, with silver reflections.

DISTRIBUTION: Pacific: species present from the Philippines to southern Indonesia.



Dorsal view



Ventral view

Haliotis rufescens (Swainson, 1822)

SIZE: Max L 30 cm

FAO NAMES: *Eng* Red abalone
Esp Abulón colorado

MAIN CHARACTERISTICS:

A. Shell rather flat, oval in shape, similar to an ear; irregular external surface, bearing low undulations that form swellings and more or less visible spiral cords; **B.** spire with the last turn bearing a series of slightly raised rounded holes of which only the last three to four are open; **C.** outer shell dull brick red, sometimes with greenish hues; inner shell mother-of-pearl; foot with yellowish ventral face and blackish dorsal-lateral part.

DISTRIBUTION: Pacific: present from the State of Washington (United States) to Baja California (Mexico); also introduced to the waters of Chile.



Dorsal view



Ventral view



Dorsal view



Ventral view

Haliotis tuberculata (Linnaeus, 1758)

SIZE: Max L 19 cm

FAO NAMES: *Eng* Tuberculate abalone

Esp Oreja marina tuberculosa

MAIN CHARACTERISTICS:

A. Shell oval, rather wide and flat, similar in shape to an ear; it is stocky; external face bears a variable number of wavy, transverse growth lines (absent in subspecies *H. t. tuberculata*); **B.** spire bears three to four whorls, final whorl is well developed into a carina, with a set of rounded holes, five to eight of which are opened **C.** outer shell tawny-greenish, with reddish marblings sometimes; inner shell mother of pearl.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from the English Channel to northern Morocco.

Haliotis varia (Linnaeus, 1758)

SIZE: Max L 8 cm

FAO NAMES: *Eng* Variable abalone

Esp –

MAIN CHARACTERISTICS:

A. Shell oval shape, somewhat inflated, similar in shape to an ear, robust, the peripheral part of the left side without a keel; exterior surface with irregular radial folds furrowed by low spiral ribs of different sizes, some bearing warts or small nodules; **B.** spire with the last turn bearing a series of rounded or oval holes (only the last four to five are open, located on slightly raised tubercles); **C.** outer shell brownish to reddish, greenish or cream; inner shell mother of pearl.

DISTRIBUTION: Indo-West Pacific, from East Africa and the Red Sea to Melanesia, to Japan and southern Queensland (Australia).

Ark shells – Clams – Cockles

Families Arcidae, Arctiidae, Cardiidae, Donacidae, Hiatellidae, Mactridae, Mesodesmatidae, Myidae, Semelidae, Solecurtidae, Solenidae, Tridacnidae, Veneridae



Left valve (exterior)



Right valve (interior)

Anadara antiquata (Linnaeus, 1758)

SIZE: Max L 10.5 cm

FAO NAMES: *Eng* Antique ark
Esp –

MAIN CHARACTERISTICS:

A. Shell equivalve, solid, inequilateral, obliquely ovate and elongate in outline, with an extended posteroventral part; **B.** 35 to 44 radial ribs; **C.** outer shell white-greyish, often with grey stain on umbon and posterior part, periostracum dark brown; inner shell whitish, yellowish-white.

DISTRIBUTION: Indo-West Pacific: widespread from East Africa and Madagascar (including the Red Sea) to eastern Polynesia; northward to southern Japan and Hawaii (United States), southward to northern Australia and New Caledonia.



Right valve (exterior)



Left valve (interior)

Anadara cornea (Reeve, 1844)

SIZE: Max L 6 cm

FAO NAMES: *Eng* Corneous ark
Esp –

MAIN CHARACTERISTICS:

A. Shell slightly inequivalve, solid, inequilateral, rather transversally elongate, roughly quadrate to subtrapezoidal in outline; **B.** 26 to 30 radial ribs; **C.** outer shell white, often with a deep bluish green tint on the posterior part, periostracum dark greyish brown; inner shell whitish.

DISTRIBUTION: West Pacific: distributed from Thailand to the Philippines Islands; northward to Japan, southward to Indonesia.



Right valve (exterior)

Anadara brasiliana (Lamarck, 1819)

SIZE: Max L 7.8 cm

FAO NAMES: *Eng* Incongruous ark
Esp Arca pepitona

MAIN CHARACTERISTICS:

A. Shell broadly oval, heavy, inequivalve (left valve overlapping right); **B.** 26 to 28 radial ribs; **C.** outer shell whitish, often pinkish-brown below umbones, periostracum thin; inner shell whitish, yellowish-white.

DISTRIBUTION: West Atlantic: from North Carolina to Florida (United States) and the Gulf of Mexico; southward to Brazil, including Caribbean.



Right valve (exterior)



Right valve (interior)

Anadara inaequivalvis (Bruguière, 1789)

SIZE: Max L 9.5 cm

FAO NAMES: *Eng* Inequivalve ark
Esp Arca desigual

MAIN CHARACTERISTICS:

A. Shell slightly inequivalve, stocky, inequilateral, subquadrangular, swollen and globose, posterior margin is truncated and oblique; **B.** 30 to 36 broad radial ribs, about as broad as intercostal spaces; **C.** outer shell white-yellowish, periostracum tawnyish to tawny-blackish; inner shell whitish, yellowish-white.

DISTRIBUTION: Mediterranean/Black Sea: accidentally introduced, successfully adapted. Indo-Pacific: widespread, from India to Sri Lanka, Japan and northern Australia.



Right valve (exterior)



Left valve (interior)

Anadara notabilis (Röding, 1798)**SIZE:** Max L to 9 cm**FAO NAMES:** *Eng* Eared ark
Esp Arca orejona**MAIN CHARACTERISTICS:**

A. Shell inequivalve (one valve slightly larger), heavy, oblong, trapezoidal, sharply angled at hind and front margin; **B.** 25 to 27 strong radial ribs; **C.** outer shell whitish, periostracum brown; inner shell whitish.

DISTRIBUTION: Western Atlantic: from North Carolina to eastern Florida (United States), southward to Brazil, including Caribbean.



Right valve (exterior)



Left valve (interior)

Arca ventricosa (Lamarck, 1819)**SIZE:** Max L 9 cm**FAO NAMES:** *Eng* Ventricose ark
Esp –**MAIN CHARACTERISTICS:**

A. Shell equivalve, very inequilateral, elongate rectangular; umbones strongly protruding; **B.** irregular growth marks crossed by radial ridges; **C.** outer shell posterior half dark brown, zebra-like brown stripes on cream background anteriorly; inner shell whitish tinged with dark brown.

DISTRIBUTION: Indo-West Pacific: widespread from eastern coasts of Africa, Madagascar and the Red Sea, to eastern Polynesia; north to Hawaii and Japan, south to Queensland (Australia) and New Caledonia.



Outer shell



A live specimen

Arca noae (Linnaeus, 1758)**SIZE:** Max L 10 cm**FAO NAMES:** *Eng* Noah's ark
Esp Arca de Noe**MAIN CHARACTERISTICS:**

A. Shell equivalve, quite inequilateral, sub quadrangular, swollen and elongate and shaped like a primitive boat; **B.** marked, scaly ridges radiate on both halves of shell, crossing concentric longitudinal grooves; **C.** outer shell white-tawnyish with tawny-reddish zigzag stripes; inner shell white-tawnyish.

DISTRIBUTION: Mediterranean: very common. Eastern Atlantic: from Portugal to Senegal.



Left valve (exterior)



A live specimen

Arca zebra (Swainson, 1833)**SIZE:** Max L 10 cm**FAO NAMES:** *Eng* Turkey wing
Esp Arca cebra**MAIN CHARACTERISTICS:**

A. Shell equivalve, elongate rectangular, inflated; **B.** 24 to 30 irregular radial ribs are present on both valves; **C.** outer shell yellowish-white, yellowish brown with reddish to dark brown wavy bands, periostracum brown; inner shell whitish with exterior colour pattern showing throughout.

DISTRIBUTION: Western Atlantic: from North Carolina to Florida (United States) and the Gulf of Mexico; southward to Brazil, including the Caribbean and Bermuda.



Left valve (exterior)



Left valve (interior)

Tegillarca granosa (Linnaeus, 1758)

SIZE: Max L 9 cm

FAO NAMES: *Eng* Blood cockle*Esp* Arca del Pacífico occidental**MAIN CHARACTERISTICS:**

A. Shell equivalve, stocky, slightly inequilateral, ovate, strongly inflated, umbones strongly protruding; **B.** 15 to 20 broad radial ribs, with wide intercostal spaces; **C.** outer shell white-yellowish, periostracum yellowish-brown; inner shell whitish, yellowish-white.

DISTRIBUTION: Indo-West Pacific: widespread from East Africa to Polynesia; northward to Japan, southward to northern and eastern Australia.



Right valve (exterior)



Right valve (interior)

Acanthocardia echinata (Linnaeus, 1758)

SIZE: Max L 7.5 cm

FAO NAMES: *Eng* European prickly cockle*Esp* Carneiro**MAIN CHARACTERISTICS:**

A. Shell stocky, inequilateral, globose, rather oval-shaped; **B.** 18 to 22 prominent radial ribs bearing a row of spines, which are often very well developed; spines become spatula-like in the ventral and anterior portions of each valve; **C.** outer shell tawnyish to whitish, periostracum dull brown; inner shell whitish.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Iceland, Norway and the Baltic Sea to Morocco.



Left valve (exterior)



Left valve (interior)

Arctica islandica (Linnaeus, 1767)

SIZE: Max L more than 13 cm

FAO NAMES: *Eng* Ocean quahog*Esp* Almeja de Islandia**MAIN CHARACTERISTICS:**

A. Shell is stocky, shape varies from oval to circular; **B.** several thin concentric growth lines are present on outer shell; **C.** outer shell light tawny to blackish, periostracum thin and rather glossy; inner shell whitish.

DISTRIBUTION: Eastern Atlantic: Iceland and Norway to the Bay of Biscay (France). Western Atlantic: Labrador (Canada) to Northern Carolina (United States).



Left valve (exterior)



Left valve (interior)

Acanthocardia tuberculata (Linnaeus, 1758)

SIZE: Max L 9 cm

FAO NAMES: *Eng* Tuberculate cockle*Esp* Corruco**MAIN CHARACTERISTICS:**

A. Shell stocky, inequilateral, globose, oval-shaped; **B.** 19 to 24 clear radial ribs bearing a set of tubercles, or small spines, not joined by carinae; tubercles may sometimes be absent or poorly protruding; **C.** outer shell darkish, more or less deep tones prevail, periostracum thin and deciduous; inner shell whitish, with light tawnyish highlights sometimes.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from the English Channel to Morocco, including Madeira and Canary Islands (Spain).



Right valve (interior)

Cerastoderma edule (Linnaeus, 1758)**SIZE:** Max L 5.3 cm**FAO NAMES:** *Eng* Common edible cockle
Esp Barberecho común**MAIN CHARACTERISTICS:**

A. Shell equivalve, inequilateral, globose, more or less subquadrangular, heart-shaped; **B.** 22 to 28 contiguous, rounded and flattened, radial ribs with poorly developed sculpture; **C.** outer shell variable, white-tawnyish, pale yellowish, tawnyish, periostracum thin and fibrous; inner shell white-yellowish, tawnyish shadings along the posterior margin.

DISTRIBUTION: Mediterranean: in the westernmost portion only. Eastern Atlantic: from the Barents Sea and the Baltic Sea to Dakar (Senegal).



Right valve (interior)

Cerastoderma glaucum (Bruguère, 1789)**SIZE:** Max L 5.5 cm**FAO NAMES:** *Eng* Olive green cockle
Esp Barberecho verde**MAIN CHARACTERISTICS:**

A. Shell equivalve, inequilateral, globose, oval-shaped, more or less subquadrangular, heart-shaped; **B.** 17 to 28 convex radial ribs, not contiguous, with poorly visible or rather blurred ornament; **C.** outer shell very variable, white-tawnyish, pale yellowish, tawnyish, periostracum thin and fibrous; inner shell white, white-yellowish, tawnyish shadings along the whole posterior margin.

DISTRIBUTION: Mediterranean: common throughout the whole basin. Eastern Atlantic: from Norway and the Baltic Sea to Morocco; also in Caspian Sea and northern Red Sea.



Right valve (exterior)



Right valve (interior)

Laevicardium elatum (Sowerby I, 1833)**SIZE:** Max L 18 cm**FAO NAMES:** *Eng* Giant Pacific egg cockle
Esp Barberecho gigante**MAIN CHARACTERISTICS:**

A. Shell moderately thin, almost tall as long, well inflated, with an obliquely oval shape (with age reaches large size acquiring an elongated oval shape higher than long); **B.** each valve bearing about 50 quite low radial ribs, with a relatively smooth surface; **C.** outer shell cream to yellowish, periostracum horn coloured, glossy; inner shell porcelain white colour.

DISTRIBUTION: Eastern Pacific: From San Pedro (California, United States) to Panama.



Right valve (exterior)



Right valve (interior)

Vasticardium pectiniforme (Born, 1780)**SIZE:** Max L 6.5 cm**FAO NAMES:** *Eng* Pacific yellow cockle
Esp –**MAIN CHARACTERISTICS:**

A. Shell higher than long, slightly inequilateral, oblong ovate; posterior part slightly expanded; **B.** each valve bearing 27 to 32 prominent, rugose, rounded radial ribs, narrower and distinctly spinose on posterior slope; **C.** outer shell whitish, periostracum straw colour to olive-brown; inner shell white, white-yellowish.

DISTRIBUTION: Indo-West Pacific: widespread from East and southeast Africa to eastern Indonesia; northward to Japan, southward to Australia (Queensland).



Left valve (exterior)



Left valve (interior)

Donax cuneatus* (Linnaeus, 1758)*SIZE:** Max L 4 cm**FAO NAMES:** *Eng* Cuneate donax
Esp –**MAIN CHARACTERISTICS:**

A. Shell very inequilateral, subtriangular, wedge-shaped to trigonal-ovate; **B.** outer shell bears fine concentric grooves and very closely spaced, tenuous radial lines; posterior slope with quite strong, rugose concentric grooves **C.** outer shell white, cream, brown, grey, or purple, often with darker bands; inner shell whitish, sometimes dark purple overall.

DISTRIBUTION: Indo-West Pacific: from Madagascar, India and Sri Lanka to Indonesia; northward to Japan, southward to northern Australia.



Right valve (exterior)



Left valve (interior)

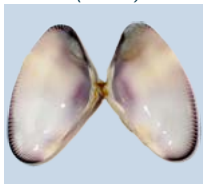
Donax trunculus* (Linnaeus, 1758)*SIZE:** Max L 5 cm**FAO NAMES:** *Eng* Truncate donax
Esp Coquina truncada**MAIN CHARACTERISTICS:**

A. Shell slightly inequivalve, inequilateral, subtriangular and flat, anterior portion rounded, longer than posterior portion which is truncated and oblique; **B.** outer shell bears longitudinal growth lines and very narrow radial lines; crenulated inner edge; **C.** outer shell white-yellowish, olive, violet or tawnyish, some radial areas are darker; inner shell whitish, with wide violet portions.

DISTRIBUTION: Mediterranean: very common. Black Sea. Eastern Atlantic: from United Kingdom of Great Britain and Northern Ireland to Mauritania. Red Sea.



Left valve (exterior)



Interior

Donax obesulus* (Reeve, 1854)*SIZE:** Max L 3.4 cm**FAO NAMES:** *Eng* Common peruvian donax
Esp –**MAIN CHARACTERISTICS:**

A. Shell inequilateral, subtriangular, somewhat flattened, anterior portion rounded, longer than posterior portion which is somewhat truncated and oblique; **B.** outer shell bears radial striae well separated, becoming not very evident on the anterior portion, closer together on the posterior part; markedly crenulated inner edge; **C.** outer shell whitish to cinnamon, to purplish-brown, sometimes with blue-violet concentric bands or with light or dark rays; inner shell whitish, with purple hues in the umbonal area and on the posterior margin.

DISTRIBUTION: Eastern Pacific: from Ecuador to Chile.



Left valve (exterior)

Plebidonax deltoides* (Lamarck, 1818)*SIZE:** Max L 7 cm**FAO NAMES:** *Eng* Goolwa donax
Esp –**MAIN CHARACTERISTICS:**

A. Shell inequilateral, subtriangular and flat, anterior portion rounded, longer than posterior portion which is truncated and oblique; **B.** hinge without anterior lateral teeth; **C.** nearly smooth exterior; **D.** outer shell white, brown, purple, blue, mauve, green, yellow or orange; inner shell usually purple.

DISTRIBUTION: Indo-West Pacific: from Andaman and Nicobar Islands to Indonesia and Australia.



A live specimen

Panopea generosa (Gould, 1850)**SIZE:** Max L 22.9 cm**FAO NAMES:** *Eng* Pacific geoduck
Esp Panopea del Pacifico**MAIN CHARACTERISTICS:**

A. Shell rather thick and chalky, larger than high and roughly quadrangular in outline; rounded front end and squared-off hind end with rounded corners; valves gaping everywhere except at umbones; **B.** extremely long, fused and poorly retractable siphons; **C.** valves whitish, greyish, yellowish-white.

DISTRIBUTION: Eastern North Pacific: distributed from Alaska (United States) to central Baja California (Mexico).



A live specimen

Panopea japonica (Adams, 1850)**SIZE:** Max L 17 cm**FAO NAMES:** *Eng* –
Esp –**MAIN CHARACTERISTICS:**

A. Shell rather thick and chalky, larger than high and roughly quadrangular in outline, gaping anteriorly and posteriorly; **B.** extremely long, fused and poorly retractable siphons; **C.** valves whitish, greyish.

DISTRIBUTION: Northern West Pacific: distributed from Russian Federation (Sakhalin Islands) to Korean Peninsula and Japan (Kyushu).



Right valve (exterior)



Interior

Mactra grandis (Gmelin, 1791)**SIZE:** Max L 9 cm**FAO NAMES:** *Eng* Plain troughshell
Esp –**MAIN CHARACTERISTICS:**

A. Shell subtriangular, nearly closed, moderately inflated; anterior margin narrowly rounded, posterior margin subangulate; **B.** exterior of shell smoothish; **C.** outer shell purplish brown, lighter and darker radial and concentric bands are present, umbones deep purple, periostracum brownish; inner shell purple, often a lighter greyish hue on hinge and umbonal cavity.

DISTRIBUTION: Western Pacific: from Philippines Island and Indonesia to southern Japan.



Left valve (exterior)



Left valve (interior)

Mactra maculata (Gmelin, 1791)**SIZE:** Max L 7.5 cm**FAO NAMES:** *Eng* Maculated troughshell
Esp –**MAIN CHARACTERISTICS:**

A. Shell trigonal ovate, inflated, nearly closed; anterior margin rounded, posterior margin obtusely truncate, dorsal margin strongly sloping; **B.** exterior of shell smoothish; **C.** outer shell cream, with irregular tan mottling and dots, periostracum straw coloured; inner shell porcelain white colour, a brown stain on posterior margin.

DISTRIBUTION: Indo-West Pacific: from East Africa to Melanesia, northward to Japan, southward to New Caledonia and Queensland (Australia).



Right valve (exterior)



Left valve (interior)

Mulinia edulis (King, 1832)**SIZE:** Max L 7.7 cm**FAO NAMES:** *Eng* –*Esp* Almeja reina**MAIN CHARACTERISTICS:**

A. Shell solid, equilateral, moderately swollen, oval-shaped, with anterior and posterior margin nearly equal; **B.** outer shell with numerous thin concentric growth ribs; **C.** outer shell opaque white, yellowish-white, greyish, periostracum yellowish coffee or blackish coffee colour; inner shell whitish, with blackish shades.

DISTRIBUTION: Eastern Pacific: species present from Peru to Chile (Tierra del Fuego).



Left valve (exterior)



Left valve (interior)

Mesodesma donacium (Lamarck, 1818)**SIZE:** Max L 9.2 cm**FAO NAMES:** *Eng* Macha clam*Esp* Macha**MAIN CHARACTERISTICS:**

A. Shell stocky, inequilateral, equivalve, elongate and triangular, compressed, posterior portion is truncated, dorsal margin straight and anterior portion is rounded; umbo is backward-oriented, positioned on the posterior third of the valve; **B.** outer surface of valves bear concentric growth lines; **C.** outer shell whitish-cream, with a golden yellow periostracum; inner shell whitish.

DISTRIBUTION: Eastern Pacific: from Sechura (Peru) to the southern portion of the Isla de Chiloé (Chile).



Right valve (exterior)



Left valve (interior)

Spisula solidissima (Dillwyn, 1817)**SIZE:** Max L 12.5 cm**FAO NAMES:** *Eng* Atlantic surf clam*Esp* Almeja blanca**MAIN CHARACTERISTICS:**

A. Shell is stocky, smooth, subtriangular, rather elongate transversely; **B.** several thin concentric growth lines are present on outer shell; **C.** outer shell white-yellowish, light tawny, periostracum thin and light tawny; inner shell whitish.

DISTRIBUTION: Western Atlantic: common from Nova Scotia to South Carolina (United States).



