FAO SPECIES IDENTIFICATION SHEETS
FOR FISHERY PURPOSES

EASTERN CENTRAL ATLANTIC
FISHING AREA 34 AND PART OF 47



VOLUME
I

Canada
FUNDS-IN-TRUST

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Canada

Funds-in-Trust

FAO SPECIES IDENTIFICATION SHEETS

FOR FISHERY PURPOSES

EASTERN CENTRAL ATLANTIC

Fishing Areas 34, 47 (in part)

edited by

W. Fischer and G. Bianchi
Marine Resources Service
Fishery Resources and Environment Division
FAO Fisheries Department, Rome
Italy

and

W.B. Scott
Huntsman Marine Laboratory
Brandy Cove, St. Andrews, NB
Canada

This publication has been prepared and printed as an integral part of the FAO/Canada Government Cooperative Programme (Project GCP/INT/180/CAN) with the direct support of the Canadian International Development Agency (CIDA) and the Scientific Information and Publications Branch of the Department of Fisheries and Oceans, Canada

VOLUME I

CONTENTS:

Introductory Material

Bony Fishes

Technical terms

General remarks

Aid to the identification of families occurring in the E.C. Atlantic

Families: Acanthuridae to Centrolophidae

Published by arrangement with the

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

by the

DEPARTMENT OF FISHERIES AND OCEANS, CANADA

Ottawa, 1981

For bibliographic purposes this document should be cited as follows:

Fischer, W., G. Bianchi and W.B. Scott (eds), 1981 FAO species identification sheets for fishery purposes. Eastern Central Atlantic; fishing areas 34, 47 (in part). Canada Funds-in-Trust. Ottawa, Department of Fisheries and Oceans Canada, by arrangement with the Food and Agriculture Organization of the United Nations, vols. 1-7:pag.var.

Identification sheets. Taxonomy. Geographic distribution. Fisheries. Vernacular names. Bony fishes. Chimaeras. Sharks. Batoid fishes. Lobsters. Shrimps. True crabs. Stomatopods. Molluscs. Sea turtles. ASW

FOREWORD

This publication is the fourth in a series initiated by FAO which began with the Mediterranean/Black Sea (1973, two volumes) and continued with the Eastern Indian Ocean/Western Central Pacific (1974, four volumes) and the Western Central Atlantic (1978, seven volumes). This series is aimed at establishing a worldwide annotated and illustrated inventory of aquatic species of interest to fisheries that should provide the fishery worker with a tool for the correct identification of the species occurring in his/her area, an international system of vernacular species names and elementary data on the fisheries for these species.

The present set of Identification Sheets primarily covering the area of concern to the CECAF Committee, is the result of the joint efforts of more than 60 experts from the CECAF Region and elsewhere in the world, who have generously contributed their time and experience to a common goal. The execution of the project was closely coordinated with the preparation of the "Check-List of the Fishes of the Eastern Tropical Atlantic (CLOFETA)", sponsored by Unesco, so as to ensure consistency of nomenclature in these two complementary publications. The fact that every family or group of resources has been treated by an authority on the subject makes this publication a unique assemblage of first-hand information which could not have been brought together by any individual author. Furthermore, it is the only recent catalogue of species of interest to fisheries covering the Eastern Central Atlantic region in its entirety, comprising the Fishing Area 34 as well as the northern part of Fishing Area 47. Although the fishery resources of this region are, in general, reasonably well known, there are still considerable gaps in information on distribution, abundance and biology of many species, which are, to a large extent, the result of incorrect or insufficient identification of species in routine fishery work. With the growing need for proper management of fish stocks, more accurate detailed basic data are required on individual species.

The user of the sheets can contribute significantly to the improvement of this reference work by communicating his/her practical experiences with the Sheets to FAO HQ in Rome, to the CECAF Committee in Dakar, and/or to the respective authors. In this way, the systematist and the fishery worker will benefit from each other's work; and it is only through a continuing cooperation of this kind that these Identification Sheets will remain up-to-date and useful.

The production of this set of Species Identification Sheets would not have been possible without the generous financial support of the Canadian International Development Agency (CIDA) in the framework of the FAO/Canada Government Cooperative Programme, Project GCP/INT/180/CAN, and the valuable collaboration of the Department of Fisheries and Oceans, Canada, who have printed the document. Scientific editing was considerably facilitated through the cooperation of the Huntsman Marine Laboratory, St. Andrews, Canada.

A. Lindquist
Director
Fishery Resources and Environment Division
Fisheries Department
FAO, Rome

FAO SPECIES IDENTIFICATION SHEETS

EASTERN CENTRAL ATLANTIC

Fishing Areas 34, 47 (in part)

LIST OF CONTRIBUTORS *

Abbot, R.T., American Malacologists, Inc., P.O. Box 2255, Melbourne, Florida 32901, U.S.A.

Allen, G.R., Western Australian Museum, Francis Street, Perth, Western Australia 6000

Bath, H., Luisenstrasse 45, 678 Pirmasens/Pfalz, Federal Republic of Germany

Bauchot, M.L., Ichtyologie Générale et Appliquée, Muséum National d'Histoire Naturelle, 43 rue Cuvier, 75231 Paris, Cedex 05, France

Ben-Tuvia, A., Department of Zoology, The Hebrew University of Jerusalem, 91904 Jerusalem, Israel

Berry, F.H., NMFS Southeast Fisheries Center, 75 Virginia Beach Drive, Miami, Florida 33149, U.S.A.

Böhlke, J.E., Department of Ichthyology, The Academy of Natural Sciences, Nineteenth and the Parkway, Philadelphia, Pennsylvania 19103, U.S.A.

Bond, G.W., Department of Biology, The Commonwealth of Massachusetts, Fitchburg State College, Fitchburg 04420, U.S.A.

Bradbury, M.G., Department of Biology, School of Natural Sciences, San Francisco State University, 1600 Holloway Avenue, San Francisco, California 94132, U.S.A.

Caruso, J.H., Department of Biology, Lafayette College, Easton, Pennsylvania 18042, U.S.A.

Chao, L.N., Fundaçao Universidade do Rio Grande, Luis Lorea 261, Campus Universitario, Caixa Postal 474, Rio Grande - RS, Brazil

Cohen, D.M., NMFS Systematics Laboratory, NOAA, National Museum of Natural History, Washington, D.C. 20560, U.S.A.

Collette, B.B., NMFS Systematics Laboratory, NOAA, National Museum of Natural History, Washington, D.C. 20560, U.S.A.

Compagno, L.J.V., Tiburon Center for Environmental Studies, San Francisco State University, P.O. Box 855, Tiburon, California 94920, U.S.A.

Courtenay, Jr., W.R., Department of Biological Sciences, Florida Atlantic University, Boca Raton, Florida 33431, U.S.A.

Crosnier, A., ORSTOM, 24 rue Bayard, 75008 Paris, France

De Sylva, D.P., Division of Biology and Living Resources, School of Marine and Atmospheric Sciences, 4600 Rickenbacker Causeway, Miami, Florida 33149, U.S.A.

Dooley, J.K., Adelphi University, Garden City, Long Island, New York 11530, U.S.A.

---

* Their respective contributions are indicated in the Table of Contents. Authors and Reviewers are also mentioned at the end of each section of Family Sheets

Ehrich, S., Institut für Seefischerei, Palmaille 9, 2000 Hamburg 50, Federal Republic of Germany

Emery, A.R., Department of Ichthyology and Herpetology, Royal Ontario Museum 100 Queen's Park, Toronto, Ontario, Canada

Eschmeyer, W.N., The Science Museum, California Academy of Sciences, Golden Gate Park, San Francisco, California 94118, U.S.A.

Fricke, R., Saalestrasse 3A, D-3300 Braunschweig, Federal Republic of Germany

Fritzsche, R.A., Department of Biology, The University of Mississippi, Mississippi 38677, U.S.A.

Gibbs, Jr., R.H., Division of Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Gomon, M.F., National Museum of Victoria, 285-321 Russel Street, Melbourne, Victoria 3000, Australia

Gonzalez-Alberdi, P., Fisheries Department, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy

Greenfield, D.W., Department of Biological Sciences, Northern Illinois University, DeKalb, Illinois 60115, U.S.A.

Gutherz, E.J., Pascagoula Laboratory, NMFS Southeast Fisheries Center, NOAA, P.O. Drawer 1207, Pascagoula, Mississippi 39567, U.S.A.

Haedrich, R.L., Department of Biology, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, A1B 3X9

Heemstra, P.C., The J.L.B. Smith Institute of Ichthyology, Rhodes University, Grahamstown, C.P., South Africa

Holthuis, L.B., Rijksmuseum van Natuurlijke Historie, Raamsteeg 2, Leiden, The Netherlands

Hureau, J.C., Ichtyologie Générale et Appliquée, Muséum National d'Histoire Naturelle, 43 rue Cuvier, 75231 Paris, Cedex 5, France

Inada, T., Japan Marine Fishery Resource Research Center, 6th floor, Godo-kaikan Building, 3-4 Kioi-cho, Ehiyoda-ku, Tokyo 102, Japan

Iwamoto, T., Department of Ichthyology, California Academy of Sciences, Golden Gate Park, San Francisco, California 94118, U.S.A.

Karrer C., Ausstenstelle Ichthyologie, Institut für Seefischerei, am Zool. Institut und Zool. Museum der Universität Hamburg, Martin-Luther-King Platz 3, D-2000 Hamburg 13, Federal Republic of Germany

Knapp, L.W., Smithsonian Oceanographic Sorting Center, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Lachner, E.A., Division of Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Lagardère, J.P., Station Marine d'Endoume, Antenne de la Rochelle, C.R.E.O., Allée des Tamaris, 17 La Rochelle, France

Leis, J.N., The Australian Museum, P.O. Box A285, Sydney South, Australia

Manning, R.B., Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution Washington, D.C. 20560, U.S.A.

Markle, D.F., Huntsman Marine Laboratory, Brandy Cove, St. Andrews, N.B., Canada

Márquez M., R., Apartado Postal 79-052, Col. Doctores, México 7, D.F. México

Maugé, A., Ichtyologie Générale et Appliquée, Muséum National d'Histoire Naturelle, 43 rue Cuvier, 75231 Paris, Cedex 05, France

Maul, G.E., Museu Municipal do Funchal, Madeira, Portugal

Menon, A.G.K., Marine Biological Station, University of Dar-Es-Salaam, P.O. Box 35064, Dar-Es-Salaam, Tanzania

Miller, G.C., NMFS Southeast Fisheries Center, NOAA, 75 Virginia Beach Drive, Miami, Florida 33149, U.S.A.

Miller, P.J., Department of Zoology, University of Bristol, Woodland Road, Bristol BS8 1UG, U.K.

Miquel, J.C., Station Marine d'Endoume, rue de la Batterie des Lions, 13007 Marseille, France

Nafpaktitis, B.G., Department of Biological Sciences, University of Southern California, University Park, Los Angeles, California 90007, U.S.A.

Nakamura, I., Fisheries Research Station, Maizuru, Kyoto 625, Japan

Nielsen, J., Zoologisk Museum, Universitetsparken 15, DK 2100 Copenhagen, Denmark

Oelschläger, H.A., Zentrum der Morphologie - Klinikum, Johann Wolfgang Goethe Universität, Theodor Stern Kai 7, 8 Frankfurt a.M. 70, Federal Republic of Germany

Pietsch, T.W., College of Fisheries, University of Washington, Seattle, Washington 98195, U.S.A.

Post, A., Aussenstelle Ichthyologie, Institut für Seefischerei, am Zool. Institut und Zool. Museum der Universtät Hamburg, Martin-Luther-King Platz 3, D-2000 Hamburg 13, Federal Republic of Germany

Quéro, J.C., Laboratoire d'Ichtyologie, I.S.T.P.M., 74 Allées du Mail, 1700 La Rochelle, France

Randall, J.E., B. Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii 96818, U.S.A.

Richards, W., NMFS Southeast Fisheries Center, NOAA, 75 Virginia Beach Drive, Miami, Florida 33149, U.S.A.

Roper, C.F.E., Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Roux, C., Ichtyologie Générale et Appliquée, Muséum National d'Histoire Naturelle, 43 rue Cuvier, 75231 Paris Cedex 05, France

Scott, W.B., Huntsman Marine Laboratory, Brandy Cove, St. Adrews, N.B., Canada

Sgano, T., 3-17-3 Shinohara-higashi, Yokohama, Japan 222

Shipp, R.L., Department of Biological Sciences, University of South Alabama, 124 Life Sciences Building, Mobile, Alabama 36688, U.S.A.

Smith, C.L., Department of Ichthyology, The American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024, U.S.A.

Smith, D.G., The Marine Biomedical Institute, 200 Universtiy Boulevard, Galveston, Texas 77550, U.S.A.

Smith-Vaniz, W.F., Department of Ichthyology, The Academy of Natural Sciences of Philadelphia, Nineteenth and the Parkway, Philadelphia, Pennsylvania 19103, U.S.A.

Starnes, W.C., Department of Zoology, University of Tennessee, Knoxville, Tennessee 37916, U.S.A.

Stehmann, M., Ausstenstelle Ichthyologie, Institut für Seefischerei, am Zool. Institut und Zool. Museum der Universtät Hamburg, Martin-Luther-King Platz 3, D-2000 Hamburg 13, Federal Republic of Germany

Sulak, K.J., School of Marine Science, Virginia Institute of Marine Science, Gloucester Point, Virginia 23062, U.S.A.

Sweeney, M., Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Taylor, W.R., Division of Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Tesch, F.W., Biologische Anstalt Helgoland (Zentrale), Palmaille 9, 2000 Hamburg 50, Federal Republic of Germany

Thomson, J.M., Department of Zoology, University of Queensland, St. Lucia, Brisbane, Q 4067, Australia

Trewavas, E., British Museum (Natural History), Cromwell Road, London SW7 5BD, U.K.

Tyler, J.C., Biological Research Resources, National Science Foundation, Washington, D.C. 20560, U.S.A.

Van Dyke, G., Division of Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

Wheeler, A., British Museum (Natural History), Cromwell Road London SW7 5BD, U.K.

Whitehead, P.J.P., British Museum (Natural History), Cromwell Road, London SW7 5BD, U.K.

Winterbottom, R., Department of Ichthyology and Herpetology, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario, Canada

Wirtz, P., Institut für Biologie I (Zoologie), Albert Ludwigs Universität, Albertstrasse 21 A, 7800 Freiburg i.Br., Federal Republic of Germany

Wisner, R.L., Scripps Institution of Oceanography, University of California, La Jolla, California 92093, U.S.A.

Illustrations prepared by P. Lastrico and A. Meschini, unless otherwise indicated on Family Sheets

TABLE OF CONTENTS *

INTRODUCTORY MATERIAL

EXPLANATORY NOTES TO THE FAO PROGRAMME OF SPECIES IDENTIFICATION SHEETS FOR FISHERY PURPOSES

INTRODUCTION TO THIS EDITION

USER'S GUIDE

BONY FISHES

TECHNICAL TERMS

GENERAL REMARKS

AID TO THE IDENTIFICATION OF FAMILIES OCCURRING IN THE EASTERN CENTRAL ATLANTIC

Family	*Author*	*Family*	*Author*
Acanthuridae	J.E. Randall	Bothidae	E.J. Gutherz (Rev. J.C. Quéro)**
Albulidae	P.J.P. Whitehead	Bramidae	R.L. Haedrich
Alepisauridae	R.H. Gibbs, Jr.	Branchiostegidae	J.K. Dooley
Alepocephalidae	D.F. Markle	Callionymidae	R. Fricke and W.F. Smith-Vaniz
Anguillidae	F.W. Tesch	Carangidae	W.F. Smith-Vaniz and F.H. Berry
Antennariidae	T.W. Pietsch	Centracanthidae	P.C. Heemstra
Anthiidae	C. Lavett-Smith	Centrolophidae	R.L. Haedrich
Argentinidae	D.M. Cohen	Cepolidae	J.C. Quéro
Ariidae	W.R. Taylor and G. Van Dyke	Chaetodontidae	A. Maugé
Ariommidae	R.L. Haedrich	Citharidae	J. Nielsen
Ateleopodidae	J.C. Quéro	Clinidae	P. Wirtz
Atherinidae	A. Maugé	Clupeidae	P.J.P. Whitehead
Aulopidae	K.J. Sulak	Congridae	D.G. Smith
Aulostomidae	R.A. Fritzsche	Coryphaenidae	B.B. Collette
Balistidae	R. Winterbottom and J.C. Tyler	Cynoglossidae	A.G.K. Menon
Batrachoididae	C. Roux (Rev. B.B. Collette)**	Dactylopteridae	W.F. Smith-Vaniz
Belonidae	B.B. Collette	Diodontidae	J.M. Leis
Berycidae	G.E. Maul	Diretmidae	A. Post
Blenniidae	H. Bath	Drepanidae	G.R. Allen

* Colour of sheets varies with subject: yellow for general introductory material and Index of Names; blue for technical introductory material to major groups and for Family Sheets; pink for User's Guide; white for Species Sheets. In view of the loose-leaf character of this publication, no reference is made here to the Volumes in which the sheets are presently placed. However, a summary Table of Contents of each volume is given on the respective inner title page

** The extent of reviewals varied considerably from case to case. In general terms, the inclusion of a name under this item indicates that the expert concerned received draft material on the subject at some stage of preparation

FAO Sheets | TABLE OF CONTENTS | Fishing Areas 34, 47 (in part)

Family	Author
Echeneidae	E.A. Lachner
Eleotridae	P.J. Miller
Elopidae	P.J.P. Whitehead
Emmelichthyidae	P.C. Heemstra
Engraulidae	P.J.P. Whitehead
Ephippidae	G.R. Allen
Exocoetidae	R.H. Gibbs, Jr.
Fistulariidae	R.A. Fritzsche
Gadidae	D.M. Cohen
Gempylidae	I. Nakamura
Gerreidae	C. Roux
Gobiidae	P.J. Miller
Gonostomatidae	G.W. Bond
Grammistidae	W.R. Courtenay
Hemiramphidae	B.B. Collette
Holocentridae	D.W. Greenfield
Istiophoridae	I. Nakamura
Kuhliidae (= Duleidae)	G.R. Allen
Kyphosidae	T. Sgano (Rev. J.E. Randall)
Labridae	M.F. Gomon
Lamprididae	H.A. Oelschläger
Lethrinidae	C. Roux
Lobotidae	C.L. Smith
Lophiidae	J.H. Caruso
Lutjanidae	G.R. Allen
Macrorhamphosidae	A. Wheeler (Rev. S. Ehrich)
Macrouridae	T. Iwamoto
Malacanthidae	J.K. Dooley
Megalopidae	P.J.P. Whitehead
Merlucciidae	T. Inada (Rev. D.M. Cohen)
Molidae	W.B. Scott
Monodactylidae	G.R. Allen
Moridae	D.M. Cohen
Moronidae	C.L. Smith (Rev. P.C. Heemstra)
Mugilidae	J.M. Thomson
Mullidae	A. Ben-Tuvia
Muraenesocidae	D.G. Smith
Muraenidae	J.E. Böhlke
Myctophidae	B.G. Nafpaktitis
Nomeidae	R.L. Haedrich
Ogcocephalidae	M.G. Bradbury
Ophichthidae	J.E. Böhlke
Ophidiidae (including Brotulidae)	J. Nielsen
Paralepididae	A. Post
Percophidae	L.W. Knapp
Periophthalmidae	P.J. Miller
Peristediidae	W. Richards and P.J. Miller
Platycephalidae	L.W. Knapp
Polymixiidae	J.C. Hureau
Polynemidae	G.R. Allen
Pomacanthidae	A. Maugé
Pomacentridae	A.R. Emery (Rev. G.R. Allen)
Pomadasyidae	C. Roux (Rev. W.R. Courtenay and P. Gonzalez-Alberdi)
Pomatomidae	B.B. Collette
Priacanthidae	W.C. Starnes
Psettodidae	J. Nielsen
Rachycentridae	B.B. Collette
Scaridae	J.E. Randall
Sciaenidae	L.N. Chao and E. Trewavas
Scomberesocidae	R.L. Wisner
Scombridae	B.B. Collette
Scophthalmidae	J. Nielsen
Scorpaenidae	W.N. Eschmeyer
Serranidae	C.L. Smith (Rev. P.C. Heemstra)
Soleidae	J.C. Quéro
Sparidae	M.L. Bauchot, J.C. Hureau and J.C. Miquel
Sphyraenidae	D.P. de Sylva
Stromateidae	R.L. Haedrich
Synodontidae	K.J. Sulak
Tetragonuridae	R.L. Haedrich
Tetraodontidae	R.L. Shipp
Trachichthyidae	G.E. Maul
Trachinidae	C. Roux
Trichiuridae	I. Nakamura
Triglidae	W. Richards
Uranoscopidae	C. Roux
Xiphiidae	B.B. Collette
Zeidae	J.C. Quéro (Rev. C. Karrer)

CHIMAERAS **Author:** L.J.V. Compagno

GENERAL REMARKS
KEY TO FAMILIES, GENERA AND SPECIES REPORTED FROM THE AREA
LIST OF FAMILIES AND SPECIES OCCURRING IN THE AREA

SHARKS **Author:** L.J.V. Compagno

TECHNICAL TERMS AND PRINCIPAL MEASUREMENTS USED
GENERAL REMARKS
KEY WITH PICTURE GUIDE TO FAMILIES OCCURRING IN THE AREA
LIST OF SPECIES OCCURRING IN THE AREA

SHARKS (continued)

Family	Family
Alopiidae	Odontaspididae
Carcharhinidae	Oxynotidae
Cetorhinidae	Pseudocarchariidae
Chlamydoselachidae	Pseudotriakidae
Echinorhinidae	Rhiniodontidae
Ginglymostomatidae	Scyliorhinidae
Hemigaleidae	Sphyrnidae
Hexanchidae	Squalidae
Lamnidae	Squatinidae
Leptochariidae	Triakidae
Mitsukurinidae	

BATOID FISHES **Author:** M. Stehmann

TECHNICAL TERMS AND PRINCIPAL MEASUREMENTS USED
GENERAL REMARKS
KEY WITH PICTURE GUIDE TO FAMILIES OCCURRING IN THE AREA
LIST OF SPECIES OCCURRING IN THE AREA

Family	Family
Dasyatidae	Rajidae
Gymnuridae	Rhinobatidae
Mobulidae	Rhinopteridae
Myliobatidae	Rhynchobatidae
Platyrhinidae	Torpedinidae
Pristidae	

LOBSTERS **Author:** L.B. Holthuis

TECHNICAL TERMS AND PRINCIPAL MEASUREMENTS USED
GENERAL REMARKS
GUIDE TO FAMILIES OCCURRING IN THE AREA
LIST OF SPECIES OCCURRING IN THE AREA

Family
Nephropidae
Palinuridae
Scyllaridae

SHRIMPS AND PRAWNS **Author:** J.P. Lagardère (Rev. A. Crosnier and L.B. Holthuis)

TECHNICAL TERMS
GENERAL REMARKS
LIST OF FAMILIES OCCURRING IN THE AREA

FAO Sheets | TABLE OF CONTENTS | Fishing Areas 34, 47 (in part)

SHRIMPS AND PRAWNS (continued)

Family	Family
Aristeidae	Pandalidae
Crangonidae	Pasiphaeidae
Hyppolytidae	Penaeidae
Nematocarcinidae	Sicyoniidae
Palaemonidae	Solenoceridae

TRUE CRABS **Author:** L.B. Holthuis

TECHNICAL TERMS AND PRINCIPAL MEASUREMENTS USED
GENERAL REMARKS
GUIDE TO FAMILIES OF INTEREST TO FISHERIES OCCURRING IN THE AREA

Family	Family
Calappidae	Majidae
Cancridae	Ocypodidae
Gecarcinidae	Portunidae
Grapsidae	Xanthidae
Homolidae	

STOMATOPODS **Author:** R.B. Manning

TECHNICAL TERMS AND GENERAL REMARKS
LIST OF SPECIES ATTAINING OVER 10 CM IN TOTAL LENGTH

Family

Lysiosquillidae
Squillidae

BIVALVES **Author:** R. Tucker Abbott

TECHNICAL TERMS AND GENERAL REMARKS
TAXONOMIC LIST OF EDIBLE SPECIES OCCURRING IN THE AREA
PICTURE GUIDE TO EDIBLE BIVALVES OCCURRING IN THE AREA

GASTROPODS **Author:** R. Tucker Abbott

TECHNICAL TERMS AND GENERAL REMARKS
TAXONOMIC LIST OF EDIBLE SPECIES OCCURRING IN THE AREA
PICTURE GUIDE TO EDIBLE GASTROPODS OCCURRING IN THE AREA

CEPHALOPODS **Author:** C.F.E. Roper and M.J. Sweeney

TECHNICAL TERMS
GENERAL REMARKS
KEY WITH PICTURE GUIDE TO FAMILIES OCCURRING IN THE AREA
LIST OF SPECIES OCCURRING IN THE AREA

Family

Loliginidae
Octopodidae
Ommastrephidae
Onychoteuthidae

Family

Sepiidae
Sepiolidae
Thysanoteuthidae

SEA TURTLES **Author:** R. Márquez M.

TECHNICAL TERMS AND PRINCIPAL MEASUREMENTS USED
GENERAL REMAKRS
GUIDE TO FAMILIES AND GENERA OCCURRING IN THE AREA
PICTURE GUIDE TO SPECIES OCCURRING IN THE AREA

Family

Chelonidae
Dermochelidae

EXPLANATORY NOTES TO THE FAO PROGRAMME ON SPECIES IDENTIFICATION SHEETS FOR FISHERY PURPOSES

Preamble

Under this programme, which is of worldwide scope, FAO is issuing a number of series of Identification Sheets arranged by regions (major fishing areas) and designed (a) to facilitate the identification of the world's principal commercial aquatic species, (b) to further the standardization of their names, and (c) to provide general information on their basic characteristics and exploitation.

Each regional series of sheets (in one or more volumes) will eventually lead toward a complete inventory of commercially important species found in a given fishing area (or areas). Although new sheets may be added and old sheets replaced (as a result of continuing research), the basic plan of the inventory will be maintained. It will serve as a permanent reference frame which will provide the basis for any classifications required for biological, statistical, or other purposes.

FAO is implementing this programme in close collaboration with the regional fishery bodies established in the various areas of the world and with the generous assistance of zoologists and fishery biologists actively engaged in research on the aquatic species occurring in these areas.

It is hoped that the use of this new work tool will contribute to the improvement of national and regional fishery statistics and will facilitate fishery resources survey work, sampling schemes and fishery activities in general.

Contents and Presentation

The Identification Sheet programme covers the following major groups of aquatic organisms:

> seaweeds; echinoderms (sea urchins, sea cucumbers, etc.); crustaceans (shrimps, prawns, lobsters, crabs, etc.); molluscs (snails, bivalves, squids, octopuses, etc.); sharks/rays; bony fishes; aquatic reptiles (turtles, sea snakes); aquatic mammals (whales, dolphins, seals, etc.).

Other groups may be included in the future, e.g. sponges, tunicates, etc.

In areas containing very large numbers of commercially important species (e.g. the Indo-Pacific), special Family Sheets are prepared. Such sheets contain information on the principal family characters, the appearance of typical representatives (drawings), distinction from similar families, explanations of technical terms, a key to the genera, and a list of species found in the area.

The Species Identification Sheets each describe a single species and give information on its name (scientific and vernacular), its appearance (drawing), its diagnostic field characters, its distinction from similar species in the area (including those for which no identification sheets have been prepared), its range and habits (where known) and data on its fishery and utilization.

The sheets of a regional series are filed in one or more volumes (binders) and for ease of handling the major groups of organisms and the Index are separated by plastic sheets with tabs.

The paramount aim in the arrangement of the sheets has been to ensure that species in a regional series can be found easily without impairing the open-ended character of the system. Species are numbered within each genus (in chronological order of preparation of sheets on a world basis), the genera are arranged alphabetically within families and the families are also arranged alphabetically within their major group. Higher taxonomic categories (Sub-orders, Orders, Classes) are omitted on the Identification Sheets, but are included in the Family Picture Guide where practicable (for example, the higher classification of fishes still lacks general agreement).

Four types of paper are used for the sheets:

(i) Light yellow: Introductory material

(ii) Blue: Major Group Information Sheets (or Family Sheets, where present)

(iii) Pink: User's guide

(iv) White: Species Identification Sheets

For each region, major groups are printed, where possible, as soon as they are completed. The loose-leaf system will enable further groups to be added to their relevant regional series.

FAO Species Identification Sheets are issued, depending on the areas, in one or more of the working languages of the Organization. Usually, the first version of sheets for any major fishing area will be a preliminary one, intended to be periodically updated and, if necessary, re-edited after the sheets have been thoroughly tested in the field.

Areas Covered

The intention is to produce one or more volumes of sheets covering a single major fishing area, but in several cases two or more areas might be grouped together. The area breakdown is that of the FAO Classification of Major Fishing Areas for Statistical Purposes (see FAO Fisheries Circular No. 420, Rome, December 1972).

It is obvious that the limits of the major fishing areas adopted for statistical purposes (in many cases they coincide with the areas of existing regional fishery bodies) do not normally follow the natural faunistic boundaries as they are based on a number of other criteria and practical requirements (collection of fishery statistics, geographical divisions of the oceans and seas, areas of application of regional conventions, etc.).

Selection of Species

Each regional series of Identification Sheets is intended to include all species known to be of commercial importance occurring in the area(s). The selection is based on: (a) regional and national fishery statistics; (b) national lists of commercial species; (c) recommendations of fishery bodies and related working groups; and (d) experience of the authors of the sheets and other fishery biologists actively engaged in resources research within the area.

In some instances, particularly in areas which are little known or characterized by a large variety of edible aquatic organisms, the selection of species is difficult and may need to be updated as more information becomes available, or when certain species become more intensively exploited.

Pagination and Sheet Codes

The Species Identification Sheets are a flexible work tool, capable of periodical updating through additions and revisions. Such an open-ended system cannot be paged like a book; it must be used in the manner of a dictionary. At the same time, however, it is desirable that at least similar fishes within a family are not widely separated. To satisfy these requirements, the following system of pagination and numbering has been adopted:

(i) Introductory sections and index (see Contents): Each independent section is separately paged to avoid complete re-issue when only one section is revised.

(ii) Species Identification Sheets: These bear Sheet Codes (top right, recto) composed of three elements - an abbreviation for the family name, e.g. ENGR for Engraulidae; an abbreviation for the generic name, e.g. Engr for Engraulis; and a serial number for the species within that genus, e.g. 1 for Engraulis encrasicolus. Below the sheet number are written the year of preparation of the sheet and the corresponding fishing area and number.

(iii) Family Sheets (where present): These bear the abbreviation for the family name (top right, recto) and the fishing area and number.

This system enables sheets to be found, first by referring to the appropriate major group, then alphabetically by family and generic name, and finally by species number. The method is fully explained in the section User's Guide (pink sheet).

Names

The correct scientific name for the species is given above the drawing. This is followed by other but invalid scientific names (synonyms) and the authors who have established them. Usually these refer to species once considered different but now known to be identical; a colon between the scientific name and the name of a zoologist shows that the latter has used the scientific name in a sense different from that given by the original author.

The widespread use of vernacular or common names for commercial aquatic species, particularly in the fields of fish processing and marketing, demands that special attention be given to them. In view of the confusion in the use of such names in many fishing areas, the need for standardization and consistency must be strongly emphasized. It is a rather complex task and for this reason the vernacular names of the species in the first edition of any regional set of Identification Sheets may be missing, or when listed, subject to revision by national authorities and regional fishery bodies. Where possible, two kinds of vernacular species names are used on FAO Species Identification Sheets:

1. FAO species names: those used in the FAO Yearbook of Fishery Statistics and in the FAO Thesaurus of Species and Stocks. They have been selected on the basis of the following criteria:

   (a) each name must apply to one species only;

   (b) names must conform to FAO rules of spelling nomenclature;

   (c) English, French and Spanish names commonly used within the area are preferred if they conform with (a) and (b).

Many FAO species names are consistent with those used by regional fishery bodies, and it is hoped that they will ultimately become regional standard species names and will generally remain unchanged, although there may be instances where an alteration is unavoidable.

2. National species names: those vernacular species names officially adopted by a country. They always apply to individual species and should not be confused with common names assigned to statistical categories, or with trade names applying to groups of species. Like the regional standard species names, national species names should remain unchanged as far as possible. However, for reasons of space, national names cannot be included in the case of fishing areas comprising a large number of bordering countries.

   The choice of national species names is the responsibility of national authorities. However, to ensure consistency, it is recommended that in selecting such names, the following criteria be observed:

   (a) each name should apply to one species only;

   (b) each species should have only one official national name;

   (c) the name should be selected, wherever possible, from among the "local names" most widely used within the country, and preference might be given to the closest or identifical to the FAO name;

   (d) if a local name applies to more than one species (often to a genus or a family), a second word, characterizing the species, might be added (e.g. "hunched" snapper, "olive-striped" snapper, etc.);

   (e) if a local name for a species is not availalbe, consideration should be given to the use of the FAO species name as the national one.

It is hoped that the progressive use of national species names in all official government documents will substantially contribute to the standardization of vernacular terminology within individual countries. It is recommended that national fishery authorities isssue documents correlating scientific, national and local names for each of the species included in the regional set of Identification Sheets relevant to their area.

Illustrations and Maps

These include a drawing of each species and sketches showing characteristic features. The drawings are basically outlines of the species, in many cases omitting a great deal of detail. Where, for instance, the shape and number of scales or the colour pattern is not of prime importance for identification, they have been omitted or are only shown on part of the body. Generally, the illustrations are based on figures already published in pertinent scientific literature.

The purpose of the maps is to give at a glance an idea of the range of the species within the fishing area. In cases where data are incomplete, a certain generalization in the range is unavoidable. Being necessarily on a very small scale, the maps are of course limited in their use as a guide for detailed distribution patterns.

Fisheries Information

The catch data recorded in the area are largely based on fishery statistics supplied to FAO by member countries for inclusion in the FAO Yearbook of Fisheries Statistics. The information on fishing gear and forms of utilization of the species is provided by the authors of the sheets and completed by FAO taking into account the information made available to the Organization through national or regional institutions and field projects.

Indexing

An essential feature of the Species Identification Sheets is the comprehensive Index because the sheets will be used as a source of information (on correct nomenclature, vernacular names, succint biological information, etc.), as well as for identifying specimens. Since page numbers could not be used for the Identification Sheets (in order to maintain the open-ended character of the system), and since a taxonomic arrangement was impractical, the Index has been keyed to families and genera, both of which are found alphabetically within each major group. Those who wish to use a taxonomic arrangement should consult the introductory pages (blue) to each major group.

A system has been used in the Index by which it is possible to:

(i) determine from the code to which major group, family and genus a name applies;

(ii) locate the relevant sheet or sheets from a given scientific or vernacular name.

The system is described on the first page of the Index.

Revision of Sheets

From time to time, additional or revised sheets will be prepared. These should be filed in the binders by using the alphabetical system under families and genera, and the numerical system for species.

Replacement sheets will be marked with the indication Rev.1, Rev.2, etc., immediately below the Sheet Code (top right, recto), with their date of issue.

Users should amend the Index by hand upon receipt of additional or revised material. If a number of such sheets are issued at one time, a printed addendum to the Index will also be produced; a fully revised index will be prepared when appropriate.

INTRODUCTION TO THIS EDITION

This six volume set of Identification Sheets includes most of the marine and brackish-water species of interest to fisheries occurring in the Eastern Central Atlantic, e.g. individual species sheets for 402 bony fishes, 66 sharks, 19 batoid fishes, 11 lobsters, 20 shrimps, 28 crabs, 4 stomatopods, 24 cephalopods and 6 sea turtles, and group identification sheets for 9 chimaeras, 60 bivalves and 32 gastropods. While format and presentation of the present set of Sheets are basically the same as in previous issues, some minor changes and improvements in style and illustrations have been introduced.

The main features and the scope of the programme of FAO Species Identification Sheets for Fishery Purposes are outlined in the Explanatory Notes preceding this Introduction, but attention should be drawn to the following points:

Geographical area covered

It was decided to draw the southern boundary of the area covered by this set of Identification Sheets at 23°S so as to include the coasts of Angola and Namibia. This southward extension beyond the present "CECAF" region (Fishing Area 34) into the "ICSEAF" region (Fishing Area 47) was necessary in order to ensure consistency with the forthcoming CLOFETA Check-list (see below). Furthermore, a boundary at 23°S seems more natural from a faunistic point of view, even if the waters off Namibia must be considered as transitional between the colder waters off South Africa and the subtropical Gulf of Guinea.

Selection of Families and Species

The criteria on which the selection was based, were the following:

(i) Species Identification Sheets: for all those foodfishes occurring in the sea or in brackish water, regularly seen in markets in any part of the area, exported or locally consumed.

(ii) Family Identification Sheets: (a) for all families represented by Species Identification Sheets (except when a family has a single species in the area); (b) for families having one or more marine or brackish-water representatives occasionally seen in markets or locally consumed, but of minor importance; (c) for families not normally exploited at present but believed to be of potential interest as foodfishes (including deep-water forms).

This rather broad coverage appears justified in the light of the greater variety of species now entering the catches as a result of the extension of fishing operations to deeper waters and the diversification of fisheries activities in general.

In fact, many of the less widely known species from the area that were formerly inaccessible to fishing gear or discarded as "unattractive", are now being exploited and hence, require adequate means for proper field identification as a starting point for the collection of relevant data and information.

Names and Codes

Scientific names: the scientific names used here have been based, as far as possible, on the most recent taxonomic revision work. As a result, some scientific names still widely used in fisheries within the area have had to be corrected, but alternative names (junior synonyms) can easily be retrieved from the Index.

Vernacular names: standard international names in English, French and Spanish, based on the criteria outlined in the Explanatory Notes (page 3), are given for every species. These so-called "FAO Species Names" have been selected by FAO mainly for use within the Organization, and they hence do not fall under the authors' responsibility. For species also occurring in the Western Central Atlantic, or in the Mediterranean, the names used in the previous sets of identification Sheets covering these areas were normally retained. In the few cases where a name or a code had to be changed due to compelling reasons, the denomination used previously has been given in brackets. The French names were selected jointly with Dr. J.C. Quéro, Institut Scientifique et Technique des Pêches Maritimes, Ministère de la Marine Marchande, La Rochelle, France. The names selected correspond to official French species nomenclature currently being established by the Direction des Pêches Maritimes. The selection of Spanish names presented considerable difficulties due to the lack of denominations for many species. Wherever possible, the "official" Spanish names adopted by F. Lozano in his book "Nomenclatura ictiologica", Madrid 1963, were used. In cases of disagreement, the official Spanish name is given in brackets after the FAO Spanish name.

National species names (by countries) have been omitted on the Sheets; they would occupy too much space and there are only very few countries where official national names exist. Users are invited to add, where possible, such names in the space forseen for this purpose.

Figures and Sketches

As on previous occasions, the number of illustrations included here is unusually high, since they represent an essential complement to the text. Most figures and sketches have been redrawn or adapted from available literature, often following the recommendations of authors. Unfortunately, it is not possible here to quote the large number of sources used for this purpose. In cases where original figures were used, this is indicated at the end of the pertinent Family Sheet. Our intention of including colour tables could not be materialized in the present edition due to lack of time and financial means. It is hoped that such tables can be prepared and distributed separately in the near future.

Distribution Maps

The distribution maps are meant to give only a rough idea of the geographical range of the species within the region. Occurrence of species in the Mediterranean (the southern part of which is visible on the map) is never indicated. In many cases, meaningful information on occurrence of species in certain regions is very scanty due to unreliable identifications in the past.

Information on Fisheries

This information has been generally compiled at FAO, but in all cases, the contributing author had an opportunity of checking and proof-reading the clean-typed versions of his Identification Sheets. Statistical data have been extracted from the FAO Yearbook of Fishery Statistics. Valuable information on size, abundance and fisheries of West African species was obtained from the replies to a questionnaire sent out in 1978, to all countries fishing in the area (see acknowledgements).

Index

The comprehensive Index of scientific and vernacular (FAO) names has been produced in the form of a leaflet separate from the cover-binders. This arrangement is intended to facilitate the use of the Index with every one of the volumes.

Improvements

The Identification Sheets covering the Eastern Central Atlantic are issued as working documents that should be tested in the field before revised versions can be prepared. Some of the Families are in urgent need of revision, so that corrections or additions will doubtless become necessary as new information accumulates. Users are strongly urged to let FAO and the respective authors of this work benefit from their experience with the Sheets by sending suggestions and comments to the Editors. The Regional Fishery Body for the Eastern Central Atlantic (CECAF Committee) is encouraged to examine the proposed FAO species names for eventual adoption as standard regional family- and species names. National fisheries administrations are urged to establish one national name for each of the species included in this set.

Coordination with CLOFETA

The preparation of a Check-list of Fish of the Eastern Tropical Atlantic (CLOFETA) is currently being implemented by a large group of ichthyologists under the sponsorship of Unesco. This document is intended to list all fish species (but not the invertebrates) occurring in the Eastern Tropical Atlantic region, irrespective of their interest to fisheries, giving, for each species the full synonymy and annotations on the geographical distribution and habitat; the check-list will probably be published in the course of 1982. In view of the importance to ensure consistency in species nomenclature between these two publications covering the same area, regular consultations were held with the editorial board of CLOFETA. Futhermore, the large majority of fish families have been treated by the same authors for both publications.

Acknowledgements

The editors wish to express their sincere gratitude to all the taxonomists and fishery workers who have contributed original draft accounts to the series and/or have collaborated in the revision and completion of the set. In regard to the compilation of information on fisheries for the various species, the Editors are deeply indebted to the persons who have filled out the lengthy questionnaire sent out prior the preparation of the Identification Sheets. They are Messrs. T.O. Ajayi (Nigeria), S. Garcia and W.J. Brugge (Senegal), J.C. Quéro (ISTPM, La Rochelle, France), J. Konan (Ivory Coast), A. Bogdanov (U.S.S.R.), M. Ansa-Emmin (Ghana), F. Domain and M. Stretta (ORSTOM, Paris, France), C. Tomescu (Romania), A. Wysckinski (Poland), K. Yonezawa (Japan), R. Vergara (Cuba) and D. Lloris S. (Spain).

Finally, the Editors wish to express their personal thanks to all those in FAO, CIDA and the Huntsman Marine Laboratory who have assisted them in one way or another. Special recognition is due to Mrs. G. Sciarappa-Demuro for her invaluable assistance throughout the project, mainly in typing composing on the word processor the highly technical texts, and to Messrs. P. Lastrico and A. Meschini who skillfully prepared most of the illustrations.

This work could not have been undertaken without the generous support of the Canadian International Development Agency (CIDA), which provided the necessary funds for preparing and printing the document both, through the FAO/Government Cooperative Programme as part of Project GCP/INT/180/CAN: Assistance to CECAF and directly through support to collaborating Canadian authorities.

USER'S GUIDE

While the sequence of families in the picture guide of any major group is governed primarily by similarity in appearance (to facilitate identification), the arrangement of Identification Sheets (in the cover binders) by families within major groups and by genera within families is alphabetic - to ensure easy retrieval.

Information from the sheets can be retrieved in several ways, depending on the user's requirements. Essentially, two approaches can be followed:

1. **Field identification**

   (a) Check your specimen against the Aid to Identification of Families (picture guides, illustrated keys, etc.). In the case of bony fishes, special attention should be paid to the shape and position of fins. Fins should be pulled forward to show their shape when erect. General appearance and arrows indicating conspicuous features will help you decide which family (or families) the specimen most resembles.

   (b) Find the Identification Sheets belonging to the family from its alphabetical sequence by using the capital letters of the Sheet Code (top right margin).

   (c) Determine the species by working through keys on the family sheet (when present) and by looking at all the Species Sheets belonging to the family. In some cases, the figure alone may be sufficient, but it is recommended that the sections "Distinctive Characters" and "Distinguishing Characters of Similar Species Occurring in the Area" be always read to ensure correct identification. This may also lead to identification of species for which a sheet is not included.

2. **Searching the Index**

   (a) Scientific (valid or invalid) or vernacular names are included in a single index and can be found alphabetically. In the case of scientific names, both the genus and the species names are cross-indexed, e.g. Engraulis encrasicolus and encrasicolus, Engraulis. This will help on occasions when a species name is coupled in the literature with an unusual generic name.

   (b) The name in the Index is followed by symbols referring to the Sheet Code. Names for families are followed by the family abbreviation (capital letters) only, while species names are followed by the family abbreviation, the generic abbreviation and species number.

   (c) In the case of species names, first, locate the family from the family abbreviation; second, locate the genus from its abbreviation; third, locate the species from its number (see Note overleaf).

Example:

Engraulis encrasicolus

ENGR	Engr	1
Family (ENGRAULIDAE)	Genus (Engraulis)	Species (encrasicolus)

(d) Remember that both the Index and the Identification Sheets indicate whether a scientific name is valid or obsolete, although it will always lead to the correct Identification Sheet.

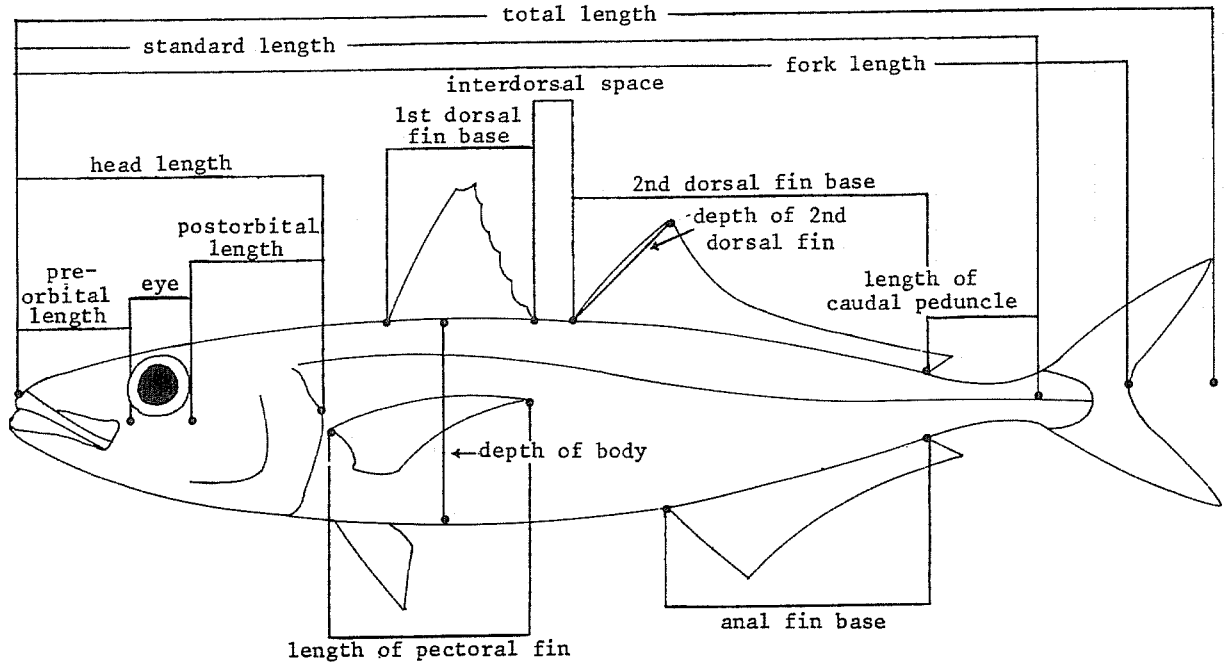
NOTE: The coding system is worldwide. Gaps in sequence of species code numbers indicate that the missing number has already been allocated to a species occurring in another fishing area (i.e. SERRAN Epin 1, 2 and 3 used for Mediterranean species).