Right valve (exterior)



Left valve (interior)

Mya arenaria (Linnaeus, 1758)**SIZE:** Max L more than 15 cm**FAO NAMES:** *Eng* Sand gaper*Esp* Almeja de can**MAIN CHARACTERISTICS:**

A. Shell stocky, inequilateral, inequivalve (right valve slightly more convex than left valve), oval to elongate, anterior portion rounded, posterior narrow and opened; **B.** outer surface of both valves bears some concentric growth lines; **C.** outer shell white-yellowish to pale light tawny; inner shell whitish.

DISTRIBUTION: Mediterranean: spotted in some areas. Eastern Atlantic: White Sea and Norway down to France. Western Atlantic: Labrador to Northern Carolina (United States). Eastern Pacific: Alaska to northern California (United States) and Kamchatka to Japan.



Right valve (exterior)



Right valve (interior)

Semele solida* (Gray, 1828)*SIZE:** Max L to 8 cm**FAO NAMES:** *Eng* Chilean semele
Esp Almeja blanca chilena**MAIN CHARACTERISTICS:**

A. Shell robust, with an almost circular oval-shaped outline, right valve more convex than the left; almost central umbo, small; **B.** external face bears numerous, thin concentric growth striae, very close to each other; **C.** outer shell whitish, in adults presence of olive green periostracum; inner shell whitish, purplish hinge.

DISTRIBUTION: Eastern Pacific: present from Peru (Callao) to Chile (Archipiélago de Los Chonos).



Right valve (exterior)



Right valve (interior)

Sinonovacula constricta* (Lamarck, 1818)*SIZE:** Max L 10 cm**FAO NAMES:** *Eng* Constricted tagelus
Esp –**MAIN CHARACTERISTICS:**

A. Shell elongate, narrow, rather fragile with bluntly rounded gaping ends; **B.** external face smooth, bears concentric striations; **C.** outer shell whitish, with yellowish periostracum; inner shell whitish, yellowish-white.

DISTRIBUTION: Western Pacific: along the coastline of China, Japan and the Korean Peninsula.



A live specimen

Azorinus abbreviatus* (Gould, 1861)*SIZE:** Max L 5.5 cm**FAO NAMES:** *Eng* Small short razor
Esp –**MAIN CHARACTERISTICS:**

A. Shell equivalve, slightly inequilateral, elongate-quadrate in outline, a little more than twice as long as high; **B.** external face with a shallow radial depression running obliquely from the umbones to median part of ventral margin; valves bear numerous, irregular concentric lines of growth; **C.** outer shell whiteish, greyish brown periostracum; inner shell whiteish.

DISTRIBUTION: Indo-West Pacific: from Andaman Islands to the Philippines; northward to Japan, southward to Australia (Queensland).



Exterior



Interior

Tagelus dombeii* (Lamarck, 1818)*SIZE:** Max L 10 cm**FAO NAMES:** *Eng* Dombey's tagelus
Esp Tagelo berbereco**MAIN CHARACTERISTICS:**

A. Shell rather fragile, equivalve, rectangular, 3.5 times longer than wide, both ends are opened and slightly rounded; **B.** outer surface of each valve displays narrow growth lines; **C.** outer shell white-purplish, with two thin whitish radial bands extended from umbo to posterior ventral margin, periostracum coffee brown to espresso yellowish; inner shell whitish, purplish shadings on both ends.

DISTRIBUTION: Eastern Pacific: present from Panama to Chile (Golfo de Corcovado).



Exterior

Ensis leei (Huber, 2015)**SIZE:** Max L 20.3 cm**FAO NAMES:** *Eng* Atl.jackknife (= Atl.razor clam)*Esp* Navaja del Atlántico**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, very elongate, with blunt ends, and a slight curve in its shape; **B.** the hinge is located at the anterior (front) end of the shell; **C.** outer shell white, often with pale lavender horizontal bands, periostracum yellowish-green algae, brownish; inner shell whitish.

DISTRIBUTION: Western Atlantic: from Labrador to Florida. Along North Sea coasts, in Belgium, the Netherlands, Germany, United Kingdom of Great Britain and Northern Ireland and Denmark; also the Kattegat, southern Norway and northern France.



Exterior

Ensis magnus (Schumacher, 1817)**SIZE:** Max L 15 cm**FAO NAMES:** *Eng* Arched razor shell*Esp* Navaja arqueada**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, very elongate, with blunt ends; dorsal margin almost straight, ventral margin slightly curved, **B.** outer surface smooth with very fine co-marginal lines; **C.** outer shell whitish, covered by a greenish brown, olive green, periostracum becoming darker at the margins; inner shell whitish.

DISTRIBUTION: Eastern-North Atlantic: from northern Europe south to the Bay of Biscay.



Exterior

Ensis macha (Molina, 1782)**SIZE:** Max L 20 cm**FAO NAMES:** *Eng* Giant jackknife*Esp* –**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, slightly sickle-shaped, extremely elongate, both ends are opened and both valves are quite convex; **B.** anterior margin is convex, rounded; posterior margin is slightly truncated; transverse grooves are absent from anterior margin of each valve; **C.** outer shell yellow-tawnyish to dark tawny-greenish, valves are covered by a shiny and thin periostracum; inner shell whitish.

DISTRIBUTION: Eastern Pacific: Antofagasta (northern Chile) to the Magellan Strait. Southwestern Atlantic: along the coast of Patagonia (Argentina).



Exterior

Ensis minor (Chenu, 1843)**SIZE:** Max L 17 cm**FAO NAMES:** *Eng* Sword razor shell*Esp* Muergo**MAIN CHARACTERISTICS:**

A. Shell equivalve, inequilateral, straight, very elongate and cylinder-shaped, both ends are opened, both valves rather convex; **B.** transverse grooves absent from anterior margin of valves; outer shell shiny, longitudinal growth lines form a 90° angle along a diagonal connecting the umbo to the opposite end; **C.** outer shell tawnyish, tawny-yellowish, pale grey; an elongate, triangular whitish band with smaller vertical tawnyish bands and violet shadings on each valve; inner shell whitish.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Norway and the Baltic Sea to Morocco.



Exterior

Solen gordonis (Yokoyama, 1920)**SIZE:** Max L 11 cm**FAO NAMES:** *Eng* Akemate razor shell
Esp –**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, elongate, with blunt ends, dorsal margin not concave, nearly straight; **B.** the hinge is located at the anterior (front) end of the shell; **C.** outer shell tawnyish, tawny-yellowish; an elongate, triangular band with smaller vertical tawnyish bands and violet shadings on each valve; inner shell whitish.

DISTRIBUTION: West Pacific: from East China Sea to Taiwan Province of China and Japan (Honshu).



Exterior

Solen lamarckii (Chenu, 1843)**SIZE:** Max L 10 cm**FAO NAMES:** *Eng* Lamarck's razor shell
Esp –**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, medium sized, elongate, with blunt ends, dorsal margin not concave, nearly straight; **B.** the hinge is located at the anterior (front) end of the shell; **C.** outer shell marked with purplish concentric bands, under a purplish brown periostracum; inner shell whitish.

DISTRIBUTION: Indo-West Pacific: from India and Sri Lanka to Borneo and the Philippines; northward to South China Sea and Taiwan Province of China.



Exterior

Solen grandis (Dunker, 1862)**SIZE:** Max L 15 cm**FAO NAMES:** *Eng* Grand razor shell
Esp –**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, large sized, elongate, with blunt ends, dorsal margin not concave, nearly straight; **B.** the hinge is located at the anterior (front) end of the shell; **C.** outer shell marked with pale rosy concentric bands, under a greenish yellow periostracum; inner shell whitish.

DISTRIBUTION: Tropical western Pacific: from Thailand to the Philippines Island; northward to the Korean Peninsula and Japan.

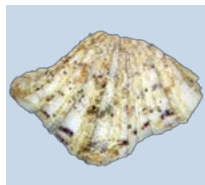


Exterior

Solen vagina (Linnaeus, 1758)**SIZE:** Max L 17 cm**FAO NAMES:** *Eng* European razor clam
Esp Navaja europea**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, straight, extremely elongate, cylinder-shaped, both ends are opened and both valves are rather convex; anterior margin is slightly oblique, it displays a transverse groove; **B.** outer shell generally matte, longitudinal growth lines form a 90° angle along a diagonal line connecting the umbo to the opposite end; **C.** outer shell white-yellowish, tawnyish; inner shell whitish.

DISTRIBUTION: Mediterranean: very common. Eastern Atlantic: Lofoten Islands to Senegal.



Left valve (exterior)



Left valve (interior)

Hippopus hippopus (Linnaeus, 1758)

SIZE: Max L 40 cm

FAO NAMES: Eng Bear paw clam

Esp –

MAIN CHARACTERISTICS:

A. Shell is thick and heavy, rather large sized, globose, triangularly ovate to subrhomboidal; **B.** posteroventral margin of valves without a well-defined byssal orifice; **C.** outer shell white, with yellowish orange shades, irregular concentric bands of reddish blotches are present; inner shell porcelainous white, with yellowish orange shades ventrally.

DISTRIBUTION: Indo-West Pacific: from Andaman Islands to eastern Melanesia; northward to southern Japan, southward to Australia (Queensland).



A live specimen

Tridacna derasa (Röding, 1798)

SIZE: Max L 60 cm

FAO NAMES: Eng Smooth giant clam

Esp –

MAIN CHARACTERISTICS:

A. Shell thick, heavy, large sized, inequilateral, rather strongly inflated, roughly semicircular; outer surface with 7 to 12 broad, low radial folds forming rounded projections on dorsal free margin; **B.** posteroventral margin with a short, narrow, byssal orifice; **C.** outer shell whitish; inner shell porcelainous white, often with orange shades on hinge area.

DISTRIBUTION: Eastern Pacific: from western Indonesia to eastern Melanesia; northward to the Philippines and southward to Australia (New South Wales).



Left valve (exterior)



Left valve (interior)

Tridacna crocea (Lamarck, 1819)

SIZE: Max L 15 cm

FAO NAMES: Eng Crocus giant clam

Esp –

MAIN CHARACTERISTICS:

A. Shell thick, heavy, rather small, inequilateral, strongly inflated, triangularly ovate; outer surface quite smooth, with four to five broad, moderately flattened, rib-like radial folds bearing large low concentric scales; **B.** posteroventral margin with a very large byssal orifice; **C.** outer shell greyish white, often with yellow, pinkish-orange shades; inner shell porcelainous white, sometimes with yellowish orange shades on margins.

DISTRIBUTION: Indo-West Pacific: from Andaman Islands to Fiji Islands; northward to Japan, southward to Australia (Queensland) and New Caledonia.



Right valve (exterior)



Right valve (interior)

Tridacna gigas (Linnaeus, 1758)

SIZE: Max L 137 cm

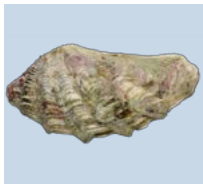
FAO NAMES: Eng Giant clam

Esp Almeja gigante

MAIN CHARACTERISTICS:

A. Shell very thick, heavy, extremely large sized, equilateral, rather strongly inflated, fan-shaped or subovate; outer surface with four to six deep radial folds forming elongate triangular projections on dorsal free margin; **B.** posteroventral margin with rather small byssal orifice; **C.** outer shell whitish; inner shell porcelainous white.

DISTRIBUTION: Indo-West Pacific: from southwestern Myanmar and western Indonesia to Micronesia and eastern Melanesia; northward to southern Japan, southward to Australia (Queensland) and New Caledonia.



Right valve (exterior)



Left valve (interior)



Left valve (exterior)



Left valve (interior)

Tridacna maxima* (Röding, 1798)*SIZE:** Max L 35 cm**FAO NAMES:** *Eng* Elongate giant clam
Esp –**MAIN CHARACTERISTICS:**

A. Shell thick, heavy, moderately large sized, strongly inequilateral, inflated, elongate-ovate; outer surface with six to seven very broad, convex radial folds bearing closely set, erect but low, concentric scales; **B.** posteroventral margin with a large byssal orifice; **C.** outer shell greyish white, often with yellow or pinkish orange shades; inner shell porcelaneous white.

DISTRIBUTION: Indo-West Pacific: widespread from East Africa to eastern Polynesia; northward to Japan, southward to Australia (New South Wales and Lord Howe Island).

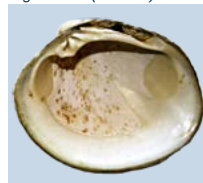
Tridacna squamosa* (Lamarck, 1819)*SIZE:** Max L 40 cm**FAO NAMES:** *Eng* Fluted giant clam
Esp –**MAIN CHARACTERISTICS:**

A. Shell thick, heavy, moderately large sized, nearly equilateral, usually strongly inflated, semicircular; outer surface with five to six broad, rib-like radial folds bearing large, erect, distant, blade-like concentric scales; **B.** posteroventral margin with a medium-sized byssal orifice; **C.** outer shell variable, greyish white, often with yellow, pinkish, orange or mauve hues; inner shell porcelaneous white, sometimes with orange shades.

DISTRIBUTION: Indo-West Pacific: widespread from East Africa to eastern Polynesia; northward to southern Japan, southward to Australia (Queensland) and New Caledonia.



Right valve (exterior)



Left valve (interior)

Ameghinomya antiqua* (King, 1832)*SIZE:** Max L over 8.5 cm**FAO NAMES:** *Eng* King's littleneck
Esp –**MAIN CHARACTERISTICS:**

A. Shell stocky, rounded and rather oval; **B.** outer surface of each valve displays a network of several narrow radial costae and concentric growth lines; **C.** pallial sinus is extended to about one-third of valve length; **D.** outer shell uniformly cream white, more or less dark; inner shell whitish, white-rosy.

DISTRIBUTION: Southeastern Pacific: from Peru to the Magellan Strait and southern Argentina.



Left valve (exterior)



Interior

Austrovenus stutchburyi* (Wood, 1828)*SIZE:** Max L over 4 cm**FAO NAMES:** *Eng* Stutchbury's venus
Esp –**MAIN CHARACTERISTICS:**

A. Shell robust, equivalve, inequilateral, rounded in shape, somewhat oval, shorter anteriorly; a slight indentation near the umbo; **B.** outer surface displays numerous thin radial ribs and numerous thin concentric striae, regularly interspersed with each other, clearly visible on the antero-dorsal part; **C.** pallial sinus not extended to the middle of the valve; **D.** outer shell light yellowish brown, greenish brown; inner shell marginal and anterior part whitish, a large blackish, black-purplish area on the central and posterior part of the valve.

DISTRIBUTION: Eastern Pacific: New Zealand waters.



Right valve (exterior)



Left valve (interior)

Callista chione (Linnaeus, 1758)**SIZE:** Max L 11 cm**FAO NAMES:** *Eng* Smooth callista
Esp Almejon**MAIN CHARACTERISTICS:**

A. Shell is solid, shiny, equivalve, inequilateral, oval, anterior portion is shorter than posterior portion; **B.** outer surface of each valve glossy, bearing very narrow radial striae; **C.** pallial sinus broad, anterior end of sinus is pointed; **D.** outer shell tawny-reddish, tawny-rosy, with darker radiating bands; inner shell whitish, shiny.

DISTRIBUTION: Mediterranean: very common. Eastern Atlantic: the United Kingdom of Great Britain and Northern Ireland to Canary Islands (Spain), Azores and Morocco.



Left valve (exterior)



Right valve (interior)

Dosinia exoleta (Linnaeus, 1758)**SIZE:** Max L 6 cm**FAO NAMES:** *Eng* Mature dosinia
Esp Reloj**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, rounded, flat, discoidal, anterior portion shorter than posterior one; a small notch on the anterior margin, by the umbo; **B.** outer surface of each valve bears concentric growth lines; **C.** pallial sinus is narrow, long and triangular; **D.** outer shell tawny-whitish with tawny-reddish zigzag stripes and shadings; inner shell whitish.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: from Norway to Senegal and Gabon.



Left valve (exterior)



Interior

Chamelea gallina (Linnaeus, 1758)**SIZE:** Max L 5 cm**FAO NAMES:** *Eng* Striped venus
Esp Chirla**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, almost triangular, anterior portion is rounded and shorter than posterior portion, which is more or less rounded; **B.** outer surface of each valve bears rather clear concentric striae, often crossing narrow and irregular radial striae; **C.** pallial sinus is small; **D.** outer shell whitish, white-greyish, with dots, stripes and broken tawny lines in radial bands; inner shell whitish, with a violet spot on its posterior region.

DISTRIBUTION: Mediterranean: very common. Eastern Atlantic: from Norway and Iceland to Morocco.



Right valve (exterior)

***Katelysia* spp.** (Römer, 1857)**SIZE:** Max L about 8 cm**FAO NAMES:** *Eng* Venus
Esp Venus
Australia: Venus, sand cockle**MAIN CHARACTERISTICS:**

A. Shell solid, ovate and somewhat inflated; outline particularly elongate in *K. rhytiphora*; **B.** outer surfaces display a sculpture of strong even concentric ridges; **C.** outer shell cream, sometimes with brown markings, zigzag lines or blotches; inner shell whitish, often with shades of purple.

DISTRIBUTION: Southern Indo-Pacific: three commercially important species are present from New South Wales to southern Western Australia, including Tasmania: *K. peronii* (Lamarck, 1818), *K. rhytiphora* (Lamy, 1935) and *K. scalarina* (Lamarck, 1818).



Right valve (exterior)



Left valve (interior)



Left valve (exterior)

Leukoma staminea* (Conrad, 1837)*SIZE:** Max L 6 cm**FAO NAMES:** *Eng* Pacific littleneck clam*Esp* Almejuela común**MAIN CHARACTERISTICS:**

A. Shell equivalve, inequilateral, sub-oval, transversely elongate; **B.** outer surface displays clear radial costae (quite thick centrally) and thin concentric growth lines; **C.** pallial sinus elongate, narrow and rather pointed; it may be extended beyond half valve length; **D.** outer shell very variable, whitish, greyish, more or less dark tawnyish, with dark spots of varying shape; inner shell white-violet, white-tawnyish.

DISTRIBUTION: Eastern Pacific: spread from Alaska (United States) to Mexico.

Leukoma thaca* (Molina, 1782)*SIZE:** Max L 8 cm**FAO NAMES:** *Eng* Taca clam*Esp* Taca**MAIN CHARACTERISTICS:**

A. Shell robust, unequilateral, rounded, somewhat oval-shaped; **B.** outer surface displays numerous concentric growth striae that cross with thin radial ribs, giving rise to an evident reticulation on the median and posterior part of the valves; **C.** pallial sinus is deep and rounded, extended at least to the middle of the valve; **D.** outer shell dirty white, sometimes with more or less extensive reddish tinges, periostracum absent; inner shell whitish.

DISTRIBUTION: Southeastern Pacific: present from Peru (Ancón) to Chile (Archipiélago de los Chonos).



Right valve (exterior)



Left valve (interior)

Mercenaria mercenaria* (Linnaeus, 1758)*SIZE:** Max L 12.8 cm**FAO NAMES:** *Eng* Northern quahog (= hard clam)*Esp* Chirla mercenaria**MAIN CHARACTERISTICS:**

A. Shell very stocky, equivalve, inequilateral, rounded, rather oval; **B.** outer surface of each valve displays several concentric growth lines sometimes less marked on central portion of valve; **C.** pallial sinus is rather small and pointed; **D.** outer shell grey-tawnyish, grey-yellowish, light tawnyish; inner shell whitish, with more or less marked purplish tones.

DISTRIBUTION: Mediterranean: spotted. Northwestern Atlantic: from Quebec (Canada) to Florida and Texas (United States). Northeastern Atlantic: the United Kingdom of Great Britain and Northern Ireland to northern Morocco. Californian waters.



Left valve (exterior)



Left valve (interior)

Meretrix lyrata* (Sowerby II, 1851)*SIZE:** Max L 6 cm**FAO NAMES:** *Eng* Lyrate hard clam*Esp* –**MAIN CHARACTERISTICS:**

A. Shell stocky and thick, equivalve, inequilateral, rather swollen, oval-like, almost subtriangular, anterior and posterior margins are sloping; **B.** outer surface displays several concentric growth lines which become blurred by the antero-dorsal and postero-dorsal edges; **C.** pallial sinus wide and rather low; **D.** outer shell tawnyish to dark brown, cream white, with a wide dark tawny-blackish band on posterodorsal margin sometimes; inner shell porcelain white.

DISTRIBUTION: Pacific: from western Indonesia to the Philippines, southern Indonesia and South China Sea.



Right valve (exterior)

Meretrix meretrix (Linnaeus, 1758)**SIZE:** Max L 7 cm**FAO NAMES:** *Eng* Asiatic hard clam
Esp –**MAIN CHARACTERISTICS:**

A. Shell stocky and thick, equi- or subequivalve, almost equilateral in some specimens and strongly inequilateral in others, rather swollen, oval-like, almost subtriangular; **B.** outer surface smooth, only some blurred concentric growth lines; **C.** pallial sinus wide and rather low; rounded anteriorly; **D.** outer shell very variable, cream white, tawnyish, tawny-reddish, light brown, with or without spots and bands; inner shell porcelain white.

DISTRIBUTION: Indo-Pacific: from East Africa to the Philippines, Japan and Indonesia.



Exterior



Right valve (interior)

Paratapes undulatus (Born, 1778)**SIZE:** Max L more than 6.8 cm**FAO NAMES:** *Eng* Undulate venus
Esp –**MAIN CHARACTERISTICS:**

A. Shell is inequivalve, inequilateral, oval and transversely elongate, anterior portion is shorter than posterior portion; **B.** outer surface shiny, bears blurred concentric growth lines; blurred oblique grooves are also present; **C.** pallial sinus does not reach half length of valve; it is deep and upward-curved; **D.** outer shell light violet to light tawny, with broken, darker, tawnyish lines; inner shell whitish, with a mauve hue in the umbonal cavity.

DISTRIBUTION: Indo-Pacific: spread from the Red Sea to Japan, China, Australia (New South Wales).



Left valve (exterior)



Right valve (interior)

Politapes aureus (Gmelin, 1791)**SIZE:** Max L 5 cm**FAO NAMES:** *Eng* Golden carpet shell
Esp Almeja dorada**MAIN CHARACTERISTICS:**

A. Shell is inequivalve, inequilateral, transversely elongate; **B.** outer surface bears concentric striae crossing very narrow and poorly evident radial costae; **C.** pallial sinus is deep, it does not reach half valve length; **D.** outer shell whitish, white-yellowish, tawnyish, with spots, stripes and broken tawny lines; inner shell golden yellow, more or less intense.

DISTRIBUTION: Mediterranean: very common. Eastern Atlantic: from Lofoten Islands and the United Kingdom of Great Britain and Northern Ireland to Morocco and Mauritania. Red Sea: present in its northernmost region.



Right valve (exterior)



Left valve (interior)

Politapes rhomboides (Pennant, 1777)**SIZE:** Max L 6.5 cm**FAO NAMES:** *Eng* Banded carpet shell
Esp Almeja rubia**MAIN CHARACTERISTICS:**

A. Shell is inequivalve, inequilateral, oval and transversely elongate; **B.** outer surface bears narrow and sometimes poorly visible concentric striae, costae and radial lines are absent; **C.** pallial sinus is deep, it does not reach half length of the valve; **D.** outer shell light tawny, with (or without) light and dark spots and lines; inner shell shiny white, areas close to the umbo and inside the pallial sinus may be orange or rosy.

DISTRIBUTION: Mediterranean: quite common. Eastern Atlantic: from Norway and the United Kingdom of Great Britain and Northern Ireland to Morocco.



Right valve (exterior)



Right valve (interior)



Left valve (exterior)



Left valve (interior)

Ruditapes decussatus (Linnaeus, 1758)**SIZE:** Max L 8 cm**FAO NAMES:** *Eng* Grooved carpet shell*Esp* Almeja fina**MAIN CHARACTERISTICS:**

A. Shell equivalve, inequilateral, oval, transversely elongate, truncated posteriorly; **B.** outer surface with a network of concentric growth lines and several narrow radial costae; **C.** pallial sinus rounded, not extended beyond half valve length; **D.** outer shell white-greyish, light tawny, white-yellowish, greenish, with or without tawnyish spots, stripes, broken lines; inner shell white-yellowish; azure shadings by the umbo.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from Lofoten Islands and the United Kingdom of Great Britain and Northern Ireland to Mauritania and the Democratic Republic of the Congo.

Ruditapes philippinarum (Adams and Reeve, 1850)**SIZE:** Max L 8 cm**FAO NAMES:** *Eng* Japanese carpet shell*Esp* Almeja japonesa**MAIN CHARACTERISTICS:**

A. Shell equivalve, inequilateral, transversely elongate or almost quadrangular, truncated posteriorly; **B.** outer surface with intersection of radial costae and concentric circles; **C.** pallial sinus wide, not extended beyond half valve length; **D.** outer shell varied, whitish, yellowish, nut brown, with or without tawnyish spots (may be joined in radial lines); inner shell whitish or yellowish, violet areas scattered along the whole surface or on posterior portion.

DISTRIBUTION: Native to Japan; all over the Indo-Pacific to North America, Hawaii, Russian Federation, Pakistan; also Mediterranean.



Left valve (exterior)

Tapes conspersus (Gmelin, 1791)**SIZE:** Max L 9 cm**FAO NAMES:** *Eng* Turgid venus*Esp* –**MAIN CHARACTERISTICS:**

A. Shell elongate, squarely oval, with a wide, roughly truncate posterior margin; **B.** outer surface with numerous, small and raised concentric ridges; **C.** pallial sinus well developed, widely open behind; **D.** outer shell variable, cream to light buff, with various pattern of brown lines and blotches, often forming a few radial rays; inner shell white, with an orange shade in the umbonal area.

DISTRIBUTION: Indo-West Pacific, from India to the Philippines, South China Sea and south to New South Wales (Australia).



Left valve (exterior)



Interior

Tawera elliptica (Lamarck, 1818)**SIZE:** Max L 3.5 cm**FAO NAMES:** *Eng* Gay's little venus*Esp* –**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, rounded, its anterior portion is slightly shorter than the rest of the shell; **B.** outer surface displays several concentric growth lines; lines are quite protruding; they become shorter (in height) and rarer as umbo approaches; **C.** pallial sinus rather small and rounded; **D.** outer shell cream white, white-yellowish, white-rosy; inner shell medio-dorsal area is whitish, it is surrounded by a more or less dark purplish edge.

DISTRIBUTION: Southeastern Pacific: along the coasts of southern Chile, including Atlantic coasts of Patagonia.



Right valve (exterior)



Left valve (interior)

Tivela mactroides (Born, 1778)**SIZE:** Max L 7 cm**FAO NAMES:** Eng Triangular tivela
Esp –**MAIN CHARACTERISTICS:**

A. Shell is equivalve, slightly inequilateral, triangular, extremely convex; **B.** outer surface smooth, bears poorly marked concentric lines; **C.** pallial sinus rounded and not very deep; **D.** outer shell green-olive with dark to light tawny stripes; inner shell light-coloured.

DISTRIBUTION: Western Atlantic: spread from the Caribbean Sea to Brazil.



Right valve (exterior)



Left valve (interior)

Venerupis corrugata (Gmelin, 1791)**SIZE:** Max L 5 cm**FAO NAMES:** Eng Corrugated venus
Esp Margarita arrugada**MAIN CHARACTERISTICS:**

A. Shell is equivalve, inequilateral, oval and transversely elongate; posterior portion is quite truncated; **B.** outer surface bears a network of concentric growth lines and several narrow radial costae; **C.** pallial sinus broad, it reaches or extends beyond half valve length; **D.** outer shell white-greyish, light tawny, white-yellowish, with spots and stripes; inner shell white-yellowish, violet shadings along posterior margin of the hinge.

DISTRIBUTION: Mediterranean: rather common. Eastern Atlantic: from northern Norway and the United Kingdom of Great Britain and Northern Ireland to Morocco.



Right valve (exterior)



Left valve (interior)

Transennella pannosa (Sowerby I, 1835)**SIZE:** Average L. of marketed products about 3 cm**FAO NAMES:** Eng Fine clam
Esp Concha fina**MAIN CHARACTERISTICS:**

A. Shell is small, equivalve, inequilateral, oval-like and subtriangular, anterior portion is slightly shorter than rest of shell, anterior edge is rounded; **B.** outer surface bears several narrow growth lines; **C.** pallial sinus is quite wide, rounded, almost extended to half valve length; **D.** outer shell cream white, white-yellowish, with tawnyish spots and shadings; inner shell whitish, more or less visible purplish shadings on area between pallial line and ventral edge.

DISTRIBUTION: Southeastern Pacific: from Bahia Secura (Peru) down to Valparaiso (Chile).



Right valve (exterior)



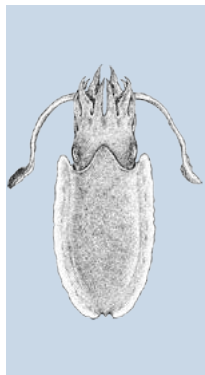
Right valve (interior)

Venus verrucosa (Linnaeus, 1758)**SIZE:** Max L 7 cm**FAO NAMES:** Eng Warty venus
Esp Escupina grabada**MAIN CHARACTERISTICS:**

A. Shell is very strong, equivalve, inequilateral, sub-oval and rounded, anterior portion shorter than posterior one; **B.** outer surface bears very clear, laminar concentric stripes parallel to the lower edge; oblique and diverging rows of tubercles are present on anterior and posterior margins of each valve; **C.** pallial sinus is small and pointed; **D.** outer shell greyish, tawny-yellowish; inner shell shiny white.

DISTRIBUTION: Mediterranean: very common. Eastern Atlantic: from Iceland and the United Kingdom of Great Britain and Northern Ireland to South Africa. Indian Ocean: South Africa to Mozambique.

Cuttlefish



Sepia aculeata (Van Hasselt, 1835)

SIZE: Max L 23 cm (mantle)

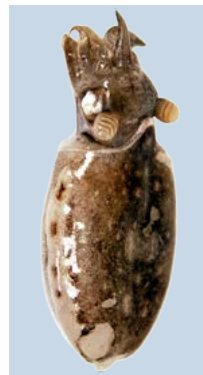
FAO NAMES: *Eng* Needle cuttlefish

Esp Sepia de aguja

MAIN CHARACTERISTICS:

A. Suckers of hectocotylus (fourth left arm of male specimens) in the two dorsal series are much smaller than those in the two ventral series; **B.** club of each tentacle long and bearing about 10 to 12 (males) and 13 to 14 (females) longitudinal rows of very small suckers, almost identical in size; **C.** mantle light tawnyish, with or without white spots; an opalescent line along the base of the fin.

DISTRIBUTION: Indo-Pacific: common, from India to Indonesia, the Andaman Sea, Thailand, the South China Sea and central western Japan.



Sepia arabica (Massy, 1916)

SIZE: Max L 8.8 cm (mantle)

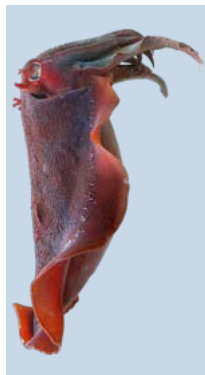
FAO NAMES: *Eng* Arabian cuttlefish

Esp Sepia arábiga

MAIN CHARACTERISTICS:

A. Suckers of hectocotylus (fourth left arm of male specimens) greatly reduced; **B.** club of each tentacle crescent-shaped with five or six small, similar sized suckers in transverse rows; **C.** head with large, fleshy ear-shaped projections posterior to eyes; **D.** mantle reddish-purple.

DISTRIBUTION: Indian Ocean: Red Sea, Gulf of Aden, Persian Gulf, western and southern India, Laccadive Islands.



Sepia apama (Gray, 1849)

SIZE: Max L 50 cm (mantle)

FAO NAMES: *Eng* Giant Australian cuttlefish

Esp Sepia gigante australiana

MAIN CHARACTERISTICS:

A. Proximal end of hectocotylus (fourth left arm of male specimens) with six to ten rows of slightly reduced, equal sized suckers; **B.** club of each tentacle crescent-shaped, bearing four or five suckers in transverse rows, some median suckers greatly enlarged; **C.** mantle reddish-brown, arms with whitish transverse bars and spots; dorsal mantle with fine, irregular, reticulate white bands and spots.

DISTRIBUTION: Southern Indo-Pacific: from Moreton Bay (southern Australia) to Point Cloates (Western Australia).



Sepia bertheloti (d'Orbigny, 1835)

SIZE: Max L 17.5 cm (mantle)

FAO NAMES: *Eng* African cuttlefish

Esp Sepia africana

MAIN CHARACTERISTICS:

A. Hectocotylus (fourth left arm of male specimens) with some rows of normal suckers on its base, proximal third bears transverse folds and 9 to 13 well distanced rows of small suckers; **B.** club of each tentacle bears about eight longitudinal rows of suckers; those on third row are slightly bigger than the others; **C.** mantle purplish-brown, rounded spots are present just outside the tubercles, along base of fins.

DISTRIBUTION: Eastern Atlantic: off northwestern Africa, from Canary Islands (Spain) and off Western Sahara to Angola.

***Sepia elegans*** (Blainville, 1827)**SIZE:** Max L 7.2 cm (mantle)**FAO NAMES:** *Eng* Elegant cuttlefish
Esp Sepia elegante**MAIN CHARACTERISTICS:**

A. Two proximal thirds of hectocotylus (fourth left arm of male specimens) bear a zigzag pattern of very small suckers, while distal third bears four longitudinal rows of small suckers; **B.** club of each tentacle bears six to eight rows of suckers, second or third row displaying three to four big suckers; **C.** mantle tawny-rosy, peppered with scattered purple-black chromatophores.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: common, from the North Sea to the Gulf of Guinea.

***Sepia hierredda*** (Rang, 1835)**SIZE:** Max L 50 cm (mantle)**FAO NAMES:** *Eng* Giant African cuttlefish
Esp Sepia gigante africana**MAIN CHARACTERISTICS:**

A. Hectocotylus (fourth left arm of male specimens) with six rows of small suckers proximally, 8 to 14 rows of reduced suckers distally; **B.** club of each tentacle bears about five to six longitudinal rows of suckers; five to six median suckers twice diameter of rest; **C.** mantle very similar to that of *Sepia officinalis*.

DISTRIBUTION: Southeastern Atlantic: Africa, from Cape Blanc (Mauritania) to Tigres Bay (Angola).

***Sepia esculenta*** (Hoyle, 1885)**SIZE:** Max L 18 cm (mantle)**FAO NAMES:** *Eng* Golden cuttlefish
Esp Sepia dorada**MAIN CHARACTERISTICS:**

A. Hectocotylus (fourth left arm of male specimens) with five rows of normal suckers followed by five to six rows of smaller suckers; **B.** club of each tentacle bears 10 to 16 longitudinal rows of very small suckers, almost identical in size; **C.** tawnyish tones prevail, pale transverse stripes are present dorsally, a thin white to pale golden line running along base of fins.

DISTRIBUTION: Eastern Pacific: common, present from the southern Sea of China to the Korean Peninsula and Japan (excluding Hokkaido), to Viet Nam, northern regions of the Philippines and Indonesia.

***Sepia latimanus*** (Quoy and Gaimard, 1832)**SIZE:** Max L 50 cm (mantle)**FAO NAMES:** *Eng* Broadclub cuttlefish
Esp Sepia mazuda**MAIN CHARACTERISTICS:**

A. Hectocotylus (fourth left arm of male specimens) absent; **B.** club of each tentacle half moon-shaped, bears five to six suckers in transverse rows differing markedly in size: some greatly enlarged; **C.** mantle light brown, yellowish, dark-brown dorsally, with several whitish spots, mottle or blotches; fins bear whitish spots and transverse lines extended to mantle.

DISTRIBUTION: Indo-Pacific: from the Red Sea and southern Mozambique to northeastern Australia, including the South Chinese Sea, south Japan, the Indonesian archipelago, the Philippines and Papua New Guinea.



Sepia lcydas (Gray, 1849)

SIZE: Max L 38 cm (mantle)

FAO NAMES: *Eng* Kisslip cuttlefish

Esp Sepia labiada

MAIN CHARACTERISTICS:

A. Hectocotylus (fourth left arm of male specimens) with six rows of normal size suckers proximally, four rows distally (reduced); **B.** club of each tentacle with eight suckers in transverse rows; **C.** mantle reddish-brown, purple, with scattered ocellate patches and narrow, irregular, light-coloured, transverse stripes.

DISTRIBUTION: Indo-Pacific: from southwestern Japan to the Korean Peninsula. East and South China Sea, Taiwan Province of China, Philippine Sea, Viet Nam, Borneo and Andaman Sea.



Sepia orbignyana (Férussac [in d'Orbigny], 1826)

SIZE: Max L 9.6 cm (mantle)

FAO NAMES: *Eng* Pink cuttlefish

Esp Sepia con punta

MAIN CHARACTERISTICS:

A. Hectocotylus (fourth left arm of male specimens) bearing a zigzag pattern of small suckers, greatly reduced on medial third; **B.** club of each tentacle with five to six longitudinal rows of suckers; median row bears three suckers which are clearly bigger than the others; **C.** mantle tawny-reddish to tawnyish-brown.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: North Sea to the Gulf of Guinea.



Sepia officinalis (Linnaeus, 1758)

SIZE: Max L 49 cm (mantle)

FAO NAMES: *Eng* Common cuttlefish

Esp Sepia común

MAIN CHARACTERISTICS:

A. Hectocotylus (fourth left arm of male specimens) with five to eight rows of small suckers proximally, four to eight rows of reduced suckers medially; **B.** club of each tentacle bears about five to six longitudinal rows of suckers; those on median line are the broadest ones; **C.** mantle zebra patterned; tawny-blackish, light brown and yellowish tones prevail; fins with narrow white band along outer margin and with small white spots.

DISTRIBUTION: Mediterranean: common; Eastern Atlantic: common from the North Sea to the Baltic Sea southwards to Mauritania and Senegal.



Sepia pharaonis (Ehrenberg, 1831)

SIZE: Max L 42 cm (mantle)

FAO NAMES: *Eng* Pharaoh cuttlefish

Esp Sepia faraón

MAIN CHARACTERISTICS:

A. Hectocotylus (fourth left arm of male specimens) with 10 to 12 rows of normal size suckers proximally, six rows of reduced suckers medially; **B.** club of each tentacle with eight suckers in transverse rows; **C.** mantle pale brownish or reddish-purple with a tiger pattern, transverse zebra stripe pattern on head and arms; a thin, light, broken line runs along the base of fins.

DISTRIBUTION: Indo-Pacific: widely spread from the Red Sea to northwestern Australia, including Arabian Sea, East China Sea, Andaman Sea, South China Sea, Taiwan Province of China, Indonesia and Japan.



Sepia prashadi (Winckworth, 1936)

SIZE: Max L 14 cm (mantle)

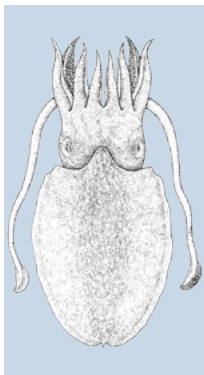
FAO NAMES: *Eng* Hooded cuttlefish

Esp Sepia caperuza

MAIN CHARACTERISTICS:

A. Hectocotylus (fourth left arm of male specimens) with four rows of normal size suckers proximally, 12 to 14 medially (reduced); **B.** club of each tentacle short, with three to five suckers in transverse rows, median four suckers very large; **C.** dorsal mantle reddish-brown (transverse zebra stripe pattern in breeding males).

DISTRIBUTION: Indian Ocean: from northeastern India (Kolkata) to the Gulf of Oman, the Red Sea, Gulf of Suez, southern Mozambique, Madagascar, Mauritius, Andaman-Nicobar seas.



Sepia recurvirostra (Steenstrup, 1875)

SIZE: Max L 17 cm (mantle)

FAO NAMES: *Eng* Curvespine cuttlefish

Esp Sepia ganchuda

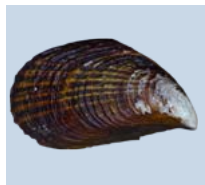
MAIN CHARACTERISTICS:

A. Suckers of hectocotylus (fourth left arm of male specimens) in two dorsal series smaller than those in two ventral series; **B.** club of each tentacle with five to six suckers in transverse rows, five to six median suckers enlarged; **C.** dorsal mantle pale with opalescent blue transverse stripes.

DISTRIBUTION: Indian Ocean: from Andaman Sea to Bay of Bengal. Western Pacific: Yellow Sea, China, Hong Kong SAR, East and South China Sea, Taiwan Province of China, the Philippines, Celebes Sea, Java Sea, Gulf of Thailand, Singapore.

Mussels

Mytilus spp., *Perna* spp.



Right valve (exterior)



Left valve (interior)

Mytilus californianus (Conrad, 1837)

SIZE: Max L 25.5 cm

FAO NAMES: *Eng* Californian mussel
Esp Mejillón californiano

MAIN CHARACTERISTICS:

A. Shell equivalve, rather elongate, trigonal-ovate; shells are thick with strong radial ribs particularly evident in the central region of the shell; upper margin and hinge make an angle; lower edge generally straight or slightly convex; **B.** umbo is sharply pointed and bent inwards; **C.** outer shell dark coffee, blue-black.

DISTRIBUTION: Eastern Pacific: from northern Mexico to southern Alaska (United States).



Right valve (exterior)



Left valve (interior)

Mytilus edulis (Linnaeus, 1758)

SIZE: Max L 9 cm

FAO NAMES: *Eng* Blue mussel
Esp Mejillón común

MAIN CHARACTERISTICS:

A. Shell equivalve, subquadrangular to subconical, upper margin is not extremely curved, almost rectilinear and parallel to the lower margin; hinge and upper margin make an angle; lower edge is straight; **B.** umbo is terminal, poorly pointed, not curved; **C.** outer shell tawnyish, tawny-blackish, blackish.