BONY FISHES

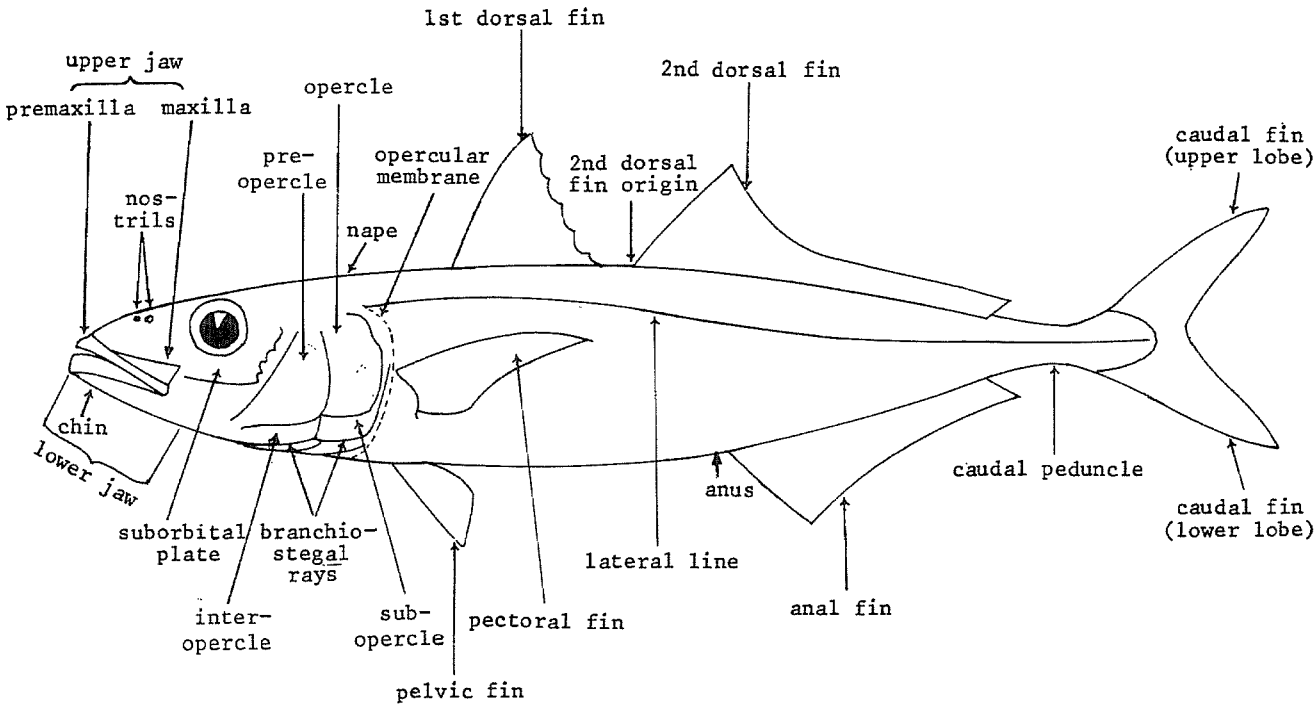
TECHNICAL TERMS

Principal Measurements Used

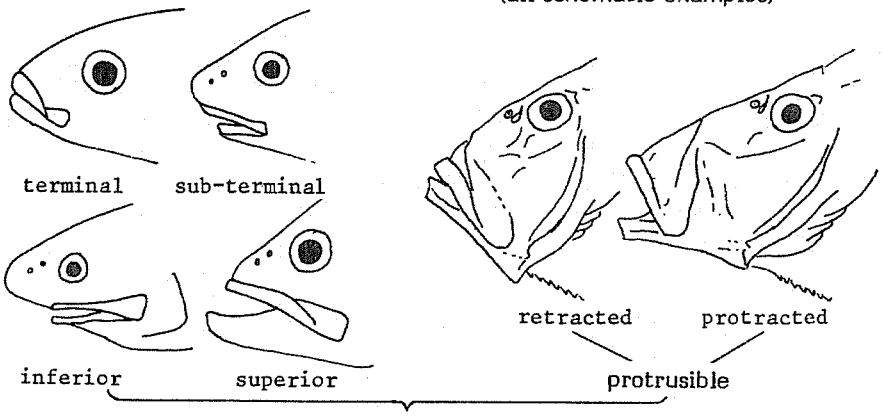
(shortest distance between the points marked:)



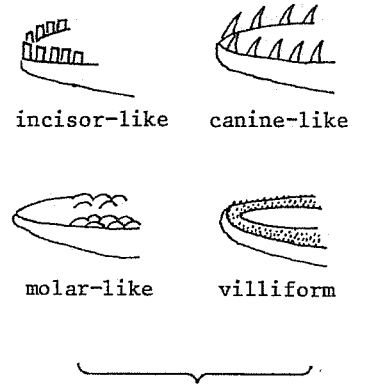
General Nomenclature of the External Morphology



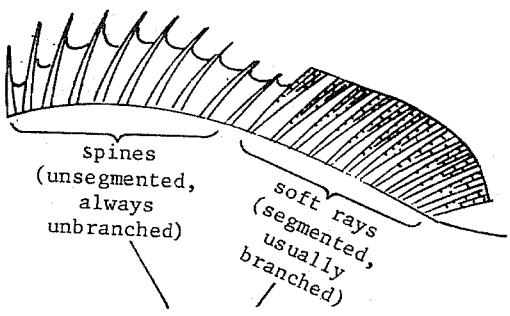
Details
(all schematic examples)



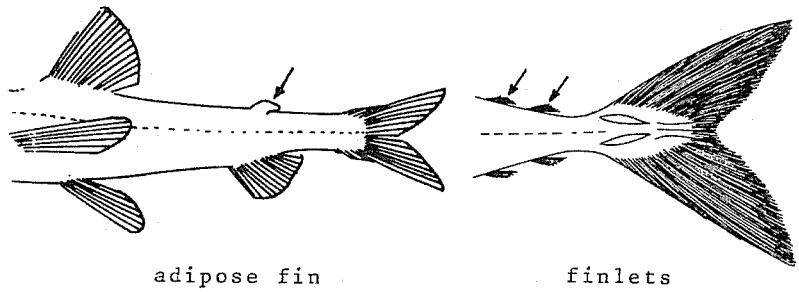
types of mouth

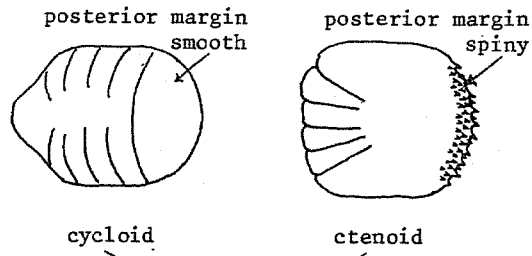


most common types of teeth

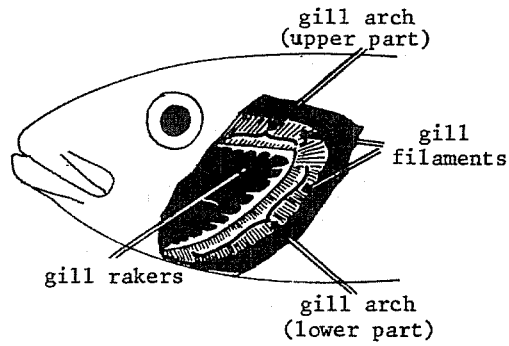


example of a continuous dorsal fin
of a spiny-rayed fish

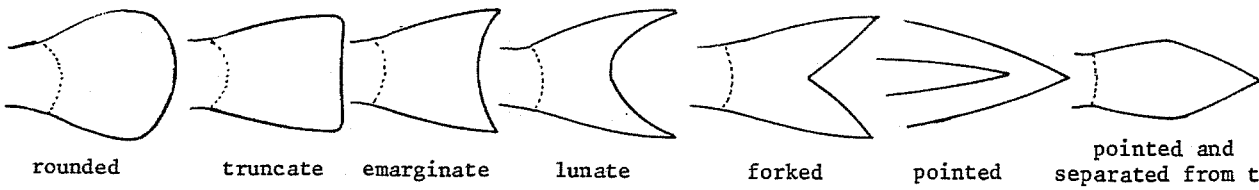




schematic examples of "normal" scales



first left gill arch



most common types of caudal fin

GENERAL REMARKS

This is the largest class of living fishes. Although it encompasses a very wide range of shapes and other morphological features, all of its representatives are easily distinguished from sharks and batoid fishes by the presence of a single gill opening on each side, often overlain by a complex of bones forming a gill cover. In addition, bony fishes usually have the skin covered by overlapping scales, but these may be reduced or even absent in some families, or modified by calcification into ossified plates in others. Unlike most sharks, the caudal fin of bony fishes is most often externally symmetrical (although strongly asymmetrical in its bony structure).

Like most other tropical and subtropical areas, the Eastern Central Atlantic is very rich in bony fish species, few of which are individually capable of sustaining large-scale fisheries. Probably as a result of this situation, and also because of difficulties in identification of species within some of the larger families, fishery statistics are mostly reported by groups of species rather than by individual species.

The groups that dominate in current landings (over 2 800 000 t from Fishing Area 34 alone in 1979) are the clupeoids (about 570 000 t yearly, mainly Sardinella species); jacks or carangids (about 320 000 t); scombroids (about 230 000 t, mainly Thunnus albacares, T. obesus and Katsuwonus pelamis); croakers or sciaenids (about 73 000 t, mainly Pseudotolithus species); porgies and seabreams or sparids (about 70 000 t); threadfins or polynemids (about 65 000 t); grunts or pomadasyids (about 50 000 t, mainly Brachydeuteurs auritus); anchovies or engraulids (about 46 000 t, Engraulis encrasicolus only); hakes or merluccilds (about 40 000 t); flatfishes (about 37 000 t); catfishes or ariids (about 30 000 t); mullets or mugilids (about 24 000 t); barracudas or sphyraenids (about 21 000 t); snappers or lutjanids (about 21 000 t); groupers or serranids (about 16 000 t); triggerfishes or balistids (about 14 000 t); and bluefish (about 10 000 t, Pomatomus saltatrix only).

According to recent assessments, it appears that most of the stocks in the area are intensively or fully exploited, and no important further increase in catches can be expected from the traditionally exploited resources.

AID TO THE IDENTIFICATION OF FAMILIES OCCURRING IN THE EASTERN CENTRAL ATLANTIC

This guide includes:

1. Families with representatives over 6 cm in total length occurring in marine waters above 250 m depth or in brackish waters.
2. Families with representatives usually occurring in deeper marine waters that might be of potential interest to fisheries.

Code numbers are given for families described on Identification Sheets.

Note:

(a) Outline drawings are intended to represent major morphological types in each family; therefore, not every genus is illustrated.

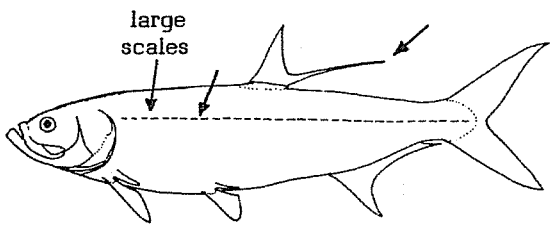
(b) Information applies to Eastern Central Atlantic representatives only.

TARPONS AND ALLIES - Elopiformes

Fin-spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; colour silvery.

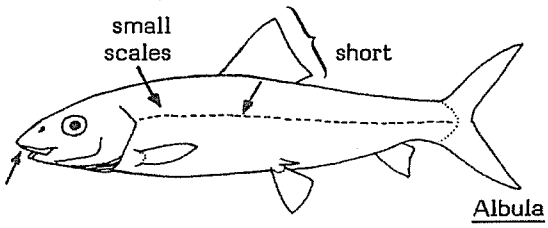
MEGALOPIDAE Tarpons **MEGAL**

To 250 cm; in coastal marine waters, estuaries and freshwater; pelagic. A single species in the area.

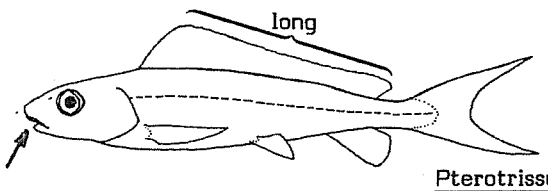


ALBULIDAE Bonefishes **ALBU**

To 80 cm; mainly in coastal marine waters, sometimes entering estuaries; demersal.



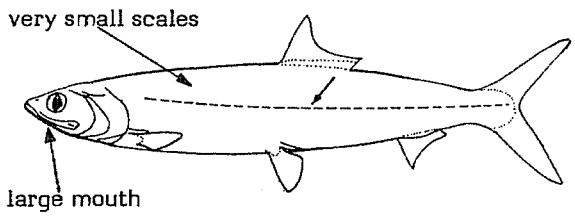
Albula



Pterotrissus

ELOPIDAE Ladyfishes **ELOP**

To 90 cm; coastal marine waters, estuaries and freshwater; mainly pelagic.



HERRINGS AND ALLIES - Clupeiformes

Fin-spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; lateral line absent; colour silvery.

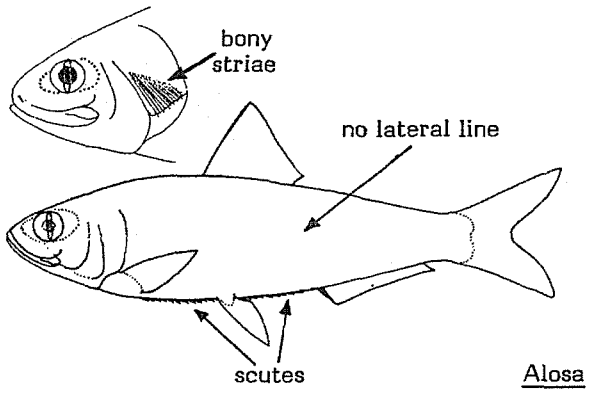
FAO Sheets

Fishing Areas 34,47 (in part)

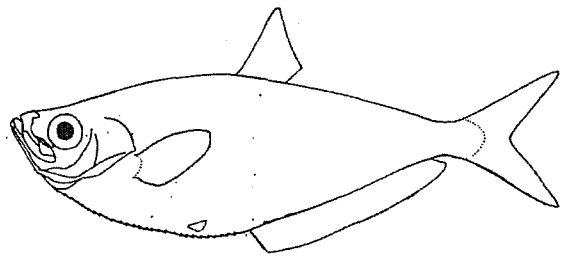
CLUPEIDAE — CLUP

Herrings, shads, menhadens, pilchards, sardines, sardinellas and pellonas

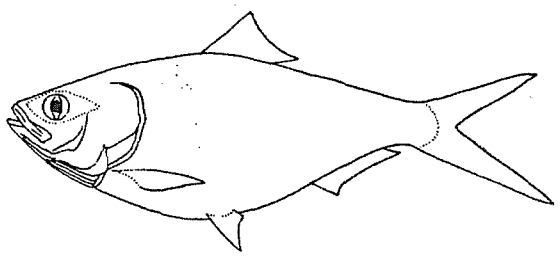
To 60 cm, but most species less than 25 cm; in coastal marine waters, estuaries and freshwater; mainly pelagic.



Alosa



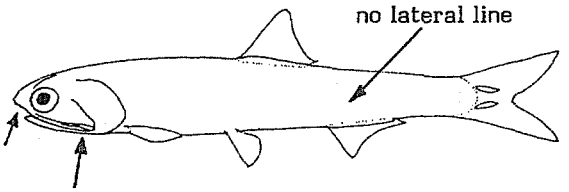
Ilisha



Ethmalosa

ENGRAULIDAE — Anchovies — ENGR

To 12 cm; coastal marine waters, to 400 m depth; off-bottom to pelagic; a single species in the area.

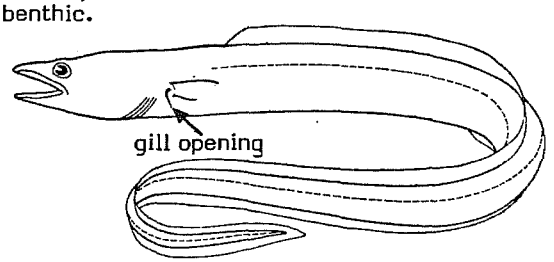


EELS - Anguilliformes

Body very elongate; fin-spines absent; pelvic fins absent; usually scaleless (minute scales present only in Anguilla).

CONGRIDAE — Conger eels — CONGR

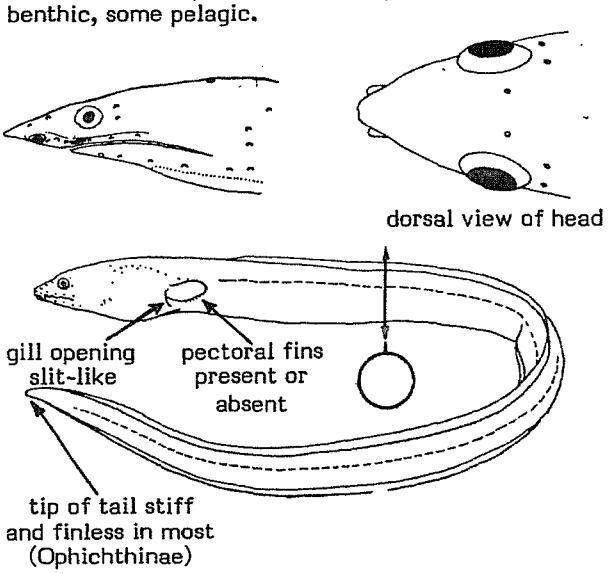
To over 200 cm, but usually not exceeding 60 cm; marine, from the shore to about 2 000 m depth; benthic.



OPHICHTHIDAE — OPHICH

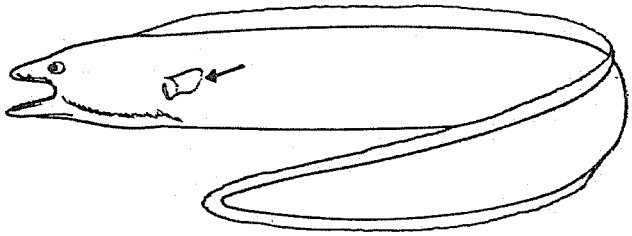
Snake eels, snapper eels and worm eels

To 245 cm; marine, from shallow coastal waters to below 750 m depth; occasionally in estuaries; most benthic, some pelagic.



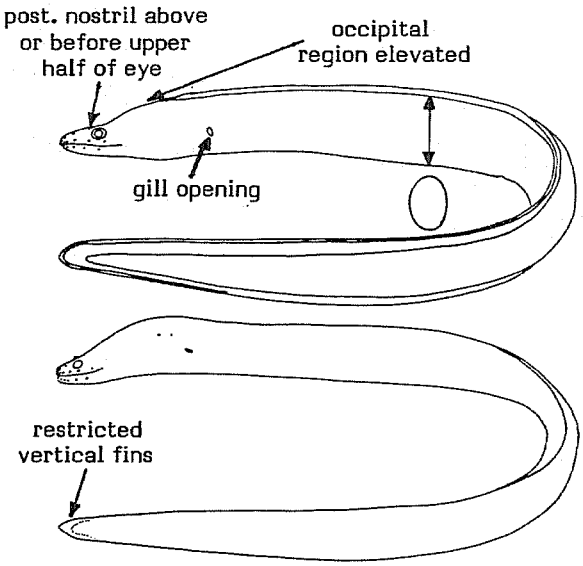
MYROCONGRIDAE False congers

To 56 cm; marine, in coastal waters; a single species in the area.



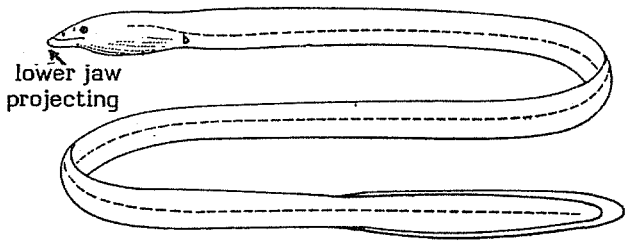
MURAENIDAE Morays **MURAEN**

To over 200 cm; marine, from shallow coastal waters to beyond 500 m depth; benthic.

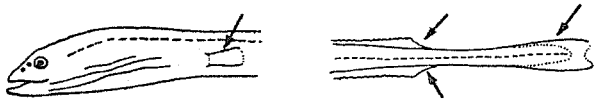


MORINGUIDAE Spaghetti eels

To at least 50 cm; marine, mostly inshore waters; benthic (burrowing) by day, but pelagic at night; a strong sexual dimorphism.



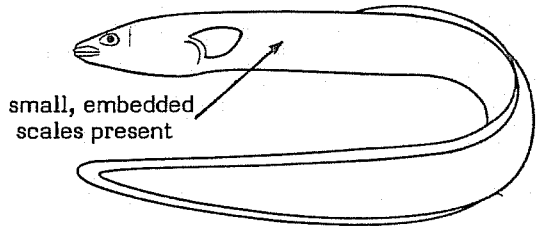
juveniles and immature adults



mature adults

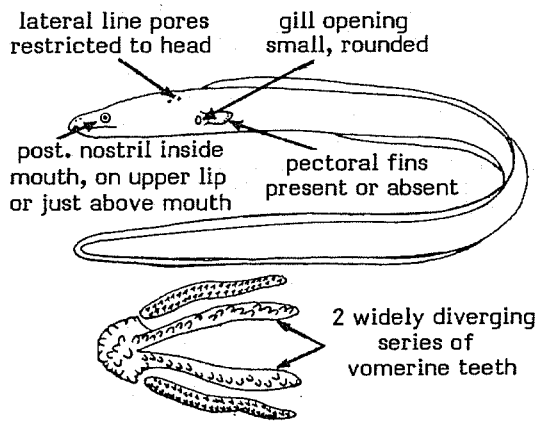
ANGUILLIDAE Freshwater eels **ANGUIL**

To 150 cm; generally fresh and brackish waters but migrating into offshore marine waters for spawning; predominantly benthic. A single species in the area.



XENOCONGRIDAE False morays

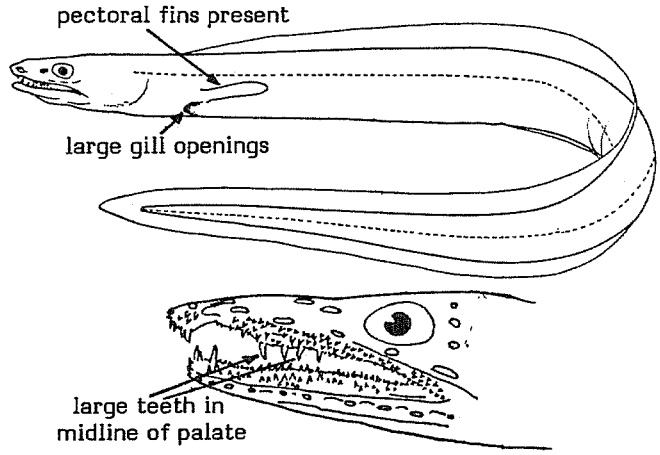
To about 50 cm; marine, from the shore to at least 350 m depth; benthic.



teeth on roof of mouth

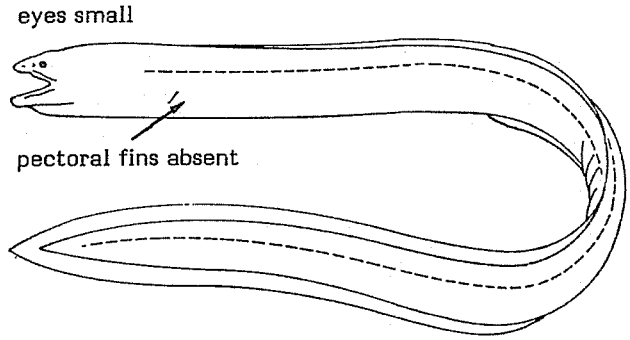
MURAENESOCIDAE Pike congers **MURAENES**

To 200 cm; marine, from shallow coastal waters to at least 200 m depth; benthic.



HETERENCHELIDAE Heterenchelids

To about 150 cm; in marine coastal waters and estuaries; benthic; burrowing in mud or sand.

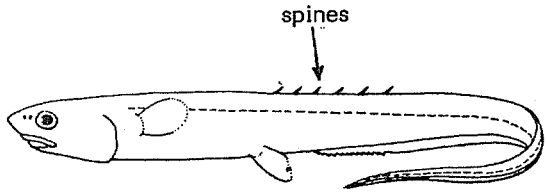


SPINY EELS - Notacanthiformes

Body very elongate; snout projecting; either a series of spines along back, or a single short-based and soft-rayed dorsal fin; anal fin long.

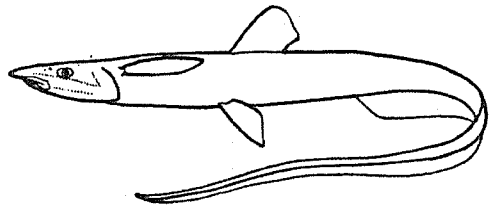
NOTACANTHIDAE Spiny eels

To 45 cm; marine, from coastal waters to below 800 m depth; benthic.



HALOSAURIDAE Halosaurs

To about 55 cm, marine, from about 400 to below 3 000 m depth; benthic.

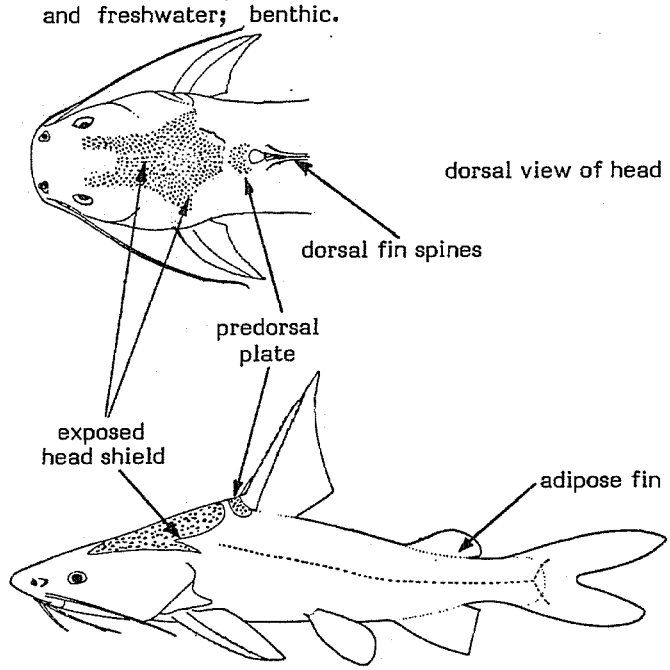


CATFISHES - Siluriformes

Barbels present around mouth; a strong spine usually present at front of dorsal and pectoral fins; an adipose fin often present; scales absent, but a bony head shield often present.

ARIIDAE Sea catfishes ARIID

To over 120 cm; in coastal marine waters, estuaries and freshwater; benthic.

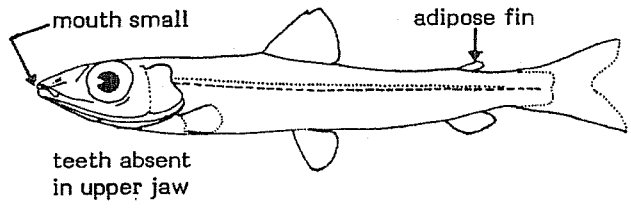


ARGENTINES AND ALLIES - Salmoniformes

A diverse assemblage of families characterized by the inclusion of the maxilla in the gape of mouth; fin-spines absent; adipose fin often present.

ARGENTINIDAE Argentines ARGEN

To about 30 cm; marine, from 80 to about 400 m depth; benthopelagic and pelagic.

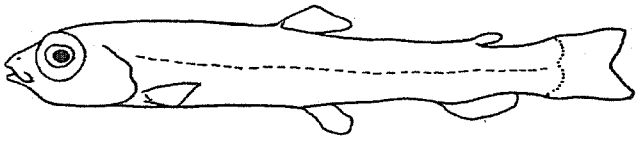


FAO Sheets

Fishing Areas 34,47 (in part)

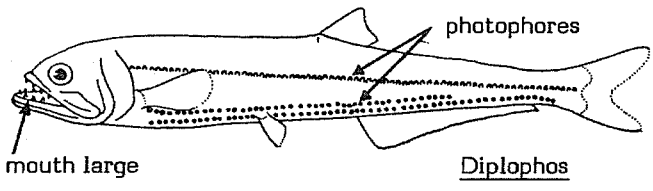
BATHYLAGIDAE Deep-sea smelts

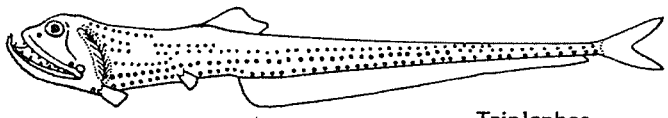
To about 20 cm; marine, from the surface to below 2 000 m depth; epipelagic to mesopelagic and bathypelagic.

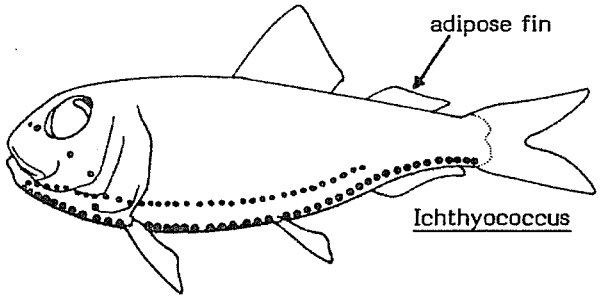


GONOSTOMATIDAE Bristlemouths GONOST

To about 25 cm; mostly in deep water (usually below 200 m), but some species coming up to about 50 m at night; mesopelagic to bathypelagic.

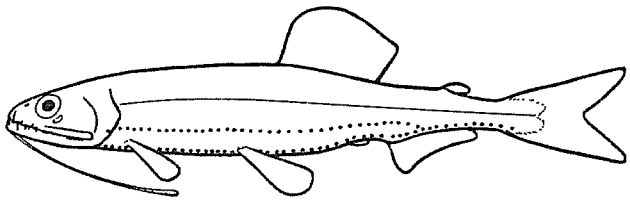






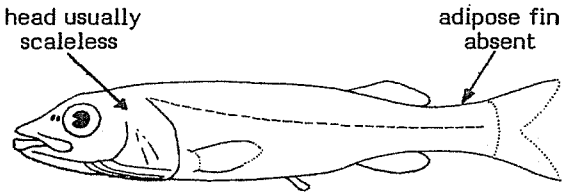
ASTRONESTHIDAE Snaggletooths

To about 20 cm; marine, from about 150 to below 2 000 m depth; mesopelagic.



ALEPOCEPHALIDAE Slickheads ALEPO

To about 55 cm; oceanic waters, most species below 1 000 m depth; benthopelagic to pelagic.

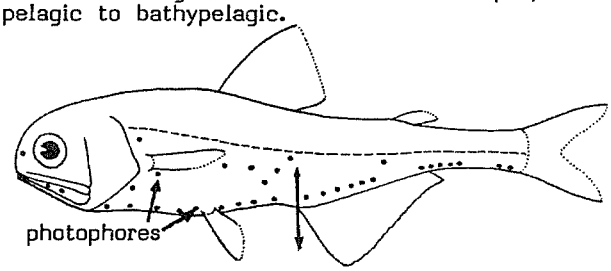


LANTERNFISHES AND ALLIES - Myctophiformes

Fin-spines absent; adipose fin present; light organs (photophores) sometimes present.

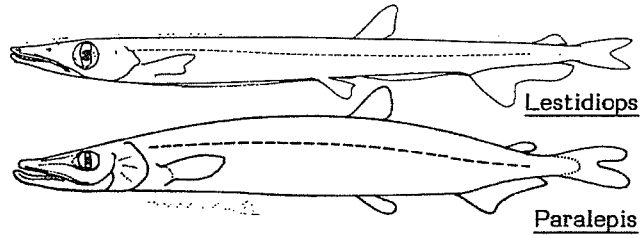
MYCTOPHIDAE Lanternfishes MYCT

To 30 cm, but most species less than 10 cm; from the surface (at night) to below 2 000 m depth; mesopelagic to bathypelagic.



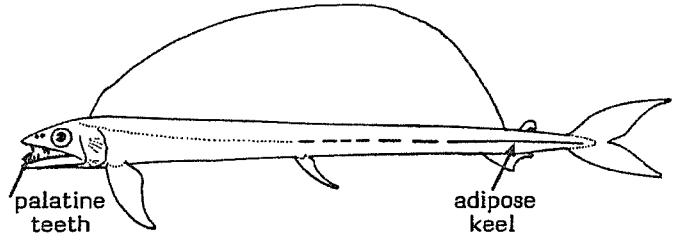
PARALEPIDIDAE Barracudinas PARALEP

To 50 cm; marine, from the surface to below 800 m; mesopelagic to bathypelagic.



ALEPISAURIDAE Lancetfishes ALEPIS

To over 200 cm; marine, from about 40 m (mainly at night) to great depths; pelagic.

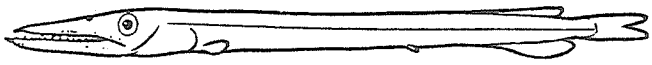


FAO Sheets

Fishing Areas 34,47 (in part)

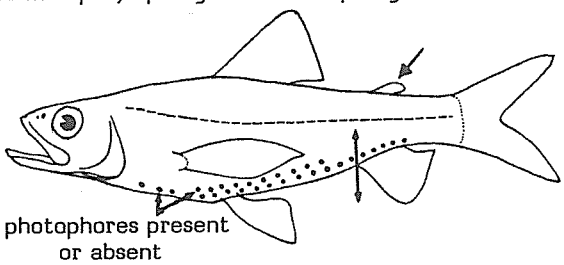
ANOTOPTERIDAE Dagger tooths

To at least 45 cm; marine, pelagic; a single species.



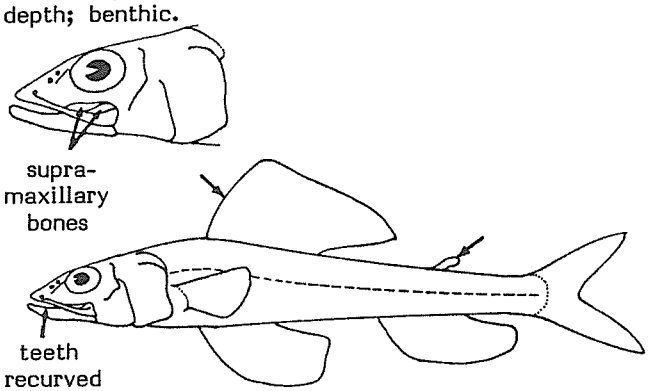
NEOSCOPELIDAE Neoscopelids

To about 30 cm; marine, from the surface to below 500 m depth; pelagic or benthopelagic.



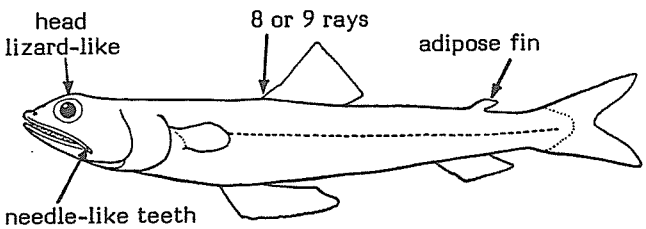
AULOPIDAE Flagfishes AULOP

To 45 cm; marine, from about 75 to at least 300 m depth; benthic.



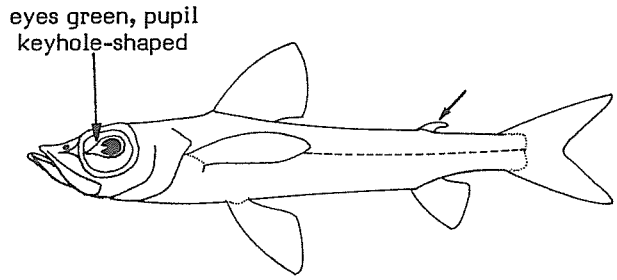
SYNODONTIDAE Lizardfishes SYNOD

To 55 cm; marine, from shallow waters to below 500 m depth; benthic.



CHLOROPHTHALMIDAE Greeneyes

To 30 cm; marine, from about 75 m to abyssal depths; benthic.

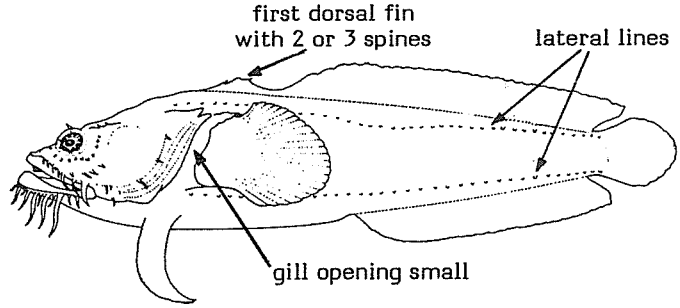


TOADFISHES - Batrachoidiformes

Head large and depressed, body compressed; two dorsal fins, the first with 2 or 3 spines; pelvic fins under throat; gill openings restricted to sides of head; one to several lateral lines on body.

BATRACHOIDAE Toadfishes BATRACH

To about 45 cm; in coastal marine waters to at least 250 m depth; also in estuaries and freshwater; benthic.

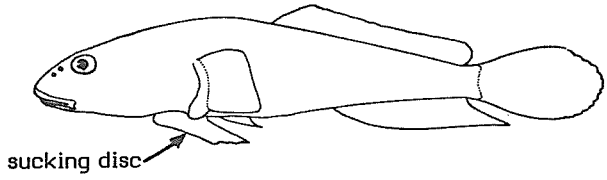


CLINGFISHES - Gobiesociformes

A sucking disc under anterior part of body (formed by pectoral and pelvic fins); a single dorsal fin without spines.

GOBIESOCIDAE Clingfishes

To 15 cm, but most species less than 8 cm; littoral marine, also in estuaries and freshwater.

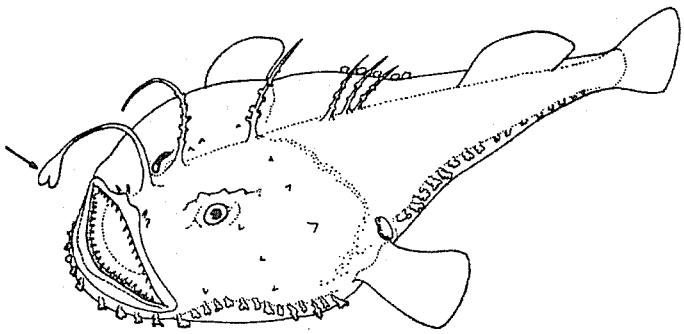


ANGLERFISHES AND ALLIES - Lophiiformes

Body globose or depressed; first spine of dorsal fin modified to form a "fishing pole", gill openings small and circular, usually located below or behind pectoral fins.

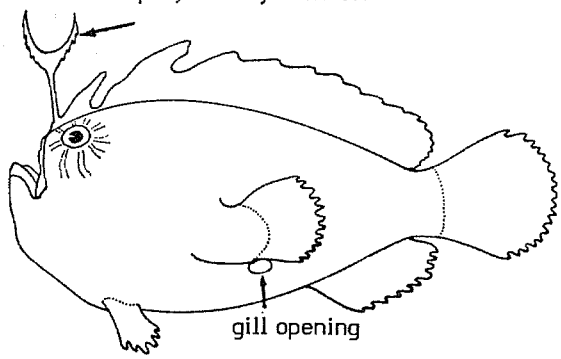
LOPHIIDAE Anglerfishes — LOPH

To about 100 cm; marine, from coastal waters to below 800 m depth; benthic.



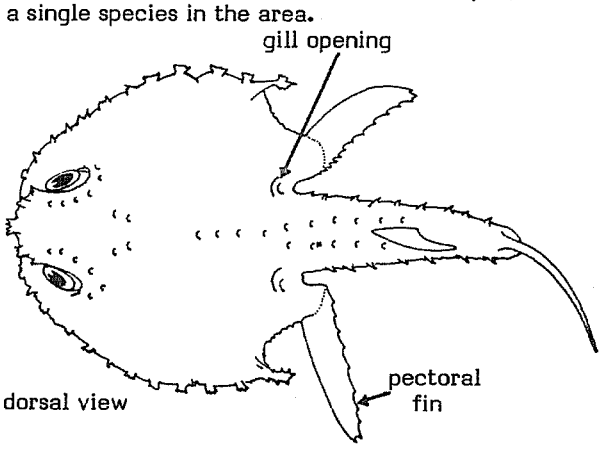
ANTENNARIIDAE Frogfishes — ANTEN

To 28 cm; marine, from coastal and surface waters to below 100 m depth; mostly benthic.



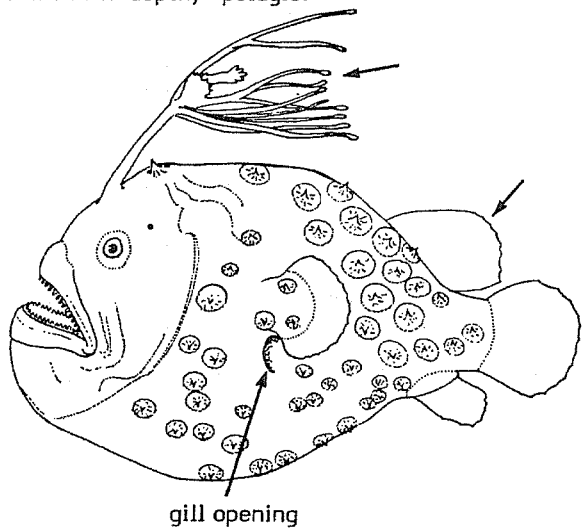
OGCOCEPHALIDAE Batfishes — OGCOC

To 15 cm; marine, from 100 to 300 m depth; benthic; a single species in the area.



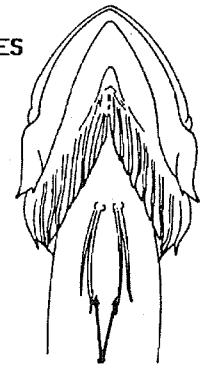
HIMANTOLOPHIDAE Footballfishes

To about 60 cm; marine, from near the surface to below 500 m depth; pelagic.



CUSKEELS, BROTULAS AND ALLIES - Ophidiiformes

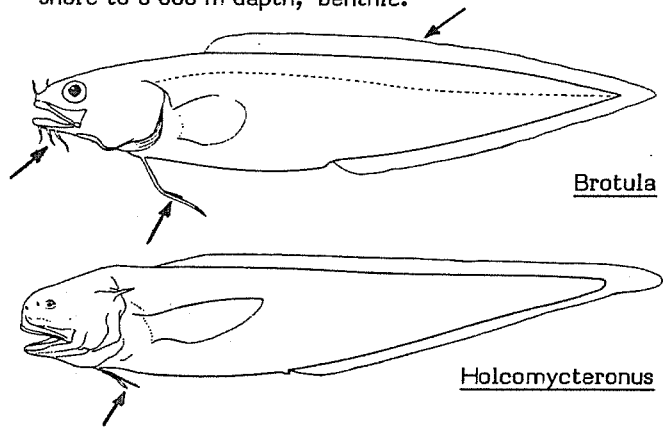
No sharp spines in fins; pelvic fins absent in some species; when present, these fins are placed anterior to pectoral fins, sometimes far forward on under-surface of head; they are always close together and filamentous, each with no more than 2 rays; caudal fin separate or joined to dorsal and anal fins; snout without barbels (except for a single species).



OPHIDIIDAE — OPHID

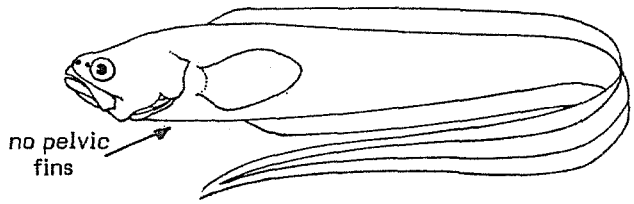
Cusk eels, brotulas (including Brotulidae)

To 150 cm, but most around 30 cm; marine, from the shore to 8 000 m depth; benthic.



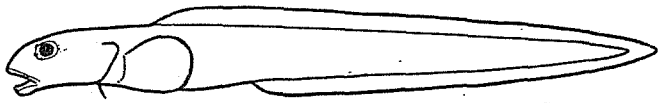
CARAPIDAE Pearlfishes

To about 20 cm; marine from shallow coastal waters to the continental slope; mostly benthic, living in sea cucumbers, clams, sea urchins, tunicates and starfish, but 1 species free-living.



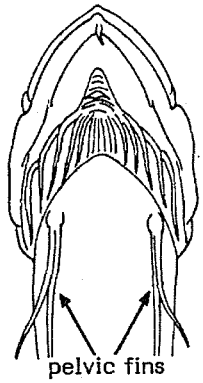
ZOARCIDAE Eelpouts

To about 50 cm; marine, from about 200 to below 500 m depth; benthic.



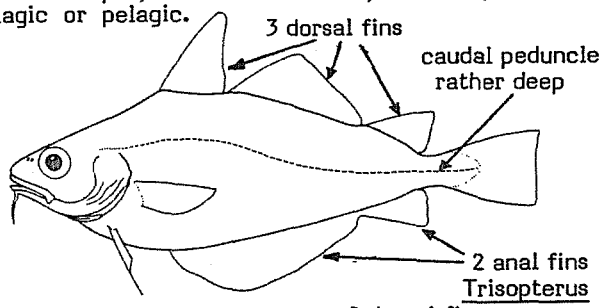
CODS, HAKES AND ALLIES
- Gadiformes

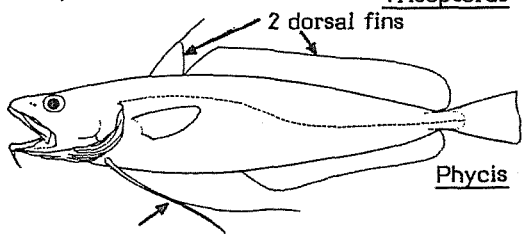
No sharp spines in fins (except in dorsal fin of some macrourids); pelvic fins below or anterior to pectoral fins and widely separated from each other, usually entire, but reduced to filaments in some species; barbels often present on chin (on snout of a single species).



GADIDAE Cods and codlings GADI

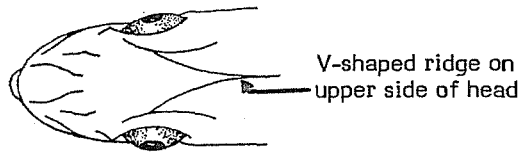
To about 80 cm; marine, from the shore to below 1 000 m depth; also in estuaries; benthic, bentho-pelagic or pelagic.

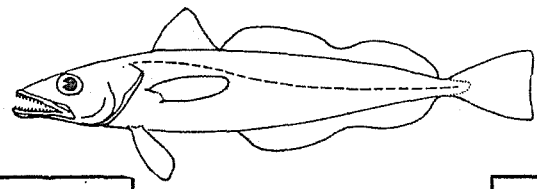




MERLUCCIIDAE Hakes MERLU

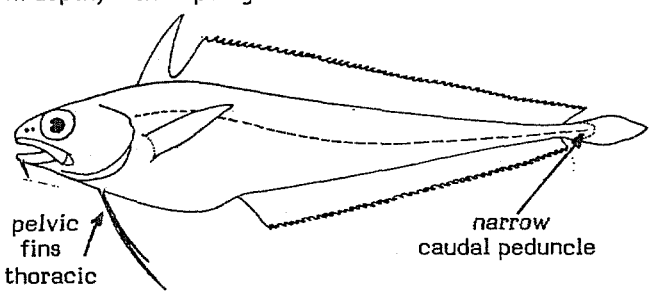
To 130 cm; marine, from coastal waters to about 1 000 m depth; benthopelagic or pelagic.





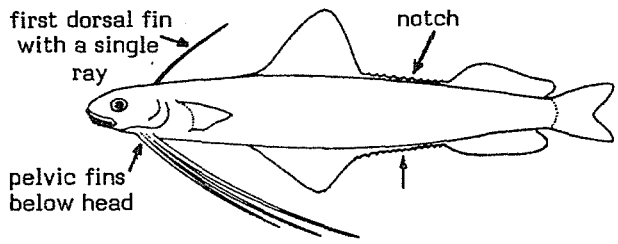
MORIDAE Moras MOR

To over 50 cm; marine, from about 200 to below 1 000 m depth; benthopelagic.



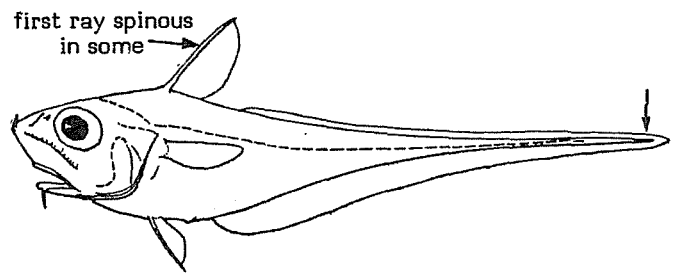
BREGMACEROTIDAE Codlets

To 10 cm, but usually smaller; marine in oceanic waters from the surface to below 1 000 m depth; pelagic.



MACROURIDAE Grenadiers MACROUR

To about 60 cm; marine, from about 250 to below 2 000 m depth; benthopelagic.

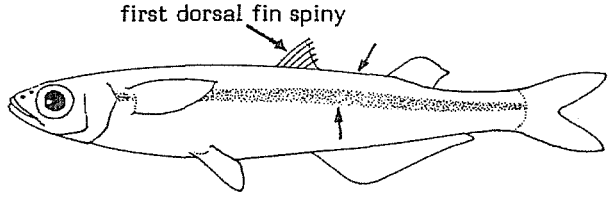


SILVERSIDES AND ALLIES - Atheriniformes

Small fishes; 2 well separated dorsal fins, the first spiny, but often inconspicuous; a silvery stripe on sides.

ATHERINIDAE Silversides ATHER

To about 15 cm, but usually smaller; in coastal marine waters, estuaries, coastal lagoons and freshwater.

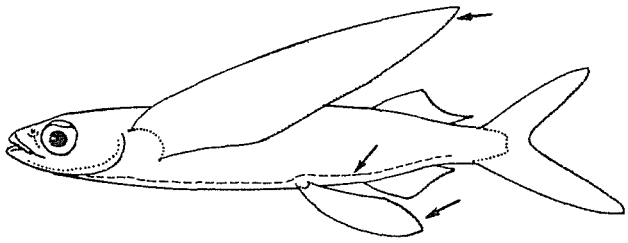


FLYINGFISHES AND ALLIES - Beloniformes

Either snout beak-like with upper and/or lower jaws greatly prolonged (except in 2 genera), or with enlarged, wing-like, pectoral, and sometimes also pelvic fins; lateral line near ventral profile of body; a single dorsal fin consisting of soft rays; pelvic fins abdominal.

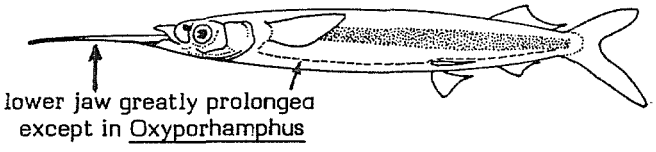
EXOCOETIDAE Flyingfishes EXOC

To 40 cm; marine; pelagic in surface waters.



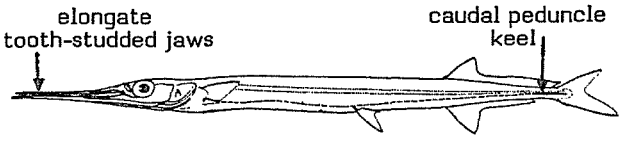
HEMIRAMPHIDAE Halfbeaks HEMIR

To about 40 cm; in marine, coastal and offshore waters, estuaries and freshwater, near the surface.



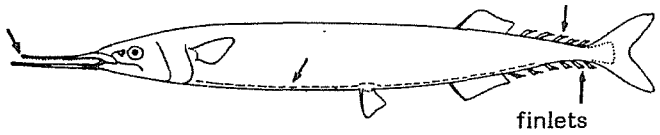
BELONIDAE Needlefishes BELON

To about 130 cm; in marine coastal and offshore waters, estuaries, coastal lagoons and freshwater; pelagic, close to the surface.



SCOMBERESOCIDAE Sauries SCOMBERES

To 50 cm; marine, pelagic in surface waters.

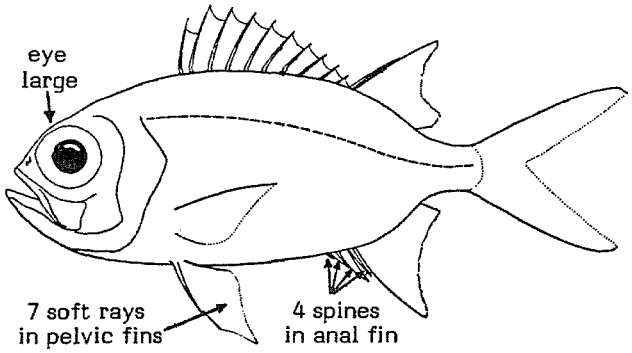


SQUIRRELFISHES AND ALLIES - Beryciformes

Head spines and/or crests well developed; fin-spines well developed except in Diretmidae; scales heavy and strongly ctenoid (rough).