DISTRIBUTION: Mediterranean: common, from Spain to the Atlantic. Eastern Atlantic: very common, from the White Sea to the Iberian Peninsula.



Right valve (exterior)



Left valve (interior)

Mytilus chilensis (Hupé, 1854)

SIZE: Max L 12 cm

FAO NAMES: *Eng* Chilean mussel
Esp Chorito

MAIN CHARACTERISTICS:

A. Shell equivalve, rather elongate, upper margin usually slightly curved, upper margin and hinge do not make an angle; lower edge is either straight or slightly convex; **B.** umbo is terminal and pointed; **C.** outer shell tawnyish, tawny-blackish.

DISTRIBUTION: Eastern Pacific: waters of Chile.



Right valve (exterior)



Left valve (interior)

Mytilus galloprovincialis (Lamarck, 1819)

SIZE: Max L 16.5 cm

FAO NAMES: *Eng* Mediterranean mussel
Esp Mejillón mediterráneo

MAIN CHARACTERISTICS:

A. Shell equivalve, subquadrangular to roughly triangular, elongate; upper margin is more or less curved; upper margin and hinge do not make an angle; lower margin is straight; **B.** umbo is terminal, pointed and curved forwards; **C.** outer shell blackish or black-violet.

DISTRIBUTION: Mediterranean: common, rarer off North African coasts. Eastern Atlantic: from the western English Channel to Gibraltar.



Right valve (exterior)



Left valve (interior)

Perna canaliculus (Gmelin, 1791)

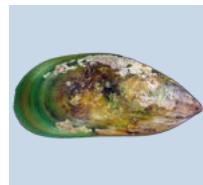
SIZE: Max L 10 cm

FAO NAMES: *Eng* New Zealand mussel
Esp Mejillón de Nueva Zelandia

MAIN CHARACTERISTICS:

A. Shell equivalve, subquadrate, elongate, upper margin may be more or less curved, parallel to lower margin; lower margin is straight or slightly concave; **B.** umbo is terminal; **C.** outer shell shiny green with tawnyish stripes which are parallel to the upper axis of the shell, except for central portion of shell and umbo, which are tawnyish.

DISTRIBUTION: Southeastern Pacific: common, particularly in New Zealand waters.



Right valve (exterior)



Left valve (interior)

Perna viridis (Linnaeus, 1758)

SIZE: Max L 25 cm

FAO NAMES: *Eng* Green mussel
Esp Mejillón verde

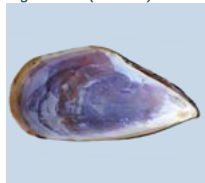
MAIN CHARACTERISTICS:

A. Shell equivalve, roughly trigonal-ovate; upper margin is curved, lower margin often somewhat concave; **B.** Umbo is terminal, pointed, slightly incurved; **C.** outer shell whitish under a bright periostracum which is dark brownish-green anteriorly and olive green to bright green posteriorly.

DISTRIBUTION: Indo-Pacific: from the Persian Gulf to the Philippines, the Chinese Sea, Japan and Indonesia; introduced in waters of Fiji and eastern Polynesia. Western Atlantic (introduced): the Mexican Gulf, Trinidad and Tobago and Venezuela (Bolivarian Republic of).



Right valve (exterior)



Left valve (interior)

Perna perna (Linnaeus, 1758)

SIZE: Max L 15 cm

FAO NAMES: *Eng* South American rock mussel
Esp Mejillón de roca sudamericano

MAIN CHARACTERISTICS:

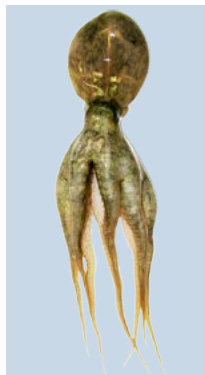
A. Shell equivalve, roughly trigonal-ovate to elongate subquadrate, variable in shape; upper margin is slightly curved, lower margin usually straight to slightly convex; **B.** umbo is terminal, pointed, slightly incurved; **C.** outer shell light purplish-brown under the yellowish-brown or green periostracum.

DISTRIBUTION: Mediterranean: southwestern basin, Tunisia and southern Sicily. Eastern Atlantic: from southern Portugal to Senegal, and from Congo to South Africa. Western Atlantic: coast of South America to the Caribbean.

Octopus

Octopus spp.

Remarks: formerly all the species described below were attributed to the genus *Octopus*



Amphioctopus aegina (Gray, 1849)

SIZE: Max L 9 cm (mantle)

FAO NAMES: *Eng* Sandbird octopus

Esp Pulpo reticulado

MAIN CHARACTERISTICS:

A. Arms short to moderate, two to three times mantle length, lateral arms longest; **B.** web deep on lateral arms, very shallow between dorsal arms; **C.** pattern of dark grooves enclosing cream to green spots, forming a round net mesh dorsally and laterally on mantle; a pale longitudinal stripe present along midline of dorsal mantle.

DISTRIBUTION: Indo-Pacific: from India (Chennai) to Indonesia, Malaysia, Taiwan Province of China and China (including the Philippines).



Amphioctopus marginatus (Taki, 1964)

SIZE: Max L 10 cm (mantle)

FAO NAMES: *Eng* Veined octopus

Esp Pulpo venoso

MAIN CHARACTERISTICS:

A. Arms moderate in length, two to three times mantle length, lateral arms longest; **B.** web deep, deepest around 30 percent of arm length; **C.** colour orange-brown to purple background with dark purple-brown reticulations; suckers white to pink, contrasting against dark brown to black border along leading edge of arms one to three.

DISTRIBUTION: Indo-Pacific: from South Africa (Durban) and the Red Sea to India, southeast Asia, Taiwan Province of China, the Philippines, Japan, and to northeastern Australia.



Amphioctopus fangsiao (D'Orbigny, 1839–1841)

SIZE: Max L 8 cm (mantle)

FAO NAMES: *Eng* Gold-spot octopus

Esp Pulpo dorado

MAIN CHARACTERISTICS:

A. Arms short, two to three times mantle length, lateral arms longest; **B.** webs deep, deepest around 20 percent of arm length, deepest on lateral arms, shallowest between dorsal arms; **C.** colour uniformly pale, two ocelli (containing a gold-coloured iridescent ring) are present; four to six dark bars shown on mantle and arm crown in some colour patterns, continuing as narrow dark lines along leading edges of arms one to three.

DISTRIBUTION: Western Pacific: from Taiwan Province of China and China to Japan (southern coast of Hokkaido).



Amphioctopus neglectus (Nateewathana and Norman, 1999)

Formerly: *Octopus membranaceus* (Quoy and Gaimard, 1832)

SIZE: Max L 6.4 cm (mantle)

FAO NAMES: *Eng* Neglected ocellate octopus

Esp Pulpo ocelado descuidado

MAIN CHARACTERISTICS:

A. Arms stocky, of moderate length, two to three times mantle length; **B.** interbranchial web is not very well developed; **C.** colour greyish, grey-yellowish, light tawny; two clearly dark ocelli (containing a thin blue or purple iridescent circle) are positioned on the interbranchial web, at the base of the second pair of arms; numerous small, rounded white spots distributed on dorsal mantle.

DISTRIBUTION: Indo-Western Pacific: from India (Kerala) to Taiwan Province of China, Viet Nam, Cambodia, Gulf of Thailand, Andaman Sea.



Callistoctopus macropus (Risso, 1826)

SIZE: Max L 15.5 cm (mantle)

FAO NAMES: *Eng* White-spotted octopus
Esp Pulpo patudo

MAIN CHARACTERISTICS:

A. Arms long, up to seven times mantle length, dorsal arms longest and most robust; **B.** web shallow, deepest 7 percent to 17 percent of arm length; **C.** colour tawny-reddish, yellowish, orange; several small and uneven spots are present all over body, head and arms.

DISTRIBUTION: Mediterranean: not very common. Eastern Atlantic: from Gibraltar to Dakar (Senegal).



Enteroctopus megalocyathus (Gould, 1852)

SIZE: Max L 19 cm (mantle)

FAO NAMES: *Eng* Patagonian giant octopus
Esp Pulpo gigante de Patagonia

MAIN CHARACTERISTICS:

A. Arms long, 3.5 times to 5 times mantle length, lateral arms slightly longer; **B.** webs equal in length for lateral and dorsal arm pairs; webs between ventral arms shallowest; web margins extend to arm tips; **C.** colour reddish-purple, suckers whitish.

DISTRIBUTION: Southwestern Atlantic to southeastern Pacific: from Chile to Argentina (Rio del Plata).



Enteroctopus dofleini (Wülker, 1910)

SIZE: Max L 60 cm (mantle)

FAO NAMES: *Eng* North Pacific giant octopus
Esp Pulpo gigante

MAIN CHARACTERISTICS:

A. Arms moderate, equal in length, ventral pair shortest; **B.** webs on lateral arms slightly deeper; web sectors of dorsal and ventral arm pairs shallowest; **C.** colour orange to red-brown, with fine irregular dark lines dorsally.

DISTRIBUTION: North Pacific: from Japan (including Okhotsk and Bering Seas) to Baja California (Mexico).



Octopus australis (Hoyle, 1885)

SIZE: Max L 7 cm (mantle)

FAO NAMES: *Eng* Hammer octopus
Esp Pulpo martillo

MAIN CHARACTERISTICS:

A. Arms moderate, 2.5 times to 4 times mantle length; lateral arms longest; **B.** web deepest on lateral arms; shallowest between dorsal arms; **C.** colour cream to purple-brown dorsally.

DISTRIBUTION: Southern Indo-Pacific: Australia, from southern Queensland to southern New South Wales.



***Octopus briareus* (Robson, 1929)**

SIZE: Max L 12 cm (mantle)

FAO NAMES: *Eng* Caribbean reef octopus
Esp Pulpo de arrecife

MAIN CHARACTERISTICS:

A. Arms long, 4 times to 6 times mantle length; dorsal arms shortest; dorsolateral and ventrolateral arms much longer and stouter than ventral or dorsal arms; **B.** eyes large, prominent; **C.** webs loose, deep and thin; **D.** colour iridescent blue-green (in life) with red-brown marbled effect.

DISTRIBUTION: North Western Atlantic: from southern Gulf of Mexico and Florida (United States) to the Bahamas, Caribbean Islands and northern South America.



***Octopus maya* (Voss and Solís, 1966)**

SIZE: Max L 12 cm (mantle)

FAO NAMES: *Eng* Mexican four-eyed octopus
Esp Pulpo mexicano

MAIN CHARACTERISTICS:

A. Arms moderately long, 3 times to 4.5 times mantle length; **B.** webs of moderate depth, deepest around 20 percent to 30 percent of arm length; web deepest on lateral arms, shallowest between dorsal arms; **C.** colour variable: dark brown to pale cream; two ocelli are present as dark spot (with small central light spot) surrounded by a light coloured outer ring.

DISTRIBUTION: Western Central Atlantic: southern Gulf of Mexico along the coasts of Yucatan and Campeche (Mexico).



***Octopus cyanea* (Gray, 1849)**

SIZE: Max L 16 cm (mantle)

FAO NAMES: *Eng* Big blue octopus
Esp Pulpo azulón

MAIN CHARACTERISTICS:

A. Arms moderate to long, 4 times to 6 times mantle length; dorsal arms slightly shorter than other arms; **B.** webs of moderate depth, deepest around 15 percent to 23 percent of arm length; web deepest on lateral arms; webs between dorsal arms shallowest; **C.** colour varies from uniform white to dark chocolate brown; two ocelli are present (as dark oval patches within a dark narrow outer ring).

DISTRIBUTION: Indo-West Pacific: widely distributed from the East African coast to Hawaii, Japan and northern Australia.



***Octopus mimus* (Gould, 1852)**

SIZE: Max L 19 cm (mantle)

FAO NAMES: *Eng* Changos octopus
Esp Pulpo búrlon – Pulpo de los Changos

MAIN CHARACTERISTICS:

A. Arms long, 4 times to 6 times mantle length, lateral arms longest; **B.** webs of moderate depth, deepest 18 percent to 27 percent of arm length; web deepest on lateral arms, shallowest between dorsal arms; **C.** skin with numerous papillae; **D.** colour orange to red-purple (live animals), dark grey to purplish-brown (preserved animals).

DISTRIBUTION: Southeast Pacific: east coast of South America from northern Peru to Chile (Valparaíso).



Octopus minor (Sasaki, 1920)

SIZE: Max L 8 cm (mantle)

FAO NAMES: *Eng* Whiparm octopus

Esp Pulpo antenado

MAIN CHARACTERISTICS:

A. Arms long and slender, around four times to five times mantle length; dorsal arms significantly longer and thicker, twice length of third or fourth arms; **B.** enlarged suckers present in mature males, around level of eighth or ninth sucker pair, largest on dorsal arms; **C.** colour red-brown with light yellow spots on dorsal surfaces.

DISTRIBUTION: Western Pacific: from Japan to Sakhalin (Russian Federation), southward to the Korean Peninsula and China, Hong Kong SAR.



Octopus vulgaris (Cuvier, 1797)

SIZE: Max L 40 cm (mantle)

FAO NAMES: *Eng* Common octopus

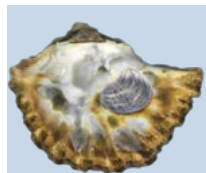
Esp Pulpo común

MAIN CHARACTERISTICS:

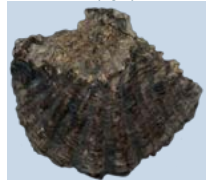
A. Arms equal in length and thickness, except those of first dorsal pair which are slightly shorter than the others; **B.** two to three enlarged suckers on lateral arms at level of 15th to 19th proximal suckers, larger in males; **C.** colour variable, greyish, yellow-brown, tawnyish, reddish and greenish spots.

DISTRIBUTION: Cosmopolitan, present in the warm and temperate-warm waters of the globe. Mediterranean: common. Eastern Atlantic: from the North Sea to South Africa. Western Atlantic: from New Jersey (United States) to Brazil. Indo-Pacific: from East Africa to China and Japan.

Oysters



Lower valve (right) – interior



Upper valve (left)

Alectryonella plicatula (Gmelin, 1791)

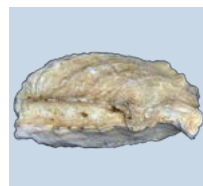
SIZE: Max L 12 cm

FAO NAMES: *Eng* Fingerprint oyster
Esp –

MAIN CHARACTERISTICS:

A. Shell inequivalve, rather thick and heavy, both valves convex, upper valve is more flattened, regularly plicate, lower valve is deeply concave with 14 to 28 strong radial costae; **B.** shell surface displays closely set, irregular concentric growth marks; **C.** outer shell light to dark greyish brown.

DISTRIBUTION: Indo-West Pacific: widespread from Africa to the Philippines, southern Japan and Indonesia.



Lower valve (right)



Upper valve (left)

Crassostrea rhizophorae (Goulding, 1828)

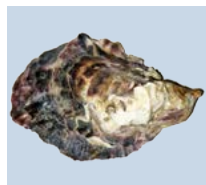
SIZE: Max L 12 cm

FAO NAMES: *Eng* Mangrove cupped oyster
Esp Ostión de mangle

MAIN CHARACTERISTICS:

A. Shell inequivalve with shape and outline variable, left valve flat, larger than right, lower valve is deeply concave; **B.** outer shell dirty light grey.

DISTRIBUTION: Western Atlantic: distributed from Caribbean to Brazil.



Lower valve (right)



Upper valve (left)

Crassostrea gigas (Thunberg, 1793)

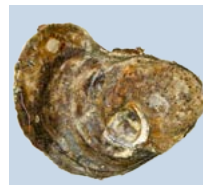
SIZE: Max L up to 45 cm

FAO NAMES: *Eng* Giant cupped oyster
Esp Ostión japonés

MAIN CHARACTERISTICS:

A. Shell inequivalve, of extremely variable shape, usually elongate and taller than wide, upper valve is flat, lower valve is deeply concave, it looks like an elongate spoon; **B.** shell surface displays several concentric, laminar striae and some radial costae; **C.** outer shell greyish, grey-tawnyish, radial costae are tawnyish or tawny-violet.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from the United Kingdom of Great Britain and Northern Ireland to Morocco. Indo-Pacific: endemic to Japan, Kamchatka and the South China Sea; introduced for culture in several other areas including the western and eastern Pacific.



Lower valve (right)



Upper valve (left)

Crassostrea virginica (Gmelin, 1791)

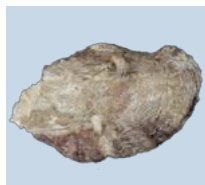
SIZE: Max L 30 cm

FAO NAMES: *Eng* American cupped oyster
Esp Ostión virgínico

MAIN CHARACTERISTICS:

A. Shell inequivalve, usually narrow and elongate, extremely variable in shape; upper valve flattened, lower valve is concave with 14 to 28 strong radial costae; **B.** shell with undulate to straight margin; **C.** outer shell dirty to light grey.

DISTRIBUTION: Western Atlantic: distributed from Canada (Gulf of St Lawrence) to the Gulf of Mexico.



Lower valve (right)



Upper valve (left) – interior

Dendostrea folium (Linnaeus, 1758)

SIZE: Max L 10 cm

FAO NAMES: *Eng* Leaf oyster
Esp –

MAIN CHARACTERISTICS:

A. Shell slightly inequivalve, variable in shape, irregularly subcircular or elongate ovate, both valves convex, upper valve is more flattened; **B.** both valves strongly plicate; **C.** outer shell yellowish-brown to purplish-brown.

DISTRIBUTION: Indo-West Pacific: from East Africa to Melanesia (including the Red Sea), northward to Japan, southward to Australia (Queensland).



Lower valve (right)



Upper valve (left)

Ostrea angasi (Sowerby II, 1871)

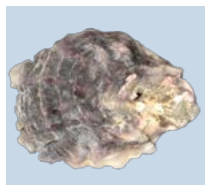
SIZE: Max L 25 cm

FAO NAMES: *Eng* Australian mud oyster
Esp –

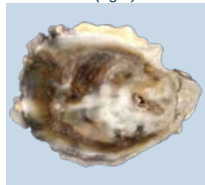
MAIN CHARACTERISTICS:

A. Shell inequivalve, oval or roughly triangular in shape; upper valve flattened with distinct radial growth striae, particularly in the peripheral area, lower valve convex, with strong radial ribs; **B.** outer shell green-purplish, brown-purplish, greyish, brown-olive.

DISTRIBUTION: Pacific: endemic in the waters of southern Australia; present from the western coasts of Australia to New South Wales, as well as in the waters of Tasmania.



Lower valve (right)



Upper valve (left)

Magallana bilineata (Röding, 1798)

SIZE: Max L 15 cm

FAO NAMES: *Eng* Slipper cupped oyster
Esp –

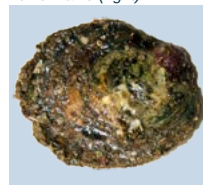
MAIN CHARACTERISTICS:

A. Shell inequivalve (often equivalved), roughly rounded, variable in shape, lower valve rather thick, more convex and larger than upper valve, upper valve is more flattened; **B.** both valves usually poorly sculptured, nearly smooth; **C.** outer shell greyish white, often flushed with pale greyish brown.

DISTRIBUTION: Western Pacific: from the Philippines to Tonga and Fiji.



Lower valve (right)



Upper valve (left)

Ostrea chilensis (Küster, 1844)

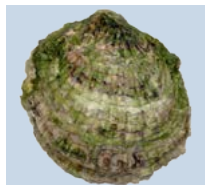
SIZE: Max L 9 cm

FAO NAMES: *Eng* Chilean flat oyster
Esp Ostra chilena

MAIN CHARACTERISTICS:

A. Shell inequivalve, usually rounded or subcircular; **B.** upper valve is flat, lower valve slightly convex with fringed margins; **C.** outer shell brownish, greenish-grey, more or less dark.

DISTRIBUTION: Eastern Pacific: present from Ecuador to Chiloé Island (Chile).



Lower valve (right)



Upper valve (left)

Ostrea edulis (Linnaeus, 1758)

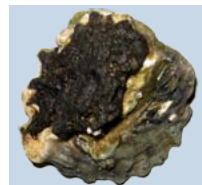
SIZE: Max L 20 cm

FAO NAMES: *Eng* European flat oyster
Esp Ostrea europea

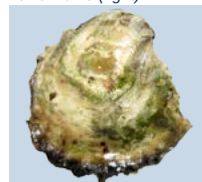
MAIN CHARACTERISTICS:

A. Shell inequivalve, usually rounded, without apparent umbo, highly polymorphic; **B.** valves display the same outer border, upper valve is flat, with poorly visible radial lines, lower valve slightly convex with fringed margins; **C.** outer shell greyish, grey-tawnyish or greenish, more or less dark.

DISTRIBUTION: Mediterranean: very common, it is the most widespread and cultivated oyster. Eastern Atlantic: common, from Morocco to Norway.