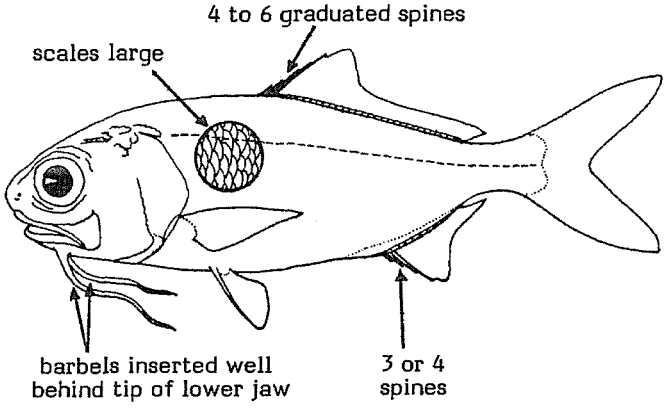
HOLOCENTRIDAE HOLOC
Squirrelfishes and soldierfishes

To at least 45 cm; marine, from shallow coastal waters to below 200 m depth; benthic.



POLYMIXIIDAE Beardfishes POLYM

To about 35 cm; marine, from about 100 to 650 m depth; benthic; a single species in the area.

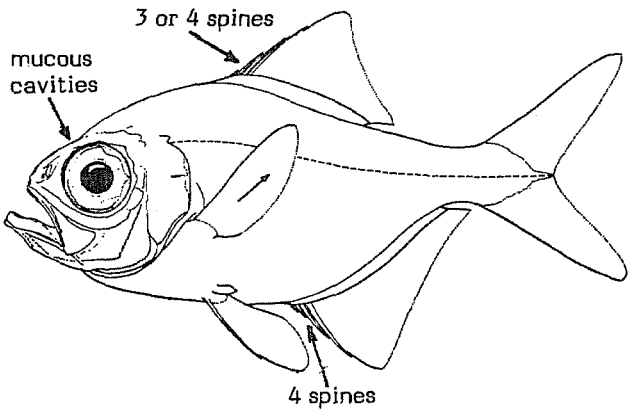


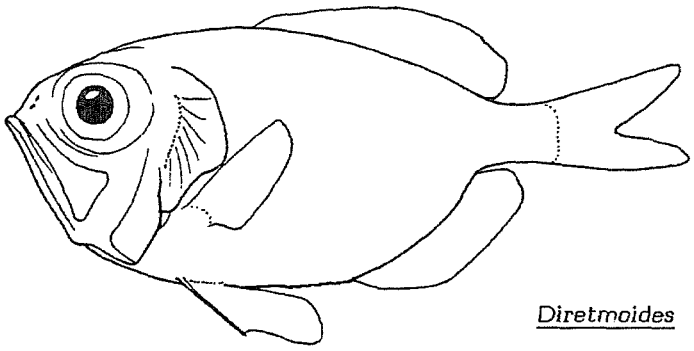
FAO Sheets

Fishing Areas 34,47 (in part)

BERYCIDAE Alfonsinos BER

To about 50 cm; marine, from about 200 to below 500 m depth; benthic.





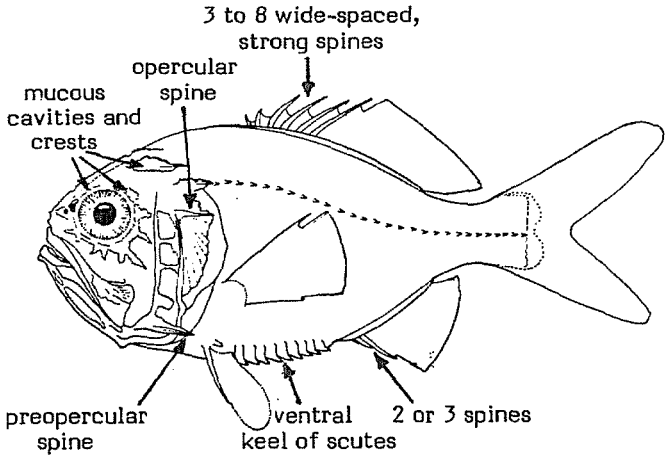
Diretmoides

DORIES AND ALLIES - Zeiformes

Body usually compressed and deep; jaws greatly distensible; prominent spines in anterior part of dorsal fin.

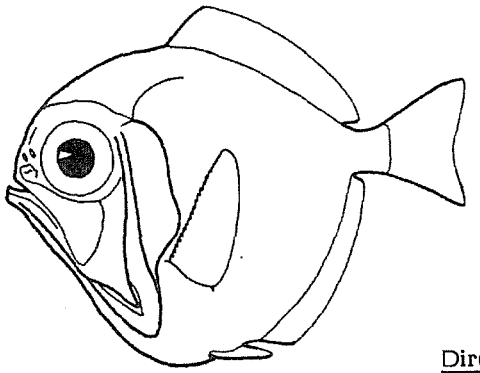
TRACHICHTHYIDAE Slimeheads TRACHIC

To about 60 cm; marine, from about 100 to 1 000 m depth, rarely below 600 m; benthic.



DIRETMIDAE Diretmids DIRET

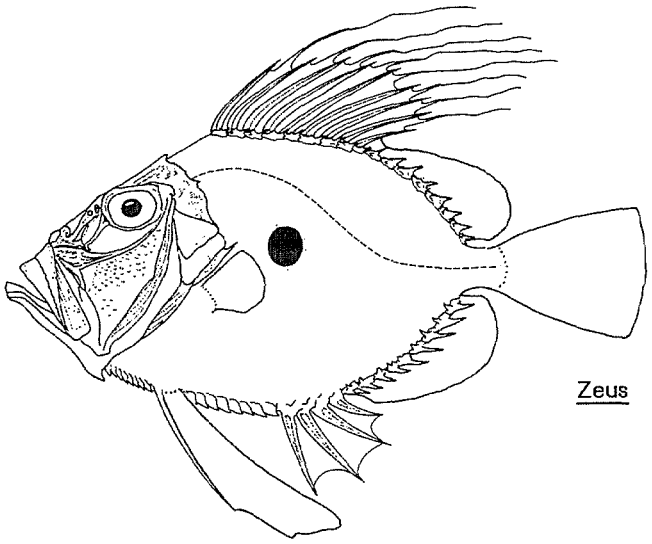
To about 40 cm, but usually smaller; marine, from about 400 to below 1 000 m depth; benthic.



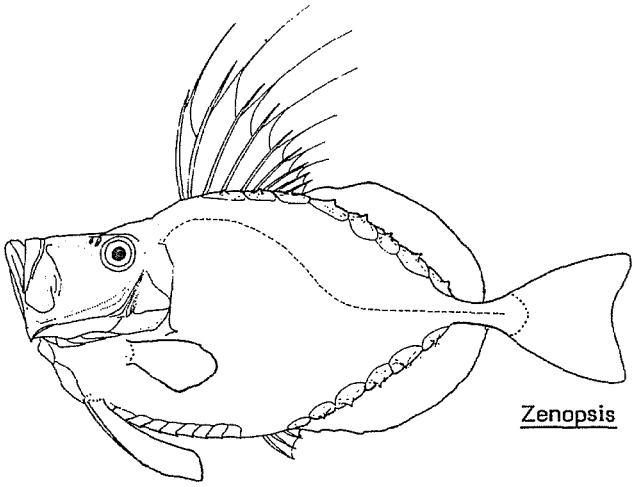
Diretmus

ZEIDAE Dories ZEID

To about 65 cm; marine, in coastal waters to about 600 m depth; benthic to benthopelagic.



Zeus



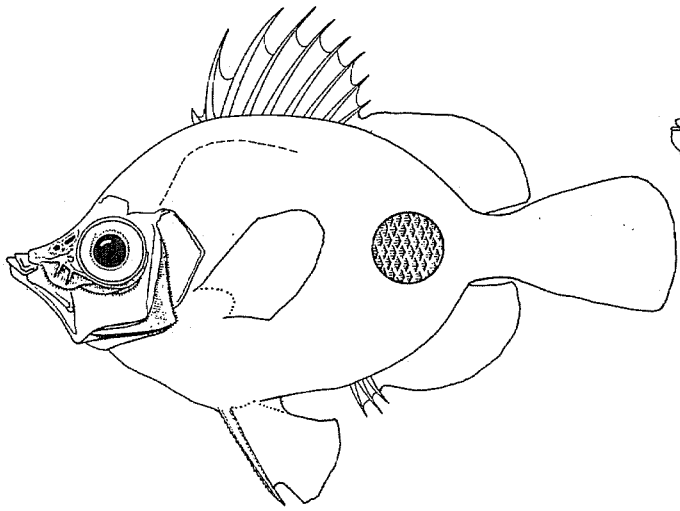
Zenopsis

FAO Sheets

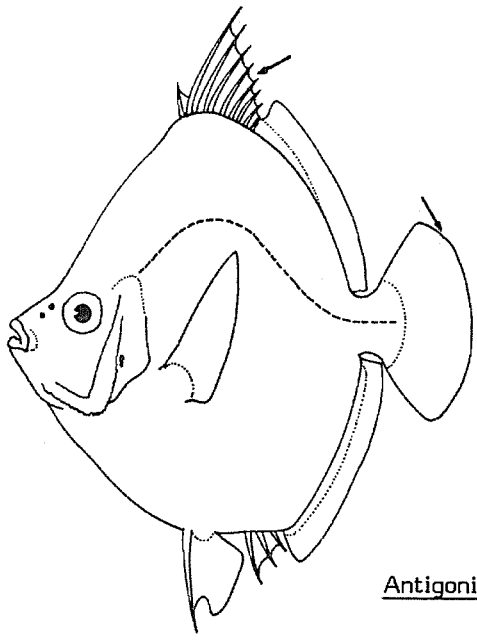
Fishing Areas 34,47 (in part)

CAPROIDAE Boarfishes

To about 30 cm; marine, from 65 to about 600 m depth; benthic to benthopelagic.



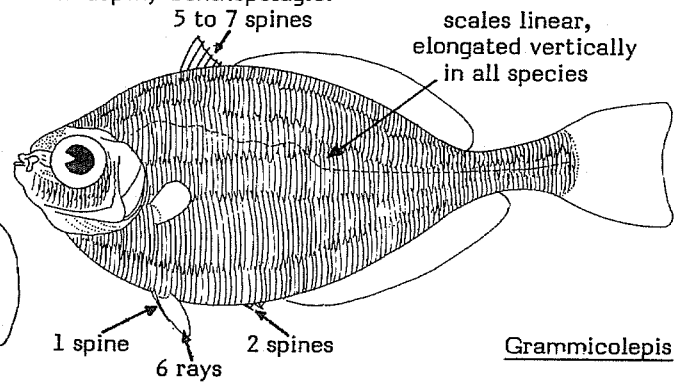
Capros



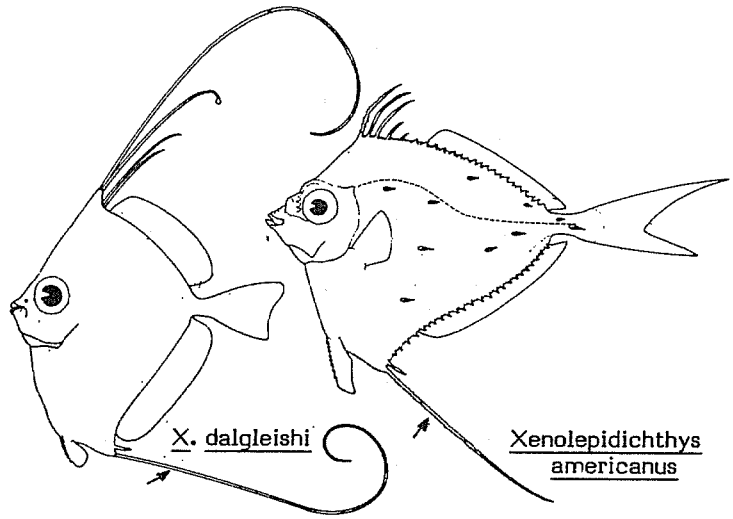
Antigonia

GRAMMICOLEPIDAE Grammicolepids

To about 20 cm; marine, from about 200 to below 500 m depth; benthopelagic.



Grammicolepis



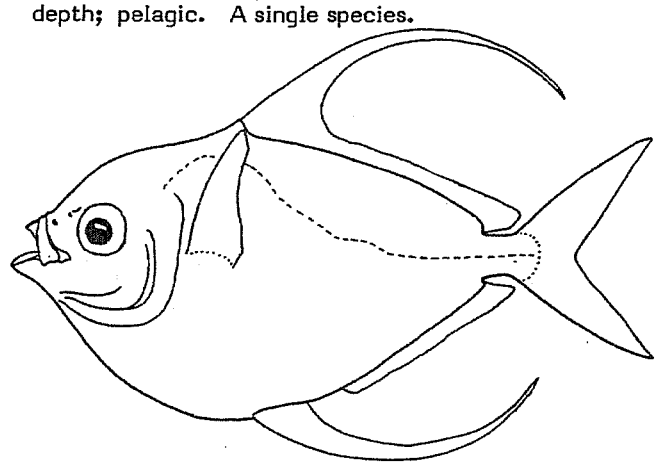
Xenolepidichthys americanus

OPAHS AND ALLIES - Lampridiformes

Body shape highly variable with the families; no spines in fins; jaws protrusible.

LAMPRIDIDAE Opahs LAMPR

To 185 cm; marine, from the surface to about 200 m depth; pelagic. A single species.

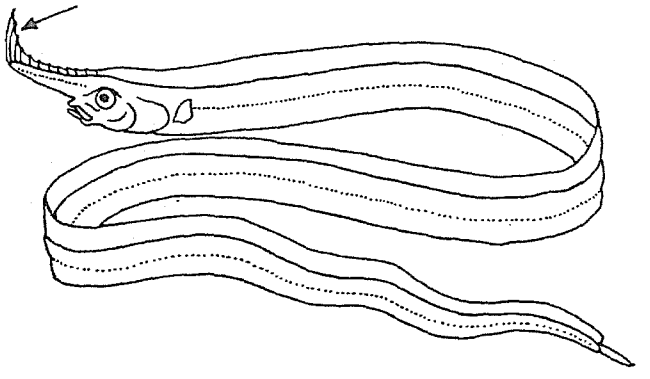


FAO Sheets

Fishing Areas 34,47 (in part)

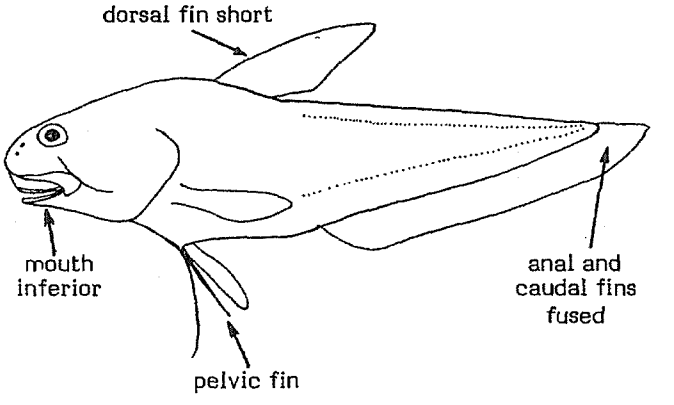
LOPHOTIDAE Crestfishes and unicornfishes

To 180 cm; marine, from about 200 to below 600 m depth; pelagic.



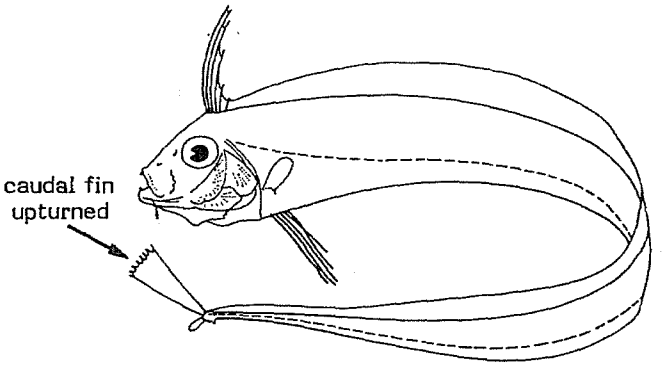
ATELEOPODIDAE Ateleopids ATEL

To 180 cm; marine, from about 200 to 600 m depth; benthopelagic.



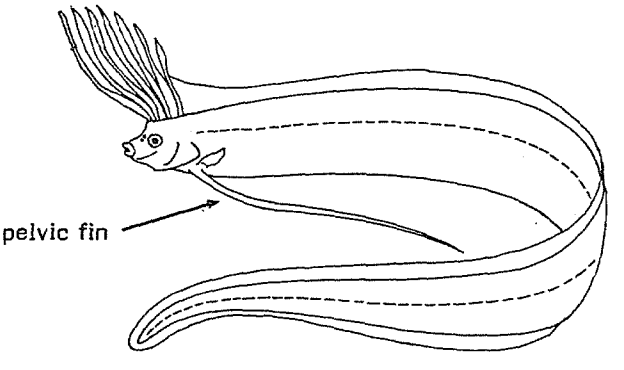
TRACHIPTERIDAE Ribbonfishes

To about 200 cm; marine, from about 180 to nearly 1 000 m depth; pelagic.



REGALECIDAE Oarfishes

To about 800 cm, but average size about 300 cm; marine, adults from about 300 to 600 m depth, juveniles nearer to the surface; pelagic.

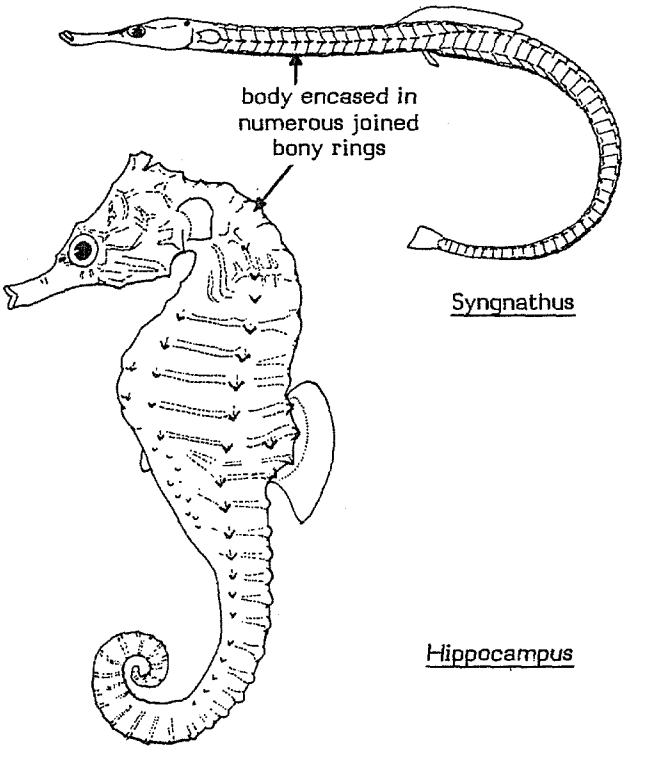


PIPEFISHES AND ALLIES - Gasterosteiformes

Body elongate, snout tube-like; scales sometimes modified to form series of bony plates.

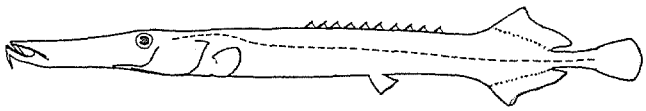
SYNGNATHIDAE Pipefishes

To about 30 cm; in freshwater, estuaries, coastal lagoons, littoral pools and coastal marine waters to about 90 m depth; mostly benthic (at least one species pelagic).



AULOSTOMIDAE Trumpetfishes AULOST

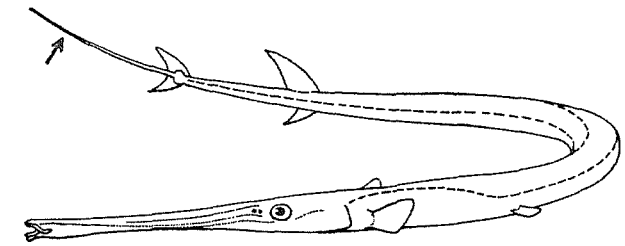
To 75 cm; marine, in shallow and clear coastal waters; often drifting head down. A single species in the area.



FISTULARIIDAE FIST

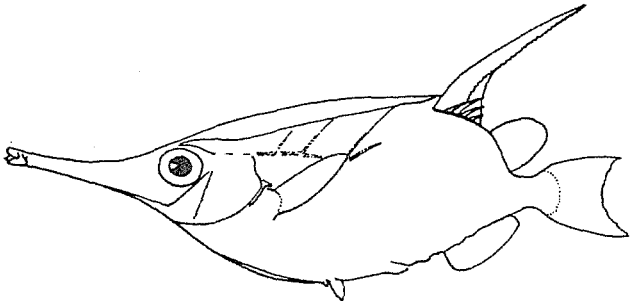
Cornetfishes, flutemouths

To 200 cm; marine, in shallow coastal waters



MACRORHAMPHOSIDAE Snipefishes MACROR

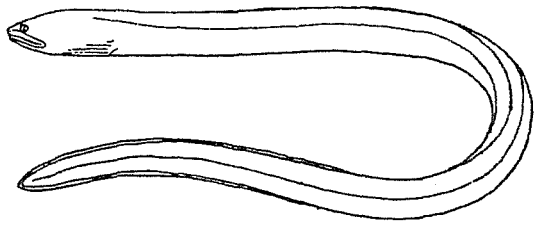
To about 15 cm; marine, from 25 to 600 m depth; benthopelagic. A single species in the area.



SWAMP EELS AND ALLIES - Synbranchiformes

SYNBRANCHIDAE Swamp eels

To 32 cm; littoral marine and estuarine, on mud banks.

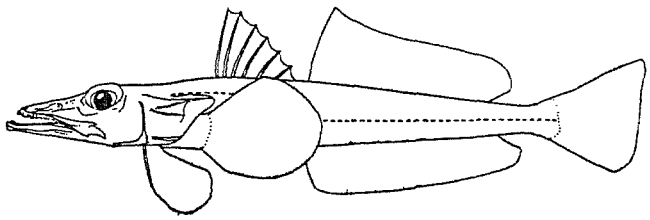


SCORPIONFISHES AND ALLIES - Scorpaeniformes

Cheeks with a bony strut (posterior extension of suborbital bone to preopercle); usually well developed spines on head and prominent spines in dorsal fin; pectoral fins usually rounded; membranes between lower rays often incised; caudal fin rarely forked.

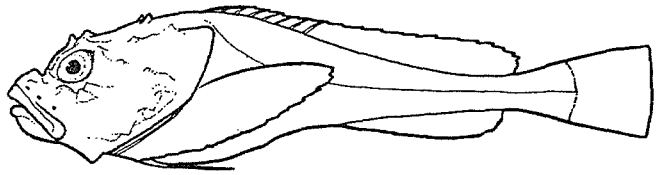
PLATYCEPHALIDAE Spiny flatheads PLATYC

To 20 cm; marine, from 20 to about 200 m depth; a single species in the area.



COTTUNCULIDAE Cottunculids

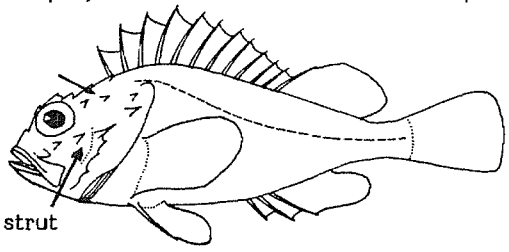
To 30 cm; marine, from about 200 to below 1 000 m depth; benthic.



SCORPAENIDAE SCORP

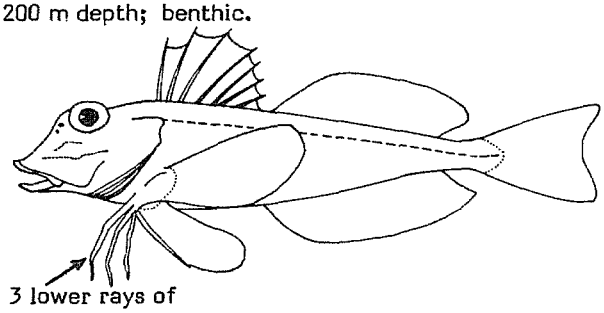
Scorpionfishes, rockfishes and rosefishes

To over 50 cm; marine, from the coastline to below 600 m depth; benthic: often with venomous spines.



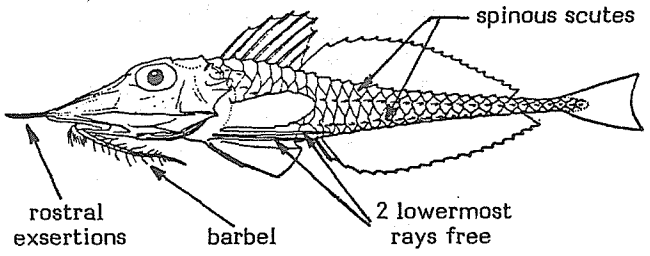
TRIGLIDAE Searobins, gurnards TRIGL

To about 45 cm; marine, from the coastline to about 200 m depth; benthic.



PERISTEDIIDAE Armoured searobins PERIST

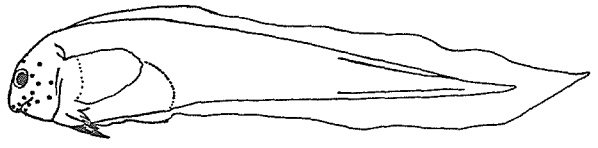
To 35 cm; marine, from about 50 to 500 m depth; benthic; a single species in the area.



CYCLOPTERIDAE (including Liparidae)

Lumpfishes and Snailfishes

To about 30 cm, but usually smaller; marine, from the coastline to below 1 400 m depth; benthic to benthopelagic.

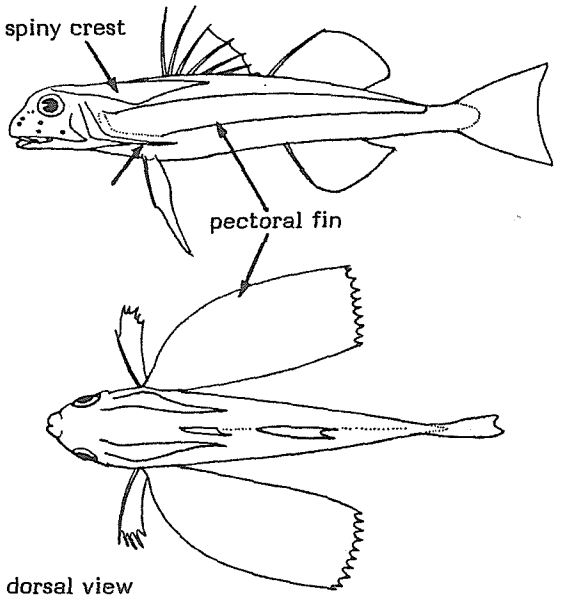


FLYING GURNARDS - Dactylopteriformes

Greatly enlarged pectoral fins; head encased in a bony shield with a spiny crest from nape to below base of first dorsal fin.

DACTYLOPTERIDAE Flying gurnards DACTYL

To at least 45 cm; marine, in shallow coastal waters; benthic. A single species.

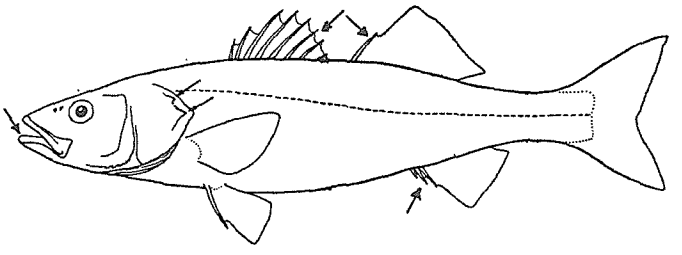


PERCH-LIKE FISHES - Perciformes: Percoidei

Shape extremely variable; either 2 dorsal fins, or 1 dorsal fin with the anterior elements being sharp spines; pelvic fins with 1 spine and 5 soft rays, placed well forward on ventral surface of body; maxillary bone not included in gape of mouth but dorsal to the tooth-bearing premaxilla.

MORONIDAE (= Percichthyidae) *Temperate basses* MORON

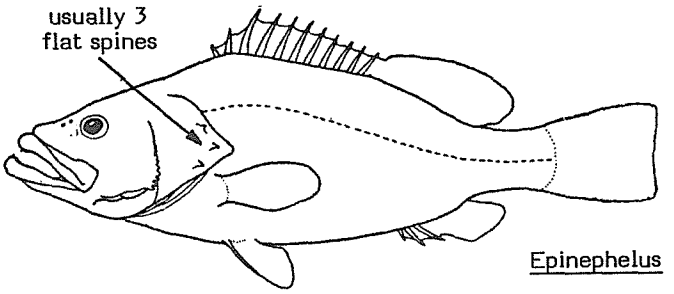
To over 100 cm; in estuaries and coastal marine waters to about 140 m depth; dwelling near the bottom or close to the surface.



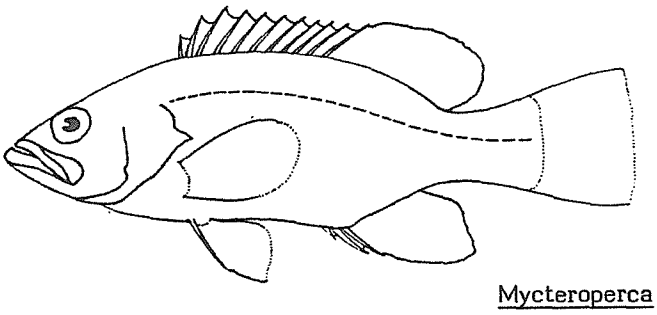
SERRANIDAE SERRAN

Groupers, hinds, hamlets, seabasses, combers and creolefishes

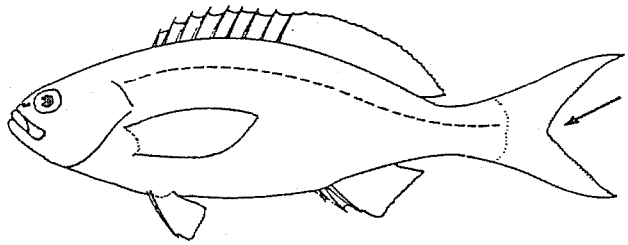
To over 300 cm; marine, from the coastline to depths below 300 m; also in the lower reaches of estuaries; mostly benthic.



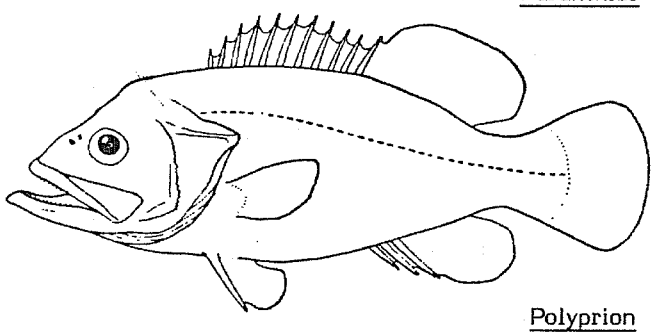
Epinephelus



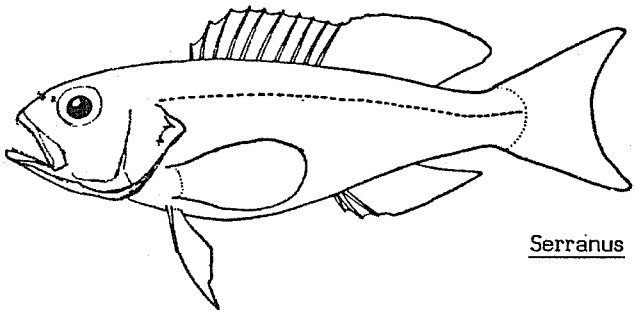
Mycteroperca



Paranthias



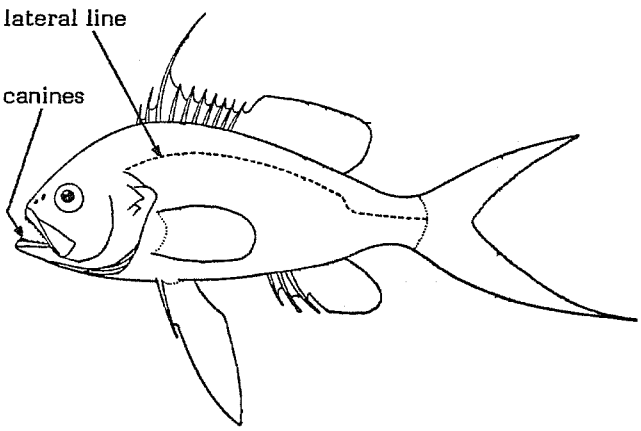
Polyprion



Serranus

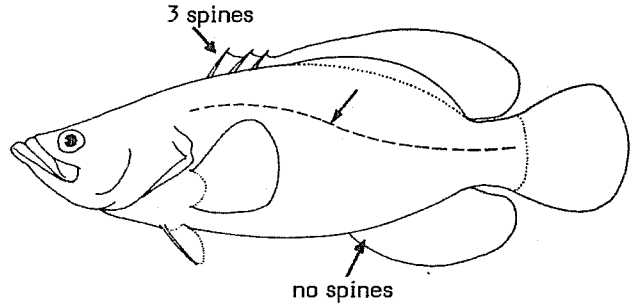
ANTHIIDAE Seaperches, Anthiids **ANTH**

To about 27 cm; marine, in coastal waters; mostly benthic. Considered by many authors as a subfamily (Anthiinae) of Serranidae.



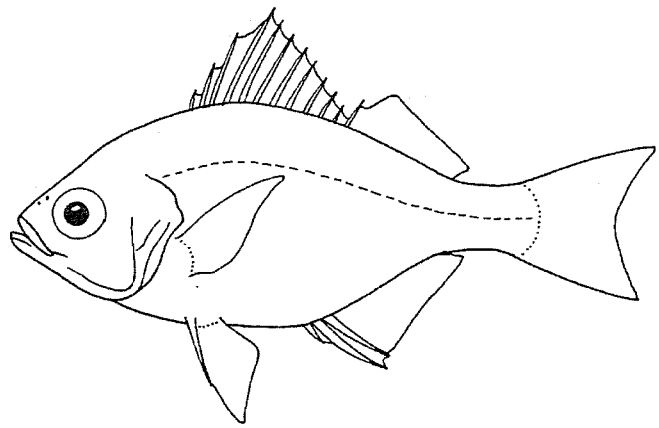
GRAMMISTIDAE Soapfishes **GRAMMIST**

To about 32 cm; marine, from shallow coastal waters to about 50 m depth; benthic.



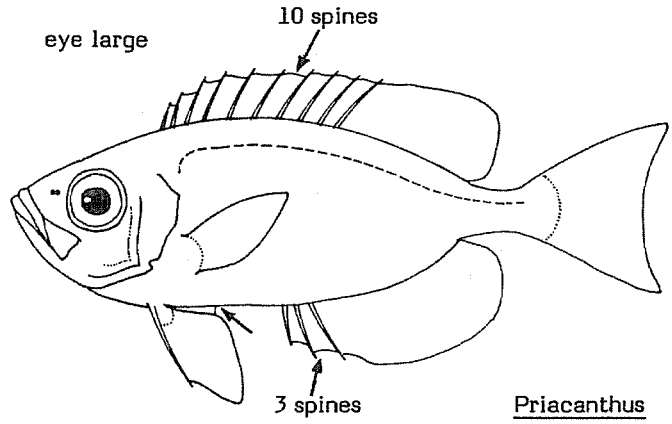
KUHLIIDAE Daras **KUH**

To 20 cm; marine, in coastal waters to about 20 m depth; a single species in the area.



PRIACANTHIDAE Bigeyes, glasseyes **PRIAC**

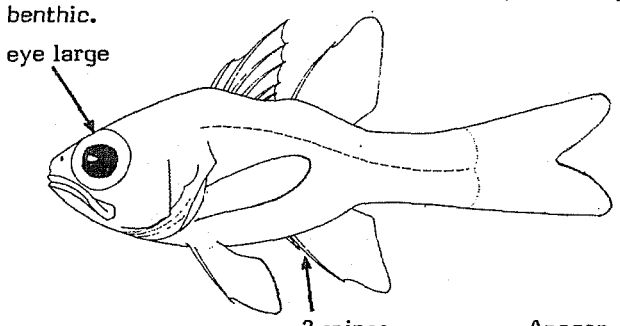
To 40 cm; marine, from the coastline to about 200 m depth; benthic.



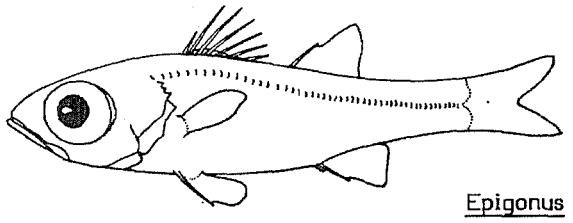
Priacanthus

APOGONIDAE Cardinalfishes

To about 20 cm, but most species smaller than 12 cm; marine, from the coastline to about 1 000 m depth; also in brackish waters and freshwater; mostly benthic.



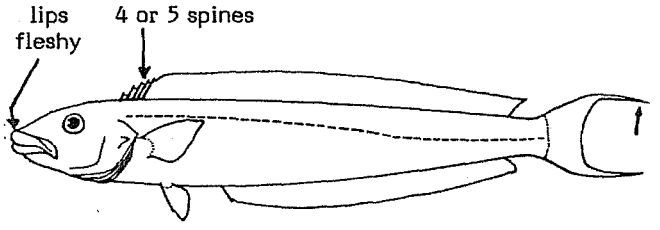
Apogon



Epigonus

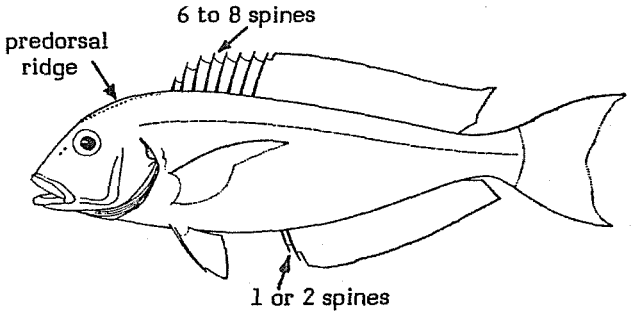
MALACANTHIDAE Sand tilefishes MALAC

To 60 cm; marine, from shallow coastal waters to about 150 m depth; benthic. A single species in the area.



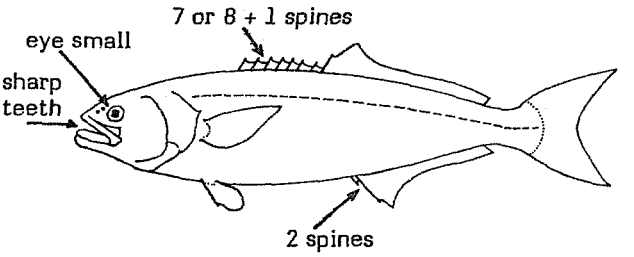
BRANCHIOSTEGIDAE Tilefishes BRAN

To 70 cm; marine, from about 20 to 200 m depth; benthic. A single species in the area.



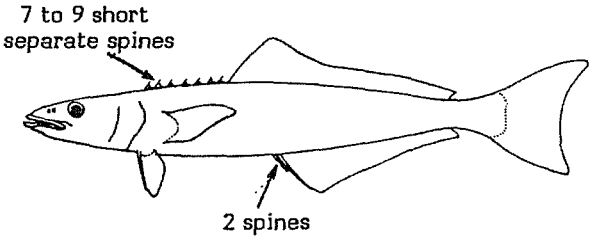
POMATOMIDAE Bluefishes POMAT

To 110 cm; marine, surface waters; pelagic. A single species in the area.



RACHYCENTRIDAE Cobias RACH

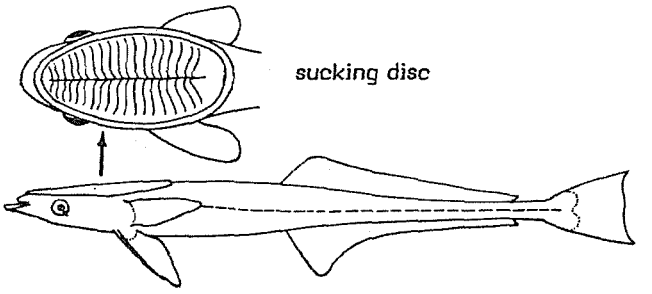
To 200 cm; marine; pelagic in offshore waters (near the surface) but also over shallow reefs and occasionally in estuaries. A single species.



ECHENEIDAE ECHEN

Remoras, shark-suckers, disc fishes

To about 100 cm; marine, pelagic and attached to larger marine organisms (sharks, turtles, marine mammals, etc.).



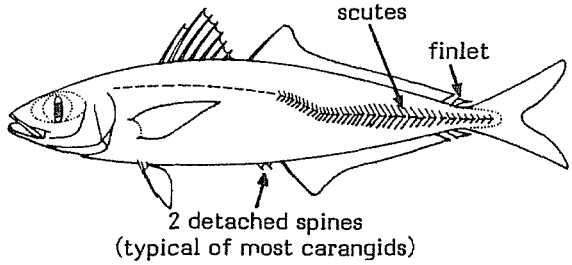
FAO Sheets

Fishing areas 34,47 (in part)

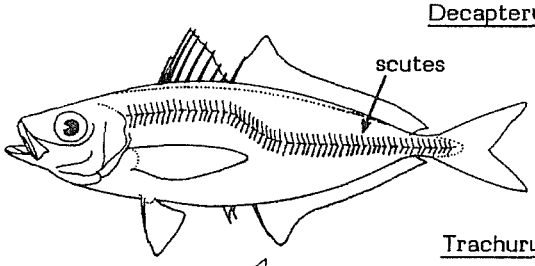
CARANGIDAE CARAN

Jacks, pompanos, runners, bumpers, scads, pilotfishes, rudderfishes, lookdowns, moonfishes, amberjacks, leatherjacks

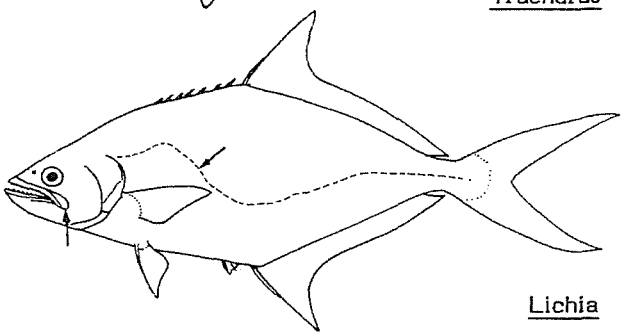
To about 140 cm; marine, from the coastline to below 200 m depth; a few species entering brackish waters; benthic, coastal-pelagic, or oceanic-pelagic.



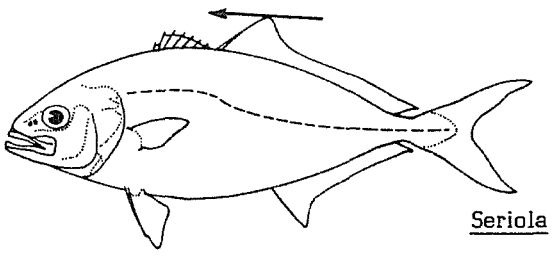
Decapterus



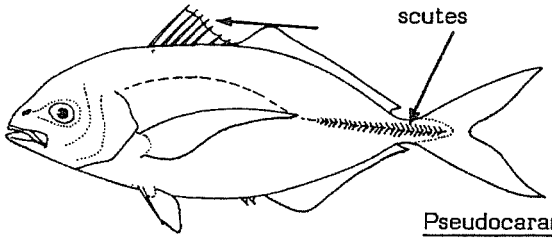
Trachurus



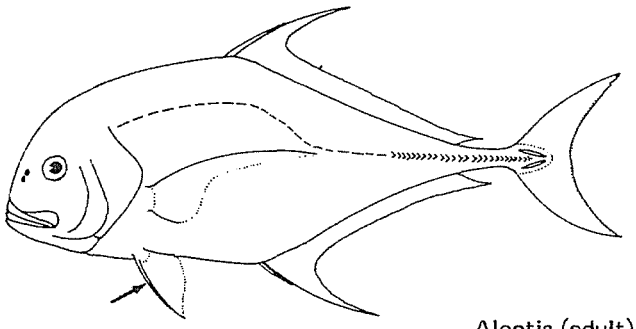
Lichia



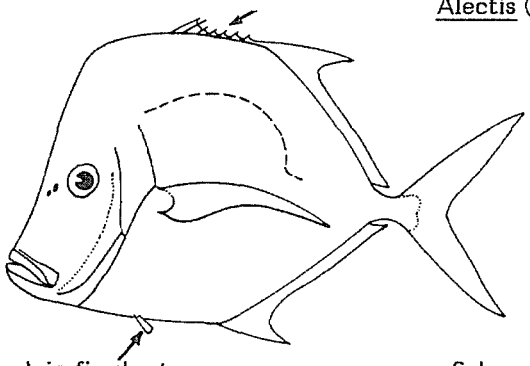
Seriola



Pseudocaranx



Alectis (adult)

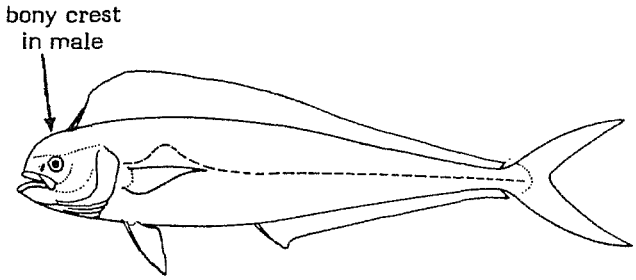


Selene

CORYPHAENIDAE CORY

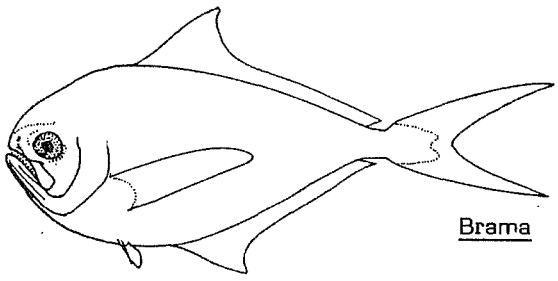
Dolphinfishes, "dolphins"

To 200 cm; marine, oceanic-pelagic, but sometimes approaching the coast.



BRAMIDAE Pomfrets BRAM

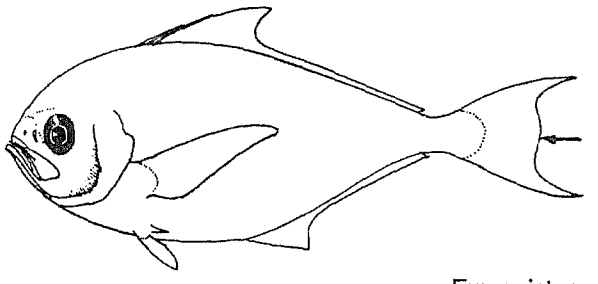
To about 100 cm; marine, mostly epi- or mesopelagic to below 300 m depth; one genus (Eumegistus), possibly deep benthic.



Brama

FAO Sheets

Fishing Areas 34,47 (in part)

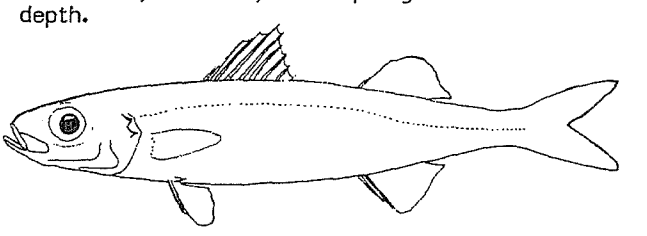


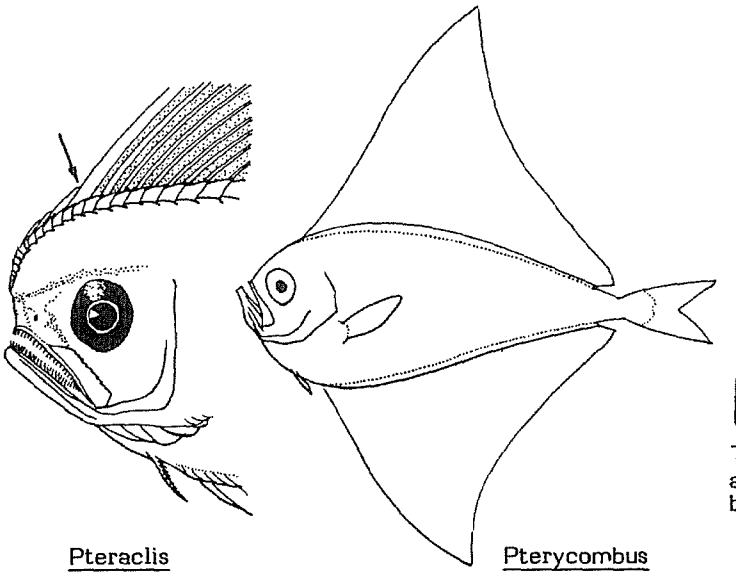
Eumegistus

EMMELICHTHYIDAE — EMMEL

Rubyfishes, Redbaits, Rovers

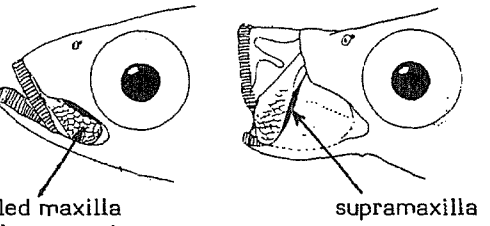
To 55 cm; marine, benthopelagic to about 300 m depth.





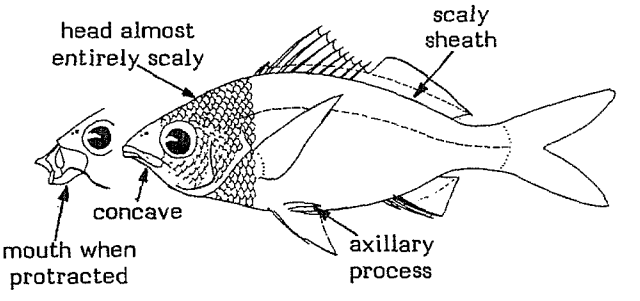
Pteraclis

Pterycombus



GERREIDAE — Mojarras — GERR

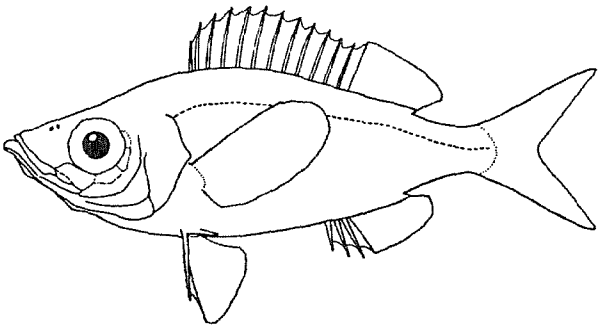
To 25 cm; coastal marine waters to about 60 m depth; also in estuaries, coastal lagoons and freshwater; benthic.