Lower valve (right)



Upper valve (left)

Saccostrea cucullata (Born, 1778)

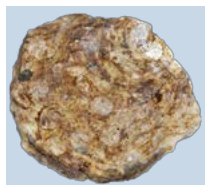
SIZE: Max L 20 cm

FAO NAMES: *Eng* Hooded oyster
Esp Ostión capuchón

MAIN CHARACTERISTICS:

A. Shell stout, inequivalve, very variable in shape; upper valve flat, lower valve generally deep; **B.** outer surface of lower valve smoothish, sometimes with distinct radial ribs; **C.** outer shell dirty white to greyish-brown, often with shades of purple.

DISTRIBUTION: Mediterranean: in the eastern basin. Eastern Atlantic: from Cameroon to Angola. Indo-Pacific: from the southern and eastern coasts of Africa, including Madagascar, the Red Sea and the Persian Gulf, to eastern Polynesia, including Japan, New South Wales (Australia) and New Zealand.



Lower valve (right)



Upper valve (left) – interior

Planostrea pestigris (Hanley, 1846)

SIZE: Max L 15 cm

FAO NAMES: *Eng* Palmate oyster
Esp –

MAIN CHARACTERISTICS:

A. Shell inequivalve, upper valve is flat or slightly convex, lower valve is shallowly convex, somewhat larger than right; **B.** lower valve relatively smooth with fine, irregular concentric growth marks and obscure radial lines; **C.** outer shell cream, greyish-mauve to dark brownish-purple.

DISTRIBUTION: Indo-West Pacific: from India and Mauritius Island to the Philippines; northward to the Yellow Sea, southward to Indonesia.

Queen scallops – Scallops

of the family Pectinidae



Lower valve (right)



Upper valve (left)



External

Aequipecten opercularis (Linnaeus, 1758)

SIZE: Max L 11 cm

FAO NAMES: Eng Queen scallop

Esp Volandeira

MAIN CHARACTERISTICS:

A. Subequilateral, slightly inequivalve, rounded shells with uneven ears, the left (posterior) one is truncated and also smaller than the right expansion; **B.** 16 to 25 radial ribs; **C.** colour variable, from white to reddish and red, yellow, with darker spots and sometimes marblings; colour of left valve is more intense.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: Norway to Morocco, including Canary Islands (Spain) and Azores Islands (Portugal).



Lower valve (right)



Internal

Argopecten purpuratus (Lamarck, 1819)

SIZE: Max L more than 11 cm

FAO NAMES: Eng Peruvian calico scallop

Esp Ostión abanico

MAIN CHARACTERISTICS:

A. Fan-like shell, valves are rather stocky, left is slightly more convex; ears are unequal in size, left or anterior ear is bigger than right ear; **B.** 24 to 26 radial ribs; **C.** outer shell pink to dark purple red, also orange, with whitish spots; inner shell mother of pearl with sometimes well marked, dark purple red shadings along pallial line.

DISTRIBUTION: Southeastern Pacific: Ecuador to Chile (Valparaiso).

Aequipecten tehuelchus (d'Orbigny, 1842)

SIZE: Max L 6.4 cm

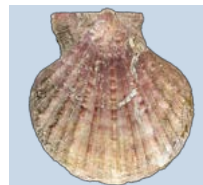
FAO NAMES: Eng Tehuelche scallop

Esp –

MAIN CHARACTERISTICS:

A. Slightly inequivalve, equilateral, rounded, as tall as wide, shells with almost identical ears, the left (posterior) one being slightly smaller than the right one; **B.** 17 radial ribs; **C.** colour variable, usually whitish, reddish, with darker spots and marblings; inner shell generally the same colour as the outer shell.

DISTRIBUTION: Southeastern Atlantic: not very common but abundant locally from Brazil (Espírito Santo) to Argentina (Gulfo Nuevo).



Lower valve (right)



Upper valve (left)

Azumapecten farreri (Jones and Preston, 1904)

SIZE: Max L 8 cm

FAO NAMES: Eng Farrer's scallop

Esp –

MAIN CHARACTERISTICS:

A. Orbicular shaped shells, with very unequal ears; **B.** left valve usually with 10 radial ribs, about 25 on right valve; **C.** colour variable, greyish, rosy, yellowish, purplish, sometimes multicolour.

DISTRIBUTION: Northwest Pacific: from China to the Korean Peninsula and Japan.



Lower valve (right)



Upper valve (left)

Chlamys islandica (Müller, 1776)**SIZE:** Max L 11 cm**FAO NAMES:** Eng Iceland scallop

Esp Peine islandico

MAIN CHARACTERISTICS:

A. Subequilateral, more or less inequivalve shells, roughly elongate and slightly ovaliform, with slightly uneven ears (right [posterior] ear is as long as half the length of the left ear); **B.** about 50 costae which are rather irregular; **C.** outer shell colour greyish, peach or cream-like, sometimes reddish or orange-greenish.

DISTRIBUTION: Northeastern Atlantic: Iceland and Norway to Shetland Islands. Northwestern Atlantic: Greenland to Massachusetts (United States). Northern Pacific: Alaska to Washington State (United States) and Japan.



Lower valve (right)



Upper valve (left)

Mimachlamys crassicostata (Sowerby II, 1842)formerly accepted as *Chlamys nobilis* (Reeve, 1852)**SIZE:** Max L up to 12 cm**FAO NAMES:** Eng Noble scallop

Esp Peine noble

MAIN CHARACTERISTICS:

A. Subequilateral, circular shaped shells, with unequal ears; **B.** more than 20 regularly arranged prominent radial ribs, very pronounced, almost square; **C.** colours vary from white to red, brown, orange, yellow and purple.

DISTRIBUTION: Indo-West Pacific: from South China Sea to the Korean Peninsula and Japan, including the Philippines and Thailand.



Lower valve (right)

Mimachlamys sanguinea (Linnaeus, 1758)formerly accepted as *Chlamys senatoria* (Gmelin, 1791)**SIZE:** Max L 7 cm**FAO NAMES:** Eng Senatorial scallop

Esp –

MAIN CHARACTERISTICS:

A. Rounded-ovate shells, with markedly unequal in size ears, the anterior ones more than twice the length of the posterior ones; **B.** each valve with 20 to 26 radial ribs, all about the same size and evenly sculptured; **C.** colour dull purple, brown or orange, frequently variegated with paler blotches.

DISTRIBUTION: Indo-West Pacific: from East Africa to Madagascar, the Red Sea, the Persian Gulf, Melanesia; north to the Philippines, south to New Caledonia and Queensland (Australia).



Lower valve (right)



Upper valve (left)

Mizuhopecten yessoensis (Jay, 1857)**SIZE:** Max L 22 cm**FAO NAMES:** Eng Yesso scallop

Esp Vieira japonesa

MAIN CHARACTERISTICS:

A. Shell with an almost circular outline, with rather robust valves; lateral ears subequal, with the anterior one of the right valve with an anteroventral notch; **B.** 20 regularly arranged, not very prominent radial ribs (in particular on the left valve); **C.** outer shell colour brownish-red, dark brownish-pink on the left valve, the right valve is whitish; internal whitish.

DISTRIBUTION: West Pacific: from China to Japan, the Korean Peninsula and Russian Federation; introduced – for farming – in the waters of Morocco, France and western Canada.



Lower valve (right)

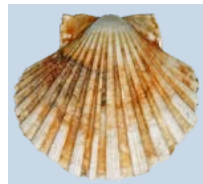


Upper valve (left)

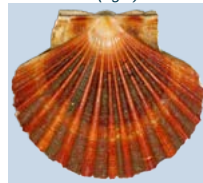
Pecten albicans* (Schröter, 1802)*SIZE:** Max L 10 cm**FAO NAMES:** *Eng* Japanese baking scallop
Esp –**MAIN CHARACTERISTICS:**

A. Equal-sized, thin, circular shaped shells, with nearly equal ears; **B.** about 12 regularly arranged prominent radial ribs; **C.** whitish or light brown to dark brown colour on lower valve, brownish, orange or purple on upper valve.

DISTRIBUTION: Western Pacific: occurs all around Japan and in the South China Sea.



Lower valve (right)



Upper valve (left)

Pecten jacobaeus* (Linnaeus, 1758)*SIZE:** Max L 15.8 cm**FAO NAMES:** *Eng* Great Mediterranean scallop
Esp Concha de peregrino**MAIN CHARACTERISTICS:**

A. Equal-sized, thin, circular shaped shells, with nearly equal ears; **B.** 14 to 18 regularly arranged prominent radial ribs; **C.** whitish colour on lower valve; reddish, more or less dark, on upper valve; **D.** edges of radial ribs are vertical.



DISTRIBUTION: Mediterranean. East Atlantic from southern Portugal to Morocco, including the Azores, Madeira (Portugal) and the Canary Islands (Spain).



Lower valve (right)



Upper valve (left)

Pecten fumatus* (Reeve, 1852)*SIZE:** Max L up to 14 cm**FAO NAMES:** *Eng* Southern Australia scallop
Esp Vieira australiana del Sur**MAIN CHARACTERISTICS:**

A. Equal-sized, thin, circular shaped shells, with nearly equal ears; **B.** about 15 regularly arranged prominent radial ribs; **C.** pale, pink to whitish colour on lower valve; red to brownish on upper valve.

DISTRIBUTION: Occurs throughout southern Australia, from central New South Wales to southern Western Australia including Tasmania.



Lower valve (right)



Upper valve (left)

Pecten maximus* (Linnaeus, 1758)*SIZE:** Max L 17 cm**FAO NAMES:** *Eng* Great Atlantic scallop
Esp Vieira (=Concha de Santiago)**MAIN CHARACTERISTICS:**

A. Equal-sized, thin, circular shaped shells, with nearly equal ears; **B.** 15 to 17 regularly arranged prominent radial ribs; **C.** whitish, cream colour, with yellowish, rosy and light tawny shadings on lower valve, red to brownish on upper valve; **D.** edges of radial ribs are rounded.



DISTRIBUTION: Eastern Atlantic: common from Norway to Portugal.



Lower valve (right)



Upper valve (left)

Pecten novaezelandiae (Reeve, 1852)**SIZE:** Max L 12 cm**FAO NAMES:** *Eng* New Zealand scallop*Esp* Vieira de Nueva Zelandia**MAIN CHARACTERISTICS:**

A. Equal-sized, thin, circular shaped shells, with nearly equal ears; **B.** usually 16 regularly arranged prominent radial ribs with slightly rounded edges; **C.** lower valve whitish, greyish, rosy, yellowish, purplish, sometimes multicolour, upper valve reddish-brown.

DISTRIBUTION: Southern Pacific: distributed all around New Zealand.



Lower valve (right)



Upper valve (left)

Placopecten magellanicus (Gmelin, 1791)**SIZE:** Max L 20 cm**FAO NAMES:** *Eng* American sea scallop*Esp* Vieira americana**MAIN CHARACTERISTICS:**

A. Large, almost circular shell, with unequal ears; **B.** numerous, very small ribs; **C.** colour variable from dirty-white to grey, left valve reddish to pinky.

DISTRIBUTION: Northwestern Atlantic: distributed from Labrador (Canada) to Cape Hatteras (North Carolina, United States).

Snails



Ventral view

Bullacta exarata (Reeve, 1846)

SIZE: Max L over 8 mm

FAO NAMES: *Eng* Korean mud snail

Esp –

MAIN CHARACTERISTICS:

A. Shell fairly thick, spirally striate; the aperture extending for the whole length of the shell, apertural lip extended upwards beyond the apex of the shell; **B.** spire absent; **C.** outer shell brown-greenish, sometimes with purple hues; inner shell mother-of-pearl, with greenish reflections.

DISTRIBUTION: Pacific: from South and East China seas to the Bohai Sea in northeastern China, the western and south coast of the Korean Peninsula and Japan.



Dorsal view

Neverita didyma (Leach, 1814)

SIZE: Max L 8.5 cm

FAO NAMES: *Eng* Bladder moon snail

Esp –

MAIN CHARACTERISTICS:

A. Shell quite large, globular, width significantly wider than length; outer surface smooth, fine lines of growth are present; **B.** spire short, poorly protruding; **C.** outer shell bluish-grey to light brown; inner shell whitish-brown.

DISTRIBUTION: Indo-West Pacific: from South Africa to eastern Indonesia; northward to Japan and southward to Australia (southern Queensland).



Ventral view



Dorsal view

***Rapana* spp** (Gmelin, 1791)

SIZE: Max L 20 cm (*R. venosa*)

FAO NAMES: *Eng* Sea snails

Esp Caracoles de mar

MAIN CHARACTERISTICS:

A. Shell is globose, stocky, surface displays several spiral cords, some tubercles are also present; **B.** spire is conical, its whorls are short (in height) and surrounded by marked costae; body whorl is extremely developed; aperture is oval-shaped, very wide; **C.** outer shell light brown and dark brown tones prevail; inner shell cream, yellowish, orange.

DISTRIBUTION: native to the marine and estuarine waters of the western Pacific, found also in northern and southern Atlantic and the Mediterranean Sea.



Ventral view



Dorsal view

Paratectonatica tigrina (Swainson, 1822)

SIZE: Max L 4 cm

FAO NAMES: *Eng* Tiger moon snail

Esp Náutica atigrada

MAIN CHARACTERISTICS:

A. Shell moderately thin, roughly pear-shaped, longer than wide; outer surface smoothish; **B.** spire short; **C.** outer shell creamy white, covered with many spiral rows of red brown dots; inner shell whitish.

DISTRIBUTION: Indo-West Pacific: from the Mascarene Islands and India to Australia (Queensland).



Ventral view

Squid



Alloteuthis media (Linnaeus, 1758)

SIZE: Max L 13.2 cm (mantle)

FAO NAMES: *Eng* Midsize squid
Esp Calamarín menor

MAIN CHARACTERISTICS:

A. Body spindle-shaped, caudal tip pointed; lateral fins extended beyond posterior half of mantle (which is as long as the posterior two-thirds in male specimens); **B.** tentacles long, club well developed, bearing four sets of suckers (those on both median rows rather developed); **C.** mantle tawny-reddish, violet, with scattered darker dots all over body, head and arms.

DISTRIBUTION: Mediterranean: everywhere except for the northeastern basin. Eastern Atlantic: from the United Kingdom of Great Britain and Northern Ireland and (rarely) the North Sea to northern Morocco.



Alloteuthis subulata (Lamarck, 1798)

SIZE: Max L 18.4 cm (mantle)

FAO NAMES: *Eng* European common squid
Esp Calamarín picudo

MAIN CHARACTERISTICS:

A. Body spindle-shaped, caudal tip long and pointed; fins heart-shaped, their lateral angles rounded, posterior borders concave, extending posteriorly along tail; **B.** tentacles rather short, club is small and rather narrow, it bears four sets of suckers; suckers of both median rows are no more developed than the others; **C.** mantle tawny-reddish, violet, with scattered darker dots all over body, head and arms.

DISTRIBUTION: Mediterranean: everywhere, rare in the eastern basin. Eastern Atlantic: from the North Sea and western Baltic Sea to Western Sahara.



Doryteuthis (Amerigo) gahi (d'Orbigny, 1835)

SIZE: Max L 40 cm (mantle)

FAO NAMES: *Eng* Patagonian squid
Esp Calamar patagónico

MAIN CHARACTERISTICS:

A. Body moderately elongate, cylindrical; two rather short, rhomboidal fins on 40 percent to 45 percent of the whole posterodorsal portion of mantle; posterior margin of fins straight; **B.** tentacles long, thin; club is narrow with four rows of rather small suckers (diameter of median suckers is twice the size of diameter of lateral suckers); **C.** mantle darkish with tawny-violet tones.

DISTRIBUTION: Eastern Pacific and Western Atlantic: from southern Peru to Patagonia and northern coasts of Argentina.



Doryteuthis (Amerigo) opalescens (Berry, 1911)

SIZE: Max L 30.5 cm (mantle)

FAO NAMES: *Eng* Opalescent inshore squid
Esp Calamar opalescente

MAIN CHARACTERISTICS:

A. Body elongate, cylindrical, rather slender, head is compact and arms are short; lateral fins rhomboidal, positioned on posterodorsal portion of mantle, 38 percent to 52 percent of mantle length; **B.** clubs of tentacles narrow, suckers bear about 30 blunted denticles on their margins; **C.** mantle grey-rosy, grey-violet, grey-yellowish, with scattered darker dots all over body, head and arms.

DISTRIBUTION: Eastern Pacific: it occurs between 58° north and 22° north, especially in Californian waters.



Doryteuthis (Amerigo) pealeii (Lesueur, 1821)

SIZE: Max L 46.5 cm (mantle)

FAO NAMES: *Eng* Longfin squid
Esp Calamar pálido

MAIN CHARACTERISTICS:

A. Body elongate, rather slender; two lateral rhomboidal fins are positioned on posterodorsal two-thirds of mantle; their margins are almost straight; **B.** tentacles long, thin; club is narrow; **C.** mantle reddish or rosy, darker dorsally.

DISTRIBUTION: Western Atlantic: common from Nova Scotia (Canada) to Venezuela (Bolivarian Republic of), including the Caribbean Sea and the Gulf of Mexico.



Heterololigo bleekeri (Keferstein, 1866)

SIZE: Max L 38 cm (mantle)

FAO NAMES: *Eng* Spear squid
Esp Calamar lanceolado

MAIN CHARACTERISTICS:

A. Body very elongate, narrow, with a fleshy ridge along ventral midline (males); fins large and thick, positioned on posterodorsal two-thirds of mantle; **B.** tentacles short, tentacular clubs narrow, suckers small, nearly uniform in size; arms very short and small; **C.** mantle with a characteristic arrangement of chromatophores in a rhombic design on the dorsal surface.

DISTRIBUTION: Western Pacific: Japan, from southern Kyushu to the Kuril Strait; also present along the coast of the Korean Peninsula and in the East China Sea and Yellow Sea.



Doryteuthis (Doryteuthis) plei (Blainville, 1823)

SIZE: Max L 37 cm (mantle)

FAO NAMES: *Eng* Slender inshore squid
Esp Calamar flecha

MAIN CHARACTERISTICS:

A. Body elongate, cylindrical, slender, the posterior end acutely pointed; lateral fins rhomboidal, their margins fairly straight positioned on posterodorsal portion of mantle; **B.** left ventral (fourth) arm hectocotylized in mature males by a modification of distal 0.5 to 0.25 of arm that extends to arm tip; **C.** mantle reddish-brown, darkest along dorsal midline of mantle.

DISTRIBUTION: Western Atlantic: from southern New England (United States) to northern Argentina, including the Gulf of Mexico, the Caribbean Sea, Bermuda, the Bahamas and Caribbean Islands.



Loligo forbesii (Steenstrup, 1856)

SIZE: Max L 93.7 cm (mantle)

FAO NAMES: *Eng* Veined squid
Esp Calamar veteado

MAIN CHARACTERISTICS:

A. Body elongate, rather slender; two lateral rhomboidal fins are positioned on posterodorsal three quarters of mantle, their posterior margins are slightly concave; **B.** all suckers on the four rows of each club in both tentacles are same-sized; sucker rings regularly toothed all around; **C.** mantle reddish or rosy, darker dorsally, with purplish dark longitudinal flame-like stripes on the anterior and ventrolateral surfaces.

DISTRIBUTION: Mediterranean: quite rare. Eastern North Atlantic: from the North Sea and the United Kingdom of Great Britain and Northern Ireland to African coasts. Red Sea and eastern coast of Africa (not confirmed).



Loligo reynaudii (d'Orbigny, 1839–1841)

SIZE: Max L 40 cm (mantle)

FAO NAMES: *Eng* Cape Hope squid
Esp Calamar del Cabo

MAIN CHARACTERISTICS:

A. Body elongate, narrow; two lateral rhomboidal fins are positioned on posterodorsal 65 percent or more of mantle; their margins are slightly concave; **B.** tentacles long; clubs expanded, with more than 36 transverse rows of suckers; club suckers on the manus (medial series) greatly enlarged; **C.** mantle tawny-reddish, darker dorsally.

DISTRIBUTION: South Atlantic and southwestern Indian Ocean: southern African waters from Namibia to Port Alfred (South Africa).



Loligo vulgaris (Lamarck, 1798)

SIZE: Max L 64 cm (mantle)

FAO NAMES: *Eng* European squid
Esp Calamar

MAIN CHARACTERISTICS:

A. Body elongate, rather slender; two lateral rhomboidal fins are positioned on posterodorsal two-thirds of mantle, their posterior margins are slightly concave; **B.** suckers on the two central rows of the clubs of both tentacles are clearly bigger than those on lateral rows; about 20 transverse rows of small suckers are positioned on the distal portion of the club; **C.** mantle reddish or rosy, darker dorsally.

DISTRIBUTION: Mediterranean: common. Eastern Atlantic: common from the North Sea and the United Kingdom of Great Britain and Northern Ireland to Namibia.



Lololus (Nipponololigo) japonica (Hoyle, 1885)

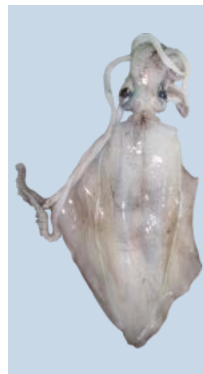
SIZE: Max L 13 cm (mantle)

FAO NAMES: *Eng* Japanese squid
Esp Calamar japonés

MAIN CHARACTERISTICS:

A. Body is rather short and bluff, eyes are rather big; fins rhomboidal, about 50 percent of mantle length; **B.** clubs of both tentacles are rather wide, lanceolate, with suckers on central rows being two or three times bigger than those on lateral rows; **C.** mantle rosy or violet.