CENTRACANTHIDAE — CENTRA

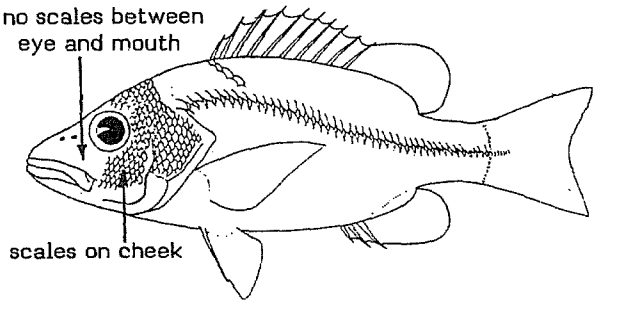
Picarels, Bonnetmouths

To 30 cm; marine, to about 200 m depth; benthic.



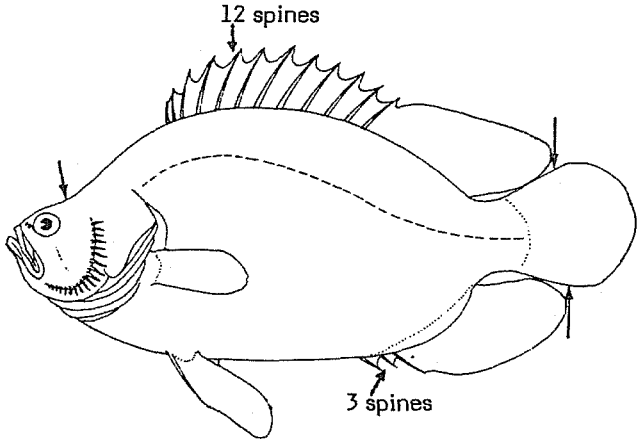
LUTJANIDAE — Snappers — LUT

To 80 cm; mostly marine, from the coastline to 450 m depth; some species enter estuaries and even rivers; a few may enter hypersaline lagoons; benthic.



LOBOTIDAE Tripletails LOBOT

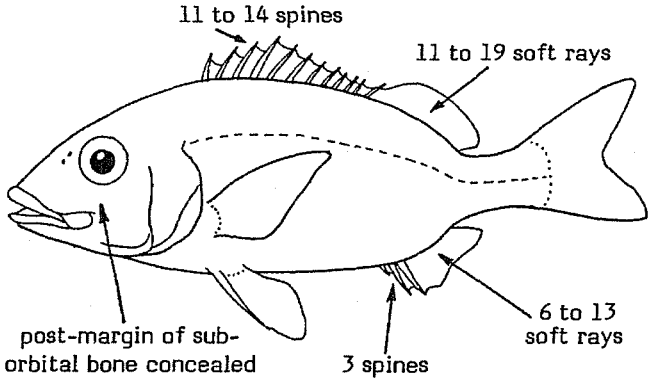
To over 100 cm; marine, oceanic-pelagic, drifting near the surface. A single species in the area.



POMADASYIDAE POMAD

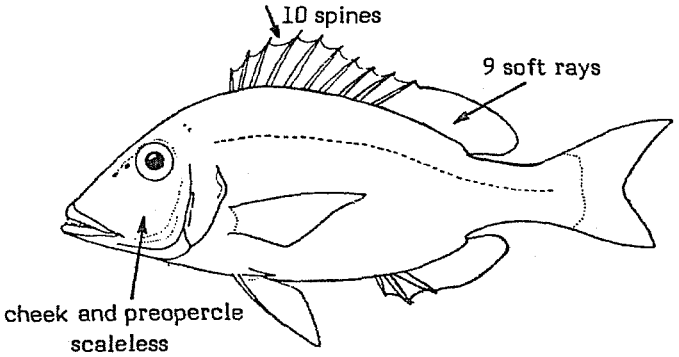
Grunts, margates, pigfishes and porkfishes

To 60 cm; mostly marine, from the coastline to about 200 m depth, and in brackish waters; benthic.



LETHRINIDAE Emperors, Scavengers LETH

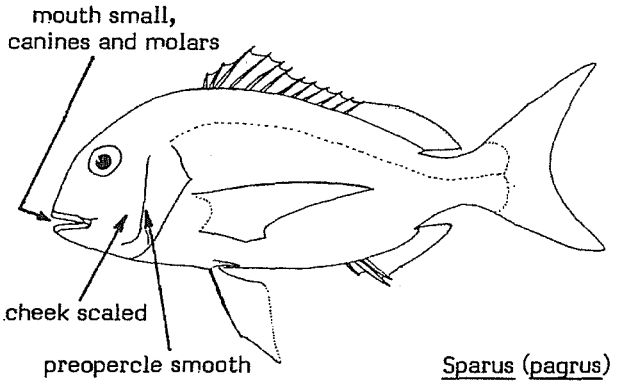
To 50 cm; marine, in coastal waters to about 50 m depth; a single species in the area.



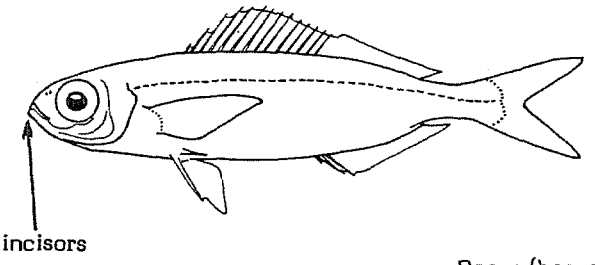
SPARIDAE SPARID

Porgies, seabreams and pinfishes

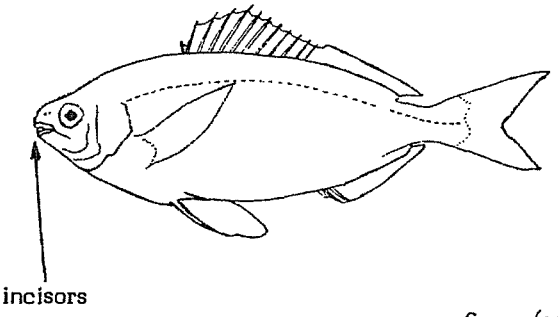
To 75 cm; marine, from the coastline to about 150 m depth; occasionally entering estuaries; benthic.



Sparus (pagrus)



Boops (boops)

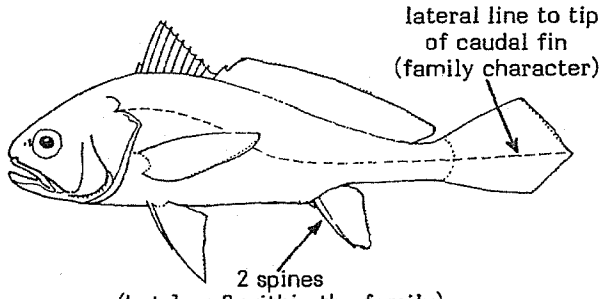


Sarpa (salpa)

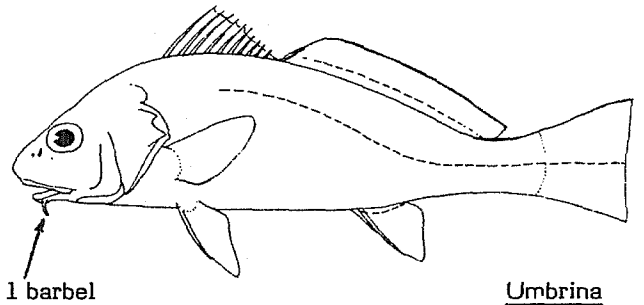
SCIAENIDAE SCIAEN

Croakers, drums, meagres, weakfishes, stardrums

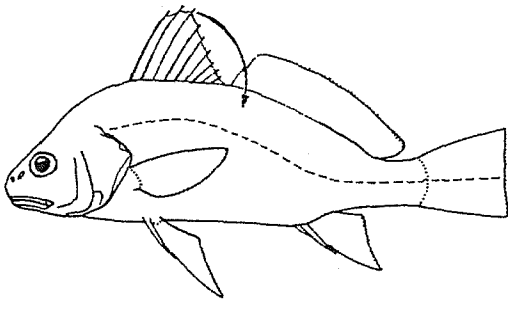
To 200 cm; marine, from the coastline to about 350 m depth; also in estuaries and some species in freshwater; benthic.



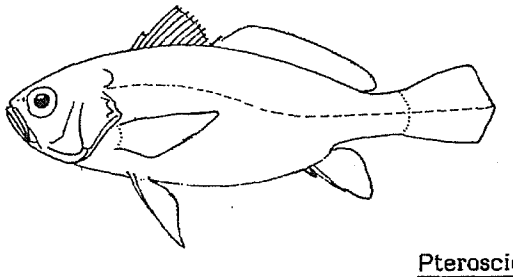
Pseudotolithus



Umbrina



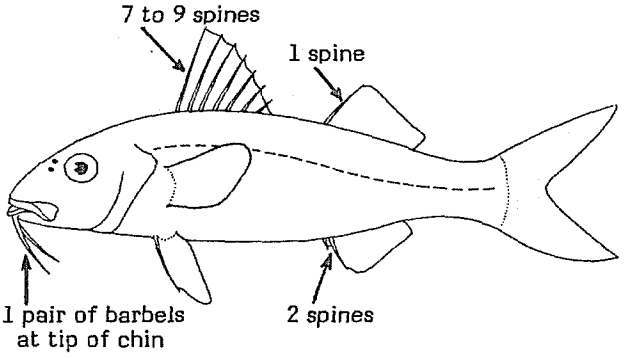
Sciaena



Pteroscion

MULLIDAE Goatfishes, red mullets MULL

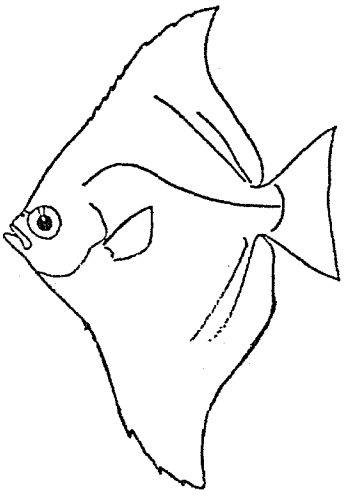
To 55 cm; marine, from the coastline to about 100 m depth; occasionally in estuaries; benthic.



MONODACTYLIDAE MONOD

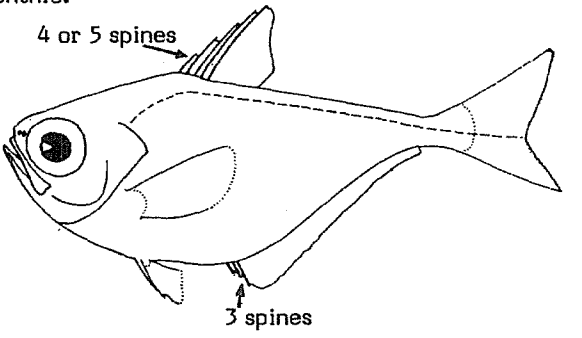
Moonies and fingerfishes

To 20 cm; in coastal marine waters, estuaries and freshwater; a single species in the area.



PEMPHERIDAE Sweepers

To about 15 cm; marine, from the coastline to about 80 m depth; some enter river estuaries; mostly benthic.

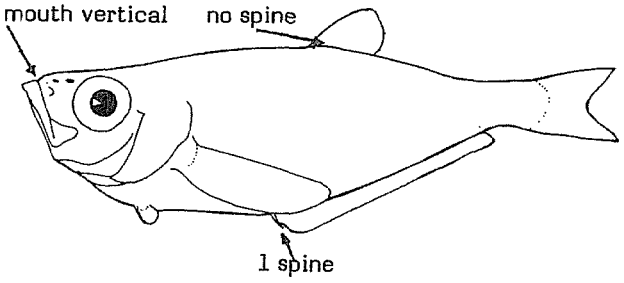


FAO Sheets

Fishing Areas 34,47 (in part)

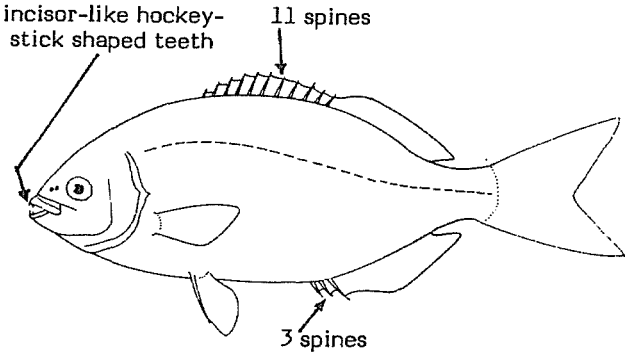
BATHYCLUPEIDAE Bathyclupeids

To about 20 cm; marine, mostly between 350 and 800 m, but occasionally at lesser depths; oceanic mesopelagic.



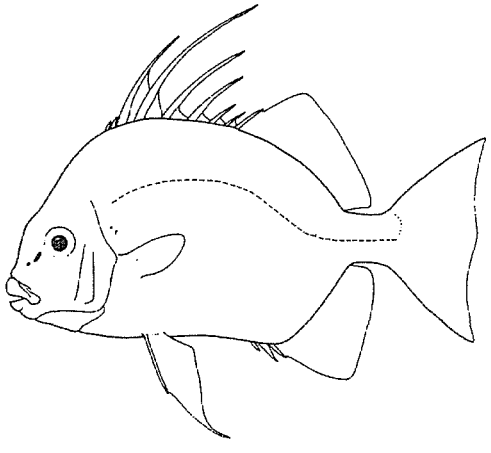
KYPHOSIDAE Sea chubs **KYPH**

To 76 cm; marine, in shallow coastal waters (usually less than 50 m), on seagrass beds and reefs, or pelagic among floating sargassum weeds.



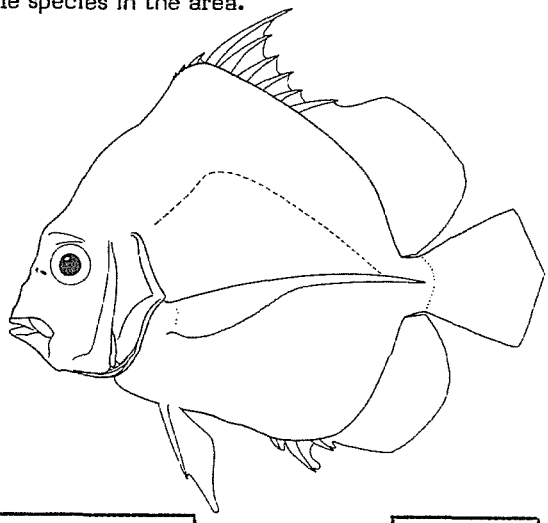
EPHIPPIDAE Spadefishes **EPHIP**

To about 30 cm; marine, in shallow waters (to about 30 m depth); benthic.



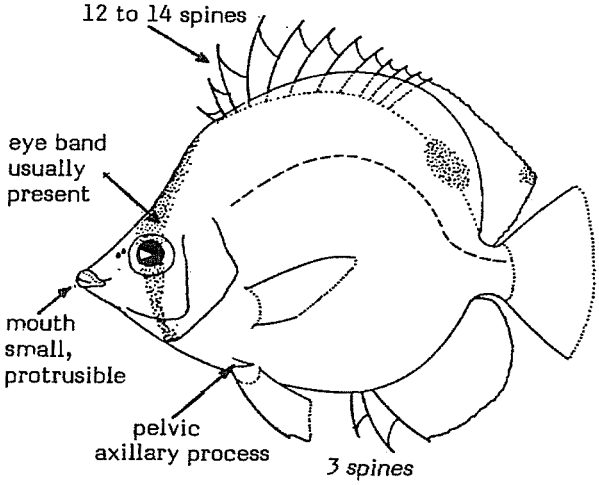
DREPANIDAE Sicklefishes **DREP**

To about 40 cm; marine, from about 20 to 50 m depth. A single species in the area.



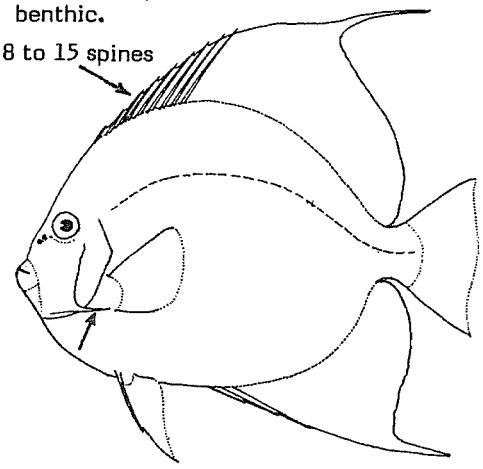
CHAETODONTIDAE Butterflyfishes **CHAETOD**

To about 20 cm; marine, usually in shallow waters but occasionally extending to about 100 m depth; benthic.



POMACANTHIDAE Angelfishes **POMAC**

To 40 cm; marine, from the coastline to about 50 m depth; benthic.



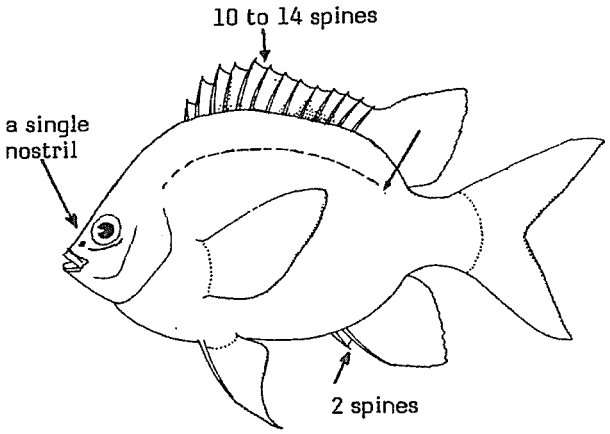
FAO Sheets

Fishing Areas 34,47 (in part)

POMACENTRIDAE — POMACEN

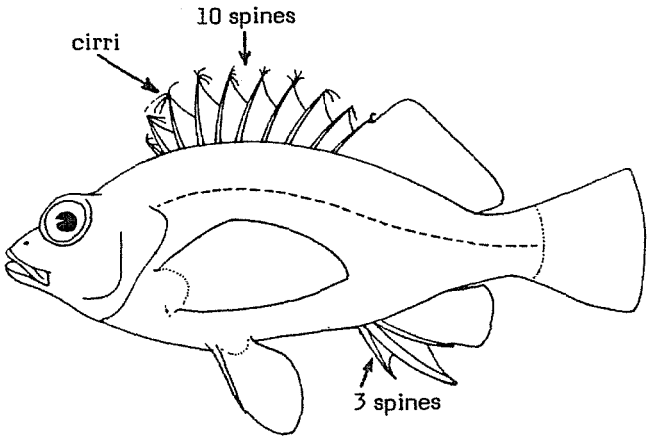
Damselfishes, gregories, majors, *sergents, chromis*

To 25 cm; marine in coastal waters, usually at less than 15 m depth; also in estuaries; mostly benthic.



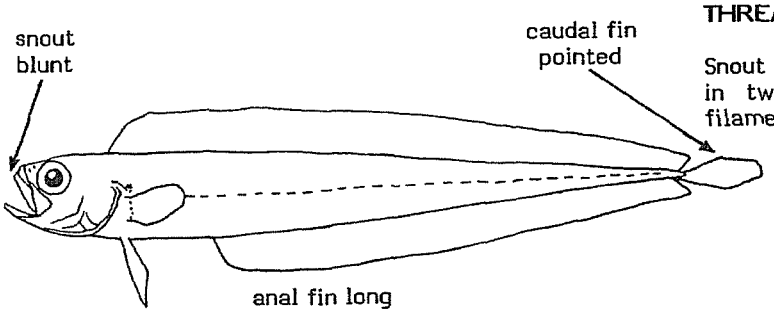
CIRRHITIDAE — Hawkfishes

To about 9 cm; marine, in shallow waters, usually less than 20 m depth; benthic.



CEPOLIDAE — Bandfishes — CEPOL

To 70 cm; marine, to below 200 m; benthic.

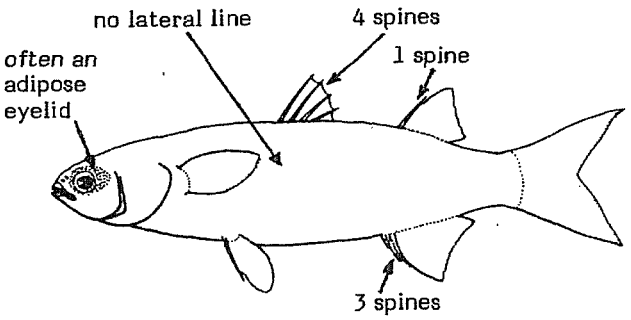


MULLETS - Perciformes: Mugiloidei

Body elongate; head flattened, mouth small; pectoral fins high on body; 2 dorsal fins, sides silvery; no lateral line.

MUGILIDAE — Mullets — MUGIL

To about 120 cm; in freshwater, estuaries, brackish and hypersaline lagoons and coastal marine waters at shallow depths (less than 20 m); mostly benthic in their food habits, but usually found near the surface.

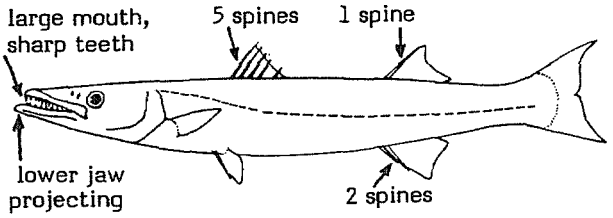


BARRACUDAS - *Perciformes: Sphyraenoidei*

Body elongate, generally silvery on sides; head and snout both very long; teeth strong; 2 dorsal fins.

SPHYRAENIDAE — Barracudas and sennets — SPHY

To 200 cm; marine, from the coastline to about 100 m depth; ranging from just off the bottom to pelagic.

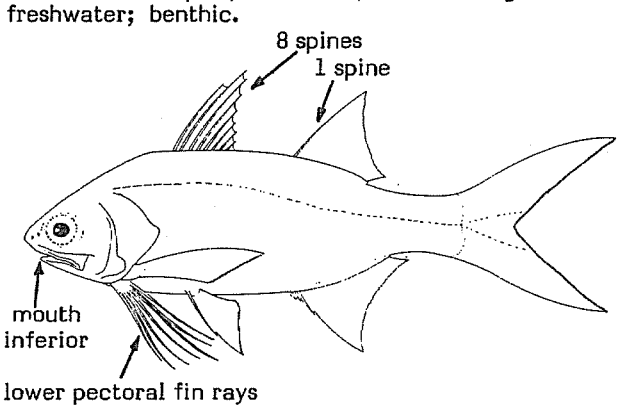


THREADFINS - Perciformes: Polynemoidei

Snout conical, projecting beyond mouth; pectoral fins in two parts, the lower with 3 or more free filamentous rays.

POLYNEMIDAE Threadfins POLYN

To about 200 cm; marine coastal waters (usually less than 30 m depth), estuaires, coastal lagoons and freshwater; benthic.



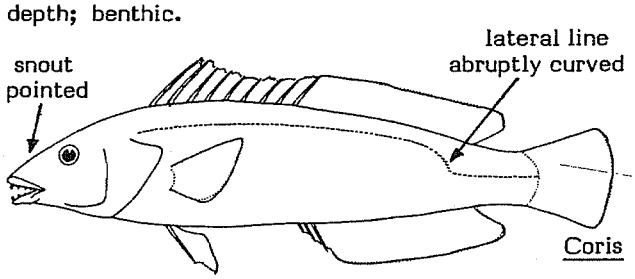
WRASSES AND ALLIES - Perciformes, Labroidei

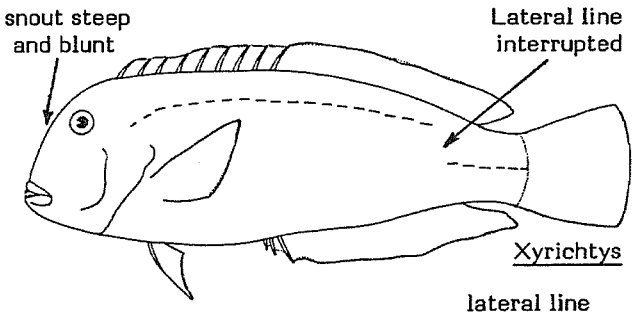
Well developed teeth, coalesced into plates in the parrotfishes; scales usually large and cycloid (smooth); body compressed; usually colourful species.

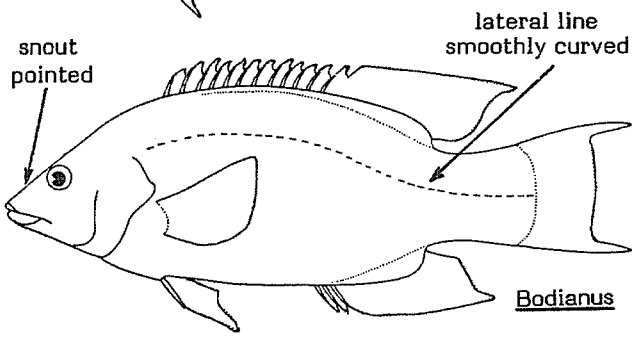
LABRIDAE LABR

Wrasses, hogfishes and razorfishes

To 50 cm; marine, from the coastline to about 120 m depth; benthic.

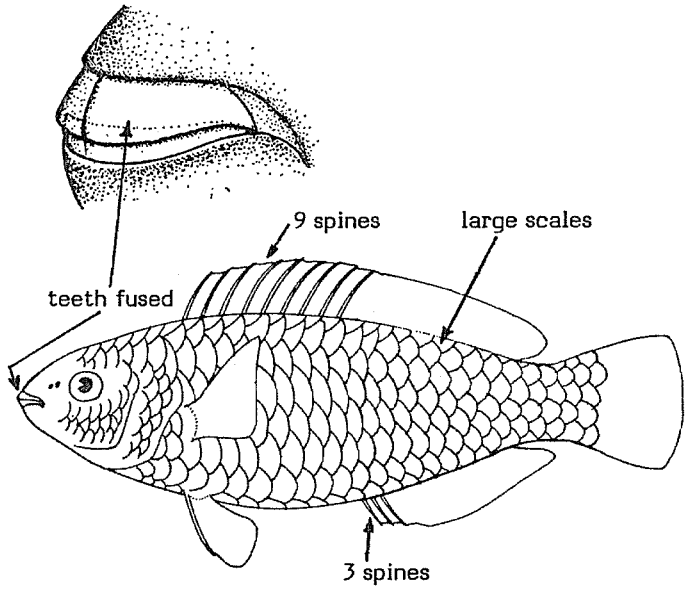






SCARIDAE Parrotfishes SCAR

To 60 cm; marine, in shallow waters rarely below 60 m depth; benthic.

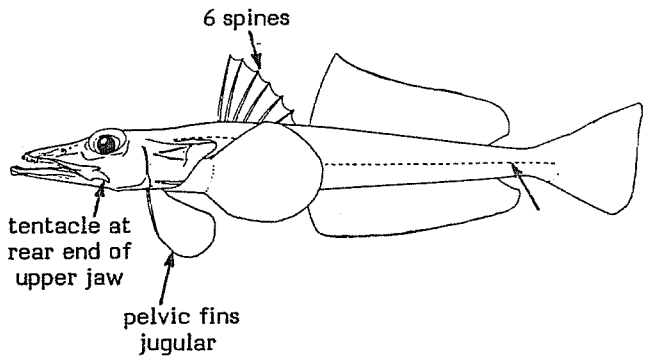


WEEVERFISHES AND ALLIES - Perciformes: Trachinoidei

A diverse assemblage of families difficult to characterize as a group; this suborder must be regarded as provisional.

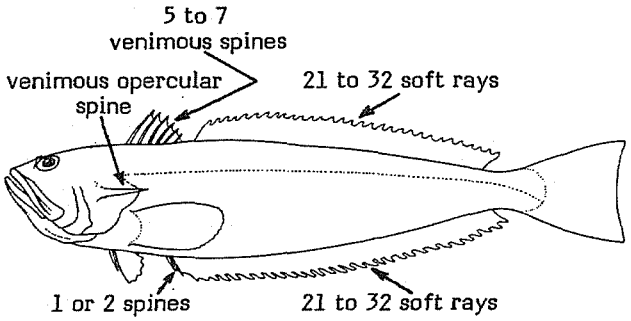
PERCOPHIDAE Flatheads PERCOPH

To at least 30 cm; marine, from about 100 to 400 m depth; benthic.



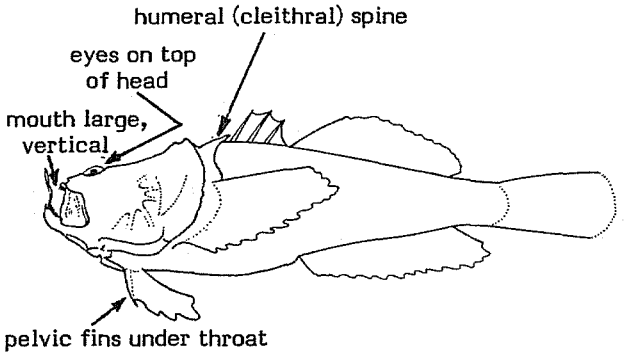
TRACHINIDAE Weeverfishes TRACHIN

To about 45 cm; marine, in coastal waters to about 200 m depth; benthic.



URANOSCOPIDAE Stargazers URAN

To about 40 cm; marine, from the coastline to below 200 m depth; benthic.

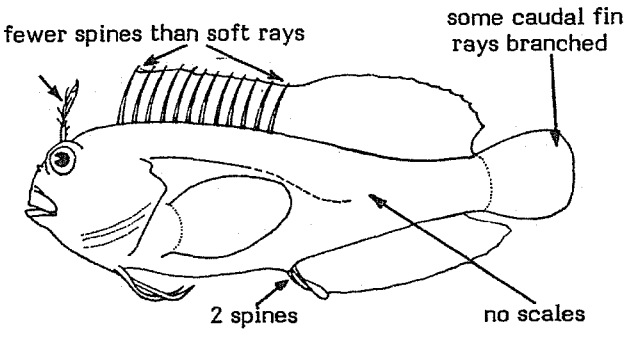


BLENNIES AND ALLIES - Perciformes: Blennioidei

Dorsal fin long; pelvic fins reduced, with 1 hidden spine and 2 to 4 soft rays, located ahead of pectoral fins; tentacles often present on head; two anal-fin spines (one of them sometimes difficult to see).

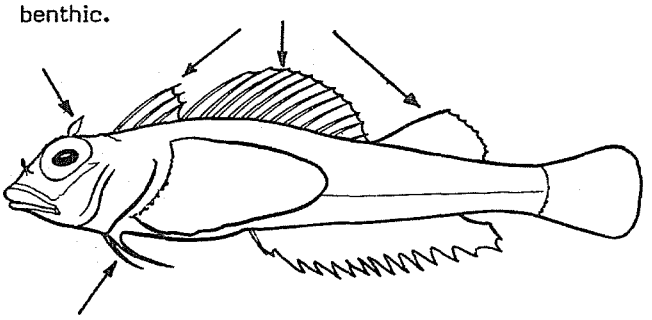
BLENNIIDAE Combtooth blennies BLENN

To 20 cm; in marine coastal waters (usually at less than 20 m depth), estuaries and coastal lagoons; *benthic; a few species to 400 m depth.*



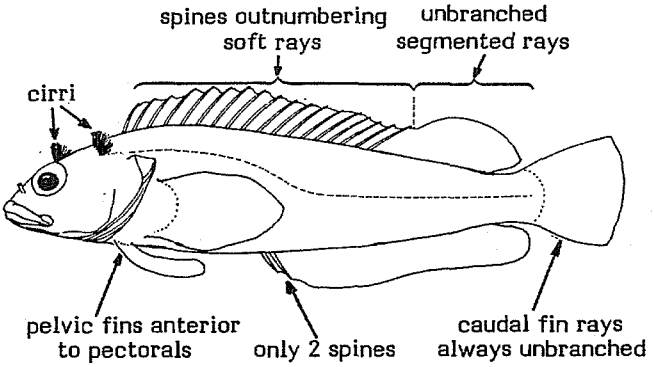
TRIPTERYGIIDAE Threefin blennies

To about 15 cm; marine, in shallow coastal waters; benthic.



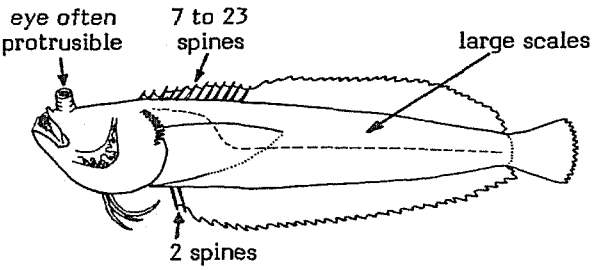
CLINIDAE Clinids CLIN

To about 20 cm; marine, usually in shallow waters, but a few species in deeper water (to below 100 m); benthic.



DACTYLOSCOPIDAE Sand stargazers

To about 18 cm; marine, from the coastline to at least 140 m depth; benthic.



SANDLANCES - Perciformes: Ammodytoidei

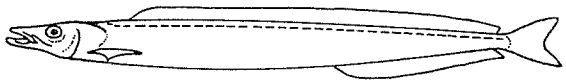
Body very elongate; dorsal fin long; lateral line high on body, close to dorsal profile; teeth absent; pelvic fins usually absent.

FAO Sheets

Fishing Areas 34,47 (in part)

AMMODYTIDAE Sandlances

To about 30 cm; marine, from the coastline to about 50 m depth; benthic, burrowing into sand, or pelagic; a cold-water group rarely entering Fishing Area 34 from the north.

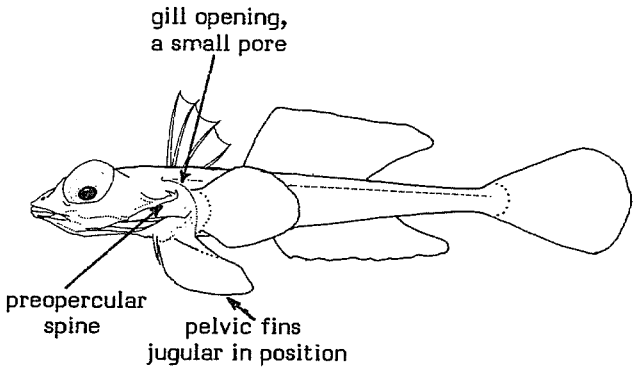


DRAGONETS - Perciformes: Callyonimoidei

A sharp preopercular spine; a small gill opening on upper part of head; size usually under 20 cm.

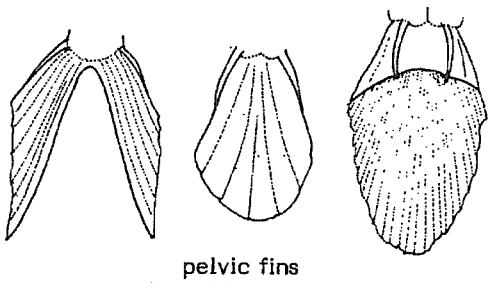
CALLIONYMIDAE Dragonets CALLION

To about 30 cm; marine, from coastal waters to about 650 m depth; benthic.



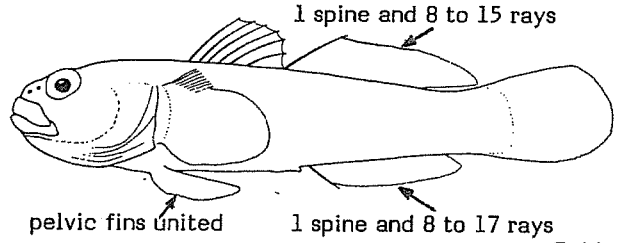
GOBIES AND ALLIES - Perciformes: Gobioidei

Usually small fishes with pelvic fins either very close together, or united into a single cup-like structure.

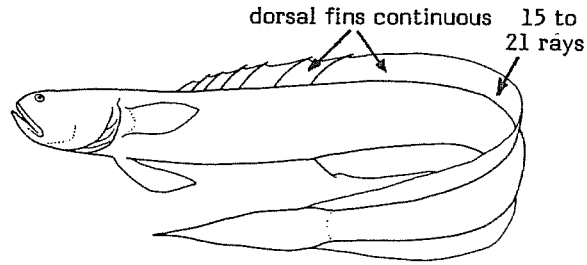


GOBIIDAE Gobies GOBII

To about 36 cm, but most species less than 10 cm; marine and brackish waters, occasionally freshwater; usually in very shallow waters, but a few species to below 150 m depth; benthic.



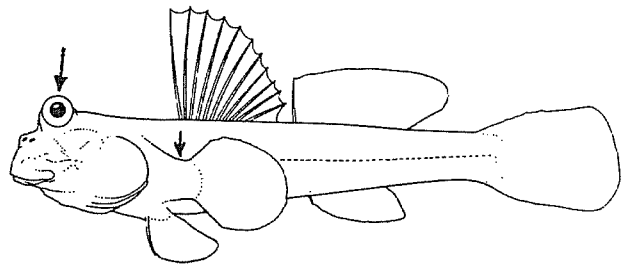
Gobius



Gobioides

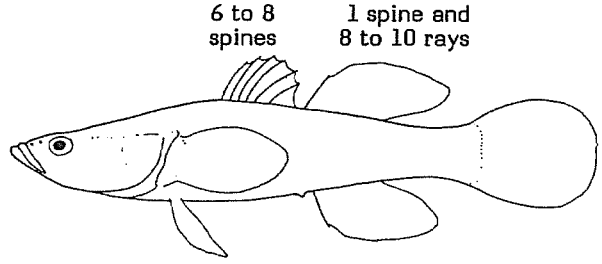
PERIOPHTHALMIDAE Mudskippers PERIO

To 25 cm; littoral; amphibious in shallows and on exposed intertidal mud flats of estuarine mangrove swamps.



ELEOTRIDAE Sleepers, Sleeper gobies ELEOTR

To about 30 cm; adults generally in freshwater, but entering brackish and coastal marine waters and hypersaline lagoons; benthic.

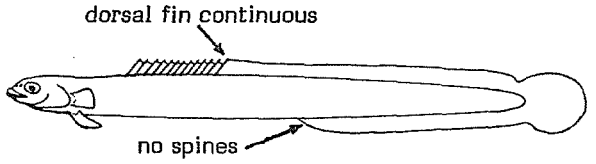


FAO Sheets

Fishing Areas 34,47 (in part)

MICRODESMIDAE Wormfishes

To 28 cm; marine, in shallow coastal waters (less than 40 m depth); benthic, burrowing.



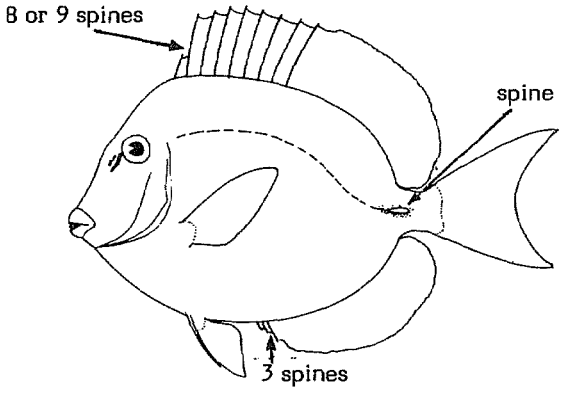
SURGEONFISHES - Perciformes: Acanthuroidei

Small scales; a strong, movable, forward-projecting spine mid-laterally on caudal peduncle.

ACANTHURIDAE ACANT

Surgeonfishes, Doctorfishes

To about 45 cm; marine, in shallow waters, usually at less than 50 m depth; benthic.



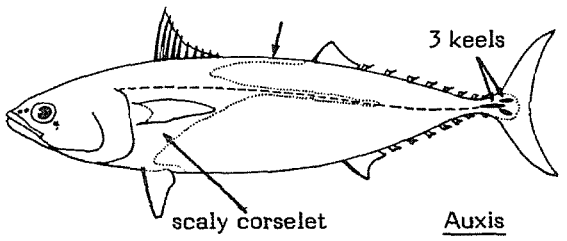
TUNAS AND ALLIES - Perciformes: Scombroidei

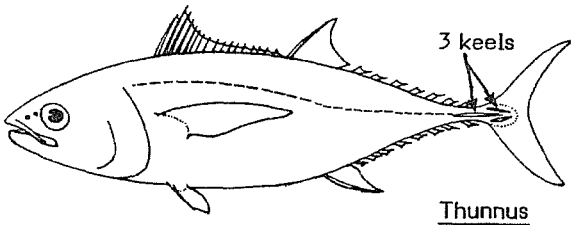
Finlets frequently present at posterior ends of dorsal and anal fins; 1 to 3 keels on either side of caudal peduncle (except in most species of Gempylidae).

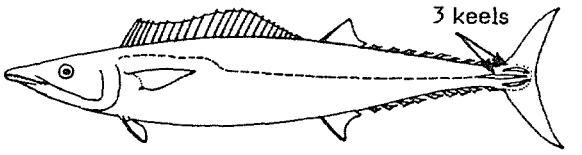
SCOMBRIDAE SCOMBR

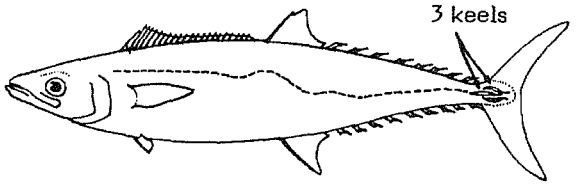
Mackerels, tunas, wahoos, bonitos, ceros, albacores

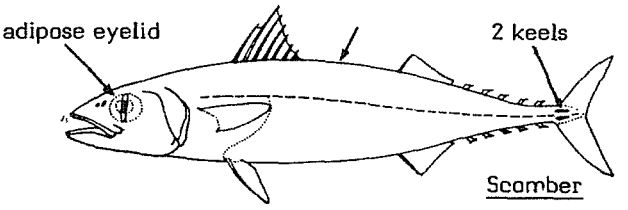
To over 300 cm; marine, from surface waters to below 100 m depth; pelagic.







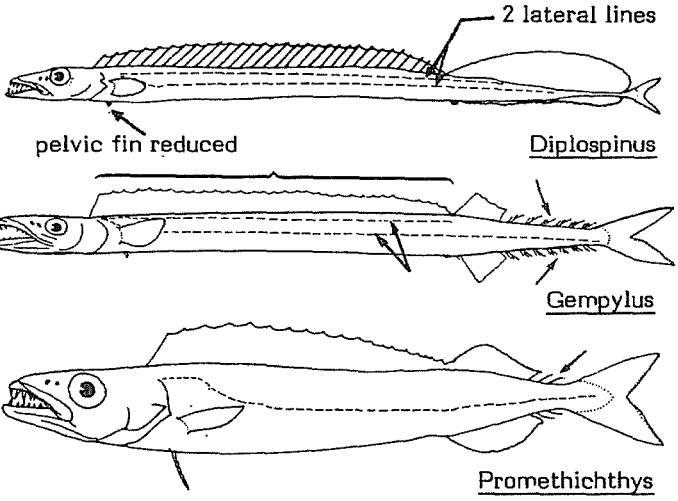




GEMPYLIDAE GEMP

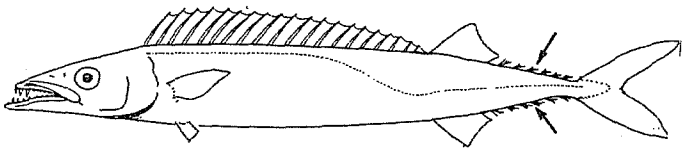
Snake mackerels, escolars, oilfishes

To about 300 cm; marine, from the surface (at night) to below 200 m depth; pelagic.

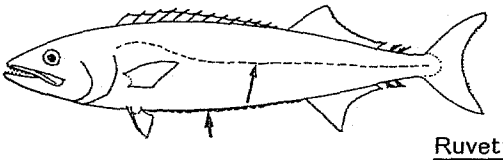


FAO Sheets

Fishing Areas 34,47 (in part)



Thyrsites

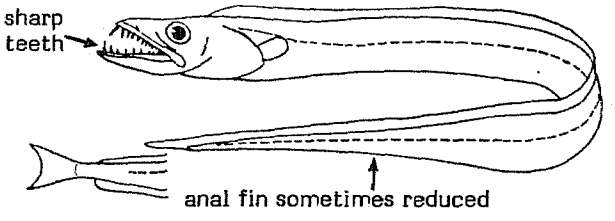


Ruvettus

TRICHIURIDAE — TRICH

Cutlassfishes, frostfishes, scabbardfishes, hairtails

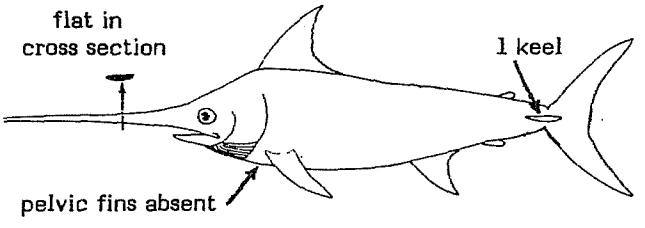
To 250 cm; marine, from the surface (mainly at night) to below 1 500 m depth; benthic and pelagic.



SWORDFISHES AND ALLIES - Perciformes: Xiphioidei

XIPHIIDAE Swordfishes — XIPH

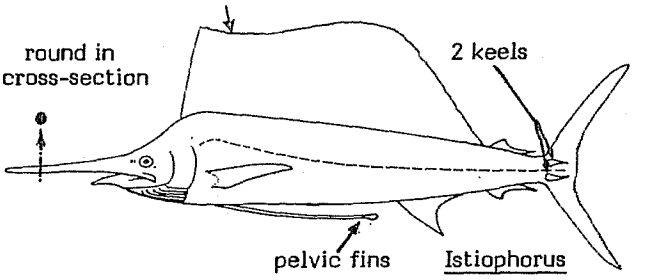
To 450 cm; marine, from surface waters to below 200 m depth; pelagic.

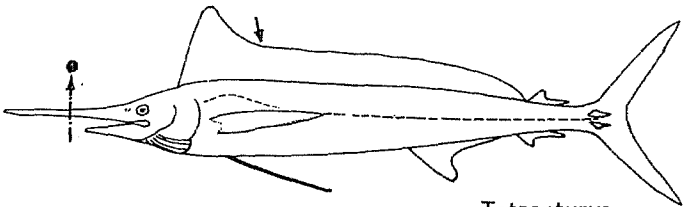


ISTIOPHORIDAE — ISTIO

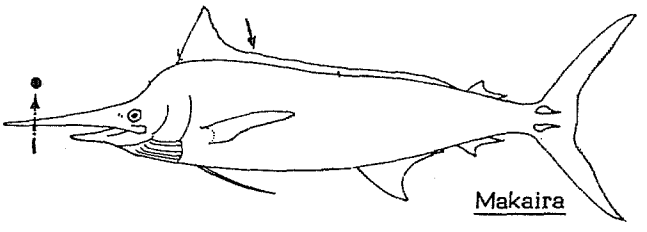
Billfishes, marlins, spearfishes, sailfishes

To 400 cm; marine, pelagic oceanic, usually above the thermocline.





Tetrapturus

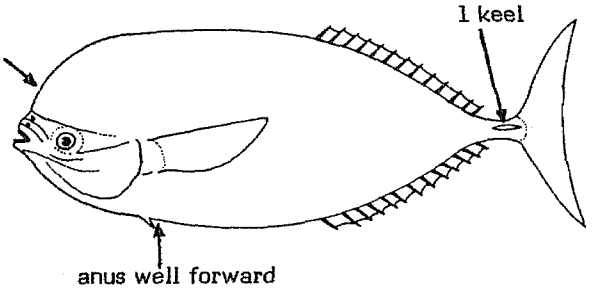


Makaira

LOUVARS - Perciformes: Luvaroidei

LUVARIDAE Louvars

To about 190 cm; marine, from the surface to below 150 m; pelagic oceanic. A single species.

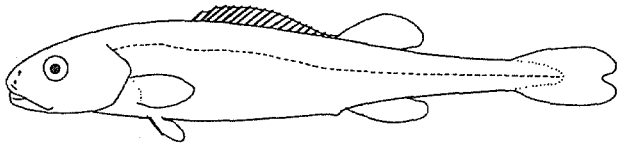


HARVESTFISHES AND ALLIES -
Perciformes: Stromateoidei

Shape variable; snout blunt and thick; toothed saccular outgrowths (pharyngeal sacs) present in the gullet immediately behind the last gill arch; teeth small, approximately uniserial.

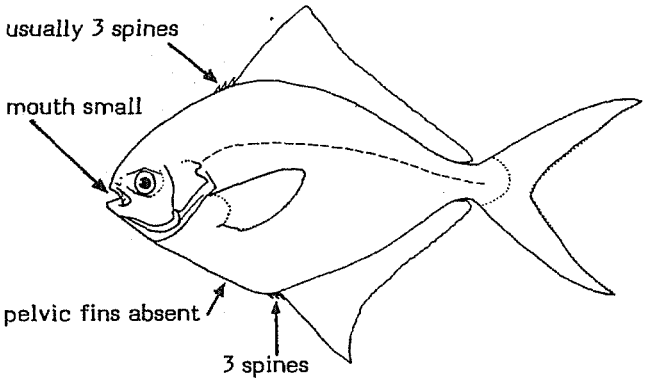
TETRAGONURIDAE Squaretails TETRAG

To about 30 cm; marine, in surface waters to below 1 000 m depth; mesopelagic to epipelagic.



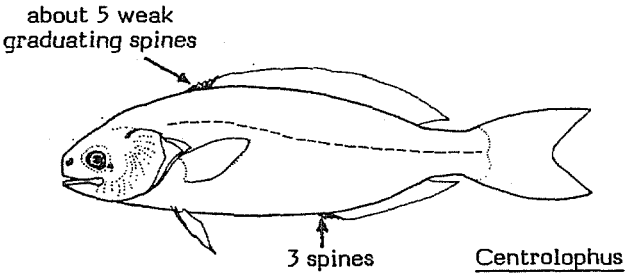
STROMATEIDAE STROM
Harvestfishes, butterfishes

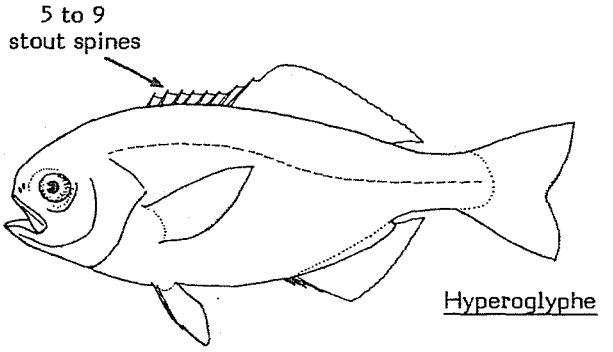
To about 50 cm; marine, from near the surface to about 200 m depth; pelagic.