DISTRIBUTION: Western Pacific: common from the Yellow Sea and East China Sea to southern Vietnamese waters, Korean peninsula and Japan (southern Hokkaido).



Sepioteuthis australis (Quoy and Gaimard, 1832)

SIZE: Max L 39.4 cm (mantle)

FAO NAMES: *Eng* Southern reef squid
Esp Calamar roquero austral

MAIN CHARACTERISTICS:

A. Body is stocky, elongate and oval-shaped; fins very long, exceed 90 percent of mantle length, lateral margins are weakly angular; **B.** club of each tentacle long, not greatly expanded; suckers moderate sized with 22 to 27 sharp teeth around the rings of the largest suckers; **C.** mantle light or tawnysh, with a narrow white to blue line along the base of the fins where they attach to the body.

DISTRIBUTION: Southwestern Pacific: from Western Australia to Queensland (Australia), including Tasmania, and northern New Zealand.



Sepioteuthis lessoniana (d'Orbigny, 1826)

SIZE: Max L 42.2 cm (mantle)

FAO NAMES: Eng Bigfin reef squid
Esp Calamar manopla

MAIN CHARACTERISTICS:

A. Body is stocky, elongate and oval-shaped, its width is about 40 percent of its length; fins very wide, their margin is rounded, length of margin is about 90 percent of body length, width is about 75 percent of body length; **B.** tentacles long and stocky, clubs are long and rather wide, median suckers are more developed than the others; **C.** mantle light or tawny, darkish or translucent, with transverse stripes or light iridescent spots dorsally.

DISTRIBUTION: Indo-Pacific: widely spread from the Red Sea to Hawaii (United States), northern Australia, New Zealand and Japan.



Uroteuthis (Photololigo) duvaucelii (d'Orbigny, 1835)

SIZE: Max L 33 cm (mantle)

FAO NAMES: Eng Indian squid
Esp Calamar indico

MAIN CHARACTERISTICS:

A. Body rather short and stocky, cylindrical, with a blunt tip; fins gently rhombic, broad, approximately up to 60 percent of mantle length; **B.** tentacles long, tentacular clubs expanded, large, up to 45 percent to 50 percent of mantle length; **C.** mantle reddish, more or less deep tawny-reddish, with a set of scattered darker dots all over body, head and arms.

DISTRIBUTION: Indo-West Pacific: from South Africa and the Red Sea eastward to the Arabian Sea, the Bay of Bengal, the Philippines, the South China Sea and the Taiwan Strait.



Uroteuthis (Photololigo) chinensis (Gray, 1849)

SIZE: Max L 49 cm (mantle)

FAO NAMES: Eng Mitre squid
Esp Calamar mitrado

MAIN CHARACTERISTICS:

A. Body elongate, slender, bluntly pointed posteriorly; median ventral longitudinal carinae present or absent; fins rhombic, long, over two-thirds of mantle length; **B.** club of each tentacle bears 12 median suckers (with 20 to 30 pointed teeth on margins) enlarged to 1.5 times the diameter of the lateral suckers; **C.** mantle reddish, tawny-reddish.

DISTRIBUTION: Indo-Pacific: from southern Japan and southern Sea of China to Malaysia, Andaman Sea, Thailand and Bay of Bengal; also present from Papua New Guinea to southern Australia.



Uroteuthis (Photololigo) edulis (Hoyle, 1885)

SIZE: Max L 50.2 cm (mantle)

FAO NAMES: Eng Swordtip squid
Esp Calamar espada

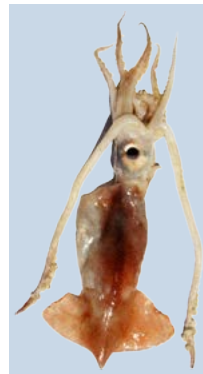
MAIN CHARACTERISTICS:

A. Body moderately stout, elongate, with a blunt tip; fins rhomboidal, long, approximately up to 70 percent of mantle length, posterior margin slightly concave; **B.** tentacles moderately long; tentacular club lanceolate, with about 16 medial manal suckers slightly larger than the marginal suckers, approximately equal in diameter to largest arm suckers; **C.** mantle tawny-violet.

DISTRIBUTION: Indo-Pacific: from East African coast and the Red Sea to the Andaman Sea, the Arabian Sea, India, Thailand, central Japan, the southern Sea of China and northern Australia, including the Philippines.

***Dosidicus gigas* (d'Orbigny, 1835)****SIZE:** Max L 120 cm (mantle)**FAO NAMES:** *Eng* Jumbo flying squid
Esp Jibia gigante**MAIN CHARACTERISTICS:**

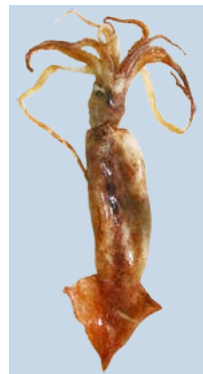
A. Body big, thick and stocky; fins rhomboidal, rather thick, width is about 49 percent to 65 percent of their length, and 41 percent to 49 percent of mantle length; **B.** distal ends of arms (especially in adult specimens) are extended into long and thin filaments with 100 to 200 small, grouped suckers; **C.** two small subcutaneous photophores on ventral surface of mantle, obscure in adults; **D.** mantle tawny-reddish, tawny-violet, darker dorsally.

DISTRIBUTION: Eastern Pacific: from 22° north (Alaska) down to the Tierra del Fuego (South America).***Illex coindetii* (Vérany, 1839)****SIZE:** Max L 37.9 cm (mantle)**FAO NAMES:** *Eng* Broadtail shortfin squid
Esp Pota voladora**MAIN CHARACTERISTICS:**

A. Body elongate, rather narrow, anterior portion is broader and head is wide and robust, tail pointed; **B.** fins rhomboidal, fin angle wider than 50°; **C.** suckers on the two central rows of clubs of both tentacles are bigger than those on the two lateral rows; **D.** mantle reddish, more or less dark dorsally.

DISTRIBUTION: Mediterranean: rare in the eastern basin and in the Adriatic. Eastern Atlantic: from the North Sea to Namibia. Western Atlantic: from Virginia (United States) to the Gulf of Mexico, southwards to the Caribbean Sea and French Guiana.***Illex argentinus* (Castellanos, 1960)****SIZE:** Max L 40 cm (mantle)**FAO NAMES:** *Eng* Argentine shortfin squid
Esp Pota argentina**MAIN CHARACTERISTICS:**

A. Body long, stocky, widest at midpoint; fins relatively short (42 percent of mantle length) and broad; **B.** arms rather elongate, tentacles are rather short, with elongate clubs; **C.** the angle between the median line of its body and the line running along the posterior end of body and the outermost portion of the margins of each fin is between 45° and 55°; **D.** mantle red-tawnyish, darker along median portion of dorsal face.

DISTRIBUTION: Western South Atlantic: common from Brazil (around Rio de Janeiro) to southern Argentina (to about 55° south).***Illex illecebrosus* (Lesueur, 1821)****SIZE:** Max L 34 cm (mantle)**FAO NAMES:** *Eng* Northern shortfin squid
Esp Pota norteña**MAIN CHARACTERISTICS:**

A. Body elongate, stocky, maximum width is in the median point between anterior end of body and anterior end of fins; head small, short and narrow; tail pointed; **B.** suckers on the two central rows of clubs of both tentacles are bigger than those on the two lateral rows; **C.** fin angle 40° to 50°; **D.** mantle red-tawnyish, dark violet dorsally.

DISTRIBUTION: Northeastern Atlantic: from Greenland and Iceland to Ireland and northern coasts of the United Kingdom of Great Britain and Northern Ireland. Northwestern Atlantic: from Greenland to Florida (United States).

***Nototodarus gouldi* (McCoy, 1888)****SIZE:** Max L 42 cm (mantle)**FAO NAMES:** *Eng* Gould's flying squid*Esp* Pota australiana**MAIN CHARACTERISTICS:**

A. Body robust, tapers gradually then very acutely to a point posteriorly; fins wide, extended along 45 percent of body length; fin angle 45° to 55°; **B.** club of each tentacle elongate, 60 percent to 70 percent of tentacle length; about eight pairs of enlarged manal suckers in median rows, marginal suckers small, subequal; **C.** mantle light brown to brick red with a bluish purple dorsal stripe.

DISTRIBUTION: Eastern Pacific: limited to Australia (from Western Australia to Queensland, including Tasmania) and New Zealand waters (principally off North Island).

***Ommastrephes bartramii* (Lesueur, 1821)****SIZE:** Max L 90 cm (mantle)**FAO NAMES:** *Eng* Neon flying squid*Esp* Pota saltadora**MAIN CHARACTERISTICS:**

A. Body robust, a bit elongated; fins rhomboidal, length 40 percent to 50 percent of mantle length; fin angle 46° to 65°; **B.** ventral protective membranes of arms are very wide, expanded into a large, triangular, membranous lobe in adult females; **C.** mantle tawny-reddish, dark purplish; a long, wide, silvery or golden opalescent strip on mid-ventral surface of mantle.

DISTRIBUTION: Atlantic, Indian and Pacific Oceans: widely distributed in subtropical and partly temperate waters of both hemispheres.

***Nototodarus sloani* (Gray, 1849)****SIZE:** Max L 42 cm (mantle)**FAO NAMES:** *Eng* Wellington flying squid*Esp* Pota neozelandesa**MAIN CHARACTERISTICS:**

A. Body progressively thinner as caudal end approaches; fins wide, extended along 42 percent to 48 percent of body length; fin angle 40° to 50°, usually 44°; **B.** club of each tentacle extremely elongate and rather thin, protective membrane is poorly developed, suckers of median rows are quite developed; **C.** mantle tawny-reddish, darker dorsally.

DISTRIBUTION: Eastern Pacific: limited to New Zealand waters.

***Todarodes filippovae* (Adam, 1975)****SIZE:** Max L 54 cm (mantle)**FAO NAMES:** *Eng* Antarctic flying squid*Esp* Jibia antártica**MAIN CHARACTERISTICS:**

A. Body elongate, robust, tapers to a pointed tail; fins saggittate; length and width about 50 percent of mantle length; fin angle 30° to 35°; **B.** tentacles very large, robust; club of each tentacle occupying nearly entire length of tentacle; only two pairs of suckers at base of proximal portion of club; **C.** mantle reddish, tawny-reddish.

DISTRIBUTION: Circumpolar in the Southern Ocean; common in the Antarctic.



Todarodes pacificus (Steenstrup, 1880)

SIZE: Max L 50 cm (mantle)

FAO NAMES: *Eng* Japanese flying squid

Esp Pota japonesa

MAIN CHARACTERISTICS:

A. Body slender, cylindrical, with abrupt taper in the caudal area; fins are short, rhombic, sagittate, length 35 percent to 45 percent of mantle length; **B.** club of each long tentacle is expanded, with six to eight tetraserial medial suckers in transverse rows; **C.** mantle dark brown with a distinct, deep blue-black stripe along the dorsal midline.

DISTRIBUTION: Northwestern Pacific: widespread from China, Hong Kong SAR, the East China Sea and the Sea of Japan to the Sea of Okhotsk, rarely to the northern coast of Canada.



Todaropsis eblanae (Ball, 1841)

SIZE: Max L 29 cm (mantle)

FAO NAMES: *Eng* Lesser flying squid

Esp Pota costera

MAIN CHARACTERISTICS:

A. Body rather squat, head broad, bearing four nuchal folds on neck; fin length less than 50 percent of body length, width equal to 90 percent; **B.** central portions of clubs of tentacles bear six transverse rows of four suckers, two central rows four times bigger than the two lateral; distal portion bears four longitudinal rows of suckers; **C.** mantle tawny-reddish, tawny-yellowish.

DISTRIBUTION: Mediterranean. Eastern Atlantic: from Shetland Islands to Cape Town (South Africa). Indo-Pacific: from western Indian Ocean to South China Sea, Australia and Tasmania.



Todarodes sagittatus (Lamarck, 1798)

SIZE: Max L 75 cm (mantle)

FAO NAMES: *Eng* European flying squid

Esp Pota europea

MAIN CHARACTERISTICS:

A. Body elongate, caudal portion is spindle-shaped and pointed; fins triangular, wide and strong (up to 45 percent of mantle length); **B.** club of each tentacle very elongate (clubs make up at least 75 percent of each tentacle), stocky, with four longitudinal rows of suckers on their central portions; distal portion displays four rows of suckers; proximal portion displays 10 to 12 pairs of suckers; **C.** mantle reddish, tawny-reddish, dark purplish.

DISTRIBUTION: Mediterranean: common, rare in the Adriatic. Eastern Atlantic: from the Barents Sea and the Sea of Kara (Arctic Ocean) to south of the Gulf of Guinea.



Thysanoteuthis rhombus (Troschel, 1857)

SIZE: Max L possibly to 130 cm (mantle)

FAO NAMES: *Eng* Diamondback squid

Esp Chipirón volatín

MAIN CHARACTERISTICS:

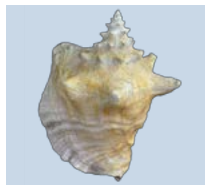
A. Body thick, very muscular, tapering to a blunt tip posteriorly; fins rhombic, extending the entire length of mantle in adults; **B.** tentacles relatively short; **C.** mantle reddish, tawny-reddish.

DISTRIBUTION: Cosmopolitan species, occurs circumglobally in warm tropical and subtropical open waters of the world oceans (including the Mediterranean Sea and the Caribbean Sea).

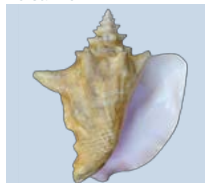
Stromboid conchs

Strombus spp.

(most commercially important species – **Remarks:** formerly all the species described below were attributed to the genus *Strombus*)



Dorsal view



Ventral view

Aliger gigas (Linnaeus, 1758)

SIZE: Max L 30 cm

FAO NAMES: *Eng* Pink conch
Esp Cobo rosado

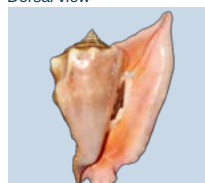
MAIN CHARACTERISTICS:

A. Shell large, heavy, spire is relatively large, high, strongly angled; **B.** knobs large and pointed on last three whorls; **C.** outer lip bears a broad upper expansion as high as or higher than spire; **D.** outer shell yellowish-white, periostracum thin, brown; inner shell deep pink.

DISTRIBUTION: Western Central Atlantic: from southeastern Florida (United States) to Caribbean, Bermuda and Venezuela (Bolivarian Republic of).



Dorsal view



Ventral view

Lobatus peruvianus (Swainson, 1823)

SIZE: Max L 21 cm

FAO NAMES: *Eng* Cock's comb conch
Esp Cobo cresta de gallo

MAIN CHARACTERISTICS:

A. Shell heavy, with a depressed, conical spire; **B.** three rows of low tubercles; **C.** outer lip very widened, with a posterior cuneiform expansion much higher than the apex of the whorl; front edge of outer lip deeply notched; **D.** outer shell tan and light brown range, thick periostracum; inner shell variable, aperture glossy, outer lip pink orange, white inside.

DISTRIBUTION: Eastern Pacific: from the Gulf of California to Peru.



Dorsal view



Ventral view

Conomurex luhuanus (Linnaeus, 1758)

SIZE: Max L 8 cm

FAO NAMES: *Eng* Strawberry conch
Esp –

MAIN CHARACTERISTICS:

A. Shell cone-shaped, spire is relatively low, conical; **B.** body whorl well developed; **C.** outer lip almost rectangular, slightly inturned; **D.** outer shell white, brownish blotches and zigzag lines arranged in narrow and broad spiral bands are present, periostracum greenish brown, yellowish; inner shell aperture orange, pinkish red inside.

DISTRIBUTION: Western Pacific: from western Thailand to eastern Melanesia, Palmyre Island and Polynesia; northward to Japan, southward to northern New South Wales (Australia) and New Caledonia.



Dorsal view



Ventral view

Strombus pugilis (Linnaeus, 1758)

SIZE: Max L 13 cm

FAO NAMES: *Eng* Fighting conch
Esp Cobo luchador

MAIN CHARACTERISTICS:

A. Shell solid, heavy, spire short and pointed near the apex, last whorl large; **B.** whorls bear single row of nodulose spines peripherally; spines are larger on last whorl; **C.** posterior angle of outer lip distinct, projected in posterior direction; front edge of outer lip deeply notched; **D.** outer shell from yellowish to dark orange; inner shell dark purple, white inside.

DISTRIBUTION: Western Central Atlantic: from southeastern Florida (United States) to the Caribbean, Bermuda and Brazil.

Jellyfish

Rhopilema spp.



Rhopilema esculentum (Kishinouye, 1891)

SIZE: Max L about 70 cm (diameter)

FAO NAMES: Eng –

Esp –

MAIN CHARACTERISTICS:

A. Exumbrellar surface smooth, umbrella about half as high as broad; **B.** mouth–arm appendages: numerous filaments and fusiform appendages laterally but no definite terminal appendages; **C.** the bell is rigid, tough and thick with a smooth surface, usually suffused with red.

DISTRIBUTION: Pacific Ocean: waters of western Japan, the Bohai Sea, the Yellow Sea, the East China Sea and the North Malayan Sea.



Rhopilema hispidum (Vanhoeffen, 1888)

SIZE: Max L up to 70 cm (diameter)

FAO NAMES: Eng –

Esp –

MAIN CHARACTERISTICS:

A. Exumbrellar surface rough, with minute, blunt and tiny pointed warts; umbrella shallow in young specimens, about 0.6 times as high as broad in larger specimens; **B.** mouth–arm appendages: numerous clubs laterally and one large terminal club on each mouth arm; **C.** the bell is whitish in colour and rough, with conical, brown, pointed warts abundant near margin and velar lappets, becoming gradually sparse and less pronounced in size towards the bell centre.

DISTRIBUTION: Indo-Pacific: from southern Red Sea to China and Japan.

Sea cucumbers

Stichopus japonicus, *Holothuroidea*



Apostichopus japonicus (Selenka, 1867)

formerly *Stichopus japonicus* (Selenka, 1867)

SIZE: Max L 30 cm (body)

FAO NAMES: Eng Japanese sea cucumber

Esp Cohombro de mar japonés

MAIN CHARACTERISTICS:

A. Cylindrical leathery body with conical, thorny protuberances (papillae); **B.** the anterior or front end bears a mouth surrounded by a ring of short feeding tentacles, the posterior end bears the anus; **C.** colour red, green and black.

DISTRIBUTION: Pacific: along coasts of far eastern Russian Federation (Sakhalin Island), Alaska (United States), China, Japan, the Korean Peninsula.



Holothuroidea

SIZE: Max L up to 30 cm (body)

FAO NAMES: Eng Sea cucumbers nei

Esp Cohombros de mar nep

MAIN CHARACTERISTICS:

A. Body generally soft, ranges from almost spherical to worm-like without solid appendages and without visible skeleton; **B.** mouth on anterior end of the animal, surrounded by tentacles, which can be pulled back inside the animal; **C.** the posterior end contains the anus, corresponding to the aboral pole.

DISTRIBUTION: About 1 717 species of this Class are present worldwide, with the greatest number being in the Asia Pacific region.

Sea urchins

Strongylocentrotus spp, *Paracentrotus lividus*, *Loxechinus albus*, *Echinus esculentus*



S. droebachiensis



Dermoskeleton

***Strongylocentrotus* spp.** (Brandt, 1835)

SIZE: Max L 8.7 cm (diameter)

FAO NAMES: *Eng* Sea urchins nei

Esp Erizos nep

MAIN CHARACTERISTICS:

A. Usually, the longest spines are around the peripheral edge of the animal; **B.** spines are reddish, green, olive, purple, rosy white or tawnyish.

DISTRIBUTION: Eight species belong to this Genus; widespread along eastern coasts of the Pacific Ocean (from Mexico to British Columbia, the Bering Sea and Sea of Japan); also present in Norway, off the Russian Federation from the Barents Sea, in the United Kingdom of Great Britain and Northern Ireland and along the northeastern coasts of the Atlantic Ocean.

Paracentrotus lividus (Lamarck, 1816)

SIZE: Max L 7 cm (diameter)

FAO NAMES: *Eng* Stony sea urchin

Esp Erizo de mar

MAIN CHARACTERISTICS:

A. Body rather depressed, spines are stocky and pointed, but not dense; **B.** each ambulacral plate displays three (rarely four or six) pairs of pores; **C.** each ambulacral and interambulacral plate displays only one tubercle and one spine; **D.** dermoskeleton is greenish, spines are reddish, green, olive, purple or tawnyish.

DISTRIBUTION: Mediterranean: common in the northern portion. Eastern Atlantic: common from Ireland and the northern United Kingdom of Great Britain and Northern Ireland to the Rio de Oro, the Canary Islands (Spain), the Azores Islands and Madeira (Portugal).