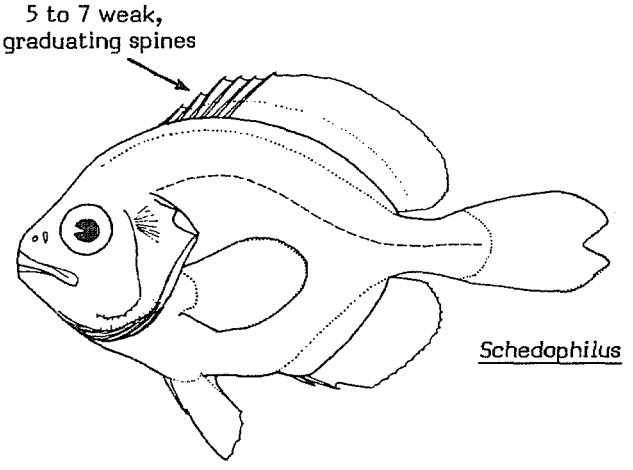


CENTROLOPHIDAE CENTROL
Ruffs, barrelfishes, blackfishes

To about 120 cm; marine, from near the surface to below 200 m depth; pelagic.

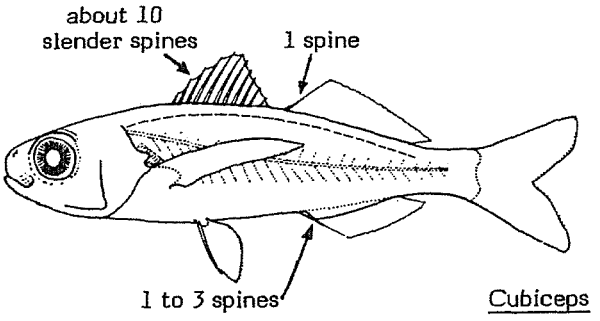


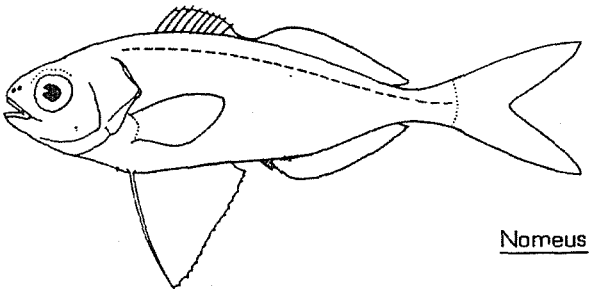




NOMEIDAE Man-of-war fishes NOM

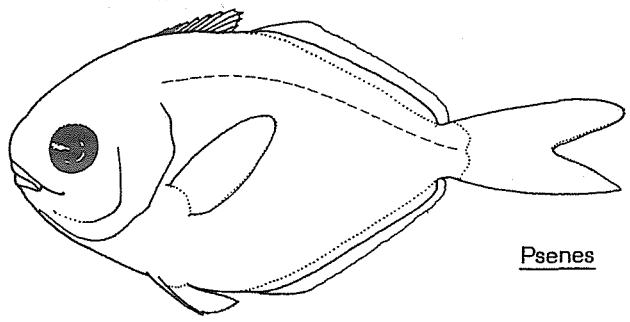
To 100 cm; marine, from near the surface (especially the young) to below 200 m depth; usually pelagic, but some species may be deep benthic.





FAO Sheets

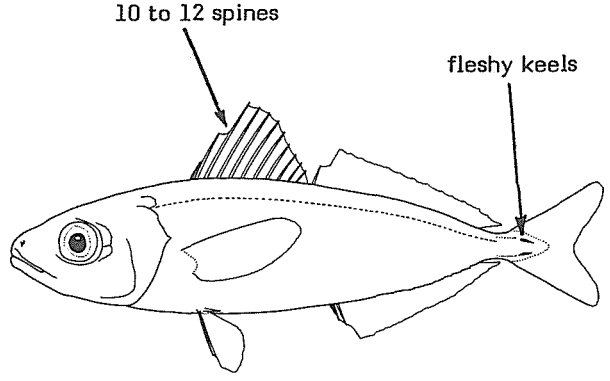
Fishing Areas 34,47 (in part)



Psenes

ARIOMMIDAE Driftfishes, Ariommas ARIOM

To about 25 cm; marine, from the surface (the young) to below 500 m depth; mostly benthic to bentho-pelagic.

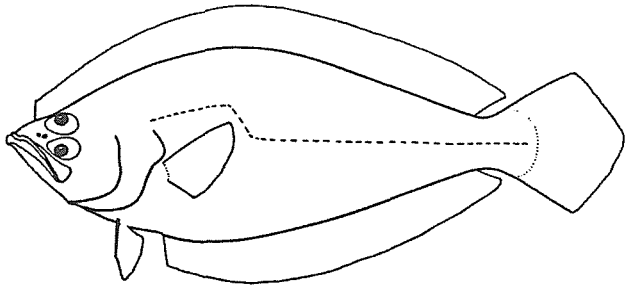


FLATFISHES - Pleuronectiformes

Flattened body shape; eyes present on one side of body only.

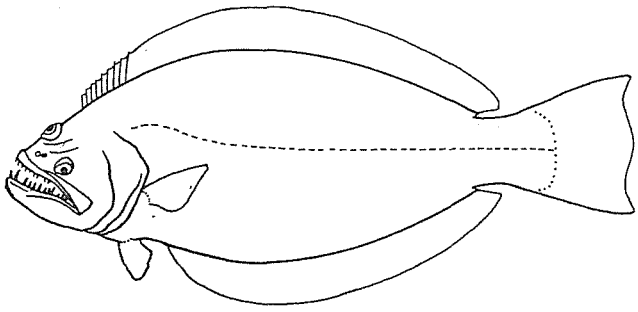
CITHARIDAE Flounders CITH

To 25 cm; marine, to about 300 m depth; benthic.



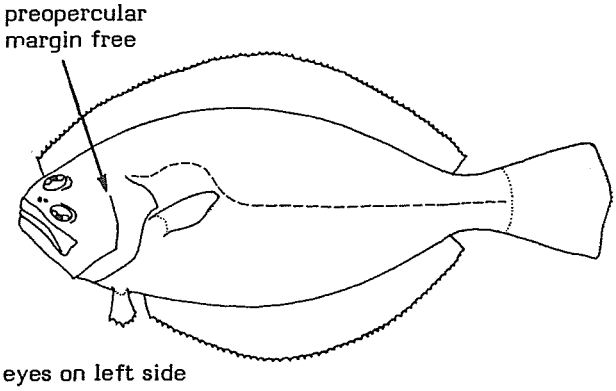
PSETTODIDAE Spiny turbots PSET

To 60 cm; marine, from coastal waters to about 150 m depth.



BOTHIDAE Lefteye flounders BOTH

To about 75 cm; marine, from the coastline to below 200 m depth; benthic.

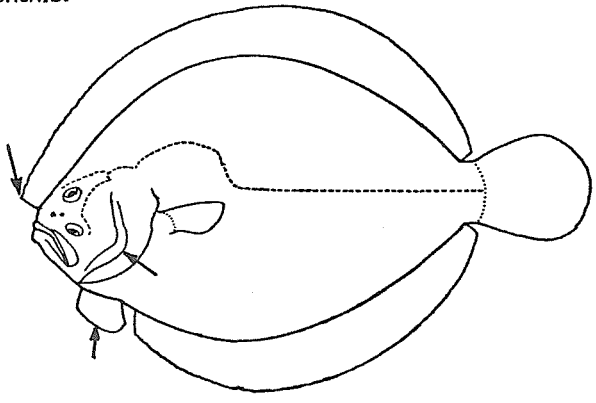


eyes on left side

SCOPHTHALMIDAE SCOPH

Turbots, megrims, brills

To about 100 cm; marine, to about 400 m depth; benthic.

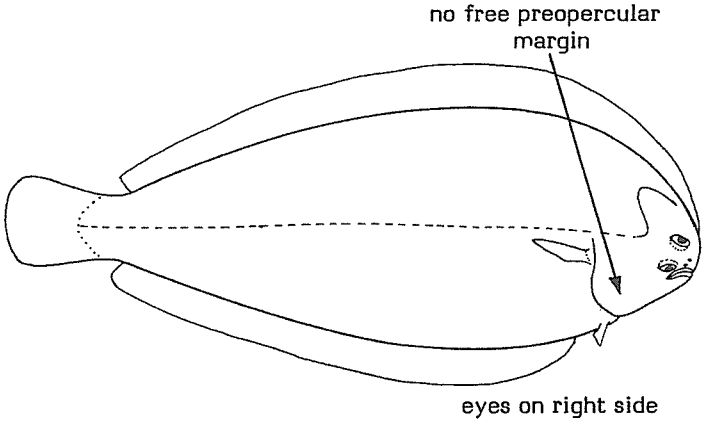


FAO Sheets

Fishing Areas 34,47 (in part)

SOLEIDAE Soles SOL

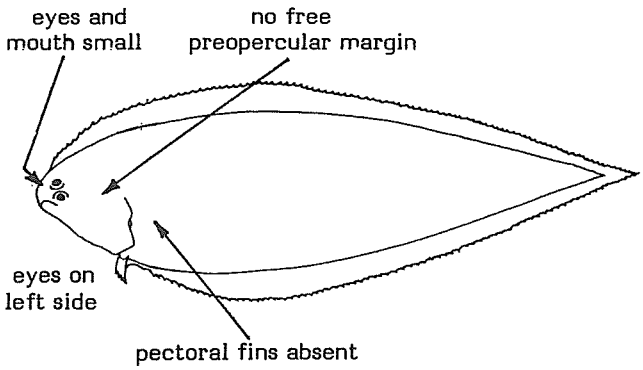
To about 70 cm; marine, from the coastline to below 100 m depth; some species in estuaries and freshwater; benthic.



CYNOGLOSSIDAE CYNO

Tonguefishes, Tonguesoles

To about 60 cm; marine, from shallow coastal waters to about 300 m depth; benthic.

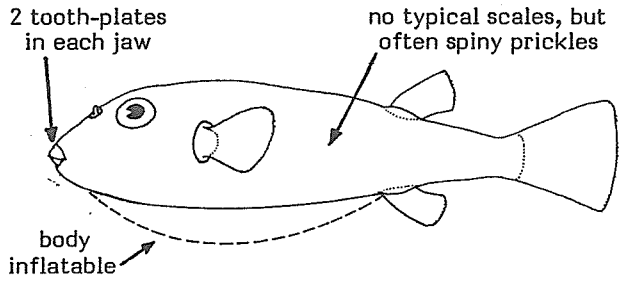


PUFFERFISHES AND ALLIES - Tetraodontiformes

Pelvic fins absent or strongly reduced (except in Triacanthodidae); a small mouth with strong teeth frequently coalesced into a biting plate; a small gill opening; skin thick or rough, sometimes with prickles, spines or scale plates.

TETRAODONTIDAE Puffers TETRAO

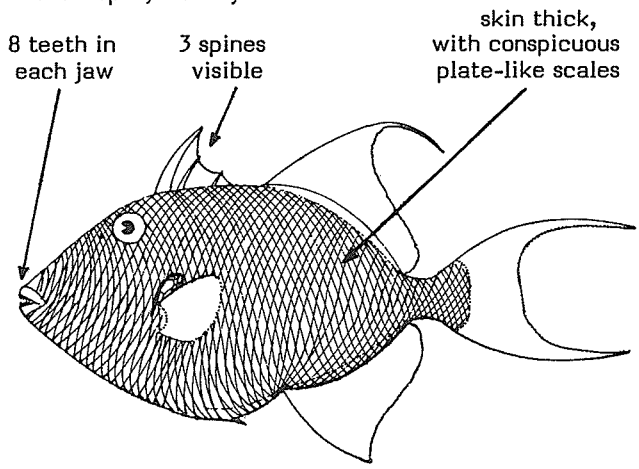
To about 100 cm; in coastal marine waters, estuaries, brackish and hypersaline lagoons and occasionally in freshwater; from the coastline to about 180 m depth; benthic.



BALISTIDAE BALI

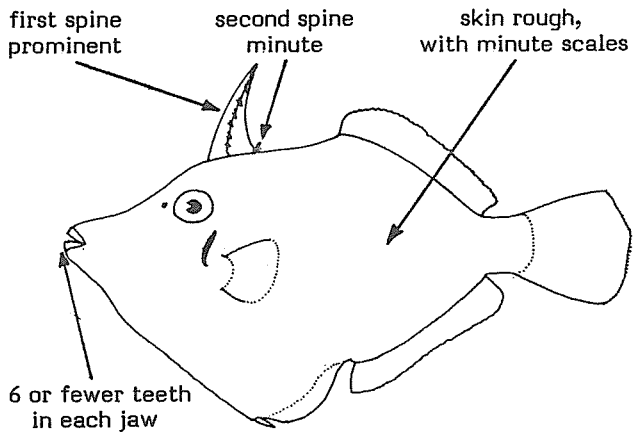
Triggerfishes and durgons

To about 50 cm; marine, from the coastline to about 100 m depth; mostly benthic.



MONACANTHIDAE Filefishes, leatherjackets

To about 60 cm; marine, from the coastline to about 100 m depth; mostly benthic.

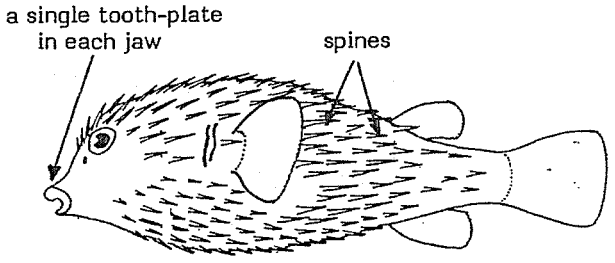


DIODONTIDAE

DIOD

Porcupinefishes, spiny puffers, burrfishes

To about 100 cm; marine, from the coastline to about 100 m depth; benthic to pelagic.

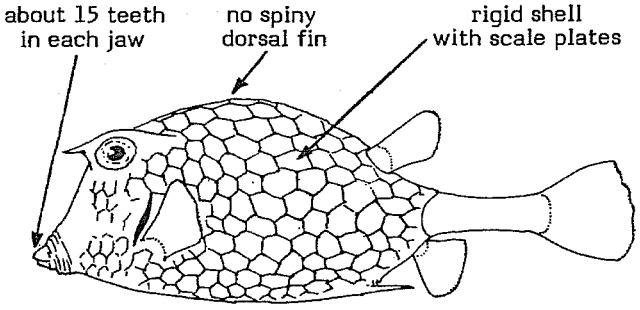


OSTRACIIDAE

OSTR

Trunkfishes, boxfishes, cowfishes

To about 35 cm; marine, from the coastline to about 100 m depth; benthic.

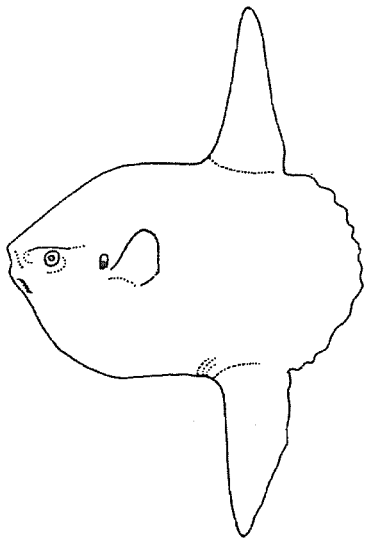


MOLIDAE

MOL

Molas, ocean sunfishes, headfishes

To about 400 cm; marine, from the surface to about 360 m depth; pelagic oceanic.



ACANT

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

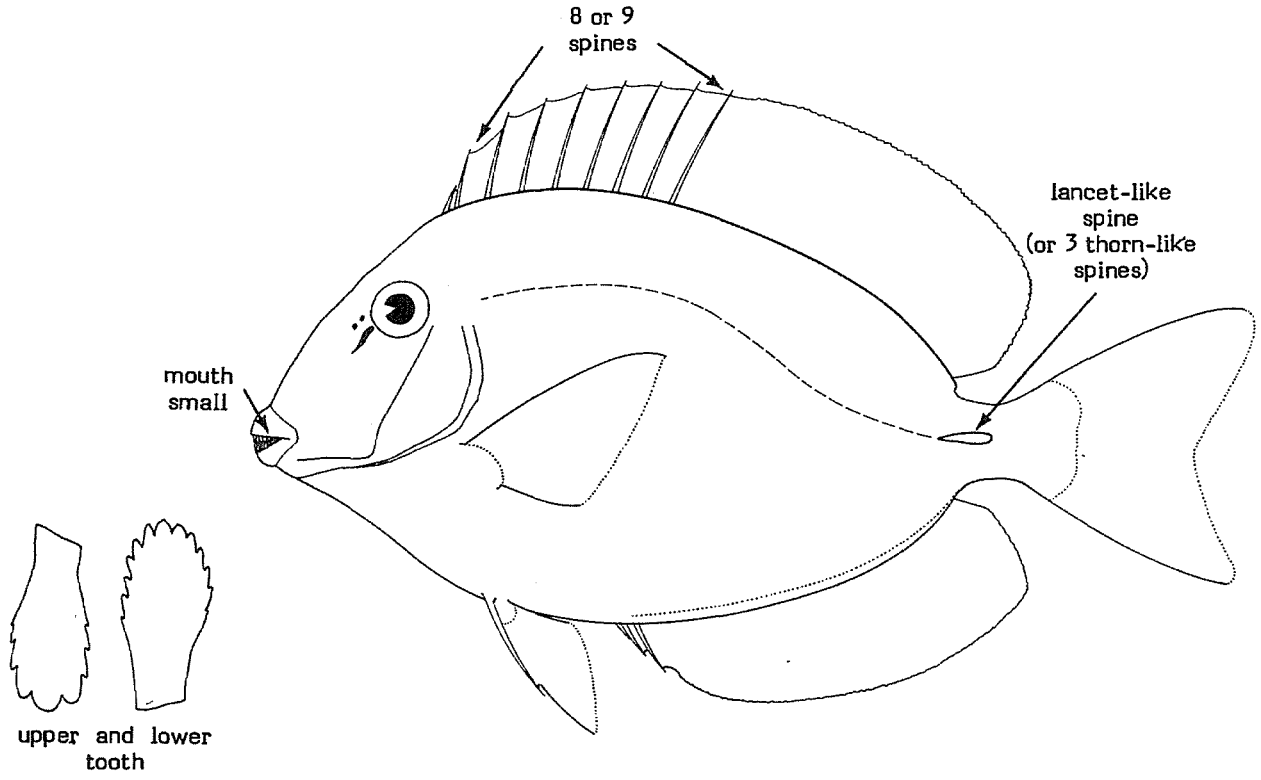
ACANTHURIDAE

Surgeonfishes, doctorfishes

High-bodied, compressed fishes with a folding lancet-like spine or a series of 3 small, thorn-like spines on bony plates on either side of caudal peduncle. Dorsal profile of head steep; eyes high on head; mouth small, low on head; teeth in one row spatulate, close-set, and denticulate on edges. A continuous unnotched dorsal fin of 8 or 9 spines; caudal fin emarginate. Scales small, ctenoid (rough to touch).

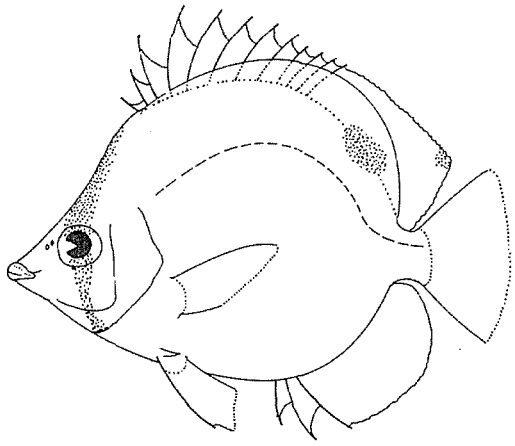
Colour: generally brown to grey, often with a fine longitudinal banding, but may be spotted.

Surgeonfishes occur in shallow water, closely associated with coral reefs or rocky bottoms. They feed on benthic algae or seagrasses. Because of the limited amount of hard substratum along the coast of West Africa, they are not widespread in the region. The family is of negligible commercial importance except in a few small localized areas.



SIMILAR FAMILIES OCCURRING IN THE AREA:

None. Although there are some fishes such as the Chaetodontidae (butterflyfishes) with deep, compressed bodies and small mouths, none have the characteristic spines on the caudal peduncle and the broad suborbital zone between the eye and mouth.

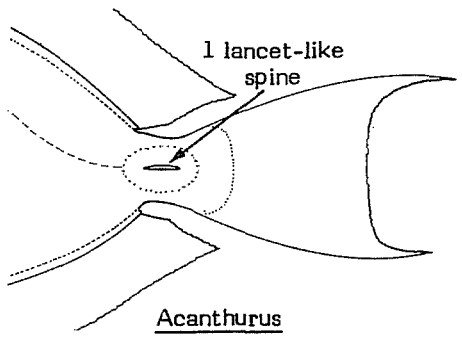


Chaetodontidae

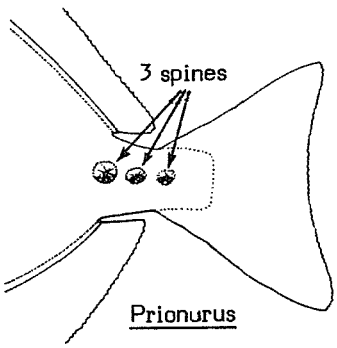
KEY TO GENERA OCCURRING IN THE AREA:

1 a. A single spine on either side of caudal peduncle folding into a horizontal groove; dorsal fin with 9 spines ..... Acanthurus

1 b. Three fixed thorn-like spines on bony plates along either side of caudal peduncle; dorsal fin with 8 spines ..... Prionurus



Acanthurus



Prionurus

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

*Acanthurus bahianus Castelnau, 1855
*Acanthurus coeruleus Bloch & Schneider, 1801
*Acanthurus monroviae Steindachner, 1876 ACANT Acant 4

**Prionurus biafraensis (Blache & Rossignol, 1961) (= Xesurus biafraensis)

Prepared by J.E. Randall, B.P. Bishop Museum, Honolulu, Hawaii 96819, U.S.A.

---

*Known in the area only from Ascension Island

**Described in 1961 from a single specimen from the island of Sao Tomé in the Gulf of Guinea

ACANT *Acant* 4

1981

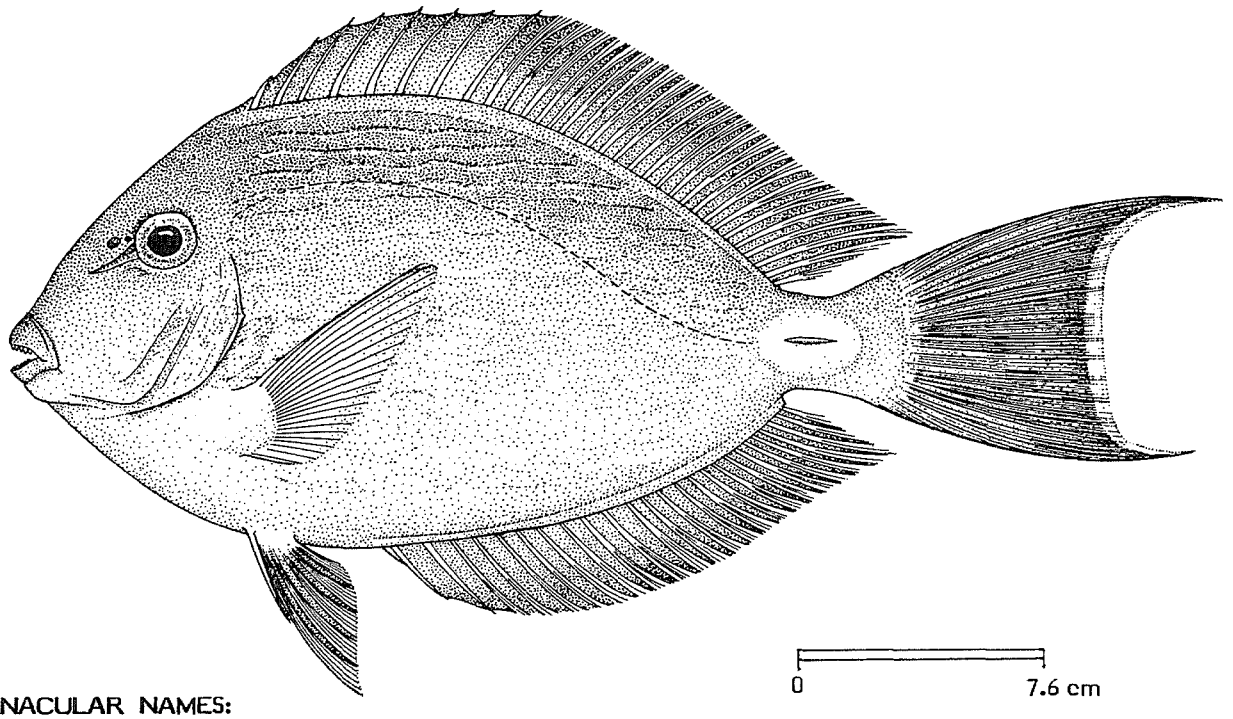
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ACANTHURIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Acanthurus monroviae Steindachner, 1876

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Monrovia doctorfish
Fr - Chirurgien chas-chas
Sp - Navajón canivete

NATIONAL :

DISTINCTIVE CHARACTERS :

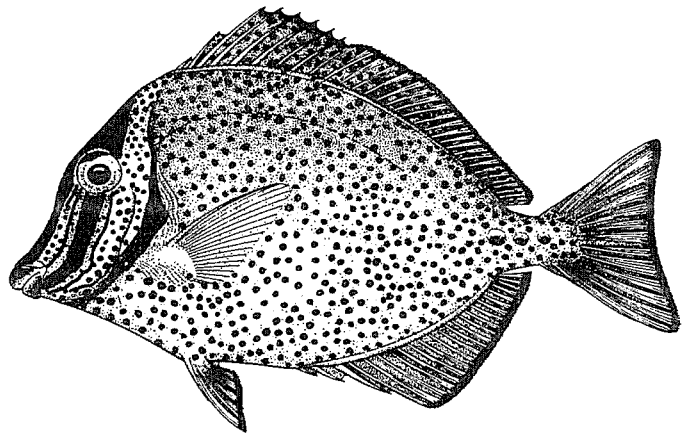
Body deep and compressed, the depth contained 2 to 2.2 times in standard length. Eye well above level of mouth; mouth small, terminal; teeth spatulate, close-set, denticulate on edges. A single sharp spine folding into a horizontal groove on either side of caudal peduncle. A continuous, unnotched dorsal fin with 9 spines and 25 to 27 soft rays; anal fin with 3 spines and 24 to 26 soft rays; pectoral fins with 17 rays; caudal fin of adults deeply concave.

Colour: brown with undulating longitudinal light blue lines; a large elliptical orange-yellow area surrounding the caudal spine; opercular membrane dark brown; posterior margin of caudal fin narrowly whitish.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Acanthurus species: no large pale area around caudal spine. Furthermore, depth of body contained about 1.7 times in standard length, and dorsal soft rays 26 to 28 in A. coeruleus (body depth 2 to 2.2 times, and in A. monroviae).

Prionurus biafraensis: 3 fixed spines on either side of caudal peduncle; 8 dorsal spines; numerous small black spots on head, body, dorsal, anal and pelvic fins, and 2 pale bands on head.



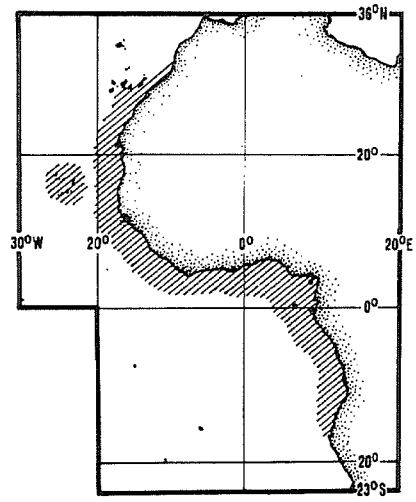
Prionurus biafraensis

SIZE:

Maximum: 45 cm; common to 38 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Occurs only around the Cape Verde Islands and in isolated areas along the tropical West African coast from Morocco to Angola, where there is suitable hard substratum in shallow water. Has been observed in aggregations.



PRESENT FISHING GROUNDS:

Localized areas in inshore waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with traps, fixed bottom nets, set nets, trawls and on line gear.

ALBU

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

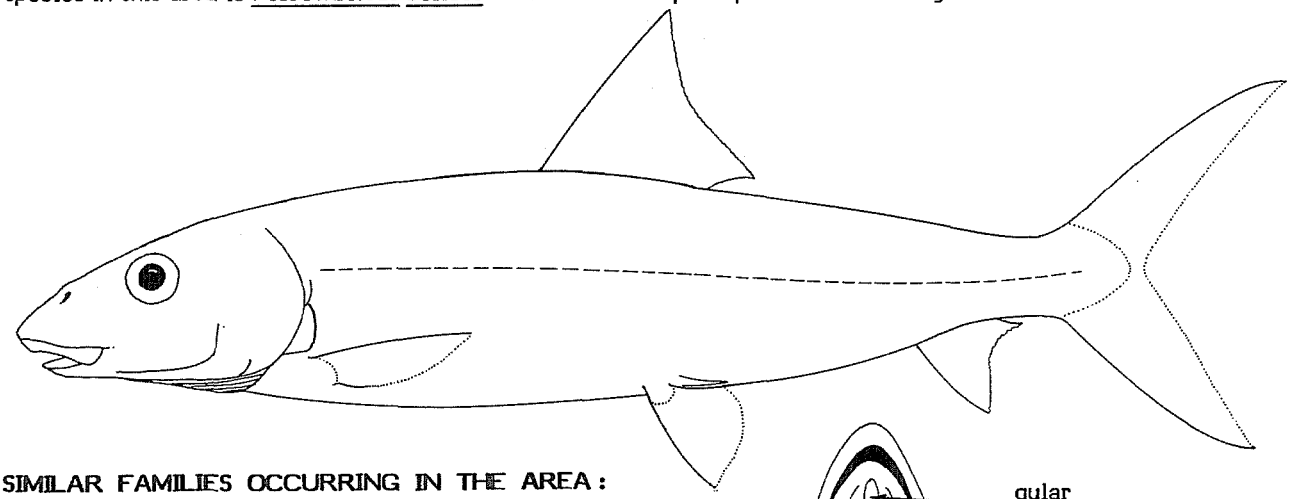
ALBULIDAE

Bonefishes

Elongate, fusiform fishes, resembling the Clupeidae (herrings) but possessing a lateral line and lacking scutes along the belly. Snout conical, projecting beyond tip of lower jaw, mouth inferior; a bony gular plate between arms of lower jaw, small and often overlooked; 6 to 14 branchiostegal rays. Fins lacking spines; a single dorsal fin, short (Albula) or very long (Pterothrissus); anal fin set far back on body. Scales small, 65 to 70 in lateral line.

Colour: blue/green on back, sides silver.

One principal species (Albula vulpes) found in all warm seas*, chiefly in shallow coastal areas, estuaries and bays; it is of little commercial interest, but is in many areas valued as a sport fish. The juveniles often shoal, whereas large adults are more solitary. They feed by grubbing at the bottom for worms, molluscs and crustaceans, sometimes in such shallow water that their tails break the surface. A second and much less common deep-water species in this area is Pterothrissus belloci. Both have a leptocephalous larval stage.

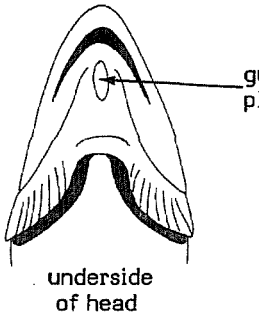


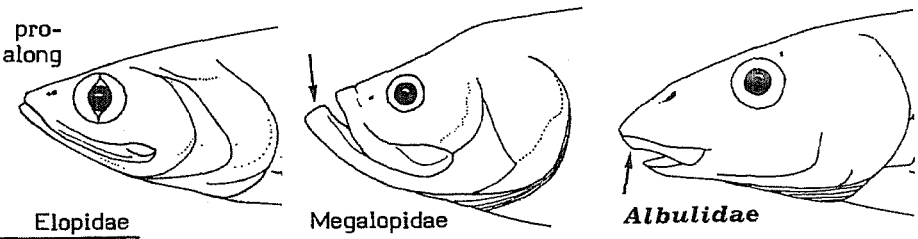
SIMILAR FAMILIES OCCURRING IN THE AREA:

Elopidae: snout not projecting, mouth terminal; also, a large gular plate between arms of lower jaw.

Megalopidae: snout not projecting, lower jaw prominent; also, scales large, 40 to 48 in lateral line (65 to 70 in Albulidae).

Clupeidae: snout not projecting; also, scutes present along belly and no lateral line.



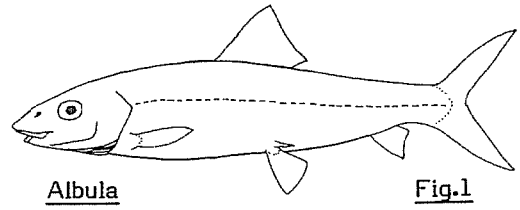


* Recent work by Dr. Shaklee of Honolulu using protein analysis suggests that the name Albula vulpes has in fact been applied to five or more distinct species, but he has not yet determined the status of the West African fishes

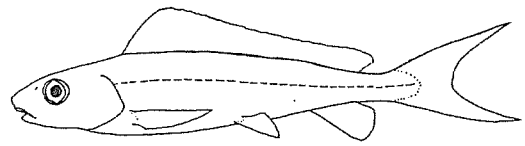
KEY TO GENERA OCCURRING IN THE AREA :

1 a. Dorsal fin short, with about 15 finrays (Fig. 1) ..... Albula

1 b. Dorsal fin long, with more than 50 finrays (Fig. 2) ..... Pterothrissus



Albula Fig.1



Pterothrissus Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Albula vulpes (Linnaeus,1758)	ALBU Albu 1
Pterothrissus belloci Cadenat, 1937	ALBU Pter 1

Prepared by P.J.P. Whitehead, Zoology Department, British Museum (Natural History), London SW7 5BD, U.K.

ALBU Albu 1

1981

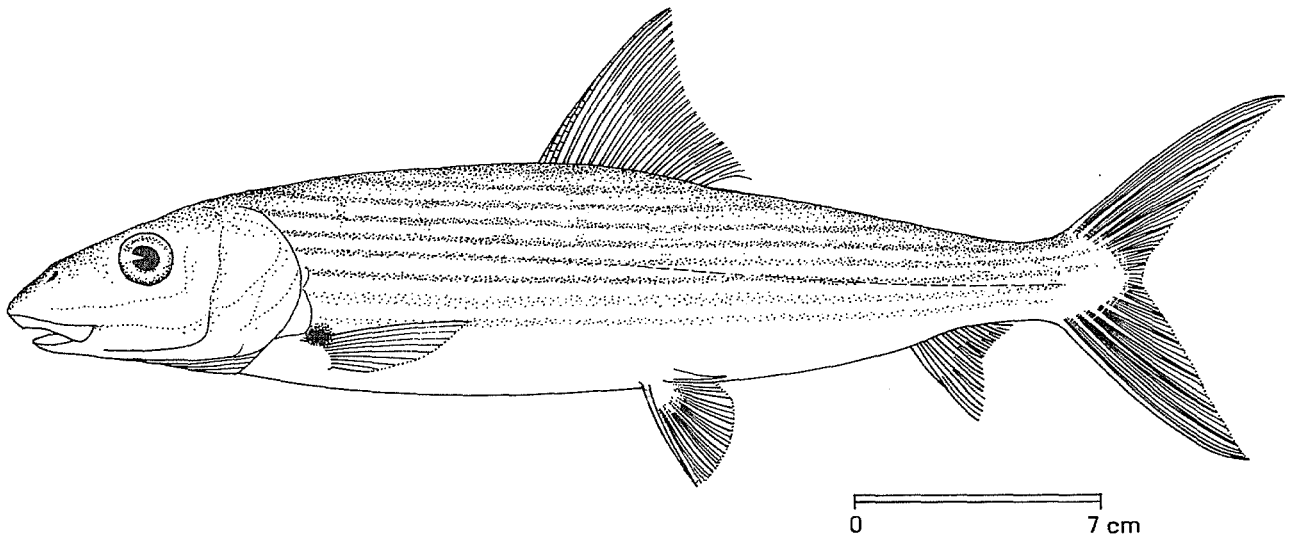
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ALBULIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Albula vulpes (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES :

FAO : En - Bonefish
Fr - Banane de mer
Sp - Macabí

NATIONAL :

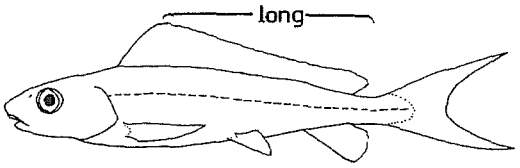
DISTINCTIVE CHARACTERS :

Body elongate, oval in cross section. Snout conical, projecting beyond tip of lower jaw; mouth inferior, upper jaw not reaching to eye; branchiostegal rays 13 or 14. Fins lacking spines; dorsal fin short, with 17 to 19 finrays; anal fin short, with 8 or 9 finrays, its origin far back on body. Scales small, 65 to 70 in lateral line.

Colour: back blue/green with narrow dark horizontal lines fading rapidly after death, sides silvery; a dark blotch on upper pectoral fin base; young specimens (up to 28 cm) usually have about ten dark vertical bars on back.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

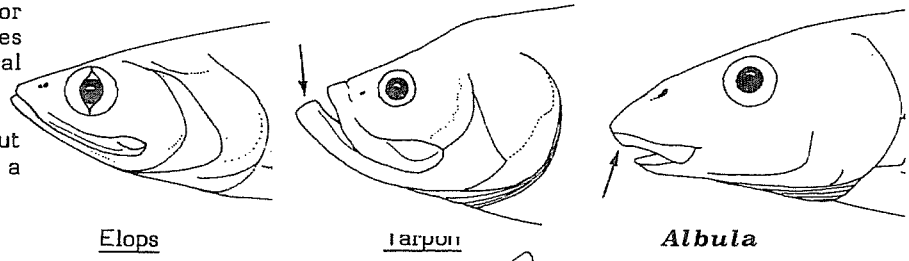
Pterothrissus belloci: dorsal fin long, with more than 50 finrays (17 to 19 in Albula).



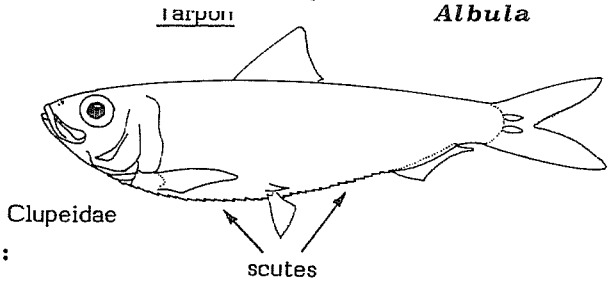
P. belloci

Elops, Tarpon species: snout not projecting, mouth terminal or lower jaw projecting; also, scales large in Tarpon (40 to 48 in lateral line; 65 to 70 in Albula).

Species of Clupeidae: snout not projecting, mouth terminal, a keel of scutes along belly.



Elops Tarpon *Albula*

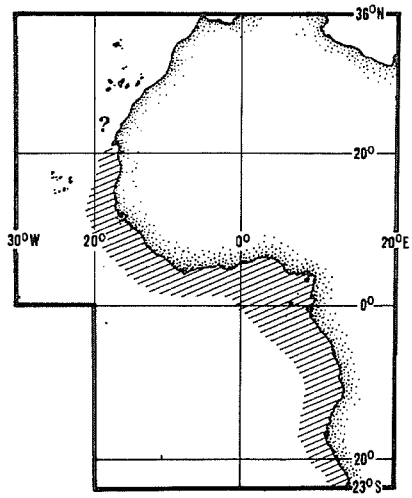


SIZE :

Maximum: 77 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From Senegal (possibly also further north) southward to Angola. Elsewhere, found in almost all warm seas.



Found in shallow coastal waters, estuaries and bays, over sand or mud bottoms. Spawns in the open sea, the transparent larvae (leptocephali) migrating to coastal nursery areas.

Feeds on worms, molluscs, crabs, shrimps and squids, grubbing its food from the bottom.

PRESENT FISHING GROUNDS :

Caught throughout its range, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with purse seines and beach seines.

Marketed fresh or frozen.

ALBU Pter 1

1981

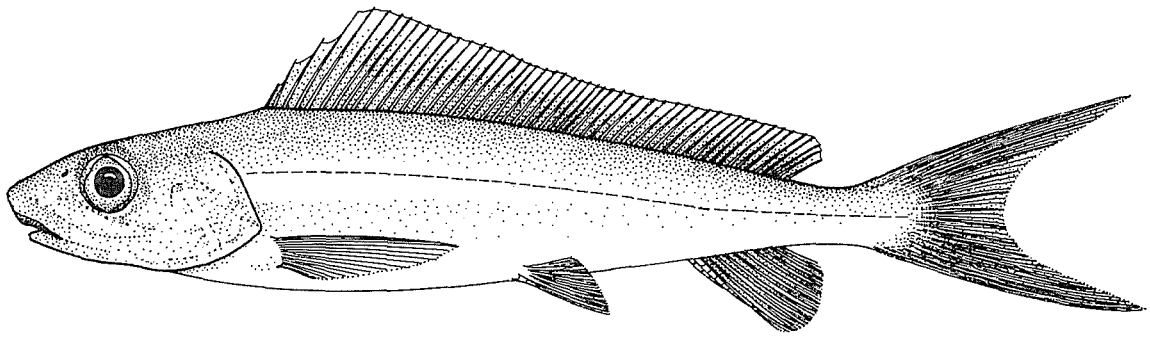
FAO SPECIES IDENTIFICATION SHEETS

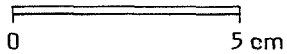
FAMILY : ALBULIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pterothrissus belloci Cadenat, 1937

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Longfin bonefish
Fr - Banane gisu
Sp - *Macabí badejo*

NATIONAL :

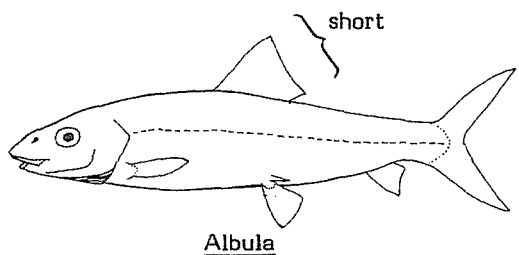
DISTINCTIVE CHARACTERS :

Body elongate, oval in cross section. Snout conical, projecting beyond tip of lower jaw; mouth inferior, upper jaw not reaching to eye; branchiostegal rays 6. Fins lacking spines; dorsal fin long, with more than 50 finrays; anal fin short, below final part of dorsal fin. Scales small, lateral line present.

Colour: back grey/brown with silver reflections, golden reflections on sides; lateral line darker grey; belly pale.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

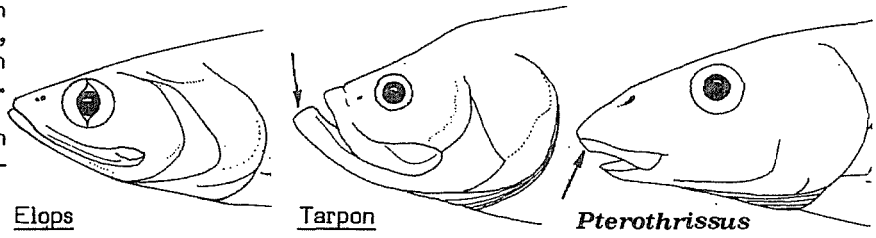
Albula vulpes: dorsal fin short, with 17 to 19 finrays (more than 50 in Pterothrissus).

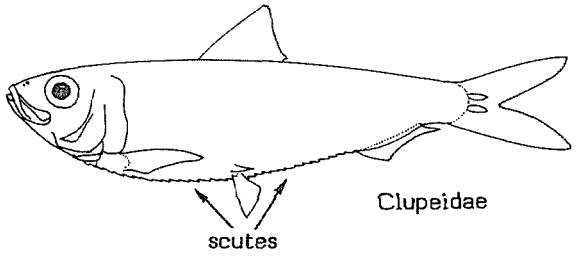


Albula

Elops, Tarpon species: dorsal fin short, snout not projecting; also, scales large in Tarpon (40 to 48 in lateral line; 65 to 70 in Pterothrissus).

Species of Clupeidae: dorsal fin short, snout not projecting, mouth terminal, a keel of scutes along belly.





SIZE :

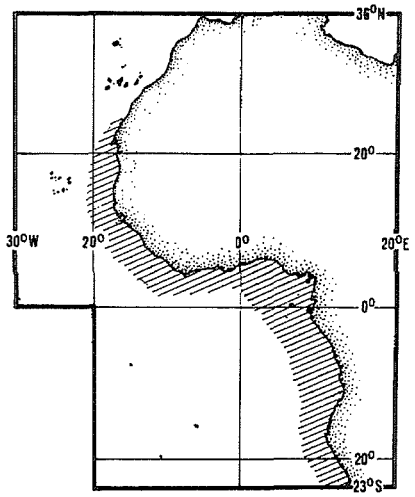
Maximum: 40 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

From southern Sahara to Walvis Bay (southwestern Africa); apparently fairly abundant off Mauritania and northern Senegal.

Caught at depths from 50 to 500 m, mostly from 100 to 400 m (at least off Mauritania, where the smaller fishes occur in less than 100 m). It has a leptocephalous larval stage.

Probably feeds at the bottom.



PRESENT FISHING GROUNDS :

Caught in small numbers throughout its range, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught by trawls at depths from 50 to 500 m.

Marketed fresh or frozen.

ALEPIS

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

ALEPISAURIDAE

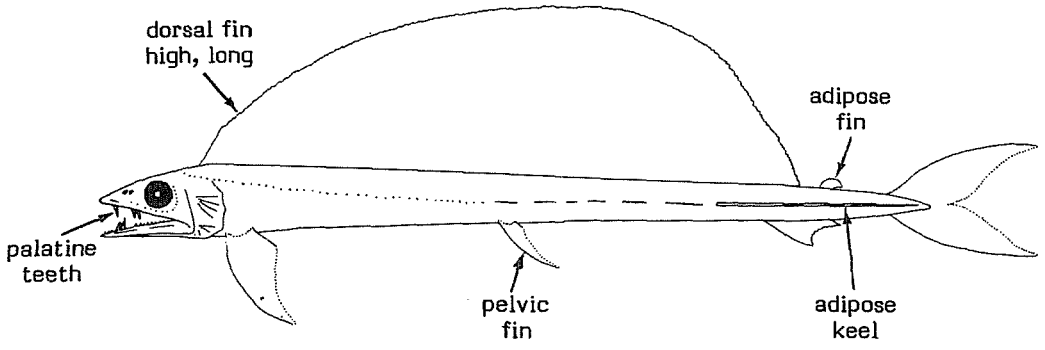
Lancetfishes

Long, slender fishes*, their bodies compressed, the caudal region being slightly depressed with a lateral adipose keel on each side. Head compressed and triangular; teeth in jaws fairly small, in a single row, but those on palatine bones (roof of mouth), erect and dagger-like, easily visible when mouth is open; gill bars with spines on their leading edge. No spines in fins; dorsal fin almost as long as body and very high sail-like; an adipose dorsal fin present; pectoral fins set very low on body; pelvic fins far behind the pectorals; caudal fin forked. Scales absent.

Colour: dark metallic bluish to black above; sides paler, with rather small spots and iridescent reflections; fins dark blue to black.

Rather large fishes (may grow to over 2 m in total length) occurring in open ocean waters. Their appearance, anatomy and food habits indicate that they live at depths of several hundred metres during the day, although they have been taken at about 40 m from the surface. Perhaps they migrate to the surface near sunset and return to deep water around sunrise as so many midwater fishes do.

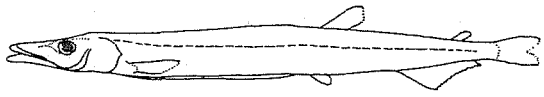
Lancetfishes are commonly caught on long-line gear used in the tuna and billfish fisheries. Despite their large size they are not highly appreciated as food, probably because of their rather soft flesh.



* Young stages are much shorter than adults, their length increasing relative to body depth as they grow

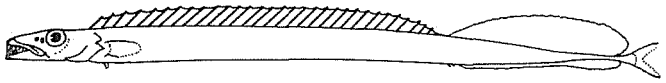
SIMILAR FAMILIES OCCURRING IN THE AREA:

Paralepididae, Omosudidae, Evermanellidae, Scopelarchidae and Notosudidae: all with dorsal fin low and much less than half the length of the fish.



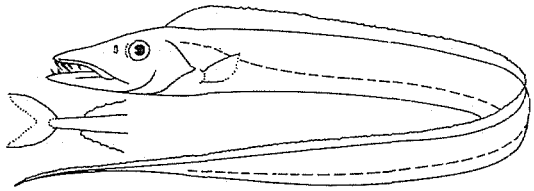
Paralepididae

Gempylidae: all with 2 dorsal fins, the anterior one with spines, the posterior with soft rays; adipose fin absent. Furthermore, only the snake mackerel (Gempylus) grows large enough and has a body long and slender enough to be confused with the Alepisauridae.



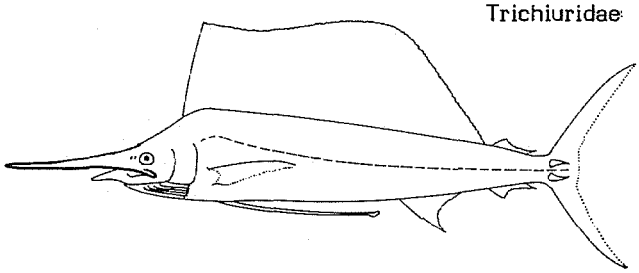
Gempylidae (Diplospinus)

Trichiuridae: may have one or two dorsal fins, but the front part has spines, and the fin is low, never high and sail-like as in the Alepisauridae; furthermore, caudal fin small or absent.



Trichiuridae

Istiophoridae: some species (particularly Istiophorus albicans) are superficially similar to the Alepisauridae because of the long and high dorsal fin; but they are easily distinguished by their prolonged-spearlike upper jaw, the presence of a rayed second dorsal fin and the long narrow pelvic fins inserted below the pectoral fin base.

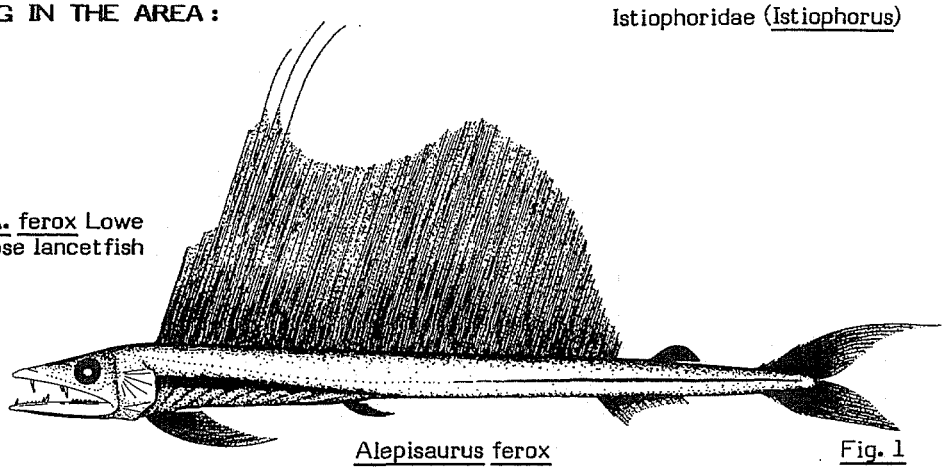


Istiophoridae (Istiophorus)

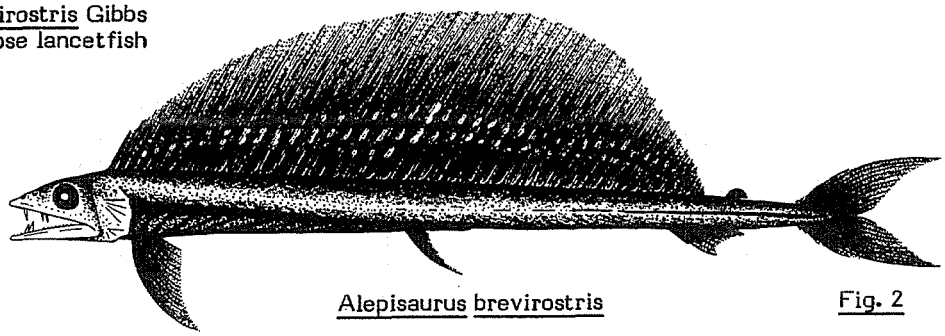
KEY TO SPECIES OCCURRING IN THE AREA:

1 a. Dorsal fin high in front, with several free rays; head long (17 percent or more of standard length); snout long (one third to one half of head length) (Fig. 1) ..... A. ferox Lowe
Longnose lancetfish

1 b. Dorsal fin low in front, forming a curve that is highest near the middle, without free rays; head short (12 to 17 percent of standard length); snout short (less than one third of head length) (Fig. 2) ..... A. brevirostris Gibbs
Shortnose lancetfish



Alepisaurus ferox Fig. 1



Alepisaurus brevirostris Fig. 2

Original species illustrations provided by author

Prepared by R. Gibbs, U.S. National Museum of Natural History, Washington, D.C., U.S.A.

ALEPO

1981

FAO SPECIES IDENTIFICATION SHEETS

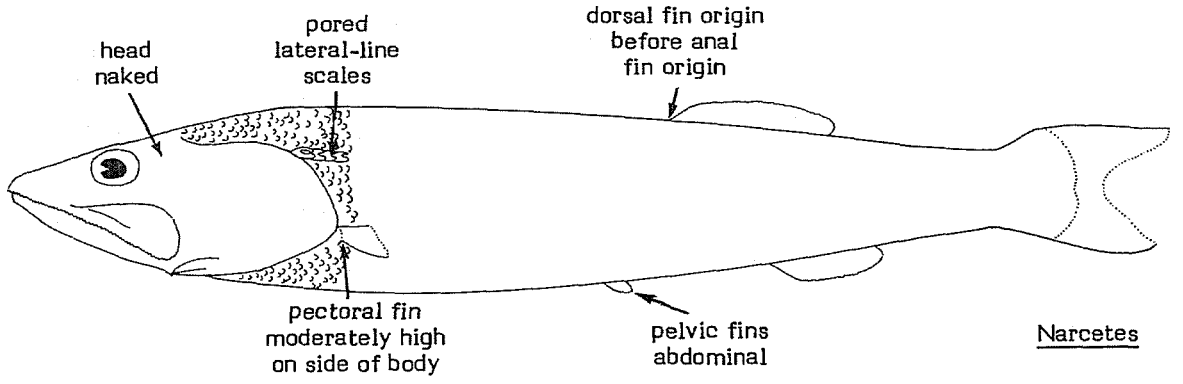
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

ALEPOCEPHALIDAE

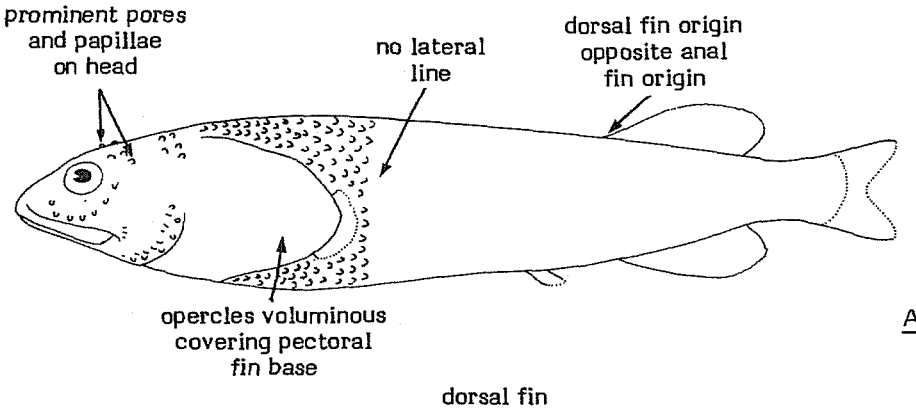
(including Bathylaconidae and Bathyprionidae)

Slickheads

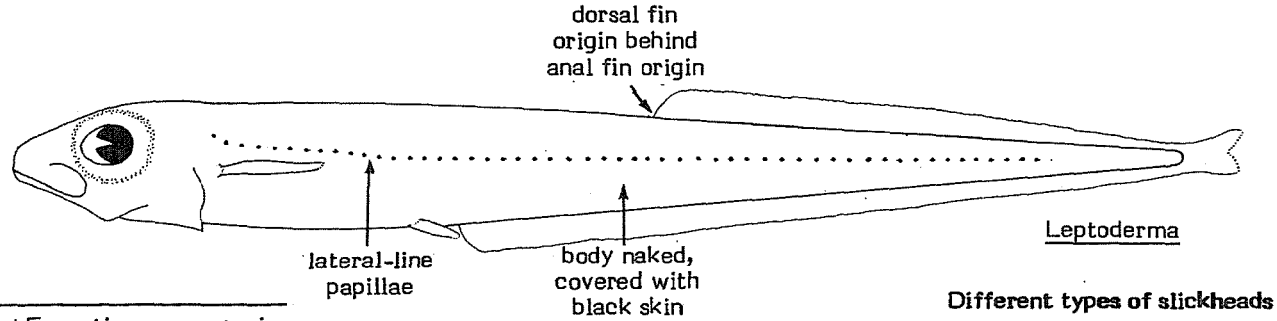
Body shape variable, from moderately deep to elongate and eel-like. Head shape compressed to slightly rounded. Head without scales*; papillae and raised sensory pores frequently present on head and opercles; opercles frequently voluminous, sometimes covering pectoral fin bases; tongue present, but without teeth*; roof and floor of mouth usually with papillae; dentition of jaws and roof of mouth variable, but premaxilla and mandible usually toothed; no premaxillary tusks. Gill rakers moderate to long, with small tooth-like structures. No spinous finrays; single dorsal and anal fins variable in position, usually placed far back and frequently opposite each other; no adipose fin; pectoral fins, if present, moderately high on body; pelvic fins abdominal, outer ray sometimes with supporting splint bone. Lateral line present or absent, if present composed of pored scales, a pored tube supported by ring-like scales, or papillae. Scales on body present or absent, if present always cycloid (smooth to touch), easily abraded. Naked forms usually with black integument and nodular photophores or papillae on body. No dark tube above pectoral fin.



Narcetes



Asquamiceps



Leptoderma

Different types of slickheads

*Exception - one species

Colour: usually drab, predominantly brown to black, but one group of genera with bright blue skin on head and fin bases.

Deep-sea fishes, habitat variable from benthic to midwater, most numerous below 1 000 m. Distribution worldwide from tropics to high latitudes.

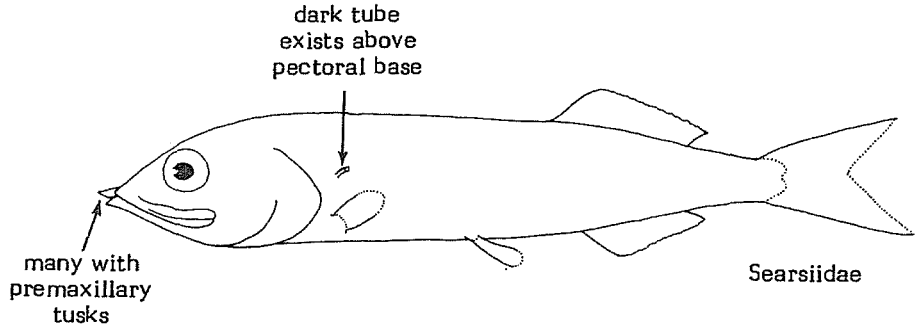
At present, slickheads have no economic importance in the Eastern Central Atlantic. Some species are known to congregate in commercial sized quantities in the North Atlantic, but the flesh, though mild, is of poor texture.

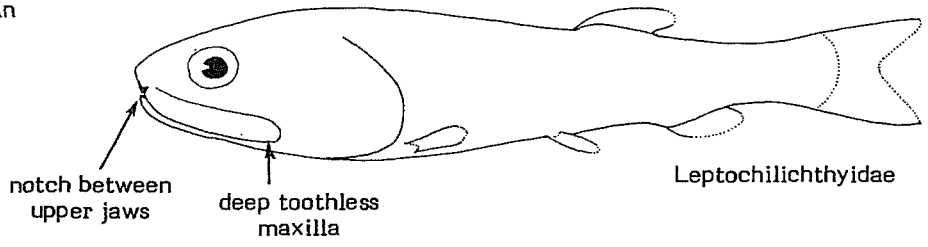
SIMILAR FAMILIES OCCURRING IN THE AREA:

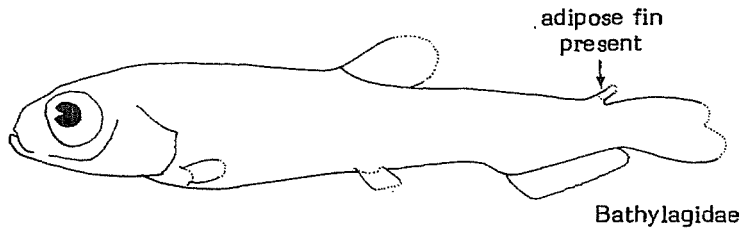
Searsiidae: luminous sack present at shoulder girdle which exists through a dark tube above the pectoral fin; many with prominent, anteriorly directed premaxillary tusks.

Leptochilichthyidae: tongue absent; a deep toothless maxilla and a distinct notch between upper jaws.

Bathylagidae: adipose fin present.







KEY TO GENERA OCCURRING IN THE AREA:

1 a. Body completely scaleless (except for modified lateral-line scales in one genus)

2 a. Lateral line in a tube supported by modified ring-like scales standing on edge (Fig. 1); anal fin rays 18 to 22 ..... Rouleina

2 b. Lateral line, if present, without modified scales above

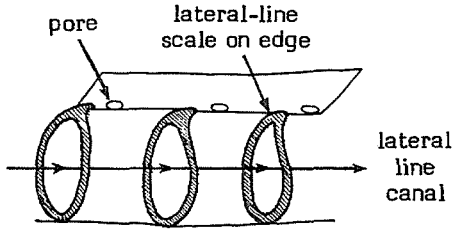


Fig. 1

3 a. Photophores present on body (Figs. 2,3)

4 a. Photophores on raised stalks; ventral outline of upper jaw with obtuse angle at end of premaxilla (Fig. 2); anal fin rays 16 to 19 ..... Photostylus

4 b. Photophores nodular, not on stalks; ventral outline of premaxilla and maxilla approximately straight (Fig. 3); anal fin rays 26 to 33 ..... Xenodermichthys

3 b. No photophores on body

5 a. Dorsal fin origin distinctly behind anal fin origin; body tapers to a fine, almost stringy point (Fig. 4) ..... Leptoderma

5 b. Dorsal fin origin above or before anal fin origin

6 a. Dorsal fin origin approximately opposite to anal fin origin; no teeth in jaws or mouth ..... Mirognathus

6 b. Dorsal fin origin before anal fin origin; teeth present in both jaws and on roof of mouth ..... Rinoctes

1 b. Body entirely or partly scaled

7 a. No teeth on maxilla or vomer (Fig. 5)

8 a. Dorsal fin origin usually above anal fin origin

9 a. Area from gill cavity to pectoral fin base scaled; pectoral fins not fan-like (Fig. 6), upper rays longer than lower rays; pyloric caeca 12 to 28; 2 supramaxillae ..Alepocephalus

9 b. Area from gill cavity to pectoral fin base naked; pectoral fins fan-like (Fig. 7); pyloric caeca 3 to 11; 1 supramaxilla ..... Asquamiceps

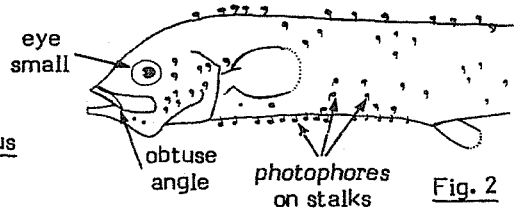


Fig. 2

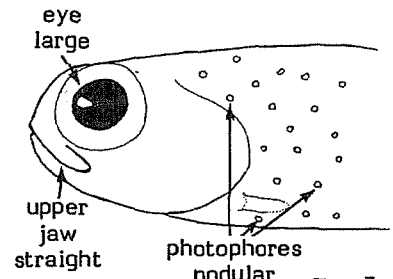


Fig. 3

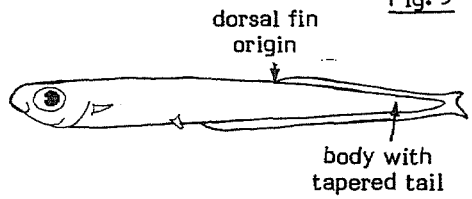


Fig. 4

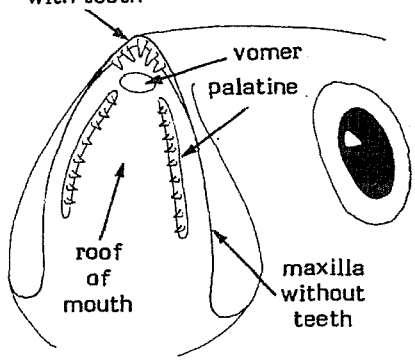


Fig. 5

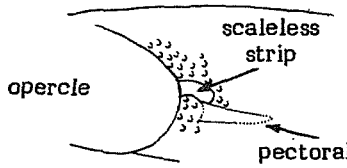


Fig. 6

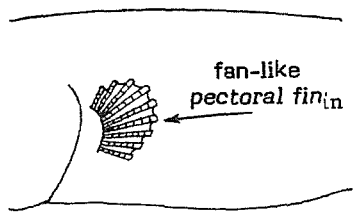


Fig. 7

8 b. Dorsal fin origin usually behind anal fin origin

10 a. Lower jaw ends under orbit (Fig. 8); palatines with teeth; peritoneum darkly pigmented; area from gill cavity to pectoral fin base with scaleless strip (Fig. 6) ..... Conocara

10 b. Lower jaw ends behind posterior margin of orbit (Fig. 9); no palatine teeth; peritoneum unpigmented or lightly pigmented; area from gill cavity to pectoral fin base fully scaled ..... Einara

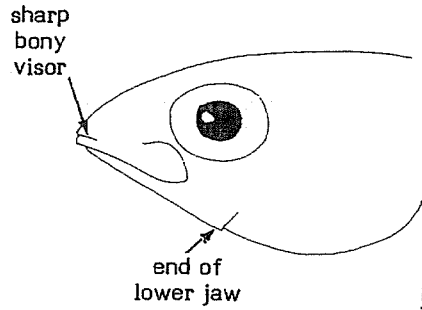


Fig. 8

7 b. Teeth present on maxilla and/or vomer

11 a. Lower jaw without teeth ..... Herwigia

11 b. Lower jaw with teeth

12 a. Dorsal fin origin approximately opposite anal fin origin

13 a. Body elongate; pectoral fin and eye reduced; upper jaw with relatively long pointed teeth (Fig. 10) .. Bathyprion

13 b. Body moderately deep; pectoral fins well developed, often with produced rays; upper jaw without long fanglike teeth; a black wartlike spot near base of sixth dorsal finray, often abraded (Fig. 11) .. Talismania

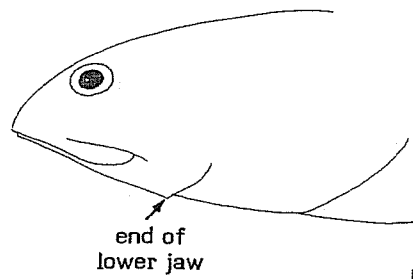


Fig. 9

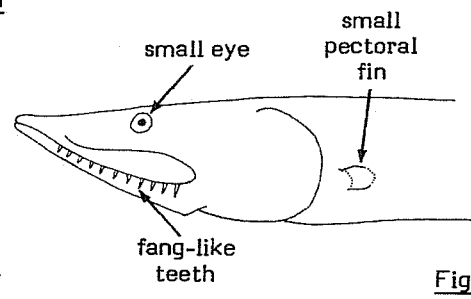


Fig. 10

12 b. Dorsal fin origin before anal fin origin

14 a. Teeth near anterior tips of upper and lower jaws in more than one series ..... Narcetes

14 b. Teeth near anterior tips of upper and lower jaws in single series

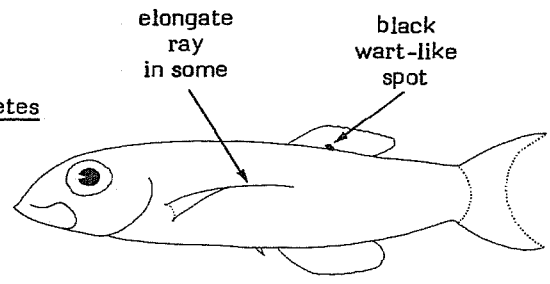


Fig. 11

15 a. Lower jaw with a prominent pointed knob directed ventrally (Fig. 12) ..... Bajacalifornia

15 b. Lower jaw without a prominent knob

16 a. Upper jaw ends well behind posterior margin of orbit (Fig. 13) ..... Bathylaco

16 b. Upper jaw ends approximately below posterior margin of orbit

17 a. Anal finrays 13 to 17; more than 29 gill rakers on firt arch ..... Bathytroctes

17 b. Anal finrays 9 to 11; less than 31 gill rakers on first arch ..... Bellocia

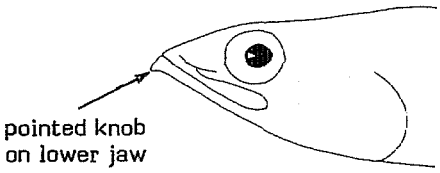


Fig. 12

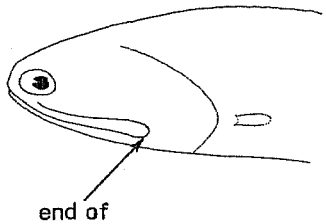


Fig. 13

LIST OF SPECIES OCCURRING IN THE AREA :

Alepocephalus agassizii Goode & Bean, 1883
Alepocephalus australis Barnard, 1923
Alepocephalus bairdii Goode & Bean, 1879
Alepocephalus blanfordii Alcock, 1892
Alepocephalus productus Gill, 1883
Alepocephalus rostratus Risso, 1820

Asquamiceps caeruleus Markle, 1980
Asquamiceps hjorti (Koefoed, 1927)*
Asquamiceps velaris Zugmayer, 1911

Bajacalifornia calcarata (Weber, 1913)
Bajacalifornia megalops (Lutken, 1898)
Bajacalifornia sp. nov.

Bathylaco nigricans Goode & Bean, 1896

Bathyprion danae Marshall, 1966

Bathytroctes microlepis Gunther, 1878
Bathytroctes oligolepis (Krefft, 1970)
Bathytroctes squamosus Alcock, 1890

Bellocia koefoedi (Parr, 1951)
Bellocia michaelsarsi (Koefoed, 1927)

Conocara macroptera (Vaillant, 1888)
Conocara microlepis (Lloyd, 1909)
Conocara murrayi (Koefoed, 1927)
Conocara salmonea (Gill & Townsend, 1897)*
Conocara werneri Nybelin, 1947

Einara edentula (Alcock, 1892)
Einara macrolepis (Koefoed, 1927)

Herwigia kreffti (Nielsen & Larsen, 1970)

*Species not known from area, but expected to occur there

Leptoderma macrops Vaillant, 1886

Mirognathus normani Parr, 1951

Narcetes erimelas Alcock, 1890
Narcetes stomias (Gilbert, 1890)

Photostylus pycnopterus Beebe, 1933

Rinoctes nasutus (Koefoed, 1927)

Rouleina attrita (Vaillant, 1888)
Rouleina maderensis Maul, 1948

Talismania antillarum (Goode & Bean, 1896)
Talismania homoptera (Vaillant, 1888)
Talismania longifilis (Brauer, 1902)
Talismania mekistonema Sulak, 1975

Xenodermichthys copei (Gill, 1884)

Prepared by D.F. Markle, Huntsman Marine Laboratory, St. Andrews, N.B., Canada

ANGUIL

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

ANGUILLIDAE

Freshwater eels

A single species in the area; see species sheet for:

Anguilla anguilla (Linnaeus, 1758) ANGUIL Anguil 2

Prepared by F.-W. Tesch, Biologische Anstalt Helgoland (Zentrale), Hamburg, Federal Republic of Germany

ANGUIL Anguil 2

1981

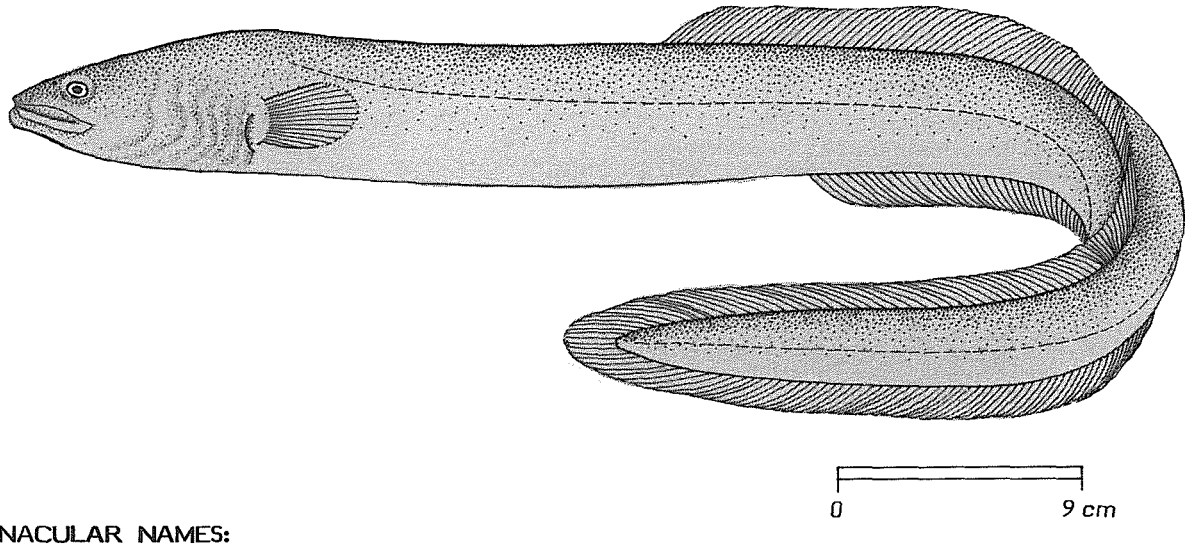
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ANGUILLIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Anguilla anguilla (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - (European) eel
Fr - Anguille d'Europe
Sp - Anguila

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, snake-like, rounded in cross-section anteriorly, somewhat compressed posteriorly. Head rather long and slightly compressed; mouth terminal, the lower jaw slightly projecting; gape of mouth extending to about level of pupil; teeth small, in several series in jaws and on vomer (roof of mouth); eye round and small, its diameter 1/8 to 1/12 of head length; anterior nostril tubular and near tip of snout; gill slit small and vertical, on sides of head, close before pectoral fin base. Dorsal fin origin far behind pectoral fins but anterior to level of anus, anal fin originating slightly behind this opening; both fins surrounding the tail as a continuous fold; no distinct caudal fin; pectoral fins well developed but no pelvic fins. Lateral line quite distinct. Small elliptical scales embedded in the skin.

Colour: variable, changing with habitat and development stage. In the feeding stage (yellow eel), dorsal side varying from greyish-brown, olive-brown or yellowish to black, ventral side yellowish to white; during the spawning migration, dorsal side black, belly white or greyish with silvery reflections.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

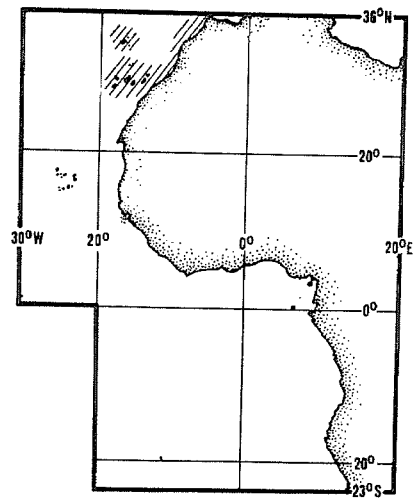
The combination of the following characters will separate A. anguilla from all other species of eels in the area: presence of scales and of pectoral fins, teeth in upper and lower jaws minute, lower jaw extending beyond upper jaw.

SIZE:

Maximum: 150 cm; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to 25°N, including Madeira and the Canary Islands. Northward extending into the Mediterranean and in the Eastern Atlantic to the Azores, Iceland and northern Norway (North Cape).



Occurs from coastal marine and brackish waters to areas of freshwater connected to the sea. After immigration as glass eels from the sea, stationary in salt-, brackish- and freshwater and bottom dwelling. Pigmented (yellow) eels prefer littoral areas to 50 m depth and often borrow in the bottom. During spring and autumn, small seasonal migrations are observed. The stage of the spawning migration (silvery stage) is attained after 8 to 10 years of continental life at a size of about 38 cm for the males and of 55 cm for the females; during migration which begins in autumn, the so called silver eels prefer midwater depths; peak spawning takes place in March/April in the Sargasso Sea, after probably half a year of migration across the Atlantic Ocean. Larvae grow from a length of 4 mm to 75 mm; metamorphosis to glass eels occurs at the European-African continental slope.

Main feeding activity during darkness. Broad-headed eels prefer fish, larger crustaceans and molluscs, while narrow-headed individuals take aquatic insects and worms.

PRESENT FISHING GROUNDS:

Coastal marine waters, estuaries, rivers and lakes.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch of A. anguilla in European and African waters totalled 15 109 t, in 1978, but the share of Fishing Area 34 in this catch is negligible.

Glass eels and elvers are caught with fine mesh fyke nets and dipnets from September to June during their inshore migration; yellow eels, with eel baskets, fyke nets, seines, trawls, hook and line, longlines, lift-nets and spears; silver eels caught with fyke nets, pound nets, stow nets and weirs.

Elvers and glass eels are stocked in rivers and lakes or used for aquaculture; yellow and silver eel are marketed mainly alive and smoked fresh or frozen, but mainly north of our fishing area.

ANTEN

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

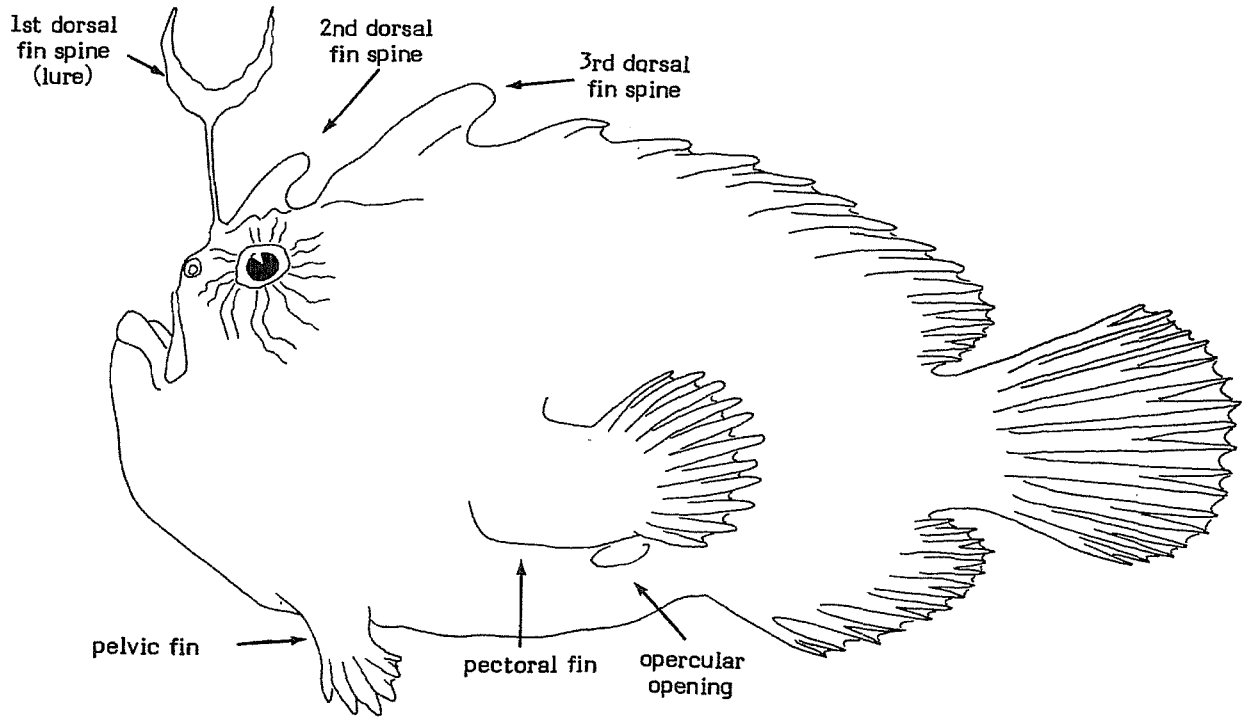
ANTENNARIIDAE

Frogfishes (also sea mice, anglerfishes)

Body short, globose, slightly compressed. Mouth large, oblique to vertical, with numerous, small, villiform teeth. Opercular (gill) opening restricted to a small pore located behind and below pectoral fin base. First dorsal fin spine free and modified as a lure, second and third dorsal fin spines also free from rest of fin, well-developed, and covered by skin; pectoral-fin lobe elongate, leg-like. Skin spinulose or naked, often with membranous filaments or flaps.

Colour usually in two phases: a more common light phase with light tan to yellow, brown or rust background usually overlaid with black, brown, pink, or bright yellow streaks, bars, and/or spots on head, body and fins; a dark phase with dark brown to black background with streaks, bars, or spots showing through as deeper black, tips of rays of paired fins often white.

Frogfishes spend the greater part of their lives squatting on the bottom in shallow water or, as in the case of Histrio, clinging in floating Sargassum weed. Despite their sedentary nature, nearly all are voracious carnivores that sit quietly waiting for smaller fishes to pass by at which time they enticingly wriggle their bait to attract the potential prey to their cavernous mouths. Some frogfishes may reach sizes to over 50 cm total length, but besides their value in the aquarium trade, they are of no significant economic interest in the Eastern Atlantic where they are caught incidentally in bottom trawls and said to be utilized for fishmeal. Some species are occasionally eaten by local populations in the Caribbean and Indo-West Pacific.



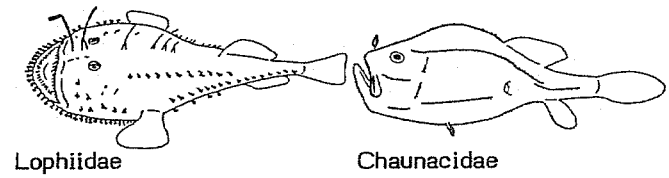
SIMILAR FAMILIES OCCURRING IN THE AREA:

Lophiidae: body greatly depressed (flattened dorso-ventrally), not globose.

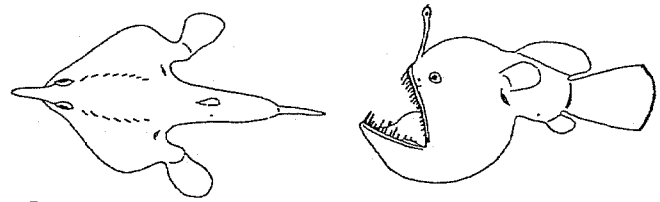
Chaunacidae: second and third dorsal fin spines reduced and embedded beneath skin.

Ogcocephalidae: remnant of second dorsal fin spine embedded beneath skin, third dorsal fin spine absent; body greatly depressed, not globose.

Bathypelagic anglerfish families: no pelvic fins; second and third dorsal fin spines greatly reduced or absent.



Lophiidae Chaunacidae



Ogcocephalidae Bathypelagic anglerfish families

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Skin naked, but often with membranous filaments or flaps; pectoral fin lobe free from body (Fig. 1); associated with floating Sargassum weed ..... Histrio

1 b. Skin spinulose; pectoral fin lobe broadly connected to body (Fig. 2); associated with coral or rock substrate ..... Antennarius



Fig. 1 Fig. 2

pectoral fins

LIST OF SPECIES OCCURRING IN THE AREA:

Antennarius pardalis (Valenciennes, in Cuvier & Valenciennes, 1837)
Antennarius radiosus Garman, 1896
Antennarius senegalensis Cadenat, 1959
Antennarius striatus (Shaw, 1794)

Histrio histrio (Linnaeus, 1758)

Prepared by T.W. Pietsch, College of Fisheries, University of Washington, Seattle, Washington 98195

Original illustrations provided by author

ANTH

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

ANTHIIDAE

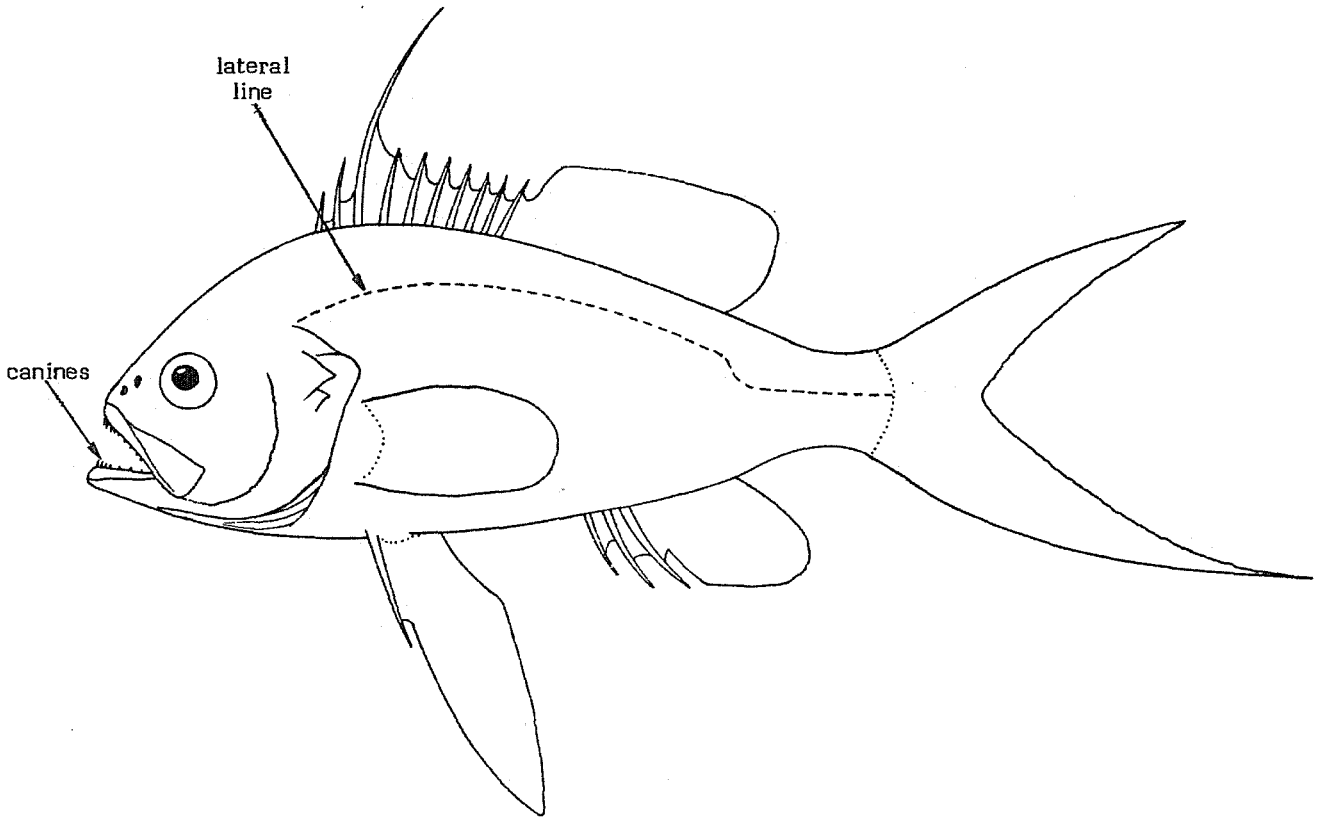
(Included in the Serranidae by earlier authors)

Seaperches

Rather compressed, perchlike fishes. Opercle with 2 flat spines, preopercle finely serrate, without a lateral ridge; mouth terminal, moderately protractile; posterior end of maxilla exposed, not slipping under the suborbital bone; jaw teeth moderately strong, with larger canines at front of upper and lower jaws, and a distinctive pair of canines at the mid-side of lower jaw; bands of teeth present on vomer and palatines (roof of mouth). A single dorsal fin, with 10 or 11 spines and 10 to 15 soft rays; anal fin with 3 spines and 6 to 8 soft rays; bases of pelvic fins without a scaly process, very long in some species; caudal fin deeply forked (except in H. fronticinctus), the lobes elongated in males. Lateral line complete or incomplete, arched over pectoral fin and running close to base of dorsal fin, from which it is separated by only 3 or 4 scale rows. Scales large, about 26 to 37 in lateral line in Eastern Atlantic species, smooth or ciliated along their margin.

Colour: generally pink, red, orange or yellow, sometimes yellow or silvery on the ventral surface.

Small fishes, those in the East Atlantic rarely reaching 27 cm. Often quite abundant. Most or all species are protogynous hermaphrodites, begin life as females and later transform into males.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Percichthyidae: elongate, silvery or spotted; 2 dorsal fins; lateral line not close dorsal fin base.

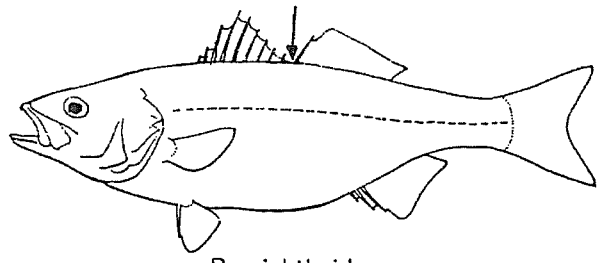
Grammistidae: very thick skin, 2 or 3 dorsal spines, no anal spines.

Serranidae: lateral line not close to dorsal fin base.

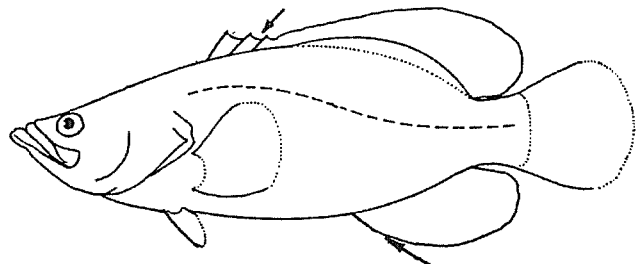
Sciaenidae: lateral line extending onto tail fin; only 2 anal fin spines.

Pomadasyidae: end of maxilla slipping under suborbital bone; lateral line not close to dorsal fin base; pelvic axillary scale present.

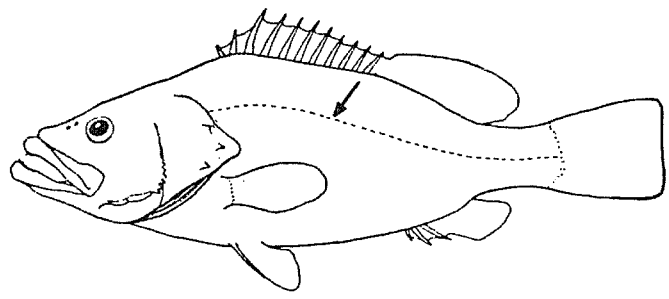
Lutjanidae: end of maxilla slipping under preorbital ray.



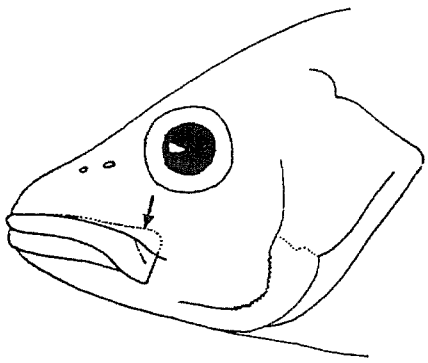
Percichthyidae



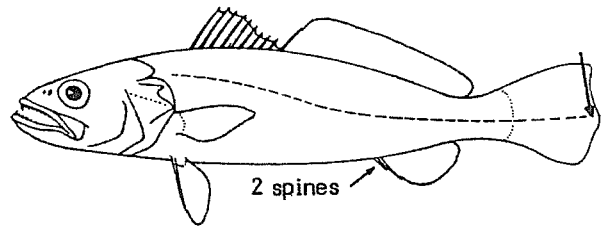
Grammistidae



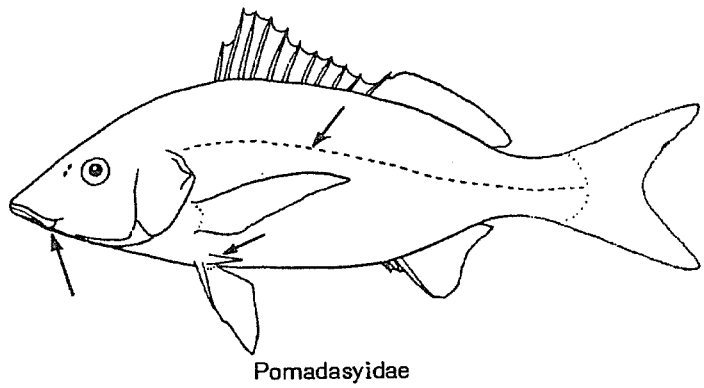
Serranidae.



Lutjanidae



Sciaenidae



Pomadasyidae

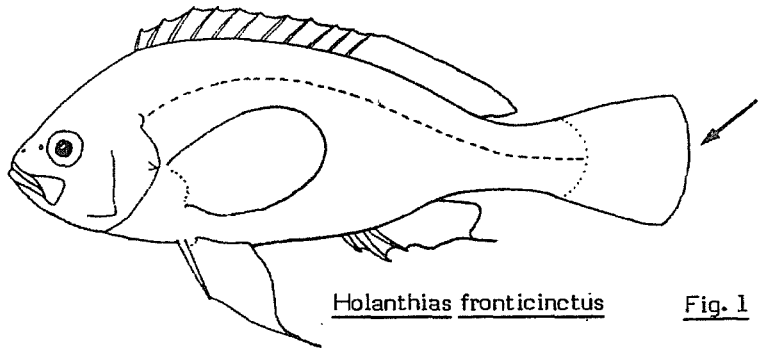
KEY TO SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

1 a. Caudal fin rounded (Fig. 1); restricted to St. Helena .... Holanthias fronticinctus (Günther, 1868)

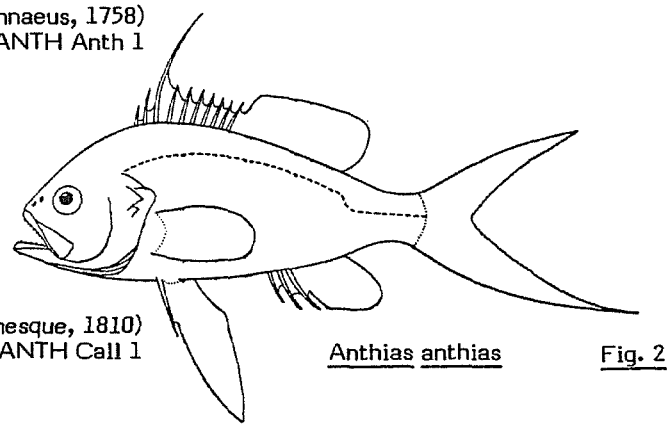
1 b. Caudal fin forked

2 a. Body deep, its greatest depth 2.5 times in standard length; pelvic fins elongate, reaching past posterior end of the anal fin base; third dorsal fin spine elongate, with a filament at its tip; lateral line complete, ending at base of caudal fin (Fig. 2) ..... Anthias anthias (Linnaeus, 1758)
ANTH Anth 1

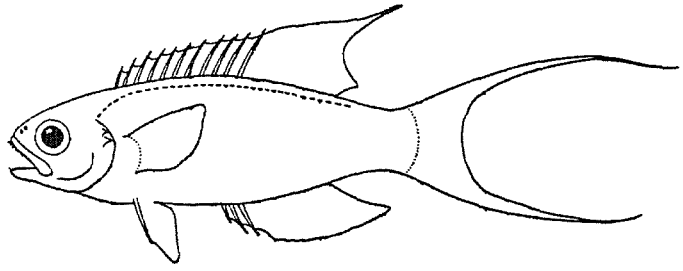


Holanthias fronticinctus Fig. 1

2 b. Body slender, its greatest depth more than 3 times in standard length; pelvic fins short, reaching only to or slightly past, origin of anal fin; no prolonged dorsal fin spines; lateral line incomplete, ending on upper side of caudal peduncle (Fig. 3) ..... Callanthias ruber (Rafinesque, 1810)
ANTH Call 1



Anthias anthias Fig. 2



Callanthias ruber Fig. 3

Prepared by C. Lavett Smith, Department of Ichthyology, The American Museum of Natural History, New York, U.S.A.

ANTH Anth 1

1981

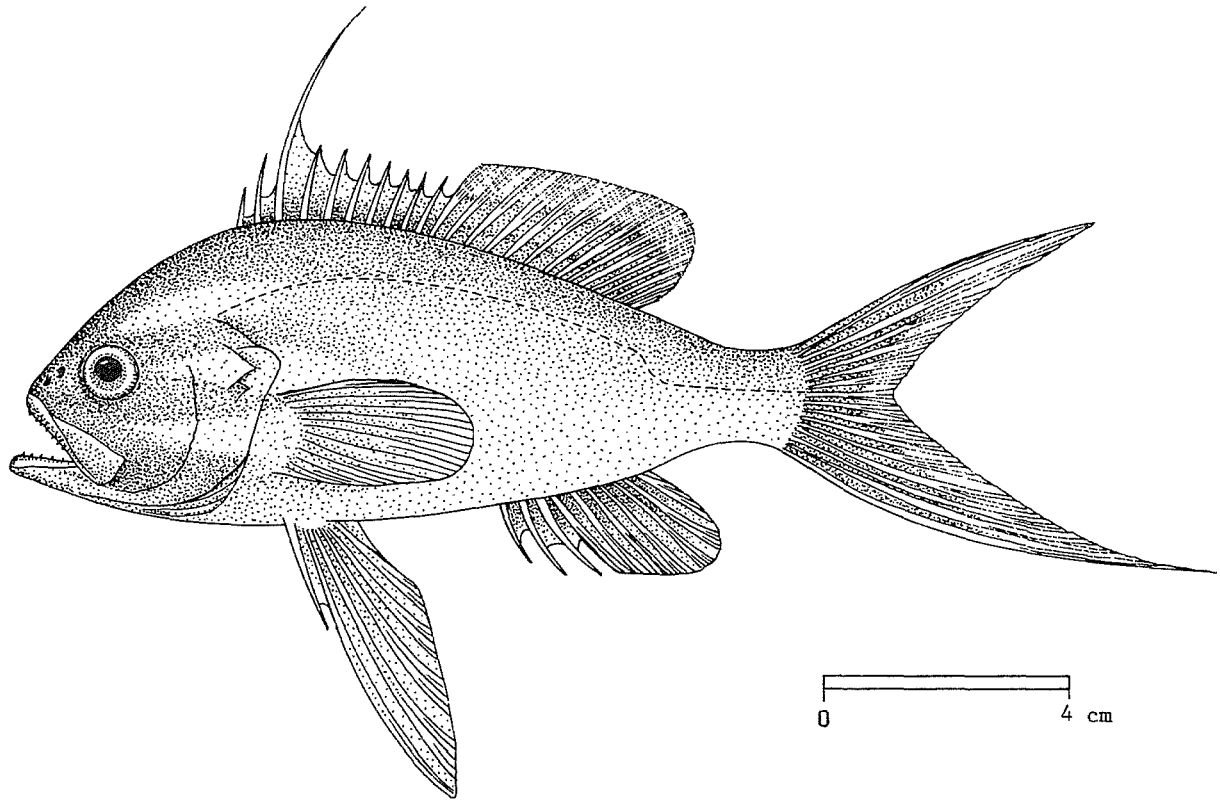
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ANTHIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Anthias anthias (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Swallowtail seaperch
Fr - Barbier hirondelle
Sp - Tres colas

NATIONAL :

DISTINCTIVE CHARACTERS :

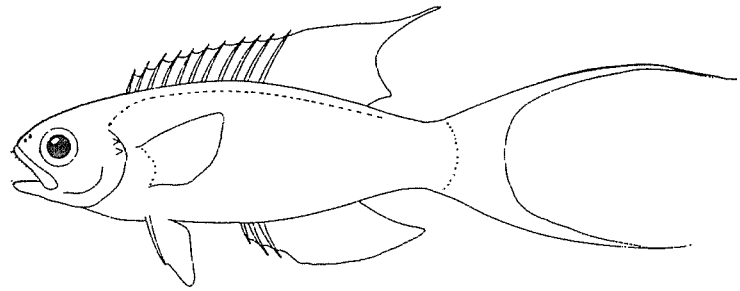
Size small; body rather deep, its depth 2.5 times in standard length. Dorsal fin single, with 10 spines and 15 soft rays; third dorsal spine elongate; anal with 3 spines and 7 soft rays; pelvic fins very long, reaching past posterior end of anal fin base; caudal fin deeply forked, its lower lobe longer than the upper. Lateral line complete, ending at base of caudal fin. Scales large, 36 to 39 in lateral line.