Dorsal view



Dermoskeleton



Dorsal view



Edible ovaries

Loxechinus albus (Molina, 1782)

SIZE: Max L 10 cm (diameter)

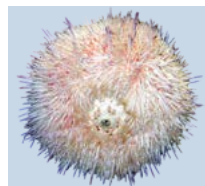
FAO NAMES: *Eng* Chilean sea urchin

Esp Erizo blanco

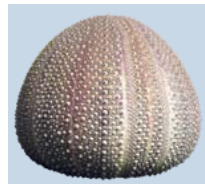
MAIN CHARACTERISTICS:

A. Body hemispherical with primary spines rather short in adults and secondary spines very numerous; **B.** 6 to 11 ambulacral plates are present, displaying one primary tubercle; **C.** colour greenish, with reddish shades; the big specimens caught in deep waters can be partially or completely whitish or white-yellowish

DISTRIBUTION: Eastern Pacific: present from Ecuador (6° south) to the Strait of Magellan (Chile).



Ventral view



Dermoskeleton

Echinus esculentus (Linnaeus, 1758)

SIZE: Max L 16 cm (diameter)

FAO NAMES: *Eng* European edible sea urchin

Esp Erizo europeo

MAIN CHARACTERISTICS:

A. Body globose, sometimes slightly flat, it displays several quite short spines; all spines in larger specimens are about equal; **B.** primary and secondary spines are of similar length except for juvenile specimens; **C.** peristomal plates display three pairs of pores; **D.** dermoskeleton is rosy or red, with greenish, yellowish or purple red shading sometimes; spines are reddish, bases are usually whitish while tips are usually purple.

DISTRIBUTION: Eastern Atlantic: common from Norway, Iceland and Finland southwards to Portugal.

Photo credits

Text and images by Paolo Manzoni, with the exception of those listed below. Readers should not hesitate to contact the author if they come across any errors or omissions in the source of the images.

Anchovies

Engraulis anchoita: Source: FAO.

Engraulis ringens: Author: cstobie – Link: <https://www.inaturalist.org/observations/12888755> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Bregmacerotidae

Bregmaceros maclellandi: Author: Hamid Badar Osmany – Link: <https://www.fishbase.de/photos/UploadedBy.php?autoctr=18614&win=uploaded> – Image can be freely copied and altered, as long as original author and source are properly acknowledged.

Blue whittings

Micromesistius australis: Source: FAO.

Bonito

Sarda chiliensis: Author: B. Tenge (SPRC, SEA-DO) – Source: United States Food & Drug Administration, Regulatory Fish Encyclopedia (RFE) – Link: <https://wayback.archive-it.org/7993/20170113095444/http://www.fda.gov/ucm/groups/fdagov-public/documents/image/UCM060748.jpg> – this image is considered the property of the United States Government and may be used for personal, research, or educational purposes. This image may not be copyrighted for resale or commercial purposes.

Carp

Catla catla: Author: Khalid Mahmood – Source: own work – Link: http://commons.wikimedia.org/w/index.php?title=File:Catla_catla.JPG&oldid=128382172 – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Cirrhinus mrigala: Author: fishtse/Tse Chung Yi – Source: iNaturalist.org – Link: <https://www.inaturalist.org/observations/57897455> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Leptobarbus hoevenii: Author: Haplochromis – Source: own work – Link: [https://commons.wikimedia.org/w/index.php?title=File:Siambarbe_\(Leptobarbus_hoevenii\).jpg&oldid=453736117](https://commons.wikimedia.org/w/index.php?title=File:Siambarbe_(Leptobarbus_hoevenii).jpg&oldid=453736117) – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported, 2.5 Generic, 2.0 Generic, 1.0 Generic license.

Mylopharyngodon piceus: Author: Source: Туристический Саратов – Link: <https://www.tursar.ru/page-joy.php?j=563#gallery-8>

Osteochilus hasseltii: Author: Wibowo Djatmiko (Wie146) – Source: own work – Link: https://commons.wikimedia.org/w/index.php?title=File:Osteoc_hassel_120127-22853_tsm.JPG&oldid=584453129 – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Catfish

Pangasius bocourti: Source: Fishes of Mainland Southeast Asia (FIMSeA) – Link: https://www.planetcatfish.com/common/image.php?image_id=18389 – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Pangasius hypophthalmus: Author: Staticd – Source: opera propria – Link: https://it.wikipedia.org/wiki/File:Pangasianodon_hypophthalmus.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Pangasius larnaudii: Author: Jony Cooper – Source: own work – Link: https://en.wikipedia.org/wiki/File:Pangasius_larnaudii.jpg – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Pangasius pangasius: Author: Staticd – Source: own work – Link: [https://commons.wikimedia.org/w/index.php?title=File:Pangasius_pangasius_\(India\).jpg&oldid=484766589](https://commons.wikimedia.org/w/index.php?title=File:Pangasius_pangasius_(India).jpg&oldid=484766589) – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Silurus asotus: Author: Cristoph15 – Source: https://ffish-of-the-world.fandom.com/wiki/Silurus_asotus?file=P1_DSC3971_20130708.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Silurus meridionalis: Source: Liu, W., Qui, H., Yan, Y. & Xie, X. 2021. Acute Cd toxicity, metal accumulation and ion loss in southern catfish (*Silurus meridionalis* Chen). *Toxics*, 9(9): 202 – Link: <https://doi.org/10.3390/toxics9090202> – licensed under the Creative Commons Attribution 4.0 International license.

Clarias macrocephalus: Author: FIMSeA (<http://ffish.asia>) – Source: https://www.planetcatfish.com/common/image.php?species=clarias_macrocephalus&image_id=18095 – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Ictalurus furcatus: Author: Thomsonmg2000 – Source: own work – Link: https://commons.wikimedia.org/w/index.php?title=File:Blue_catfish_tenn_aquarium.JPG&oldid=490134242 – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Cod

Gadus ogac: Source: http://jypichthyology.info/G_ogac.php

Danube salmon

Hucho hucho: Author: Liquid Art – Source: own work – Link: [https://commons.wikimedia.org/w/index.php?title=File:Danube_Salmon_-_Huchen_\(Hucho_hucho\).jpg&oldid=467959537](https://commons.wikimedia.org/w/index.php?title=File:Danube_Salmon_-_Huchen_(Hucho_hucho).jpg&oldid=467959537) – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Dogfish – Sharks

Carcharhinus albimarginatus: Author: Hiroya02 – Source: own work – Link: https://commons.wikimedia.org/w/index.php?title=File:Okinawa_silvertipshark.png&oldid=617190817 – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Carcharhinus falciformis: Author: Hiroya02 – Source: Australian National Fish Collection, CSIRO – Link: <https://fishesofaustralia.net.au/home/species/2887> – License: CC by Attribution – NonCommercial.

Carcharhinus longimanus: Author: Allen Shimada, NOAA/NMFS OST – Source: <http://www.photolib.noaa.gov/htmls/fish2661.htm> – Link: https://commons.wikimedia.org/w/index.php?title=File:Carcharhinus_longimanus_on_deck.jpg&oldid=505923678 – License: Public Domain.

Galeocerdo cuvier: Author: SEFSC Pascagoula Laboratory; Collection of Brandi Noble, NOAA/NMFS/SEFSC – Source: NOAA Photo Library (<https://www.flickr.com/people/51647007@N08>): fish4258 (<https://www.flickr.com/photos/noaaphotolib/5187494993/>) – Link: <https://www.flickr.com/photos/noaaphotolib/5187494993/> – licensed under the Creative Commons Attribution 2.0 Generic license.

Carcharias taurus: Author: Amada44 – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Carcharias_taurus_in_UShaka_Sea_World_1079-a.jpg – licensed under the Creative Commons Attribution 3.0 unported license.

Odontaspis ferox: Source: Martin F. Gomom/Museum Victoria – Link: <https://fishesofaustralia.net.au/home/species/1845> – License: CC by Attribution.

Mustelus mento: Author: L. Ignacio Contreras – Source: iNaturalist Chile – Link: <https://spain.inaturalist.org/photos/59135817> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International license.

Mustelus punctulatus: Author: Gino Piscitelli.

Mustelus schmitti: Source: "El Mar Argentino Exporta" – Fundación Atlántica/Mar del Plata/Argentina/1984.

Triakis semifasciata: Author: Mfield, Matthew Field, www.photography.mattfield.com (<http://www.photography.mattfield.com>) – Source: own work – Link: https://en.wikipedia.org/wiki/File:Leopard_shark_in_kelp.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Eels

Anguilla australis australis: Source: David Paul Museums Victoria – Link: <https://www.nativefish.asn.au/home/page/Short-Finned-Eel> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Anguilla bengalensis bengalensis: Author: Nandini Velho at Pakke Tiger Reserve – Source: Eel_Pakke.jpg by Nandini Velho (nandinivelho AT gmail.com) – Link: http://commons.wikimedia.org/w/index.php?title=File:Anguilla_bengalensis_bengalensis.jpg&oldid=122102583 – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Anguilla marmorata: Author: H.H. Tsai – Source: own work – Link: https://commons.wikimedia.org/wiki/File:An_Anguilla_marmorata_at_National_Tsing_Hua_University.jpg – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Euclichthyidae

***Euclichthys* (genus)**: Source: Australian National Fish Collection, CSIRO – Link: <https://fishesofaustralia.net.au/home/species/3427> – License: CC BY Attribution – Noncommercial.

Flat fish

Hippoglossus stenolepis: Author: Баранчук-Червонный Лев – Source: own work – Link: http://commons.wikimedia.org/w/index.php?title=File:Hippoglossus_stenolepis_2.JPG&oldid=94925402 – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Lepidopsetta bilineata: Author: Vicky Okimura (Washington Department of Fish and Wildlife) – Source: Recreational Fisheries Information Network – Link: <https://www.recfin.org/resources/fishid/> – photo available to download for public use.

Bothus pantherinus: Author: Paul Klii (<https://www.flickr.com/people/141807391@N07>) – Source: Bothus pantherinus (<https://www.flickr.com/photos/polihierax/26728586675/>) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Bothus_pantherinus_\(26728586675\).jpg&oldid=488298821](https://commons.wikimedia.org/w/index.php?title=File:Bothus_pantherinus_(26728586675).jpg&oldid=488298821) – licensed under the Creative Commons Attribution – Share Alike 2.0 Generic license.

Zebrias zebra: Author: Izuzuki – Source: <http://www.izuzuki.com/> – Link: <https://commons.wikimedia.org/wiki/File:ShimaUS.jpg> – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Gadidae

Boreogadus saida: Author: Havforskninginstituttet – Source: <http://www.artsdatabanken.no/Pages/F12248> – Link: https://commons.wikimedia.org/wiki/File:Boreogadus_saida2.jpg – licensed under the Creative Commons Attribution 4.0 International license.

Eleginus gracilis: Author: A.C. Tatarinov – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Eleginus_gracilis.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Hake – *Merlucciidae*

Urophycis chuss: Author: Mac Eachern, William J. – Source: <https://www.fishbase.se/photos/PicturesSummary.php?StartRow=2&ID=312&what=species&TotRec=4> – licensed under the Creative Commons Attribution 3.0 Unported license.

Horse mackerel – Jack mackerel

Trachurus capensis: FAO.

Trachurus symmetricus: Author: Ruff tuff cream puff – Source: own work – Link: https://commons.wikimedia.org/w/index.php?title=File:Trachurus_symmetricus_san_diego.jpg&oldid=392923196 – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Indian mackerel

Rastrelliger brachysoma: Author: Wibowo Djatmiko (Wie146) – Source: Karya sendiri – Link: https://id.wikipedia.org/wiki/Berkas:Rastrel_brachy_100812-6025_tdp.jpg – licensed under the Creative Commons Atribusi-BerbagiSerupa 3.0 Tanpa Adaptasi license.

Macrouridae

Albatrossia pectoralis: Author: Fisheries and Oceans Canada, dfo_deep_sea_ecology_program – Source: iNaturalist – Link: <https://inaturalist.ca/photos/178847530> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International license.

Coryphaenoides acrolepis: Author: Kelly Walker/NOAA – Source: <https://caseagrant.ucsd.edu/seafood-profiles/pacific-grenadier>.

Marlins – Sailfishes – Spearfish

Istiompax indica: Author: noosakev/Kevin Long – Source: iNaturalist.org – Link: <https://www.inaturalist.org/observations/10122940> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International license.

Istiophorus albicans: Author: PROMAROSA, Ecuador.

Kajikia audax: Author: sflax/Stefanie – Source: iNaturalist.org – Link: <https://www.inaturalist.org/observations/36194278> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International license.

Makaira mazara: Author: Jackiemora01 – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Stripe_marlin_right_off_the_coast_of_Carrillo.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported.

Makaira nigricans: Source: Brep/Flickr – Link: <https://fishesofaustralia.net.au/home/species/2538> – License: CC BY Attribution – Noncommercial – ShareAlike

Melanonidae

Melanonus zugmayeri: Source: Fig. 35, in Norman (1930) Discovery Reports 2: 261-369/Biodiversity Heritage Library – Link: <https://fishesofaustralia.net.au/home/species/4570> – License: CC BY Attribution.

Muraenolepididae

Muraenolepis spp.: **Author:** G.M. Woodward – **Source:** Fishes (<https://archive.org/details/fishes00rega>) – **Link:** https://commons.wikimedia.org/wiki/File:Muraenolepis_microps.jpg – This work is in the public domain.

Pacific salmon

Oncorhynchus masou masou: **Author:** Totti – **Source:** own work – **Link:** https://commons.wikimedia.org/wiki/File:Oncorhynchus_masou_without_parr_mark_1.jpg – licensed under the Creative Commons Attribution 4.0 International license.

Oncorhynchus rhodurus: **Author:** No machine-readable author provided. Vineyard assumed (based on copyright claims) – **Source:** No machine-readable source provided. Own work assumed (based on copyright claims) – **Link:** [https://commons.wikimedia.org/wiki/File:Biwa_Trout\(Lake_Biwa-JP\).jpg](https://commons.wikimedia.org/wiki/File:Biwa_Trout(Lake_Biwa-JP).jpg) – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Rays – Skates

Dipturus innominatus: **Source:** Lisa Bennett/iNaturalist.org – **Link:** <https://fishesofaustralia.net.au/Home/species/5543> – License: CC By Attribution – NonCommercial.

Zearaja nasuta: **Source:** **Author:** Clinton Duffy – **Source:** iNaturalist.org – **Link:** <https://www.inaturalist.org/photos/4244761> – licensed under the Creative Commons Attribution 4.0 International license.

Salmonidae

Brachymystax lenok: **Author:** National Institute of Ecology – **Source:** http://www.nie.re.kr/brdthm/boardthmView.do?menu_nix=8G62mq5l&brd_id=BDIDX_eQhv4gGLd8l2n8m1RRai14&cont_idx=19 – **Link:** https://commons.wikimedia.org/wiki/File:Brachymystax_lenok.jpg – licensed under the Korea Open Government License Type I: Attribution (<https://www.kogil.or.kr/info/licenseType1.do>).

Coregonus autumnalis: **Author:** USGS – **Source:** <https://www.usgs.gov/media/images/arctic-cisco-coregonus-autumnalis-captured-along-beaufort-sea> – Public Domain.

Coregonus clupeaformis: **Author:** oebarker/ Oliver Barker – **Source:** iNaturalist.org – **Link:** <https://www.inaturalist.org/observations/9941237> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Coregonus maraena: **Author:** Henrik Carl – **Source:** Atlas over danske saltvandsfisk – **Link:** https://fiskeatlas.ku.dk/artstekster/Helt_og_sn_bel_Fiskeatlas.pdf

Coregonus migratorius: **Author:** Alexey Zyryanov – **Source:** iNaturalist.org – **Link:** <https://www.inaturalist.org/photos/63550378> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Coregonus nasus: **Author:** Peter Mortensen, Swedish museum of Natural History.

Coregonus sardinella: **Author:** Endicoh, United States Fish and Wildlife Service – **Source:** <http://www.public-domain-image.com/public-domain-images-pictures-free-stock-photos/fauna-animals-public-domain-images-pictures/fishes-public-domain-images-pictures/least-cisco-coregonus-sardinella.jpg> – **Link:** https://commons.wikimedia.org/w/index.php?title=File:Least_cisco_coregonus_sardinella.jpg&oldid=457689585 – This file is in public domain.

Coregonus ussuriensis: **Author:** Andshel – **Source:** own work – **Link:** https://commons.wikimedia.org/wiki/File:Амурский_сир_фото_3.JPG – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Salvelinus malma: **Author:** Bering Land Bridge National Preserve (<https://www.flickr.com/people/38623372@N06>) – **Source:** Dolly-Varden – Morgan Bond, U of Washington edit (https://www.flickr.com/photos/bering_land_bridge/15651417154/) – **Link:** [https://commons.wikimedia.org/wiki/File:Dolly-Varden_Morgan_Bond_U_of_Washington_edit_\(15651417154\).jpg](https://commons.wikimedia.org/wiki/File:Dolly-Varden_Morgan_Bond_U_of_Washington_edit_(15651417154).jpg) – licensed under the Creative Commons Attribution – Share Alike 2.0 Generic license.

Salvelinus namaycush: Author: Mike Cline – Source: own work – Link: <https://commons.wikimedia.org/wiki/File:LakeTroutYellowstoneLake2009.JPG> – This file is in public domain.

Thymallus arcticus: Author: No machine-readable author provided. AKSMITH assumed (based on copyright claims) – Source: No machine-readable source provided. Own work assumed (based on copyright claims) – Link: https://commons.wikimedia.org/wiki/File:Underwater_Arctic_Grayling.jpg – licensed under the Creative Commons Attribution – Share Alike 2.5 Generic license.

Sardinella

Sardinella brasiliensis: Author: Luis Otavio Frota da Rocha – Source: Fishbase – Link: <https://www.fishbase.se/photos/thumbnailsummary.php?ID=1505>

Sardinella lemuru: Author: Reyes, Rodolfo B. – Source: Fishbase – Link: <https://www.fishbase.se/photos/PicturesSummary.php?StartRow=2&ID=1510&what=species&TotRec=5> – licensed under the Creative Commons Attribution – Noncommercial 3.0 Unported license.

Scads

Decapterus macarellus: Author: Wie146 – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Decapt_macar_121019-29161_tdp.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Decapterus macrosoma: Author: Jeffrey T. Williams/Smithsonian Institution, National Museum of Natural History, Department of Vertebrate Zoology, Division of Fishes – Source: Fishbase – Link: <https://www.fishbase.de/photos/PicturesSummary.php?StartRow=0&ID=1938&what=species&TotRec=5>

Decapterus maruadsi: Author: Jeffrey T. Williams/Smithsonian Institution, National Museum of Natural History, Department of Vertebrate Zoology, Division of Fishes – Source: Fishbase – Link: <https://fishbase.mnhn.fr/photos/PicturesSummary.php?StartRow=0&ID=1939&what=species&TotRec=4>

Decapterus punctatus: Author: NOAA\NMFS\Mississippi Laboratory – Link: https://commons.wikimedia.org/wiki/File:Decapterus_punctatus_Gulf_of_Mexico.jpg – licensed under the Creative Commons Attribution 3.0 Unported license.

Seabream

Chrysoblephus gibbiceps: Author: Brian Gratwicke (<http://www.flickr.com/people/19731486@N07>) – Source: Flickr: Red stumpnose *Chrysoblephus gibbiceps* (<http://flickr.com/photos/19731486@N07/6962115878>) – Link: http://commons.wikimedia.org/w/index.php?title=File:Chrysoblephus_gibbiceps1.jpg&oldid=94895367 – licensed under the Creative Commons Attribution 2.0 Generic license.

Snakeheads

Channa argus: Author: Smithsonian Environmental Research Center (<https://www.flickr.com/people/117184384@N07>) – Source: *Channa argus*_(S0422) (https://www.flickr.com/photos/serc_biodiversity/12659119674/) – Link: [https://commons.wikimedia.org/wiki/File:Channa_argus_\(S0422\)_12659119674.jpg](https://commons.wikimedia.org/wiki/File:Channa_argus_(S0422)_12659119674.jpg) – licensed under the Creative Commons Attribution 2.0 Generic license.

Channa maculata: Author: fishtse/Tse Chung Yi – Source: iNaturalist.org – Link: <https://www.inaturalist.org/observations/19946194> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Channa micropeltes: Author: George Chernilevsky – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Channa_micropeltes_2012_G1.jpg – This file is in public domain.

Channa pleurophthalma: Author: Frank Vincentz – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Düsseldorf_-_Aquazoo_-_Channa_pleurophthalma_01_ies.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Southern bluefin tunas

Thunnus maccoyii: Author: New Zealand Seafood Industry Council.