Colour: generally red, with yellow and silver marbling; belly rose; 3 yellow lines on sides of head between eye and opercle.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Callanthias ruber: lateral line incomplete; body elongate, its depth about 4 times in standard length (2.5 times in A. anthias); third dorsal fin spine shorter than the fourth; pelvic fins not elongated.

Holanthias fronticinctus: caudal fin rounded.



Callanthias ruber

SIZE:

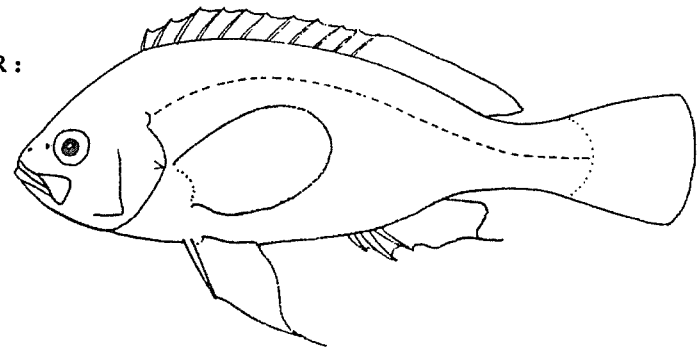
Maximum: about 27 cm total length; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from Gibraltar to the Congo including offlying islands; northward extending into the Mediterranean, and up to Portugal.

Commonly found around rocks and especially coral reef to depths of 300 m.

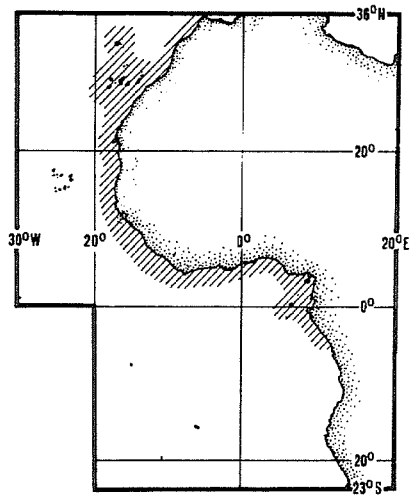
Carnivorous.



Holanthias fronticinctus

PRESENT FISHING GROUNDS:

Continental shelf and upper slope throughout its range. Common off Morocco.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and traps.

Marketed fresh and smoked; also reduced to fishmeal by offshore trawlers.

ANTH Call 1

1981

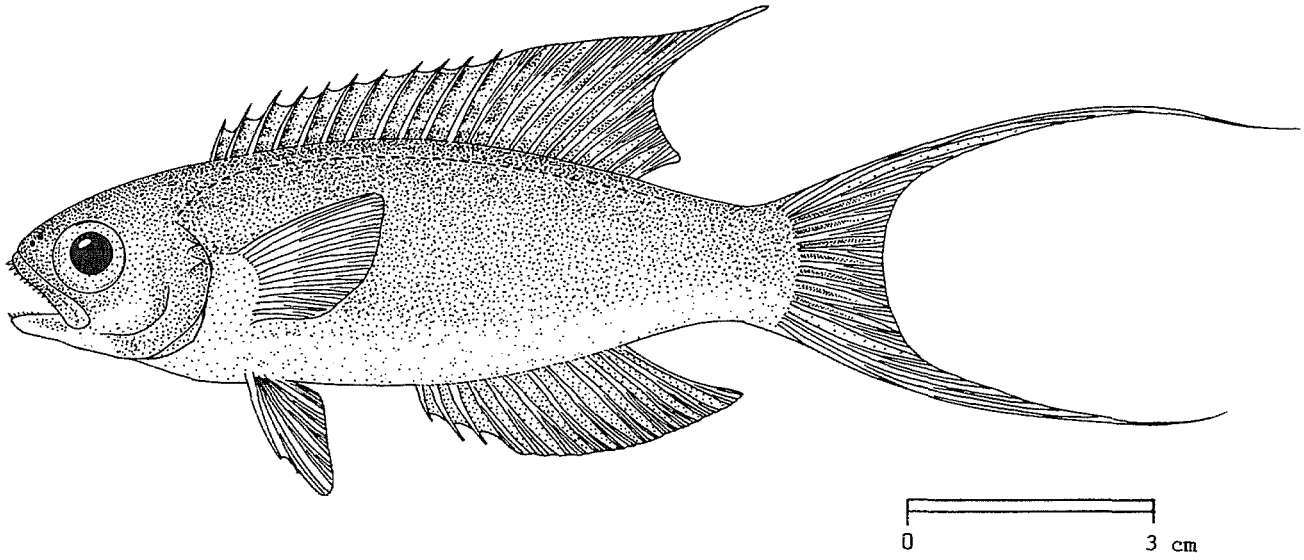
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ANTHIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Callanthias ruber (Rafinesque, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Parrot seaperch
Fr - Barbier perroquet
Sp - Tres colas papagayo

NATIONAL :

DISTINCTIVE CHARACTERS :

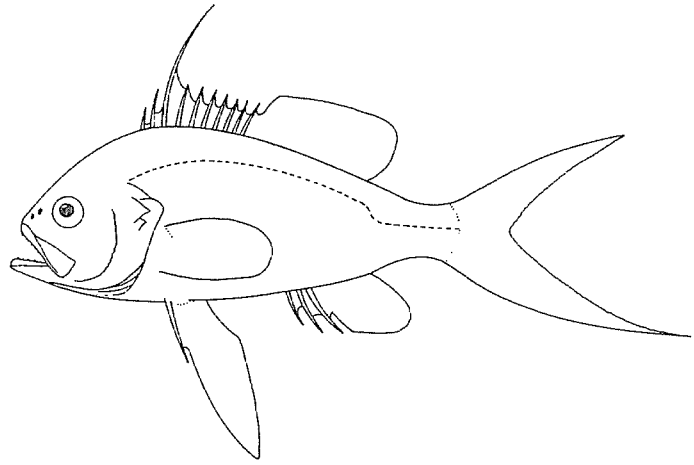
A rather small, elongate fish with a short head. Body slender, its depth more than 3 times in standard length. Dorsal fin with 11 spines and 10 or 11 soft rays; third dorsal spine not elongated; anal with 3 spines and 9 or 10 soft rays; pelvic fins rather short, reaching to, or only slightly past, origin of anal fin; caudal fin lobes prolonged into filaments. Lateral line incomplete, ending on top of the caudal peduncle a little behind dorsal fin. Lateral line scales 40 to 42.

Colour: generally red or rosy; pelvic fins yellow.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Anthias anthias: body deep and compressed, its depth 2.5 times in standard length (more than 3 times in C. ruber); third dorsal fin spine elongate, much longer than the second or the fourth. Lateral line complete (incomplete in C. ruber); pelvic fins very long (short in Callanthias).

Holanthias fronticinctus: caudal fin rounded.



Anthias anthias

SIZE:

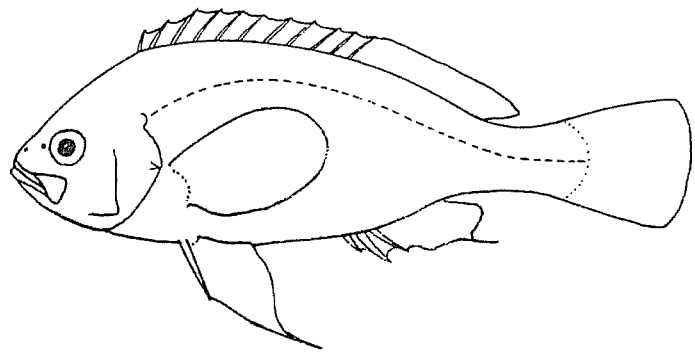
Maximum: 15 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, from Gibraltar to Mauritania including Madeira and the Canary Islands; northward extending into the Mediterranean and up to Portugal.

Bottom-living (mainly rocky substrate) at depths from 160 to 500 m.

Carnivorous.



Holanthias fronticinctus

PRESENT FISHING GROUNDS:

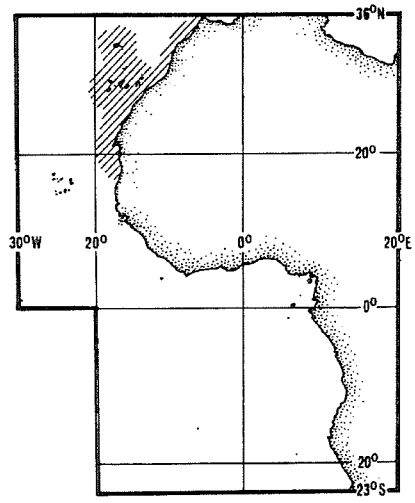
Caught incidentally throughout its range; mainly as bycatch made by offshore trawlers.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Probably mostly reduced to fishmeal.



ARGEN

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

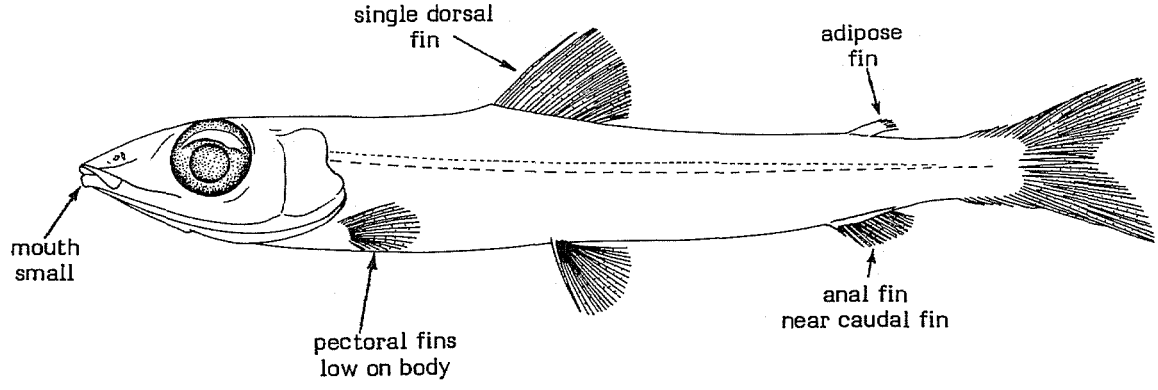
ARGENTINIDAE*

Argentines

Body relatively elongate. Mouth small, ending in front of the eye; teeth absent on premaxilla and maxilla (the outher bones of the upper jaw). A single dorsal fin with soft rays near mid-point of body, followed by an adipose dorsal fin on the posterior one-fourth of body above anal fin; pectoral fins placed low, on the ventro-lateral contours of body; pelvic fins beneath or behind the dorsal fin. Swimbladder present, sometimes with bright silvery pigment. Scales cycloid (smooth to touch), easily detached.

Colour: light straw colour, often iridescent. Usually with a silvery or brownish band along sides.

Small to medium sized fishes (up to about 30 cm in length) of the outer shelf and upper slope (to about 400 m depth); pelagic near the bottom. Taken in bottom trawls. Generally rare in the area and not landed commercially.

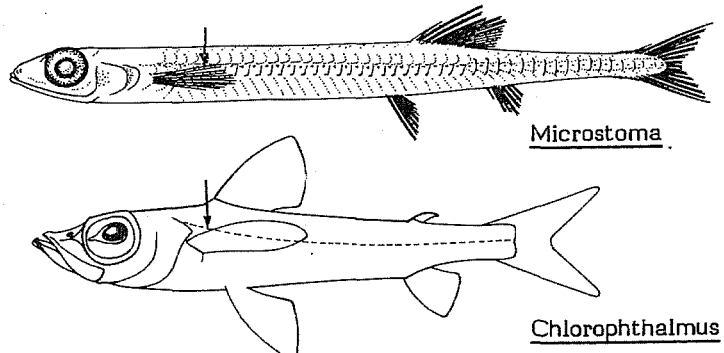


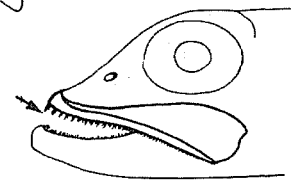
SIMILAR FAMILIES OR SUBFAMILIES OCCURRING IN THE AREA:

Microstomatinae: pectoral fins high, on sides of body; lateral-line scales extending onto caudal fin. Rare, mesopelagic.

Bathylagidae: no swimbladder. Meso-pelagic.

Aulopidae, Chlorophthalmidae, Synodon-tidae: pectoral fins high on sides of body; teeth (sometimes very small) present on premaxilla (outermost bone of upper jaw).





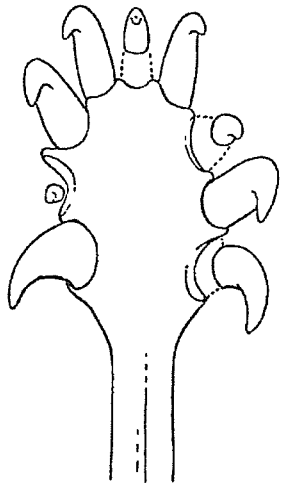
Aulopidae

* The rare mesopelagic genera Microstoma, Xenophthalmichthys and Nansenia constituting the subfamily Microstomatinae are excluded from this account, which includes only the more abundant bentho-pelagic Argentininae

KEY TO GENERA OCCURRING IN THE AREA*:

1 a. Tongue with large teeth on front and sides (Fig. 1) ..... Argentina

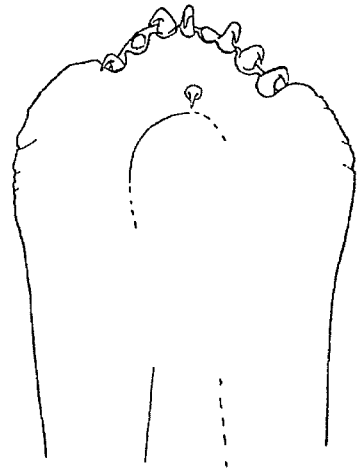
1 b. Tongue with small teeth on front edge only (Fig. 2) ..... Glossanodon



Argentina sphyraena

Fig. 1

tongue



Glossanodon semifasciatus

Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA :

Argentina sphyraena Linnaeus, 1758

Glossanodon leioglossus (Valenciennes, 1848)
Glossanodon polli Cohen, 1950

Prepared by D.M. Cohen, NMFS Systematics Laboratory, NOAA National Museum of Natural History, Washington, D.C., U.S.A.

Most original illustrations provided by author

* Subfamily Argentininae only

ARIID

1981

FAO SPECIES IDENTIFICATION SHEETS

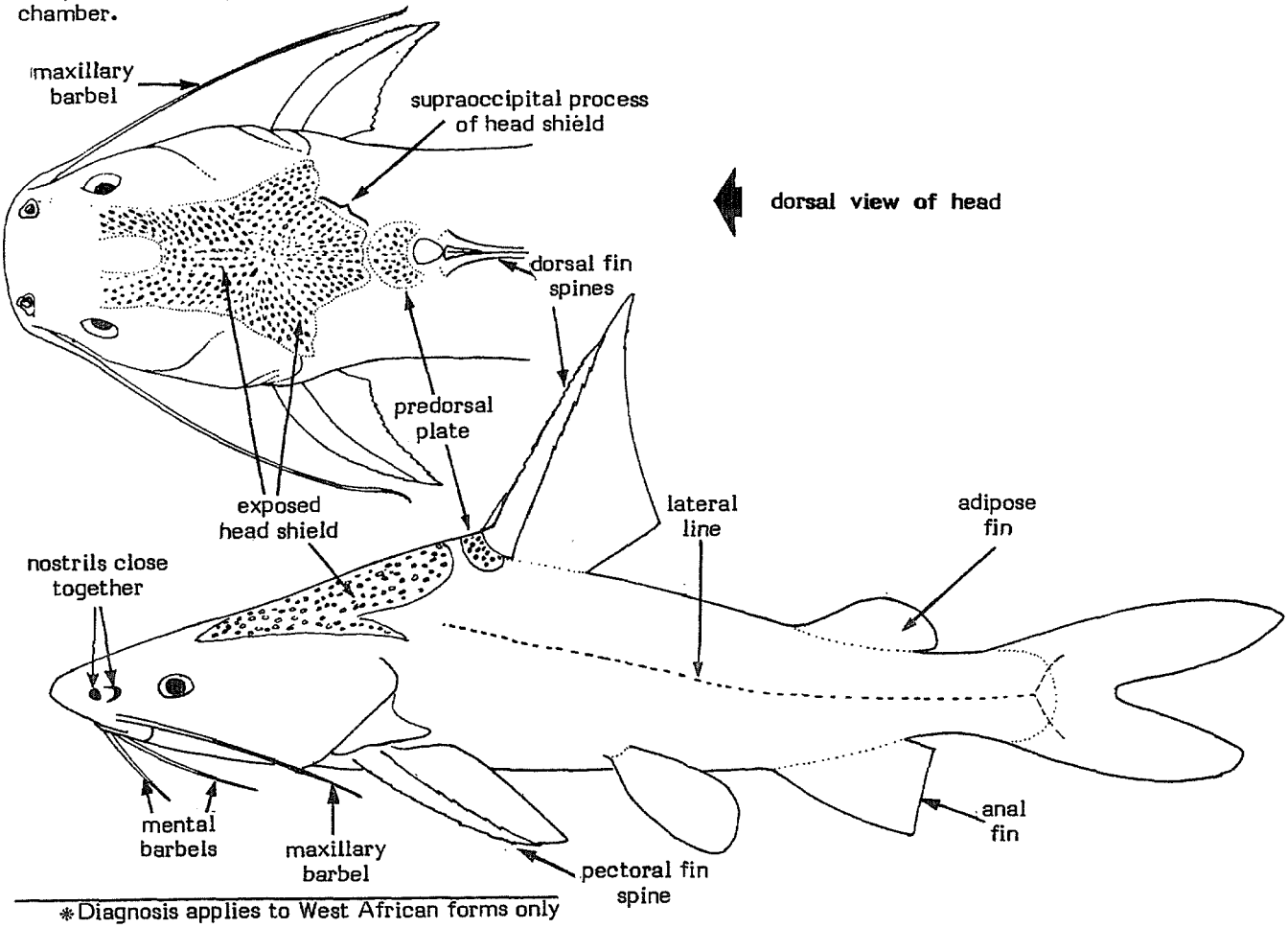
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

ARIIDAE*

(often Tachysuridae in the literature)

Sea catfishes

Medium- to large-sized fishes. Snout and head rounded to slightly depressed; mouth inferior; gill membranes fused with each other and attached to isthmus, with at most a narrow free posterior flap; teeth in jaws fine; those on palate fine, arranged in one or more patches or absent; paired maxillary and mental (mandibulary) barbels present. Head covered by a rugose bony shield, part of which is well visible beneath the thin skin in most species (nearly obscured by thick skin and muscles in some); the supraoccipital process or posterior portion of this shield extends backward medially to meet the predorsal plate (a separate bone at base of dorsal fin spines) and its shape differs between species; 2 pairs of nostrils closely approximated on each side, the posterior pair partly covered by a flap of skin; gillrakers present on anterior faces of all arches, total number 11 to 22 on first arch; gillrakers also present on posterior faces of third and fourth arches and present or absent on posterior faces of first and second arches. Dorsal fin short, with a long, more or less serrated spine preceded by a very short one and followed by 7 soft rays; a fleshy adipose fin always present opposite the anal fin; anal fin with 16 to 24 soft rays; pectoral fins low-set, with a more or less serrated spine and 10 to 13 soft rays; pelvic fins with 6 soft rays; caudal fin forked with 13 branched rays (6 in upper and 7 in lower lobe). Scales absent. Lateral line complete, branching posteriorly onto upper and lower lobes of caudal fin. Swimbladder present, lacking a posterior chamber.



*Diagnosis applies to West African forms only

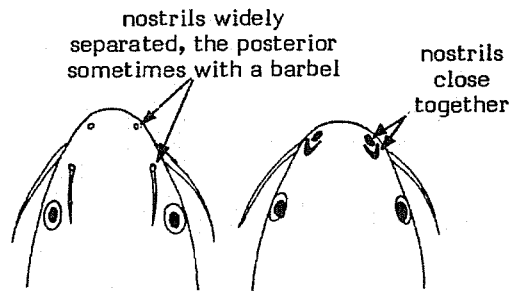
Colour: usually greyish blue, dark grey brown, or in some species with a silvery lateral stripe; paler to white below.

Sea catfishes occur in marine, brackish and freshwaters of warm-temperate and tropical regions. The representatives known from Fishing Area 34 include some large species attaining over 120 cm in total length and they are mostly confined to the coastline of the continent. They are locally abundant in the turbid waters of certain habitats, particularly large river estuaries.

The sea catfishes include several species of high economic value. The catches reported for this group from the area in 1978 totalled about 21 000 t, but the statistics are not broken down by species and hence it is difficult to estimate the share of each species in this total. They are captured with a variety of gear, including bottom trawls, longlines, seines, castnets, traps and on hook and line. The flesh is usually of good quality, but the sharp dorsal and pectoral-fin spines can inflict painful wounds.

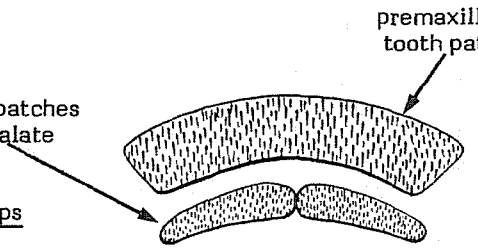
SIMILAR FAMILIES OCCURRING IN THE AREA:

All other catfish families in the area are confined to freshwater in so far as known and have the anterior and posterior nostrils widely separated. The most important commercial freshwater families are: Bagridae (bagrid catfishes), Clariidae (air-breathing catfishes) and Mochokidae (= Synodidae or upside-down catfishes).



KEY TO SPECIES OCCURRING IN THE AREA :

1 a. Gillrakers (total number) on rear of first arch 14 to 18; patches of teeth on palate meeting at midline, forming an arc across palate (Fig. 1); top of head nearly smooth, covered by thick skin and muscle ..... Galeichthys feliceps



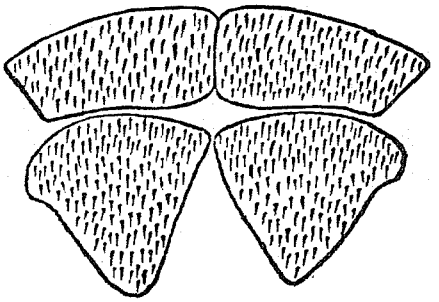
Galeichthys feliceps Fig. 1

1 b. No gillrakers or at most 1 or 2 rakers on rear of first arch; patches of teeth on palate not or scarcely meeting at midline, in rounded, triangular or elongate blocks (Fig. 2,3); rear part of skull (head shield) broadly visible beneath the thin skin, rugose

2 a. Anterior gillrakers (total number) on first arch 17 to 22

3 a. Teeth on palate in 2 single subtriangular blocks (Fig. 2) ..... Arius gigas

3 b. Teeth in palate in 2 paired patches, an anterior subquadrate pair and a posterior elongated pair (Fig. 3) .... Arius latiscutatus

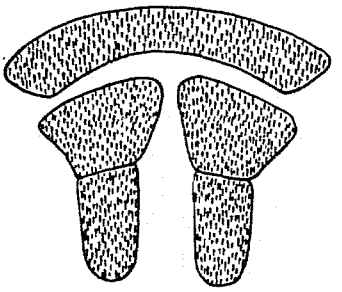


Arius gigas Fig. 2

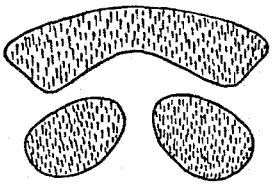
2 b. Anterior gillrakers (total number) on first arch 11 to 15

4 a. No teeth on palate, or in 1 or 2 small patches (patch on one or both sides frequently missing), widely separated, the separation much greater than the diameter of a patch (Fig. 4) ..... Arius heudeloti

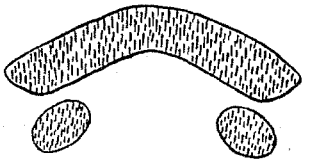
4 b. Teeth on palate in 2 large patches separated by their own diameter or less (Fig. 5) ..... Arius parkii



Arius latiscutatus Fig. 3



Arius parkii Fig. 5



Arius heudeloti Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

* Arius gigas Boulenger, 1911	ARIID Ariu 15
Arius heudeloti Valenciennes, 1840	ARIID Ariu 16
Arius latiscutatus Günther, 1864	ARIID Ariu 17
Arius parkii Günther, 1864	ARIID Ariu 18
Galeichthys feliceps Valenciennes, 1840	ARIID Gal 1

Prepared by W.R. Taylor and G. Van Dyke, U.S. National Museum of Natural History, Washington, D.C., U.S.A.

Original illustrations of head shields and teeth prepared by Ms Janine Higgins except head shield of Arius gigas drawn by Ms Keiko Moore; main species illustrations redrawn from Boulenger, 1911 and Poll, 1953

* Known only from freshwater so far

ARIID Ariu 15

1981

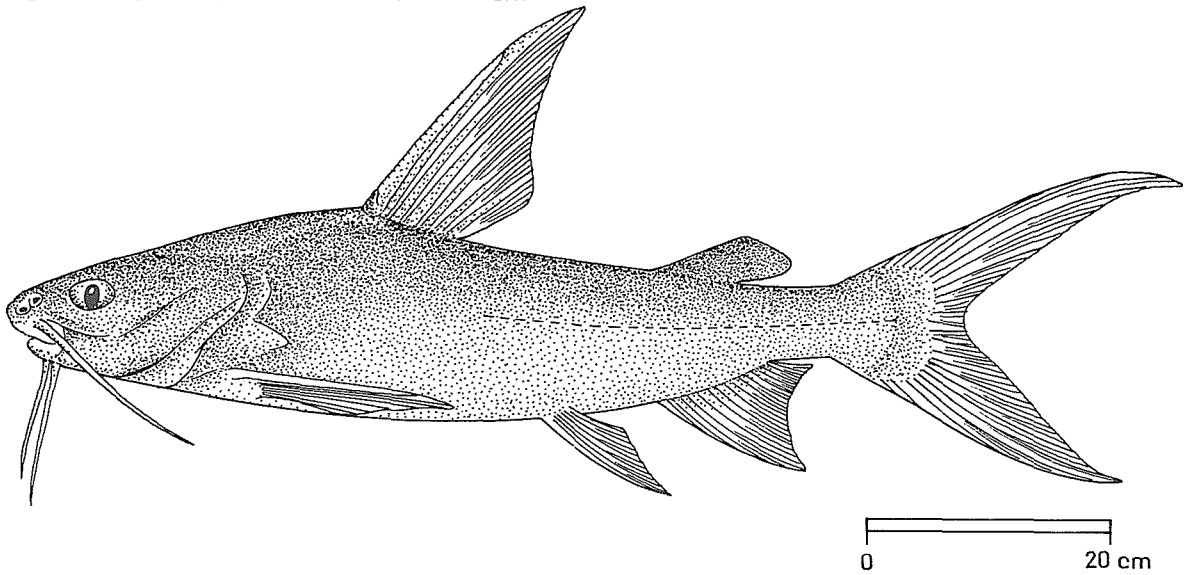
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ARIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Arius gigas Boulenger, 1911

OTHER SCIENTIFIC NAMES STILL IN USE : None



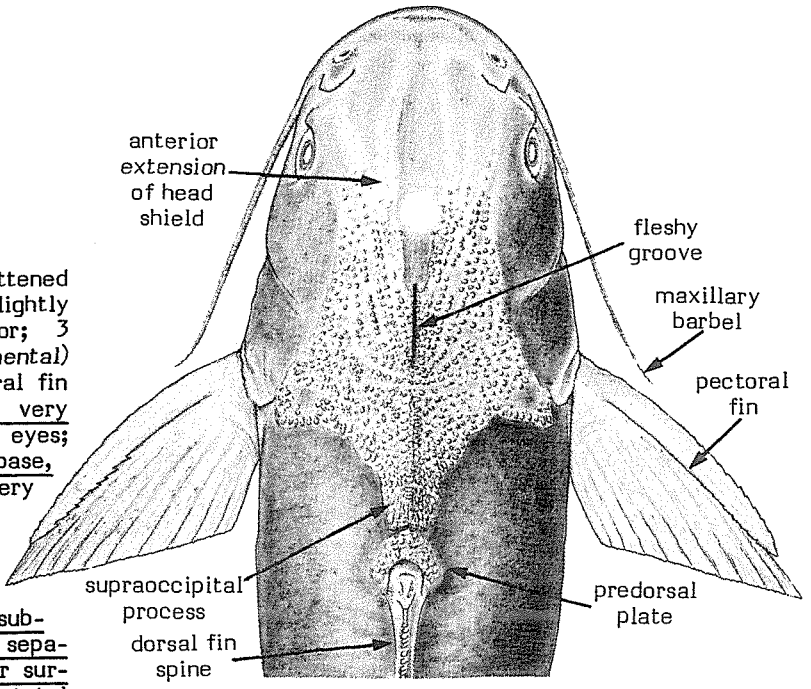
VERNACULAR NAMES:

FAO : En - Giant sea catfish
Fr - Mâchoiron géant
Sp - Bagre gigante

NATIONAL :

DISTINCTIVE CHARACTERS :

Head rounded and only slightly flattened above; snout rounded transversely (slightly pointed in small specimens); mouth inferior; 3 pairs of barbels (one maxillary and two mental) the maxillary pair just reaching to pectoral fin bases; exposed head shield well visible, very rugose, extending anteriorly to opposite eyes; supraoccipital process moderately broad at base, narrower and truncated posteriorly, with a very slight median keel; predorsal plate rugose, cresent-shaped, short; a very short, narrow fleshy groove in median depression of head falling well short of eyes; teeth on palate villiform in 2 large sub-triangular patches which are only slightly separated at midline; no gillrakers on posterior surfaces of the first and second arches; total number of anterior gillrakers on first arch 18 to 21, on second arch 18 to 20. Dorsal and pectoral fins with a strong, serrated, erectile spine; a well developed adipose fin present; soft rays of pectoral fins usually 12; upper lobe of caudal fin slightly elongated.



upper side of head

Colour: light yellowish brown above grading to slightly lighter below.

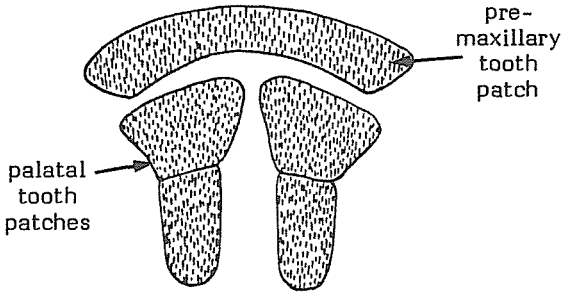
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Arius latiscutatus: teeth on palate in 2 pairs of patches, forming an elongate pattern; total number of gillrakers anteriorly on first arch 17 to 22, posteriorly none; anteriorly on second arch 18 to 23; fleshy groove in median depression of head long, but not quite reaching to opposite eye; head shield coarsely rugose.

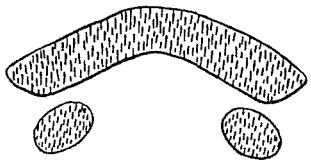
Arius parkii: total number of gillrakers on anterior face of first arch 11 to 14, posteriorly none; anteriorly on second arch 11 to 15; teeth on palate in 2 rounded, well separated patches, fleshy groove in median depression of head elongate, *nearly reaching to opposite eyes.*

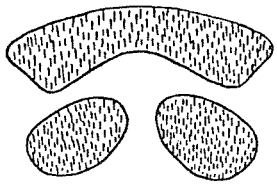
Arius heudeloti: total number of gillrakers on anterior face of first arch 13 to 15, posteriorly usually none, sometimes 1 or 2; on anterior face of second arch 14 to 17; teeth on palate, if present, in small widely separated patches; fleshy groove in median depression of head elongate reaching almost to opposite eyes.

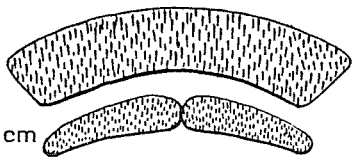
Galeichthys feliceps: total number of gillrakers on anterior face of first arch 11 to 14, on posterior face of first arch 14 to 18, on anterior face of second arch 13 to 16; teeth on palate in 2 *patches forming an arc across palate;* head nearly smooth, not rugose above, median fleshy groove shallow to obscure.

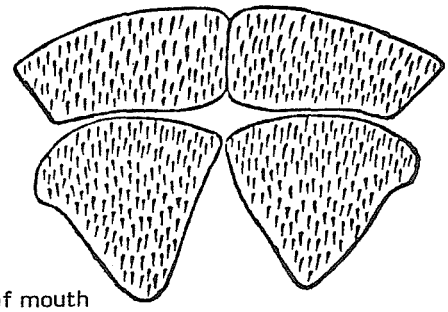


Arius latiscutatus


Arius heudeloti


Arius parkii


Galeichthys feliceps


tooth patches on roof of mouth

SIZE:

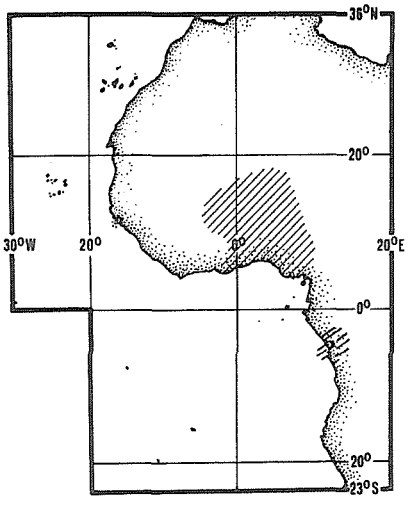
Maximum: over 120 cm; young to 30 cm most commonly captured.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known only from rivers flowing from the north into the Gulf of Guinea, and uncertain reports indicate a presence in the lower Congo River estuary.

The limited known distribution suggests its presence in rivers, estuaries, and about river mouths.

Arius gigas



PRESENT FISHING GROUNDS:

Rivers (and possibly estuaries) flowing into the Gulf of Guinea, as well as the Congo River estuary but data on the extent of exploitation are not available.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

ARIID *Ariu* 16

1981

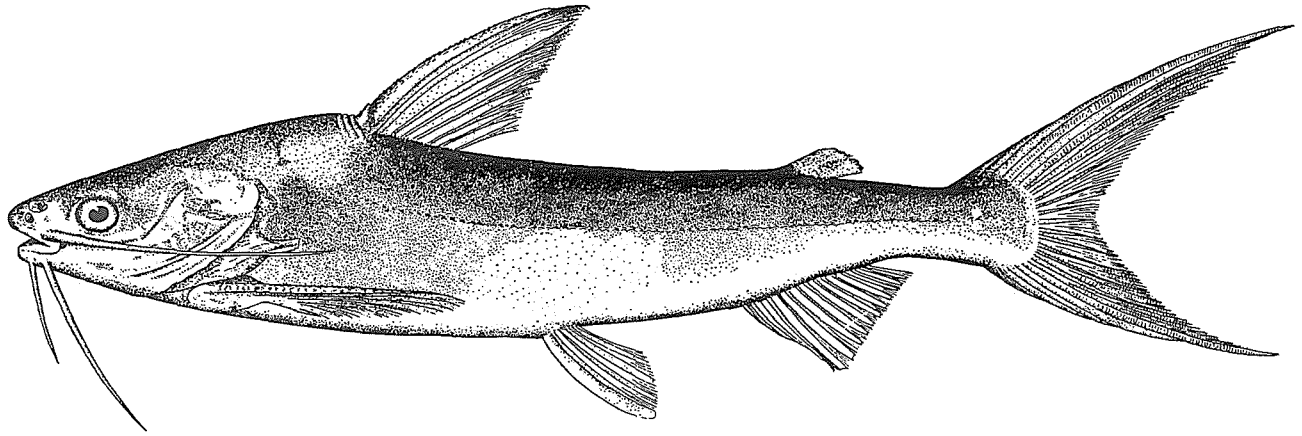
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ARIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Arius heudeloti Valenciennes, 1840

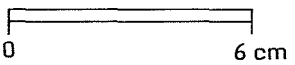
OTHER SCIENTIFIC NAMES STILL IN USE : Arius mercatoris Poll, 1946



VERNACULAR NAMES:

FAO : En - Smoothmouth sea catfish
Fr - Mâchoiron banderille
Sp - Bagre bocalisa

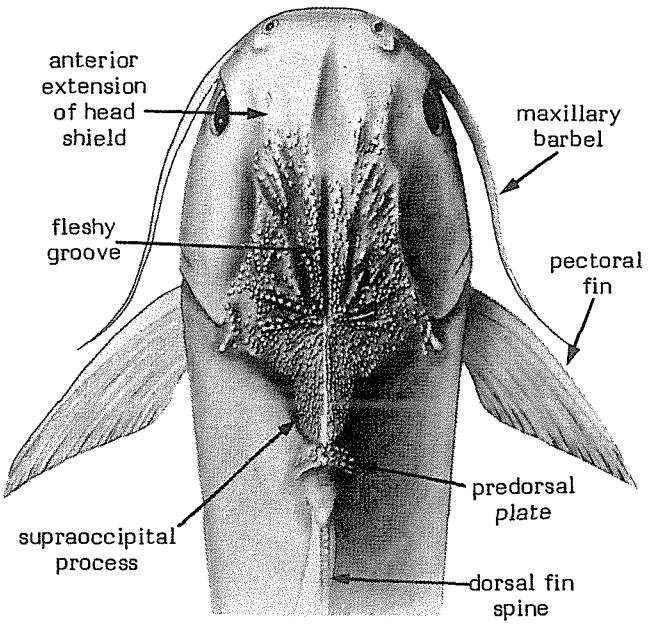
NATIONAL :



DISTINCTIVE CHARACTERS :

Head rounded, only slightly flattened above, snout rounded transversely, mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels reaching well beyond pectoral fin axil; exposed head shield well visible, extending anteriorly to opposite eyes, supraoccipital process rather narrow at base, tapering posteriorly, with a median keel; predorsal plate rugose, cresent-shaped, short; a long narrow fleshy groove in median depression of head, approaching posterior edge of eyes; teeth on palate villiform, in 2 small, widely separated patches when present, or sometimes one or both patches absent, the separation equal to, or greater than, width of a tooth patch; usually no (infrequently 1 or 2 tiny) gillrakers on rear surfaces of first and second arches, total number of anterior gillrakers on first arch 13 to 15. Dorsal and pectoral fins with a strong, serrated, erectile spine; a well developed adipose fin present; soft rays in pectoral fins usually 11, sometimes 10 or 12.

Colour: median to dark brown above, lighter brown below and on sides, abdomen plain whitish.



upper side of head

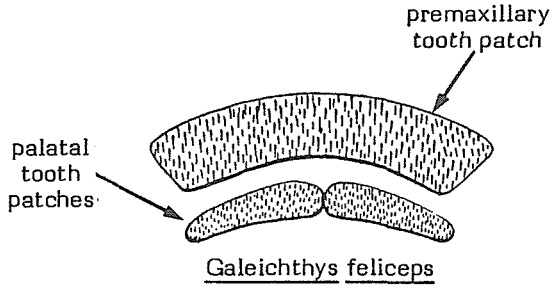
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Galeichthys feliceps: total number of gillrakers on anterior face of first arch 11 to 14, on posterior face of first arch 14 to 18, on anterior face of second arch 13 to 16; teeth on palate in 2 patches forming an arc across palate; head nearly smooth, not rugose above, median fleshy groove shallow to obscure.

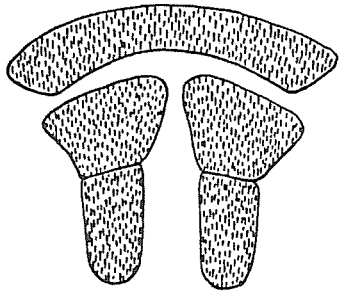
Arius latiscutatus: teeth on palate in 2 pairs of patches, forming an elongate pattern; total number of gillrakers anteriorly on first arch 17 to 22, posteriorly none; anteriorly on second arch 18 to 23; fleshy groove in median depression of head long, but not quite reaching to opposite eye; head shield coarsely rugose.

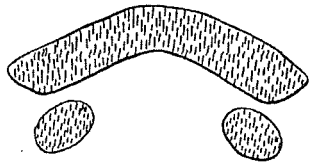
Arius parkii: total number of gillrakers on anterior face of first arch 11 to 14, posteriorly none; anteriorly on second arch 11 to 15; teeth on palate in 2 rounded, well separated patches, fleshy groove in median depression of head elongate, nearly reaching to opposite eyes.

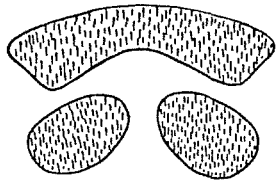
Arius gigas: total number of gillrakers on anterior face of first arch 18 to 21, on posterior face none; anteriorly on second arch 18 to 20; teeth on palate in 2 large subtriangular patches; fleshy groove in median depression of head short.

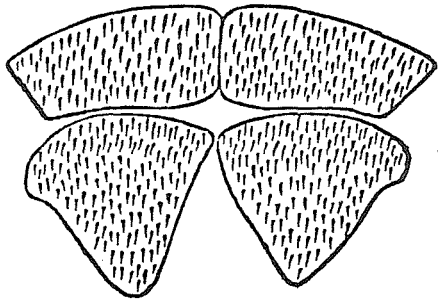


Galeichthys feliceps


Arius latiscutatus


Arius heudeloti


Arius parkii


Arius gigas

tooth patches on roof of mouth

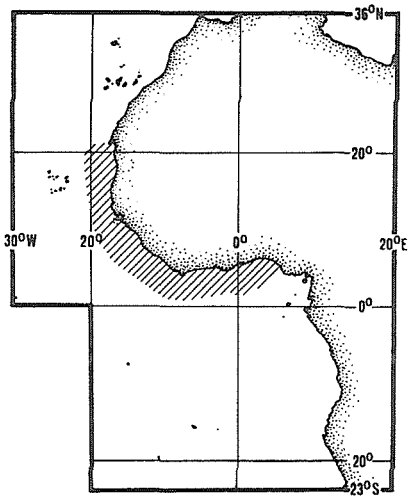
SIZE:

Maximum: reaches 65 cm; common to 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Cape Blanc to Nigeria.

Inhabits shallow coastal waters and in river estuaries; prefers brackish and marine waters.



PRESENT FISHING GROUNDS:

Chiefly inshore waters along the coast.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species, but it surely makes up for a significant share of the seacatfish catches in the area (total reported for the area in 1978 about 21 000 t).

Caught with bottom trawls, purse seines, fixed bottom nets, gillnets, and longlines.

Marketed fresh, dried, salted, smoked and converted to fishmeal.

ARIID Ariu 17
1981

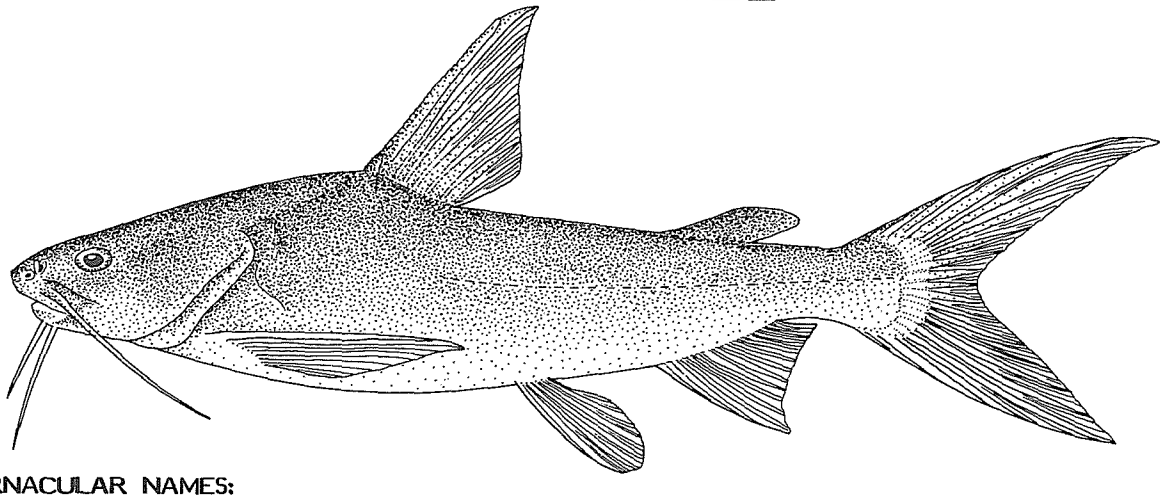
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ARIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

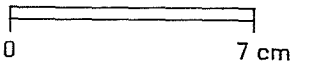
Arius latiscutatus Günther, 1864

OTHER SCIENTIFIC NAMES STILL IN USE : Arius gambensis Cadenat, 1950
Tachysurus gambensis Fowler, 1936
Tachysurus lagoensis Fowler, 1936



VERNACULAR NAMES:

FAO : En - Rough-head sea catfish
Fr - Mâchoiron de Gambie
Sp - Bagre de Gambia

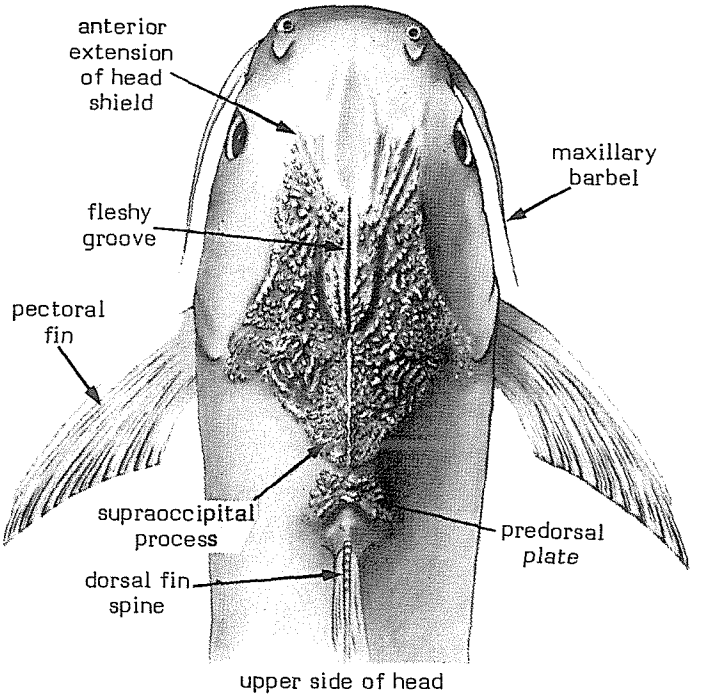


NATIONAL :

DISTINCTIVE CHARACTERS :

Head rounded, only slightly flattened above, snout rounded transversely, mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels just reaching the pectoral fins bases; exposed head shield well visible, coarsely rugose, extending anteriorly to opposite eyes, its supraoccipital process prominently broad at base, tapering posteriorly, with a median keel; predorsal plate cresent-shaped and very rugose, short; fleshy groove in median depression of head extends anteriorly almost to opposite eyes; teeth on palate villiform, in 2 pairs of patches, the anterior patch, the widest of the two, continuous with the posterior patch forming an elongated pattern of teeth on each side of palate; no gillrakers on rear surfaces of the first and second arches; total number of anterior gillrakers on first arch 17 to 22 and on the second arch, 18 to 23. Dorsal and pectoral fins each with a strong serrated, erectile spine; a well developed adipose fin present; soft rays in pectoral fin 11 or 12.

Colour: dark brown above, lighter on lower sides and whitish below.



upper side of head

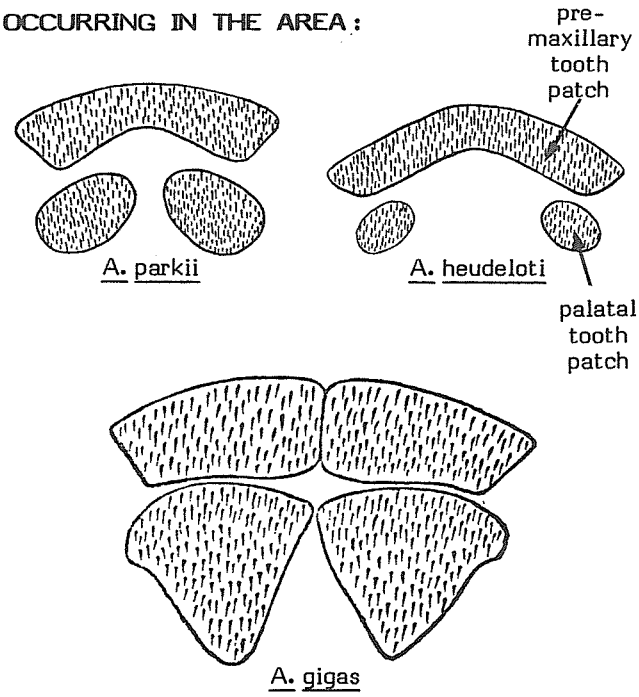
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

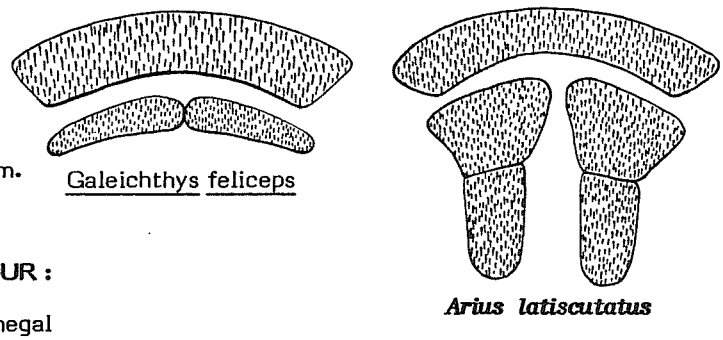
Arius parkii: total number of gillrakers on anterior face of first arch 11 to 14, posteriorly none; anteriorly on second arch 11 to 15; teeth on palate in 2 rounded, well separated patches, fleshy groove in median depression of head elongate, nearly reaching to opposite eyes.

Arius heudeloti: total number of gillrakers on anterior face of first arch 13 to 15, posteriorly usually none, sometimes 1 or 2; on anterior face of second arch 14 to 17; teeth on palate, if present, in small widely separated patches; fleshy groove in median depression of head elongate reaching almost to opposite eyes.