Tilapias

Oreochromis mossambicus: Author: Photo by Greg Hume – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Oreochromis_mossambicus.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Trout

Oncorhynchus clarkii: Author: Hazzard, Loyde/United States Fish and Wildlife Service –

Source: (<http://images.fws.gov/default.cfm?fuseaction=recordsdisplay&CFID=8884032&CFTOKEN=76494042&id=BFD992E1%2DAF16%2D44E7%2D87EAC1836B43336A>) –

Link: http://commons.wikimedia.org/w/index.php?title=File:Oncorhynchus_clarkii_virginalis.jpg&oldid=52521702 – This image is in the public domain.

Oncorhynchus aguabonita: Author: Jcs55nu/John C. Sneddon – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Golden_trout_%22Oncorhynchus_mykiss_aguabonita%22.jpg – This image is in the public domain.

Oncorhynchus gilae: Author: United States Fish and Wildlife Service – Source: <http://www.public-domain-image.com/public-domain-images-pictures-free-stock-photos/fauna-animals-public-domain-images-pictures/fishes-public-domain-images-pictures/trout-fishes-pictures/apache-trout-fish-salmo-apache.jpg> – Link: https://commons.wikimedia.org/wiki/File:Oncorhynchus_gilae.jpg – This file is in the public domain.

Oncorhynchus apache: Author: Jennifer Johnson, United States Fish and Wildlife Service – Source: USGS/NAS Nonindigenous Aquatic species – Link: <https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=2545> – This image is in the public domain.

Oncorhynchus chrysogaster: Author: United States Fish and Wildlife Service – Link: https://www.fischlexikon.eu/fischlexikon/fische-suchen.php?fisch_id=0000002336 – This file is in the public domain.

Tunas of the genus *Thunnus*

Thunnus atlanticus: Author: Williams, J.T.; Carpenter, K.E.; Van Tassell, J.L.; Hoetjes, P.; Toller, W.; Etnoyer, P.; Smith, M. – Source: Williams, J.T.; Carpenter, K.E.; Van Tassell, J.L.; Hoetjes, P.; Toller, W.; Etnoyer, P.; Smith, M. (2010). "Biodiversity Assessment of the Fishes of Saba Bank Atoll, Netherlands Antilles" – Link: https://it.m.wikipedia.org/wiki/File:Thunnus_atlanticus_-_pone.0010676.g186.png – licensed under the Creative Commons Attribution 2.5 Generic license.

Crabs

Lithodes aequispinus: Author: Michelle Pemberton – Source: The Children's Museum of Indianapolis – Link: https://commons.wikimedia.org/wiki/File:The_Childrens_Museum_of_Indianapolis_-_Alaskan_red_king_crab.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Paralithodes platypus: Author: Andrew Butko – Source: own work – Link: [http://en.wikipedia.org/wiki/File:Paralithodes_platypus_\(museum\).jpg](http://en.wikipedia.org/wiki/File:Paralithodes_platypus_(museum).jpg) – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Menippe mercenaria: Author: Techygirlga – Source: own work – Link: https://en.wikipedia.org/wiki/File:Stone_crabs_in_cooler.jpg – This file is in public domain.

Scylla paramamosain: Author: RoysFarm (<http://www.roysfarm.com/mud-crab-farming/>).

Ucides cordatus: Author: Leoadec – Source: own work – Link: <http://commons.wikimedia.org/w/index.php?title=File:Uc%C3%A1.jpeg&oldid=60528860> – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Prawns – Shrimps

Heterocarpus sibogae: Author: Tin-Yam Chan/National Taiwan Ocean University.

Penaeus chinensis: Author: Tin-Yam Chan/National Taiwan Ocean University.

Xiphopenaeus kroyeri: Author: Hans Hillewaert – Source: own work – Link: <https://www.flickr.com/photos/bathyporeia/16023958523> – licensed under the Creative Commons Attribution – NonCommercial – NoDerivs 2.0 Generic (CC BY-NC-ND 2.0) license.

Abalone

Haliotis glabra: Author: H. Zell – Source: own work – Link: https://it.m.wikipedia.org/wiki/File:Haliotis_glabra_01.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Haliotis rubra (ventral view): Author: Toby Hudson – References: <http://coldb.mnhn.fr/catalognumber/mnhn/im/2009-2367> – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Ark shells – Clams – Cockles

Anadara antiquata: Author: Lozouet Pierre – Link: [https://commons.wikimedia.org/wiki/File:Anadara_antiquata_\(MNHN-IM-2009-2367\).jpeg](https://commons.wikimedia.org/wiki/File:Anadara_antiquata_(MNHN-IM-2009-2367).jpeg) (the photos were cropped) – licensed under the Creative Commons Attribution 4.0 International license.

Anadara brasiliiana: Author: Wilfredor – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Anadara_brasiliana_in_Margarita_island.jpg – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Anadara cornea: Source: Naturalis Biodiversity Center/Wikimedia Commons – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.313555_-_Anadara_cornea_\(Reeve,_1844\)_-_Arcidae_-_Mollusc_shell.jpeg&oldid=487347872](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.313555_-_Anadara_cornea_(Reeve,_1844)_-_Arcidae_-_Mollusc_shell.jpeg&oldid=487347872) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Anadara notabilis: Source: Naturalis Biodiversity Center/Wikimedia Commons – Links: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.411270_-_Anadara_notabilis_\(Röding,_1798\)_-_Arcidae_-_Mollusc_shell.jpeg&oldid=484058023](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.411270_-_Anadara_notabilis_(Röding,_1798)_-_Arcidae_-_Mollusc_shell.jpeg&oldid=484058023)
[https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.313606_-_Anadara_notabilis_\(Röding,_1798\)_-_Arcidae_-_Mollusc_shell.jpeg&oldid=466431763](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.313606_-_Anadara_notabilis_(Röding,_1798)_-_Arcidae_-_Mollusc_shell.jpeg&oldid=466431763) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Arca ventricosa: Source: Naturalis Biodiversity Center/Wikimedia Commons – Link: https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.409841_-_Arca_ventricosa_Lamarck,_1819_-_Arcidae_-_Mollusc_shell.jpeg&oldid=494489300 – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Arca zebra: Author: Wilfredor – Source: own work – Link: [https://commons.wikimedia.org/wiki/File:Arca_zebra_\(Interior_and_Exterior\).jpg](https://commons.wikimedia.org/wiki/File:Arca_zebra_(Interior_and_Exterior).jpg) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

Laevicardium elatum: Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1019695868> – Link: [https://commons.wikimedia.org/wiki/File:Laevicardium_elatum_\(MNHN-IM-2000-3968\).jpeg](https://commons.wikimedia.org/wiki/File:Laevicardium_elatum_(MNHN-IM-2000-3968).jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

Vasticardium pectiniforme: Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1019695915> – Link: [https://commons.wikimedia.org/wiki/File:Vasticardium_pectiniforme_\(MNHN-IM-2000-4029\).jpeg](https://commons.wikimedia.org/wiki/File:Vasticardium_pectiniforme_(MNHN-IM-2000-4029).jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

Donax cuneatus: Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1837427862> – Link: [https://commons.wikimedia.org/wiki/File:Donax_cuneatus_\(MNHN-IM-2000-33872\)_002.jpeg](https://commons.wikimedia.org/wiki/File:Donax_cuneatus_(MNHN-IM-2000-33872)_002.jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

Panopea generosa: Author: The Evergreen State College – Source: The Evergreen State College photo archives – Link: https://commons.wikimedia.org/wiki/File:Geoduck_held_in_two_hands.jpg – licensed under the Creative Commons Attribution 4.0 International license.

Mactra grandis: Author: Ria Tan – Source: The Evergreen State College photo archives – Link: https://commons.wikimedia.org/wiki/File:Geoduck_held_in_two_hands.jpg – licensed under the Creative Commons Attribution – NonCommercial – ShareAlike 2.0 Generic (CC BY-NC-SA 2.0).

***Mactra maculata*:** Author: genjitsu – Source: iNaturalist.org – Link: <https://www.inaturalist.org/observations/67745876> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

***Ensis leei*:** Author: Gino Piscitelli.

***Ensis magnus*:** Author: Malcolm Storey – Source: eol.org – Link: <https://eol.org/media/9054642> – licensed under the Creative Commons Attribution – NonCommercial – ShareAlike 3.0 Unported (CC BY-NC-SA 3.0) license.

***Hippopus hippopus*:** Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1212540565> – Link: [https://commons.wikimedia.org/wiki/File:Hippopus_hippopus_\(MNHN-IM-2012-24837\)_003.jpeg](https://commons.wikimedia.org/wiki/File:Hippopus_hippopus_(MNHN-IM-2012-24837)_003.jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

***Tridacna crocea*:** Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1212540367> – Link: [https://commons.wikimedia.org/wiki/File:Tridacna_crocea_\(MNHN-IM-2012-24839\)_001.jpeg](https://commons.wikimedia.org/wiki/File:Tridacna_crocea_(MNHN-IM-2012-24839)_001.jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

***Tridacna derasa*:** Author: Fernando Losada Rodríguez – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Tridacna_derasa.001_-_Aquarium_Finisterrae.JPG – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

***Tridacna gigas*:** Author: H. Zell – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Tridacna_gigas_01.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

***Tridacna maxima*:** Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1212540325> – Link: [https://commons.wikimedia.org/wiki/File:Tridacna_maxima_\(MNHN-IM-2012-24838\)_001.jpeg](https://commons.wikimedia.org/wiki/File:Tridacna_maxima_(MNHN-IM-2012-24838)_001.jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

***Tridacna squamosa*:** Author: MerlinCharon – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Juvenile_Tridacna_costata_and_squamosa.jpg – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Cuttlefish

***Sepia aculeata*:** Author: FAO.

***Sepia apama*:** Author: Harry Rosenthal – Source: Biodiversity4All.org – Link: <https://www.biodiversity4all.org/photos/9701950?size=original> – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

***Sepia arabica*:** Author: Marino Ioseffini.

***Sepia bertheloti*:** Author: océan Fish – Dakar/Senegal.

***Sepia lycydas*:** Author: FAO.

***Sepia recurvirostra*:** Author: FAO.

Mussels

***Mytilus californianus*:** Source: Naturalis Biodiversity Center/Wikimedia Commons – Link: https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.412252_-_Mytilus_californianus_Conrad_1837_-_Mytilidae_-_Mollusc_shell.jpeg&oldid=451090665 – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Perna perna: Author: Veronidae – Source: own work – Link: [https://commons.wikimedia.org/wiki/File:Perna_perna_\(Linnaeus,_1758\)_2013_001.JPG](https://commons.wikimedia.org/wiki/File:Perna_perna_(Linnaeus,_1758)_2013_001.JPG) – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Perna viridis: Author: H. Zell – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Perna_viridis_01.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Octopus

Enteroctopus megalocyathus: Author: Nicolás Battini – Source: iNaturalist.org – Link: https://www.inaturalist.org/taxa/699757-Enteroctopus-megalocyathus/browse_photos – licensed under the Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0) license.

Octopus australis: Author: Marco Bordieri – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Octopus_australis_2.jpgs – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Oysters

Alectryonella plicatula: Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis_Biodiversity_Center/Wikimedia_Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.415103_-_Alectryonella_plicatula_\(Gmelin,_1791\)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=470294469](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.415103_-_Alectryonella_plicatula_(Gmelin,_1791)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=470294469) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Crassostrea rhizophorae (lower valve): Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis_Biodiversity_Center/Wikimedia_Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.415599_-_Crassostrea_rhizophorae_\(Guilding,_1828\)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=487294219](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.415599_-_Crassostrea_rhizophorae_(Guilding,_1828)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=487294219) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Crassostrea rhizophorae (upper valve): Author: Veronidae – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Crassostrea_rhizophorae_000.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Dendostrea folium: Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis_Biodiversity_Center/Wikimedia_Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.415316_-_Dendostrea_folium_\(Linnaeus,_1758\)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=483879063](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.415316_-_Dendostrea_folium_(Linnaeus,_1758)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=483879063) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Magallana bilineata: Source: shopee.ph – Link: <https://shopee.ph/1-Kilo-Talaba-Philippine-Cupped-Oyster-i.243731245.6835129899>

Planostrea pestigris: Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis_Biodiversity_Center/Wikimedia_Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.319399_-_Planostrea_pestigris_\(Hanley,_1846\)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=489378347](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.319399_-_Planostrea_pestigris_(Hanley,_1846)_-_Ostreidae_-_Mollusc_shell.jpeg&oldid=489378347) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

Queen scallops – Scallops

Azumpecten farreri: Author: Manuel CABALLER – Source: MNHN – Museum national d'Histoire naturelle (2020). The molluscs collection (IM) of the Muséum national d'Histoire naturelle (MNHN – Paris). Version 70.159. Occurrence dataset <https://doi.org/10.15468/xgoxap> accessed via GBIF.org on 2020-04-28. <https://www.gbif.org/occurrence/1019692790> – Link: [https://commons.wikimedia.org/wiki/File:Azumpecten_farreri_\(MNHN-IM-2000-24314\).jpeg](https://commons.wikimedia.org/wiki/File:Azumpecten_farreri_(MNHN-IM-2000-24314).jpeg) – licensed under the Creative Commons Attribution 4.0 International license.

Mimachlamys crassicostata (lower valve): Author: Photo by and (c)2015 Derek Ramsey (Ram-Man) – Source: Self-photographed – Link: https://commons.wikimedia.org/wiki/File:Chlamys_nobilis_Shell_on_Black.JPG – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

***Mimachlamys crassicostata* (upper valve):** Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis%20Biodiversity%20Center/Wikimedia%20Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis Biodiversity_Center_-_ZMA.MOLL.12040_-_Mimachlamys_crassicostata_\(Sowerby,_1842\)_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=468271346](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.12040_-_Mimachlamys_crassicostata_(Sowerby,_1842)_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=468271346) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

***Mimachlamys sanguinea*:** Author: Daderot – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Chlamys_senatoria_subsp._nobilis_-_Fernbank_Museum_of_Natural_History_-_DSC00269.JPG – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

***Pecten albicans* (lower valve):** Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis%20Biodiversity%20Center/Wikimedia%20Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis Biodiversity_Center_-_RMNH.MOL.321109_-_Pecten_albicans_\(Schroeter,_1802\)_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=485447847](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_RMNH.MOL.321109_-_Pecten_albicans_(Schroeter,_1802)_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=485447847) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

***Pecten albicans* (upper valve):** Author: Daderot – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Pecten_albicans_-_National_Museum_of_Nature_and_Science,_Tokyo_-_DSC06783.JPG – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

***Pecten fumatus* (lower valve):** Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis%20Biodiversity%20Center/Wikimedia%20Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis Biodiversity_Center_-_ZMA.MOLL.416082_-_Pecten_fumatus_Reeve,_1852_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=493546929](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.416082_-_Pecten_fumatus_Reeve,_1852_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=493546929) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

***Pecten fumatus* (upper valve):** Source: [http://bioportal.naturalis.nl/Naturalis Biodiversity Center/Wikimedia Commons](http://bioportal.naturalis.nl/Naturalis%20Biodiversity%20Center/Wikimedia%20Commons) – Link: [https://commons.wikimedia.org/w/index.php?title=File:Naturalis Biodiversity_Center_-_ZMA.MOLL.12268_-_Pecten_fumatus_Reeve,_1852_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=465906548](https://commons.wikimedia.org/w/index.php?title=File:Naturalis_Biodiversity_Center_-_ZMA.MOLL.12268_-_Pecten_fumatus_Reeve,_1852_-_Pectinidae_-_Mollusc_shell.jpeg&oldid=465906548) – licensed under the Creative Commons CC0 1.0 Universal Public Domain Dedication license.

***Pecten novaezelandiae* (lower valve):** Author: Jan Delsing – Source: own work/Netherlands, Own collection. New Zealand. North Auckland – Link: <https://www.biolib.cz/en/taxonimage/id347831/?taxonid=523551&type=1> – Public Domain.

***Pecten novaezelandiae* (upper valve):** Author: Jan Delsing – Source: own work/Netherlands, Own collection. New Zealand. North Auckland – Link: <https://www.biolib.cz/en/image/id347832/> – Public Domain.

***Placopecten magellanicus* (lower valve):** Author: Jan Delsing – Source: own work/Netherlands, Own collection. USA. Off North Carolina – Link: <https://www.biolib.cz/en/image/id347949/> – Public Domain.

***Placopecten magellanicus* (upper valve):** Author: Jan Delsing – Source: own work/Netherlands, Own collection. USA. Off North Carolina – Link: <https://www.biolib.cz/en/image/id347950/> – Public Domain.

Snails

***Bullacta exarata*:** Author: Gino Piscitelli

***Neverita didyma* (dorsal view):** Author: GFDL&CC – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Neverita_didyma.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported, 2.0 Generic and 1.0 Generic license.

***Neverita didyma* (ventral view):** Author: H. Zell – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Neverita_didyma_01.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

***Paratectonica tigrina*:** Author: H. Zell – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Notocochlis_tigrina_02.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Squid

Ommastrephes bartramii: **Author**: Richard E. Young – **Source**: Young, R.E. 1972. The systematics and areal distribution of pelagic cephalopods from the seas off Southern California. *Smithson. Contr. Zool.*, 97: 1-159. – **Link**: <http://tolweb.org/onlinecontributors/app;jsessionid=2F12086811...C989E476F579472F9?page=ViewImageData&service=external&sp=15400> – licensed under the Creative Commons Attribution – NonCommercial License – Version 3.0. license.

Todarodes pacificus: **Author**: self – **Source**: own work – **Link**: https://commons.wikimedia.org/wiki/File:Todarodes_pacificus.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported, 2.5 Generic and 1.0 Generic license.

Stromboid conchs

Aliger gigas: **Author**: H. Zell (original photographs and collage), Papa Lima Whiskey (derivative edit) – **Source**: own work – **Link**: https://en.wikipedia.org/wiki/File:Lobatus_gigas_01.jpg – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Conomurex luhuanus: **Author**: Llez – **Source**: own work – **Link**: https://commons.wikimedia.org/wiki/File:Conomurex_luhuanus_01.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Lobatus peruvianus: **Author**: MerlinCharon – **Source**: own work – **Link**: https://en.wikipedia.org/wiki/File:Strombus_peruvianus_15a.jpg – Public Domain.

Strombus pugilis: **Author**: H. Zell – **Source**: own work – **Link**: https://commons.wikimedia.org/wiki/File:Strombus_pugilis_01.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Jellyfish

***Rhopilema esculentum*:** Author: Bill Abbott (<https://www.flickr.com/photos/wbaiv/>) – Source: aDSC_0786 (<https://www.flickr.com/photos/wbaiv/21079330589/in/album-72157625679021947/>) on Flickr – Link: https://commons.wikimedia.org/wiki/File:Rhopilema_esculentum_at_Monterey_Bay_Aquarium.jpg – licensed under the Creative Commons Attribution – Share Alike 2.0 Generic license.

***Rhopilema hispidum*:** Author: attilaolah/Attila Oláh – Source: iNaturalist.org – Link: <https://www.inaturalist.org/observations/25377260> – licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) license.

Sea cucumbers

***Holothuroidea*:** Author: Aexander Vasenin – Source: own work – Link: https://commons.wikimedia.org/wiki/File:Thelenota_ananas_at_Umm_Kararim.JPG – licensed under the Creative Commons Attribution – Share Alike 3.0 Unported license.

Sea urchins

***Strongylocentrotus* spp. (dermoskeleton):** Author: Ryan Hodnett – Source: own work – Link: [https://commons.wikimedia.org/w/index.php?title=File:Green_Sea_Urchin_\(Strongylocentrotus_droebachiensis\)_-_Crow_Head_Newfoundland_2019-08-15.jpg&oldid=487023097](https://commons.wikimedia.org/w/index.php?title=File:Green_Sea_Urchin_(Strongylocentrotus_droebachiensis)_-_Crow_Head_Newfoundland_2019-08-15.jpg&oldid=487023097) – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

***Echinus esculentus* (dermoskeleton):** Author: Fernando Losada Rodríguez – Source: opera propria – Link: https://it.m.wikipedia.org/wiki/File:Echinus_esculentus.003_-_A_Coruña.jpg – licensed under the Creative Commons Attribution – Share Alike 4.0 International license.

Fisheries and aquaculture products are strongly associated with international trade. A total of 221 States and territories report some fish trading activity. Furthermore, fish and fish products usually have long value chains. A given fish may be harvested in one country, processed in another, and consumed in yet another.

Fish is often one of the most complex commodities to classify, with several specificities. There is a multiplicity of phyla, species and treatments, which creates an intricate set of layers covering different products. This makes it especially difficult to classify fisheries and aquaculture products.

This publication, developed by FAO, with the support of the WCO, builds on the Harmonized System: Nomenclature 2022 edition. It presents all possible classifications for fisheries and aquaculture products by species, with a full description of each HS code, to facilitate their use within the fisheries and aquaculture sector.

This publication does not modify the structure of the Harmonized System or modify species groupings as it is an auxiliary tool that facilitates classification and enhances understanding of the system from the perspective of fisheries and aquaculture products.

GLOBEFISH
globefish@fao.org

www.globefish.org
@FAOfish on Twitter

Markets and Trade Division – Economic and Social Development
markets-trade@fao.org

Fisheries and Aquaculture – Natural Resources and Sustainable Production
NFI-Inquiries@fao.org

Food and Agriculture Organization of the United Nations
Rome – Italy