Arius gigas: total number of gillrakers on anterior face of first arch 18 to 21, on posterior face none; anteriorly on second arch 18 to 20; teeth on palate in 2 large subtriangular patches; fleshy groove in median depression of head short.

Galeichthys feliceps: total number of gillrakers on anterior face of first arch 11 to 14, on posterior face of first arch 14 to 18, on anterior face of second arch 13 to 16; teeth on palate in 2 patches forming an arc across palate; head nearly smooth, not rugose above, median fleshy groove shallow to obscure.





tooth patches on roof of mouth

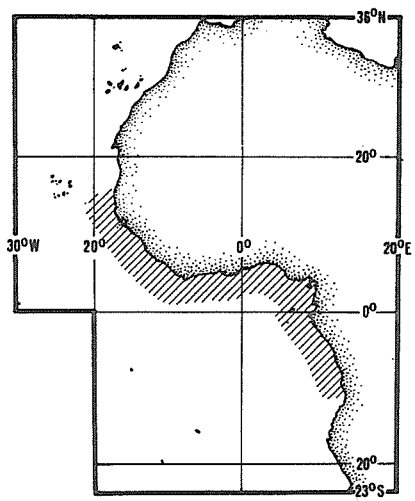
SIZE:

Maximum: to about 50 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Senegal River Basin and from northern Senegal coastwise to the Congo River and Angola.

Found chiefly in shallow marine waters.



PRESENT FISHING GROUNDS:

Inshore waters along the coast.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species, but it doubtless makes up for a part of the total catches of seacatfishes from the area (1978: about 21 000 t).

Caught with bottom trawls, purse seines, fixed bottom nets, gillnets, and longlines.

Marketed fresh, dried salted, smoked and converted to fishmeal.

ARIID Ariu 18

1981

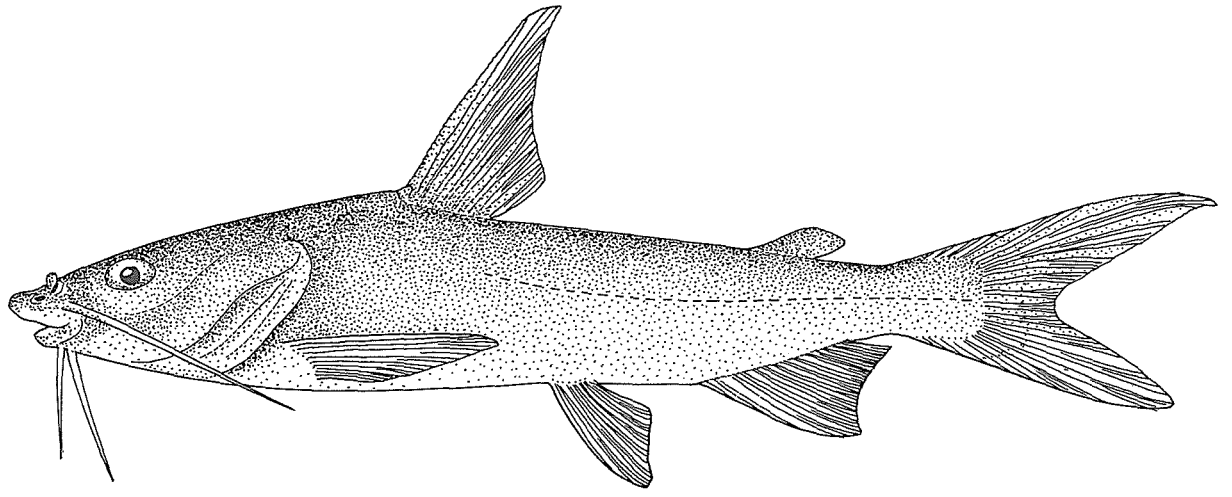
FAO SPECIES IDENTIFICATION SHEETS

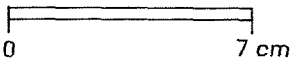
FAMILY : ARIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Arius parkii Günther, 1864

OTHER SCIENTIFIC NAMES STILL IN USE : Arius capellonis Steindachner, 1867
Arius heudeloti Boulenger, 1911 (not Valenciennes, 1840)
Tachysurus capellonis Fowler, 1936
Tachysurus heudelotii Fowler, 1936
Arius granulatus Peters, 1868

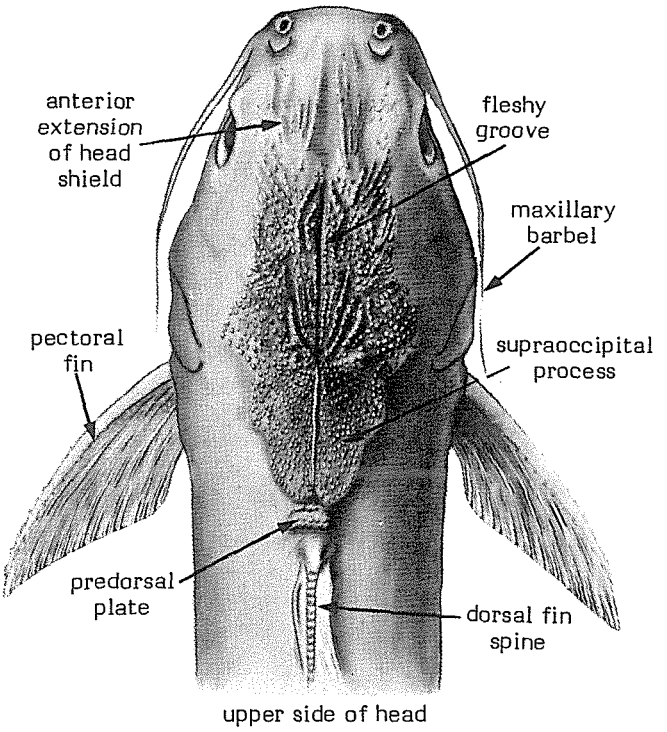




VERNACULAR NAMES:

FAO : En - Guinean sea catfish
Fr - Mâchoiron de Guinée
Sp - Bagre de Guinea

NATIONAL :



upper side of head

DISTINCTIVE CHARACTERS :

Head not broadened, but rounded and only slightly flattened above, snout rounded transversely, mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels just reaching to pectoral fin bases; exposed head shield well visible, moderately rugose, extending anteriorly to opposite eyes or slightly beyond, the supraoccipital process moderately broad at base tapering posteriorly, with a median keel; a long narrow fleshy groove in median depression of head, reaching opposite posterior edge of eyes; teeth on palate villiform in single paired rounded patches, well separated; no gillrakers on rear surfaces of first and second arches, total number of anterior gillrakers on first arch 11 to 14. Dorsal and pectoral fins each with a strong, serrated, erectile spine; a well developed adipose fin present; soft rays in pectoral fins 11, usually 12.

Colour: dark brown above and light brown below.

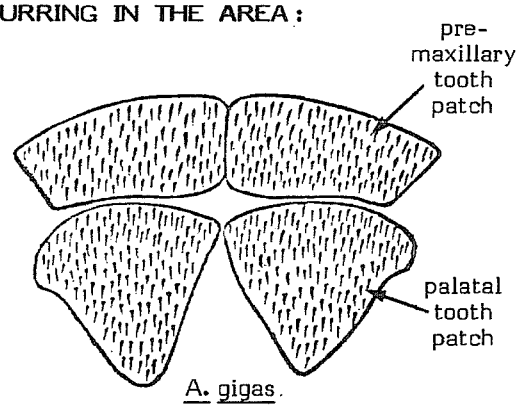
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Arius gigas: total number of gillrakers on anterior face of first arch 18 to 21, on posterior face none; anteriorly on second arch 18 to 20; teeth on palate in 2 large subtriangular patches; fleshy groove in median depression of head short.

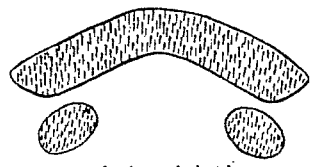
Arius heudeloti: total number of gillrakers on anterior face of first arch 13 to 15, posteriorly usually none, sometimes 1 or 2; on anterior face of second arch 14 to 17; teeth on palate, if present, in small widely separated patches; fleshy groove in median depression of head elongate reaching almost to opposite eyes.

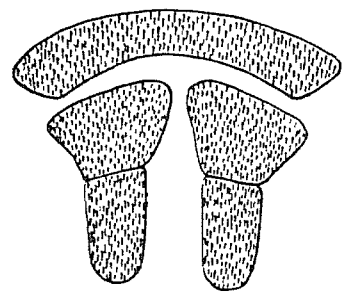
Arius latiscutatus: teeth on palate in 2 pairs of patches, forming an elongate pattern; total number of gillrakers anteriorly on first arch 17 to 22, posteriorly none; anteriorly on second arch 18 to 23; fleshy groove in median depression of head long, but not quite reaching to opposite eye; head shield coarsely rugose.

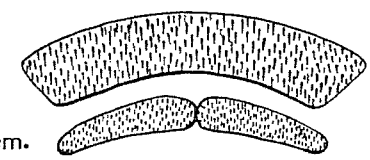
Galeichthys feliceps: total number of gillrakers on anterior face of first arch 11 to 14, on posterior face of first arch 14 to 18, on anterior face of second arch 13 to 16; teeth on palate in 2 patches forming an arc across palate; head nearly smooth, not rugose above, median fleshy groove shallow to obscure.

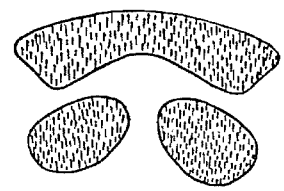


A. gigas


A. heudeloti


A. latiscutatus


Galeichthys feliceps


Arius parkii

tooth patches on roof of mouth

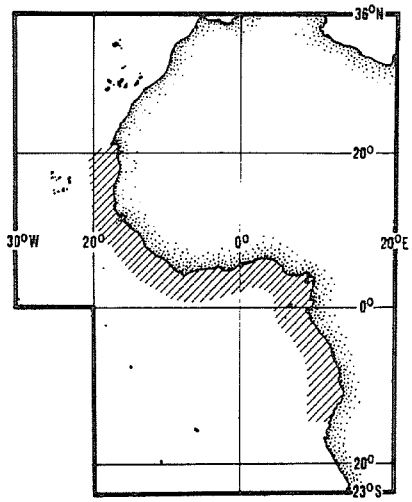
SIZE:

Maximum: to about 50 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Cape Blanc to Angola.

Inhabits shallow coastal waters and river estuaries; prefers brackish and marine waters.



PRESENT FISHING GROUNDS:

Chiefly inshore waters along the coast.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species, but it doubtless makes up for part of the total seacatfish catches from the area (1978: about 21 000 t).

Caught with bottom trawls, purse seines, fixed bottom nets, gillnets, and longlines.

Marketed fresh, dried, salted, smoked and converted to fishmeal.

ARIID Gal 1

1981

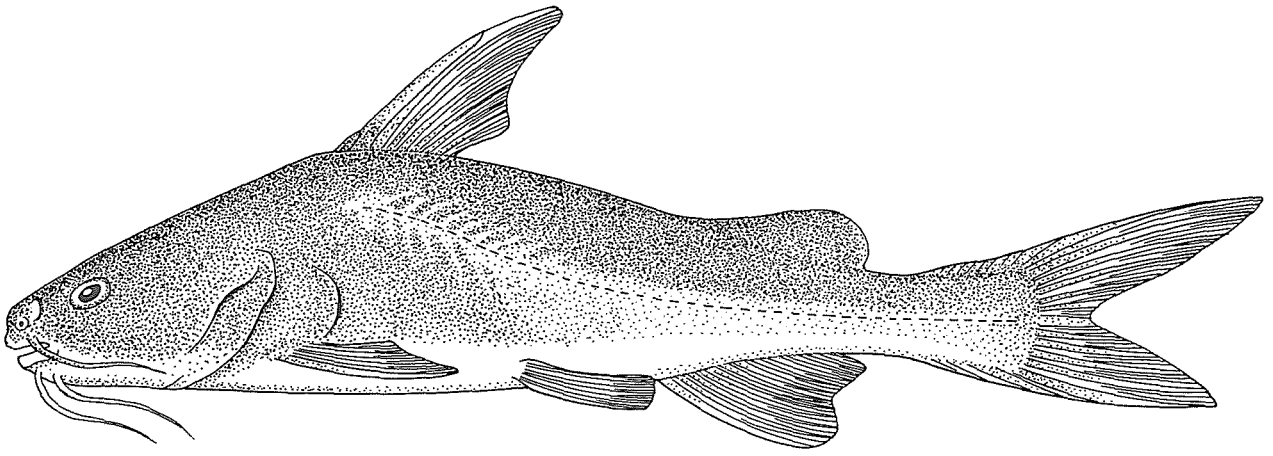
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ARIIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Galeichthys feliceps Valenciennes, 1840

OTHER SCIENTIFIC NAMES STILL IN USE : Tachysurus feliceps Fowler, 1936





VERNACULAR NAMES:

FAO : En - White baggar
Fr - Barbillon blanc
Sp - Bagre barba blanca

NATIONAL :

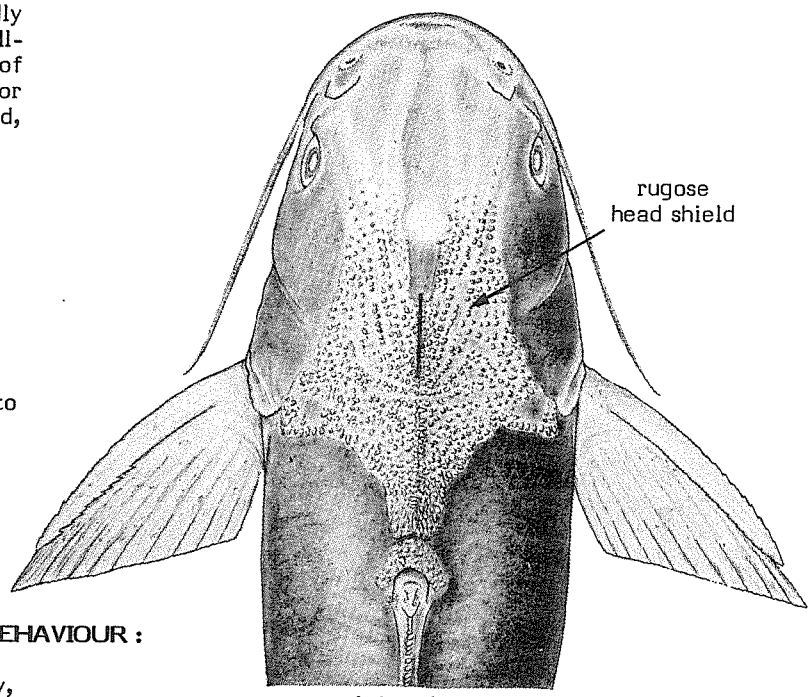
DISTINCTIVE CHARACTERS :

Head arched and only slightly flattened above, snout rounded transversely, mouth inferior; 3 pairs of barbels (1 maxillary and 2 mental) around mouth, the maxillary barbels falling short of pectoral fins bases, head relatively smooth above, the shield not prominent, no fleshy groove in median depression of head or the groove very shallow; teeth on palate villiform, in 2 more or less cresent-shaped transverse patches which join medially; gillrakers present on front and back of first and second arches; total number of anterior gillrakers on first arch 11 to 14, posterior gillrakers on first arch 14 to 18; anterior gillrakers on second arch 13 to 16.

Colour: olive brown to dark brown above; lighter brown along sides to whitish below, many individuals with a whitish or silvery band superimposed over lateral line on body.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Arius species: head shield broadly visible beneath the skin, rugose; no gill-rakers, or at most 1 or 2 rakers on rear of first arch; patches of teeth on palate not, or scarcely meeting at midline, in rounded, triangular or elongated blocks.



Arius gigas

upper side of head

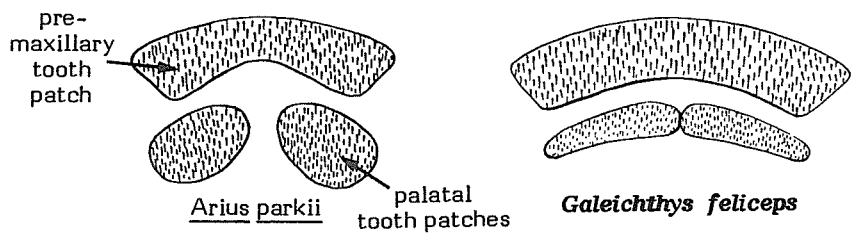
SIZE:

Maximum: about 55 cm; common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, only around Walvis Bay, extending southward to South Africa.

Common in rivers and in shallow sea water.



Arius parkii

Galeichthys feliceps

tooth patches on roof of mouth

PRESENT FISHING GROUNDS:

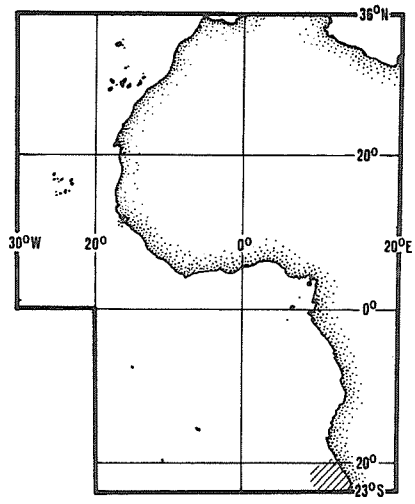
Chiefly rivers and estuaries.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught chiefly with gillnets and on hook and line.

Utilized mostly fresh.



ARIOM

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

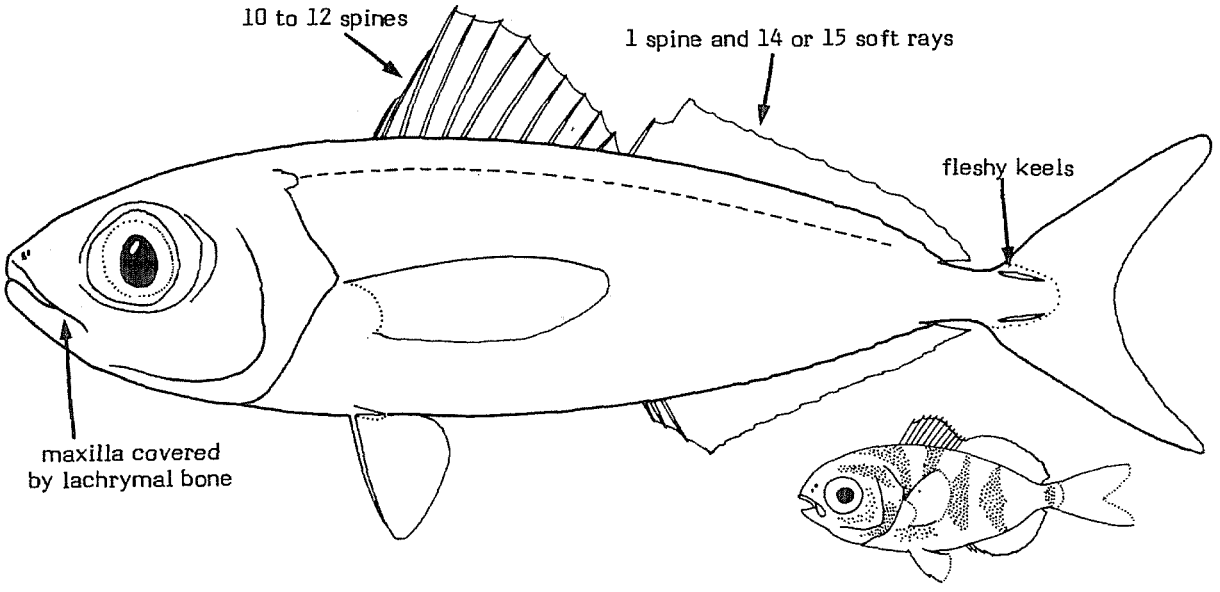
ARIOMMIDAE

Ariommas, driftfishes

Body slender or moderately deep, rounded or somewhat compressed. Head long; snout short and blunt; eye large, centrally located and surrounded by well-developed adipose tissue extending froward to around nostrils; opercle thin, its margin smooth; gill openings large; mouth small, posterior tip of maxilla ending in front of eye; upper jaw almost completely covered by lachrymal bone when mouth is closed; jaw teeth minute and conical, in a single row in each jaw; no teeth on vomer and palatines (roof of mouth), or basibranchials (floor of mouth); toothed pharyngeal sacs present; papillae in these sacs with flat rounded bases, the small teeth seated all along a large central stalk; 6 branchiostegal rays. Two dorsal fins, scarcely separated; the first with 10 to 12 long, slender spines depressible into a groove, the second with 1 spine and 14 or 15 (rarely 13 or 16) soft rays, the longest spines almost twice the length of longest soft rays; anal fin about as long as second dorsal, with 3 spines and 14 or 15 (rarely 13 or 16) soft rays; pectoral fins pointed, but not especially produced; pelvic fin origins posterior to level of pectoral fin bases and folding into a broad groove along the ventral mid-line; caudal fin stiff and markedly forked; caudal peduncle short, slender and square in cross section, its minimum depth less than 5% of standard length; 2 low fleshy keels present on each side of peduncle near caudal fin base. Lateral line high on body, following the dorsal profile; scales with branched tubes not extending onto caudal peduncle; a branch of the lateral line extending forward to over eye as an arched bony tract. Scales large, cycloid, very thin and easily shed, extending forward on nape to level of eyes; bases of median fins and top of snout scaleless.

Colour: silvery, with a purple, brown, or blue tinge. Juveniles with 3 to 6 dark, vertical bars.

Schooling fishes generally found offshore in deep water over muddy bottoms on the continental shelf and the upper slope. Juveniles occur near the surface. Although not commercially exploited as yet, ariommas may be regarded as having considerable potential economic interest, particularly in view of their abundance and the quality of their flesh, which is rich in fat and highly esteemed.



example of a juvenile
(about 2 cm T.L.)
(A. regulus from the W.C. Atlantic)

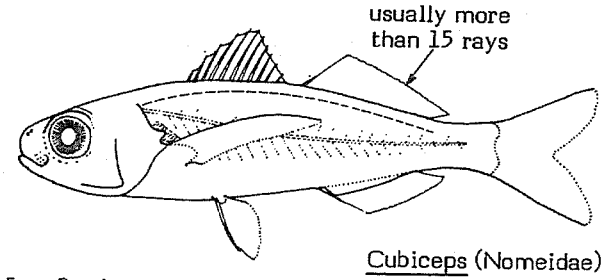
SIMILAR FAMILIES OCCURRING IN THE AREA:

Nomeidae: teeth present on roof of mouth and often on tongue; usually more than 15 soft rays in second dorsal fin (14 or 15, rarely 13 or 16 in species of Ariommidae); caudal peduncle deep and compressed, more than 5% of standard length, lacking the fleshy keels.

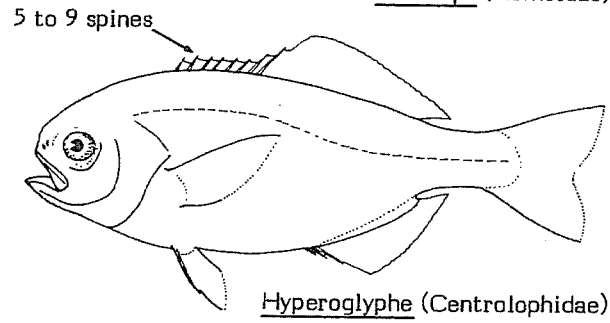
Centrolophidae: mouth large, posterior end of maxilla usually reaching to level of posterior half of eye; first dorsal fin with 5 to 9 rather stout spines (10 to 12 slender spines in species of Ariommidae), all shorter than second dorsal fin rays; caudal peduncle deep and compressed, without fleshy keels.

Carangidae: 4 to 8 usually stout spines in first dorsal fin, generally shorter than, or equal to second dorsal fin rays (except in Pseudocaranx species); 2 detached stout spines preceeding anal fin (sometimes partially or completely embedded); modified scales along posterior portion of lateral line forming a single keel on each side of caudal peduncle in some genera.

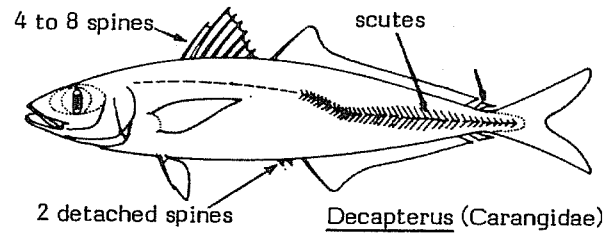
Scombridae and Gempylidae (Lepidocybium and Ruvettus): snout pointed; base of second dorsal fin shorter than that of first dorsal; a series of detached finlets behind second dorsal fin and anal fin.



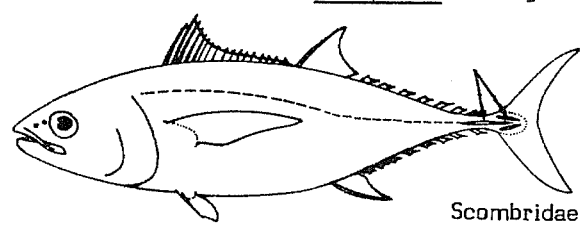
Cubiceps (Nomeidae)



Hyperoglyphe (Centrolophidae)

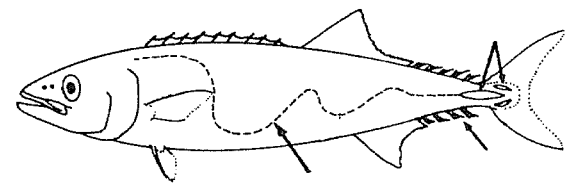


Decapterus (Carangidae)


Scombridae

KEY TO GENERA OCCURRING IN THE AREA:

Ariomma only.


Lepidocybium (Gempylidae)

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Ariomma bondi Fowler, 1930	ARIOM Ariom 2
Ariomma helena Trunov, 1976	
Ariomma melanum (Ginsburg, 1954)	ARIOM Ariom 4

Prepared by R.L. Haedrich, Memorial University of Newfoundland, St. John's Newfoundland, Canada

ARIOM Ariom 2

1981

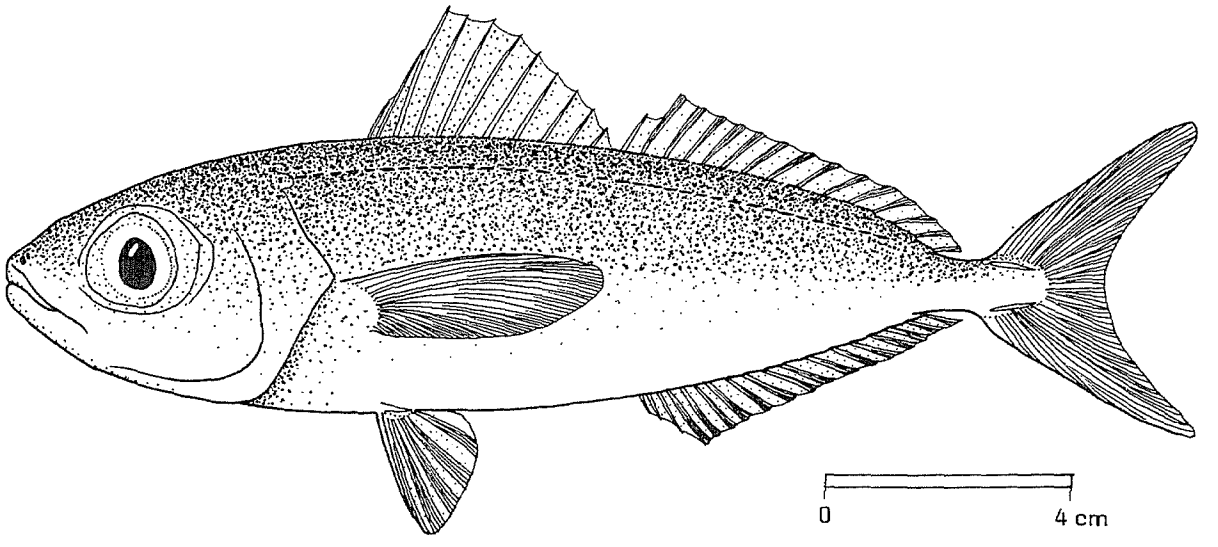
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ARIOMMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. *Atlantic*)

Ariomma bondi Fowler, 1930

OTHER SCIENTIFIC NAMES STILL IN USE : Paracubiceps ledanoisi Belloc, 1937
Cubiceps nigriargenteus Ginsburg, 1954
Ariomma ledanoisi (Belloc, 1937)



VERNACULAR NAMES:

FAO : En - Silver-rag driftfish
Fr - Ariomme grise
Sp - Arioma lucia

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, rather slender and somewhat compressed. Snout blunt, not rounded; eye large, its diameter slightly exceeding length of snout; mouth small, posterior tip of maxilla scarcely reaching to anterior eye margin; lower jaw slightly projecting; teeth minute, in a single row on both jaws; no teeth on roof or floor of mouth. Two separate dorsal fins, the first higher than the second, with about 11 flexible spines depressible into a groove, the second with 1 spine and 14 or 15 (rarely 13 or 16) soft rays; anal fin with 3 spines and 14 or 15 (rarely 13 or 16) soft rays; pectoral fins relatively broad, not extending beyond level of last dorsal fin spines; pelvic fin origins posterior to level of pectoral fin bases and depressible into a shallow, but prominent groove; caudal fin rigid and deeply forked; caudal peduncle square in cross-section, its depth less than 5% of standard length, with 2 low fleshy keels on each side near caudal fin base. Lateral line high on body, following dorsal profile, with tubed scales not extending onto caudal peduncle; pores and canals of cephalic lateral line only moderately developed. Scales conspicuously large, especially those around midpoint of sides, cycloid (smooth), easily detached, about 30 to 45 in the lateral series; scalation on head not extending further than anterior margin of pupil.

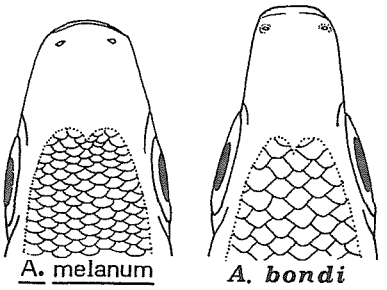
Colour: uniformly dark blue on back, silvery below; young with 3 to 6 dark bars on sides; peritoneum silvery or pale.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

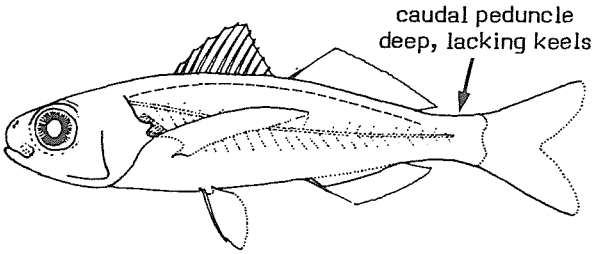
Ariomma melanum: scales small, 50 to 65 in the lateral series (large, 30 to 45 in lateral series in A. bondi); scalation on head extending to level of anterior eye margin; body uniformly dark; peritoneum dark.

Ariomma helena: scales about 58 to 60 in the lateral series; scalation on head extending to level of anterior eye margin; known only from vicinity of St. Helena.

Cubiceps species (Nomeidae): caudal peduncle compressed, its depth more than 5% of standard length (less than 5% in A. bondi), lacking keels; teeth present on roof of mouth and on tongue.



upper view of head



Cubiceps (Nomeidae)

SIZE :

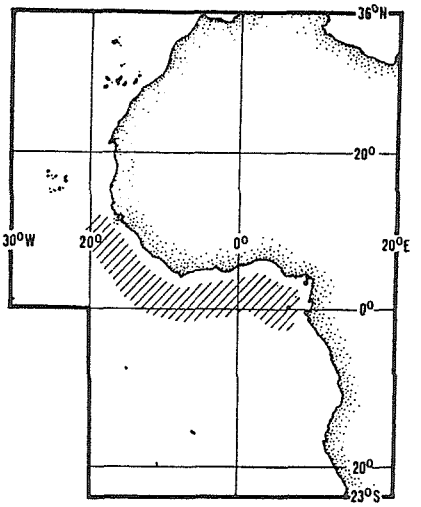
Maximum: 25 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Tropical West Africa from Senegal to Gabon; outside the area, in the Western Atlantic from Nova Scotia through the Gulf of Mexico and Caribbean Sea to Uruguay.

Inhabits deeper waters (between 70 and 200 m) of the continental shelf, usually over muddy bottoms. Taken between 50 and 500 m, but most common between 120 and 180 m. Associated with Dentex, Trachurus, Priacanthus, Lepidotrigla and Squatina in the sub-thermocline sparid sub-community at temperatures of 14° to 20°C. Found in schools; can be locally very abundant. Juveniles occur in surface waters.

Feeds mainly on small crustaceans.



PRESENT FISHING GROUNDS :

Abundant in deep water throughout the Gulf of Guinea. There is no special fishery at present for this species which, however, seems to have a great potential economic interest because of its abundance and the quality of its flesh.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and canned. Also used for fishmeal and oil.

ARIOM Ariom 4

1981

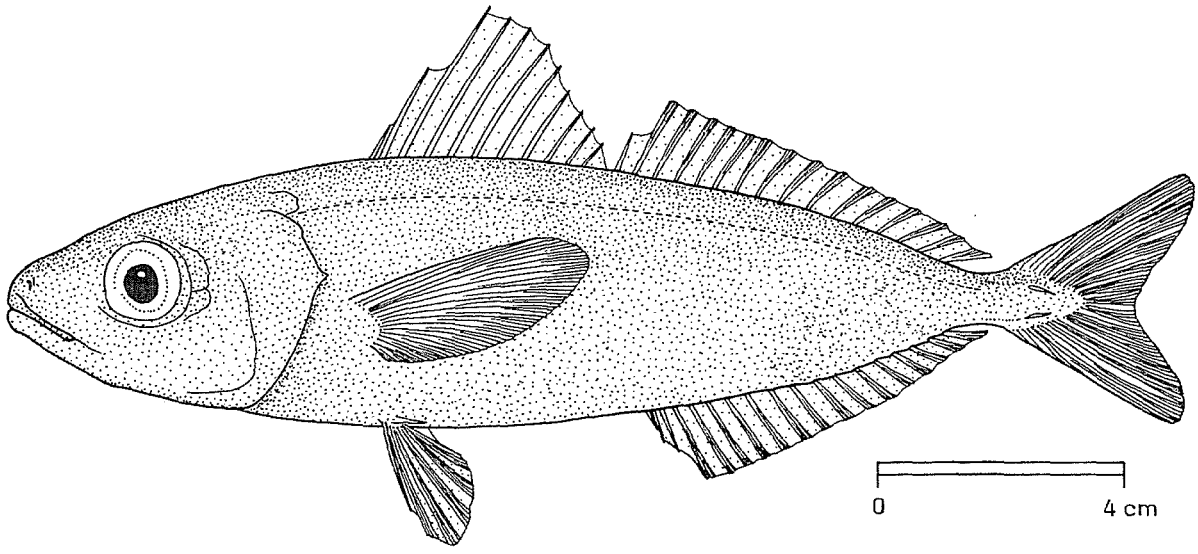
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : ARIOMMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Ariomma melanum (Ginsburg, 1954)

OTHER SCIENTIFIC NAMES STILL IN USE : Paracubiceps multisquamis Marchal, 1961
Ariomma multisquamis (Marchal, 1961)



VERNACULAR NAMES:

FAO : En - Brown driftfish
Fr - Ariomme brune
Sp - Arioma parda

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, rather slender and somewhat compressed. Snout blunt, not rounded; eye moderate, its diameter equal to, or slightly shorter than, snout length; mouth small, posterior tip of maxilla scarcely reaching to anterior eye margin; lower jaw slightly projecting; teeth minute, in a single row in both jaws; no teeth on roof or floor of mouth. Two separate dorsal fins, the first higher than the second, with about 11 flexible spines depressible into a groove, the second with 1 spine and 14 or 15 (rarely 13 or 16) soft rays; anal fin with 3 spines and 14 or 15 (rarely 13 or 16) soft rays; pectoral fins rather broad and not extending beyond level of last dorsal fin spine; pelvic fin origins posterior to level of pectoral fin bases and depressible into a shallow, but prominent groove; caudal fin rigid and forked; caudal peduncle square in cross section, its depth less than 5% of standard length, with 2 low fleshy keels on each side near caudal fin base. Lateral line high on body, following dorsal profile, not extending onto caudal peduncle; pores and canals of cephalic lateral line well-developed and conspicuous. Scales relatively small, cycloid (smooth), easily shed, about 50 to 65 in the lateral series; scalation on head extending to level of anterior eye margins.

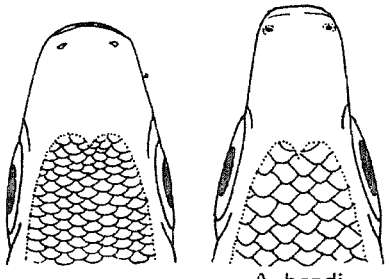
Colour: uniformly brown or bluish brown; in life sometimes with a silvery cast; the young have 3 to 6 dark bars on sides; peritoneum dark brown to black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Ariomma bondi: scales large, 30 to 45 in the lateral series (small, 50 to 65 in the lateral series in A. melanum); scalation on head extending only to level of anterior margin of pupil; body dark above midline and light below; peritoneum silvery or pale.

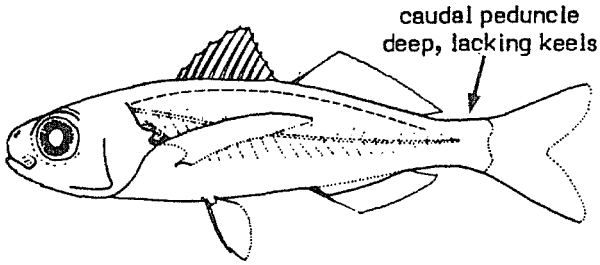
Ariomma helena: eye very large, its diameter greater than snout length, and equal to more than 30% of the lead length; body dark above midline and lighter below; peritoneum pale. Known only from the vicinity of St. Helena.

Cubiceps species (Nomeidae): caudal peduncle compressed, its depth more than 5% of standard length (less than 5% in A. melanum), lacking keels; teeth present on roof of mouth and on tongue.



A. melanum A. bondi

upper view of head



Cubiceps (Nomeidae)

SIZE:

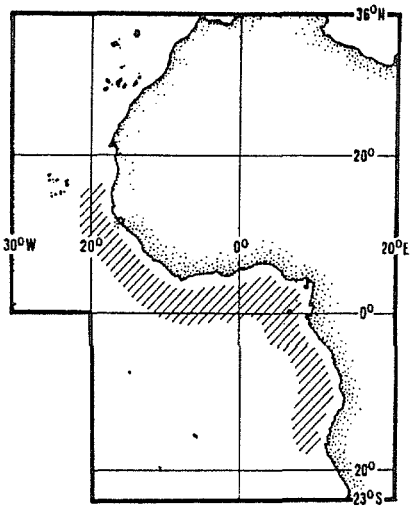
Maximum: 25 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Tropical West Africa from Mauritania to Angola; outside the area, in the Western Atlantic from New York through the Gulf of Mexico and Caribbean Sea to Panama.

Inhabits deep water, between 200 and 600 m, of the upper continental slope, usually over soft bottoms. Associated with Chlorophthalmus, Peristedion, Antigonia and Cyttus in the continental slope community at temperatures between 7° and 16°C. Found in schools; can be locally very abundant. Juveniles occur in surface waters.

Feeds mainly on small crustaceans.



PRESENT FISHING GROUNDS:

A dominant species at depths between 400 and 600 m from Ivory Coast to Gabon. At present not forming the object of a special fishery, but reported to have become more important in recent years; apparently with much potential, although trawling at appropriate depths is said to be difficult in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken as bycatch, in deep bottom trawling operations.

Marketed fresh and canned. Also used for fishmeal and oil.

ATEL

1981

FAO SPECIES IDENTIFICATION SHEETS

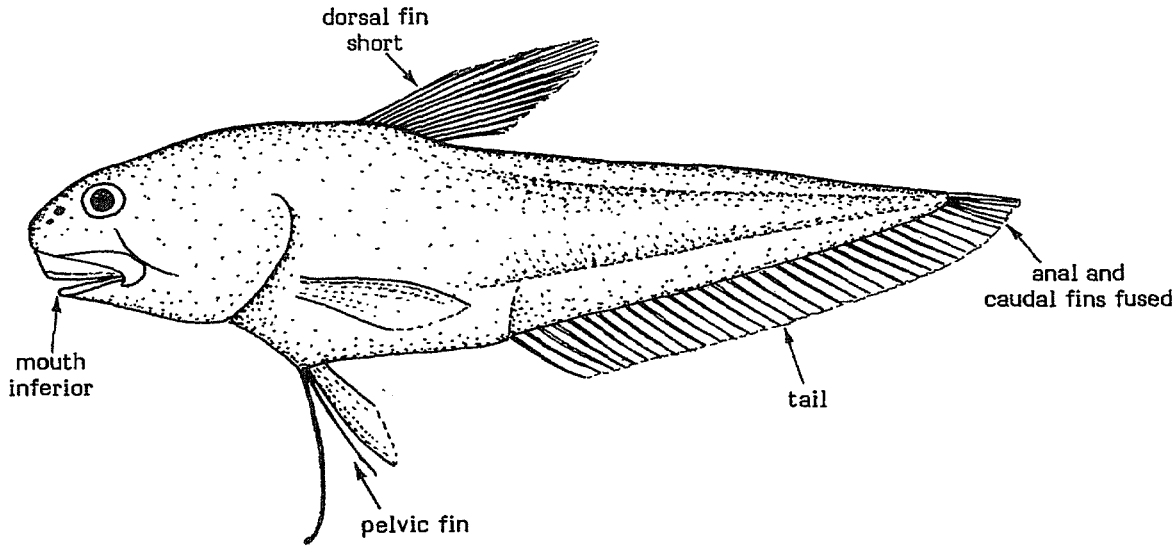
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

ATELEOPODIDAE

Ateleopids

Body robust, consisting of a short trunk and a more or less elongated, laterally compressed and pointed tail. Head large, snout conical, eyes small; mouth inferior; teeth small or absent; gill slits large. Dorsal fin short, originating over or posterior to pectoral fin bases; pectoral fins well developed; pelvic fins jugular or thoracic in position, with one or several elongated rays; anal fin well developed, more or less long-based and fused to the unforked caudal fin. Skin naked and slimy.

Colour: light to dark brown; body sometimes unpigmented ventrally (Ijimaia); fins blackish.



Large-sized fish (adults ranging from 80 to 180cm total length), rather uncommon, inhabiting near to the bottom over the continental slope between 200 and 600 m depth. Occasionally taken in bottom trawls but not of significant interest to fisheries.

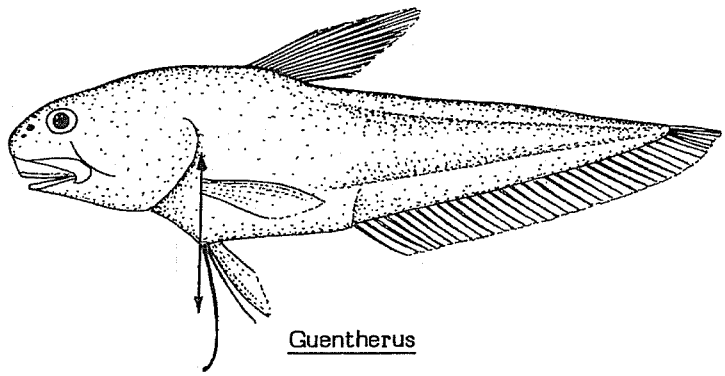
SIMILAR FAMILIES OCCURRING IN THE AREA:

The combination of characters such as the short dorsal fin, the stout and slimy body and the unforked caudal fin fused to the anal fin, clearly distinguishes the ateleopodids from any other family occurring in the area.

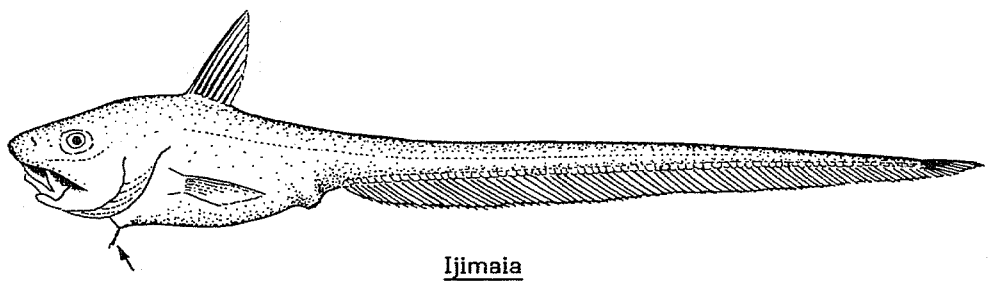
KEY TO GENERA OCCURRING IN THE AREA:

1 a. Pelvic fins inserted below bases of pectoral fins; body not greatly elongate, its depth contained less than 4 times in total length; 12 dorsal fin rays (Fig. 1) ..... Guentherus

1 b. Pelvic fins inserted in advance of pectoral fin bases; body elongated, its depth contained more than 6 times in total length; 8 to 10 dorsal fin rays (Fig 2 ..... Ijimaia



Guentherus Fig. 1



Ijimaia Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA:

Guentherus altivelis (Osorio, 1917)

Ijimaia loppei Roule, 1922 (= Ateleopus barnardi Poll, 1953)

Prepared by J.C. Quéro and illustrated by J.J. Vayne, Laboratoire d'Ichtyologie, Institut scientifique et technique des Pêches maritimes, La Rochelle, France

ATHER

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

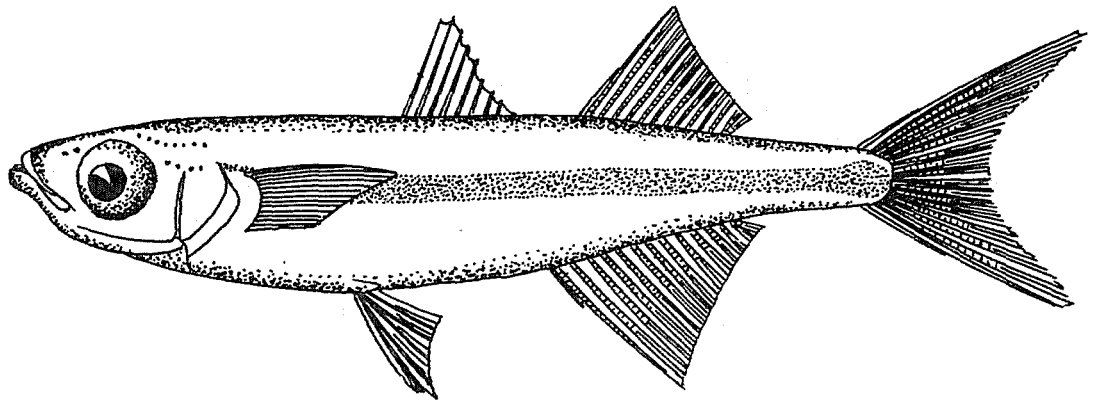
ATHERINIDAE

Silversides

Small, elongate fishes, rarely exceeding 15 cm in length. Body subcylindrical to highly compressed. Head short, normally flattened above, often rough, with fine denticles. Snout moderate, pointed; mouth small, the gape reaching to, or even somewhat beyond, front of eye; jaws subequal, or the lower scarcely projecting; the opening of the mouth may or not be restricted by a membrane folding between jaws; teeth fin, feeble, pointed, in a variable number of rows in both jaws, some rows may be external when mouth is closed; small teeth (often difficult to see) may also be present on roof of mouth (vomer, palatines, mesopterygoids) and on tongue; hind edge of preopercle either irregular or with a marked concavity just above angle, sometimes the angle produced as a triangular lobe. Two well separated dorsal fins, the first at about mid-body, consisting of 3 to 11 slender spines, second dorsal fin and anal fin with a feeble spine and a variable number of branched rays; pectoral fins high on sides (but not above silvery lateral band in species from this area); pelvic fins abdominal, far behind pectoral fin origins, with 1 spine and 5 soft rays; caudal fin forked in marine species; anus remote from front of anal fin. Scales often strong, large, cycloid (smooth). No distinct lateral line.

Colour: greenish to bluish on back; a silvery lateral stripe present along middle of body to caudal fin base in most species; some species translucent.

Silversides are found everywhere in tropical and temperate seas. Some penetrate estuaries or brackish-waters, others live in freshwaters. Marine species may form huge shoals. Although edible, silversides are of relatively small importance for human food and they seem to have practically no commercial importance in this area, not even as bait.

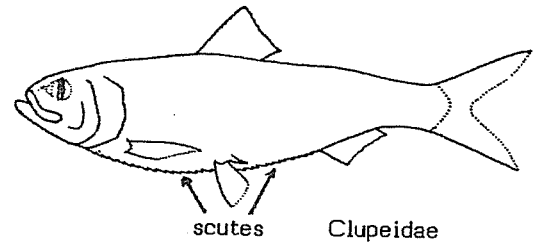


SIMILAR FAMILIES OCCURRING IN THE AREA:

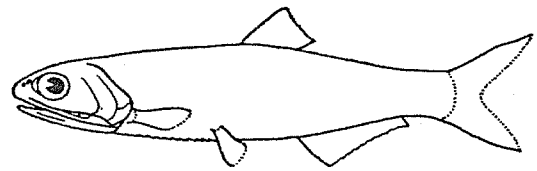
Clupeidae: a single dorsal fin; no spines in fins; pectoral fins low on body; many species with mid-ventral scutes on belly.

Engraulidae: a single dorsal fin; no spines in fins; pectoral fins low on body; mouth very large; maxilla often extending to opercle edge; the snout blunt and projecting.

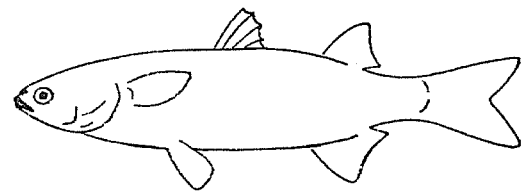
Mugilidae: head obtuse (pointed in Atherinidae) no lateral silvery stripe; larger average size.



Clupeidae



Engraulidae



Mugilidae

MARINE GENERA OCCURRING IN THE AREA:

Atherina only.

LIST OF SPECIES OCCURRING IN THE AREA:

Atherina buyari Risso, 1810 *
Atherina hepsetus Linnaeus, 1758 *
Atherina lopeziana Rossignol & Blache, 1961 **
Atherina presbyter Cuvier, 1829 *

Prepared by A. Maugé, Muséum National d'Histoire Naturelle, Ichtyologie générale et appliquée, Paris, France

Illustrations provided by author

---

* Restricted to northen part of area

** Bay of Biafra

AULOP

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

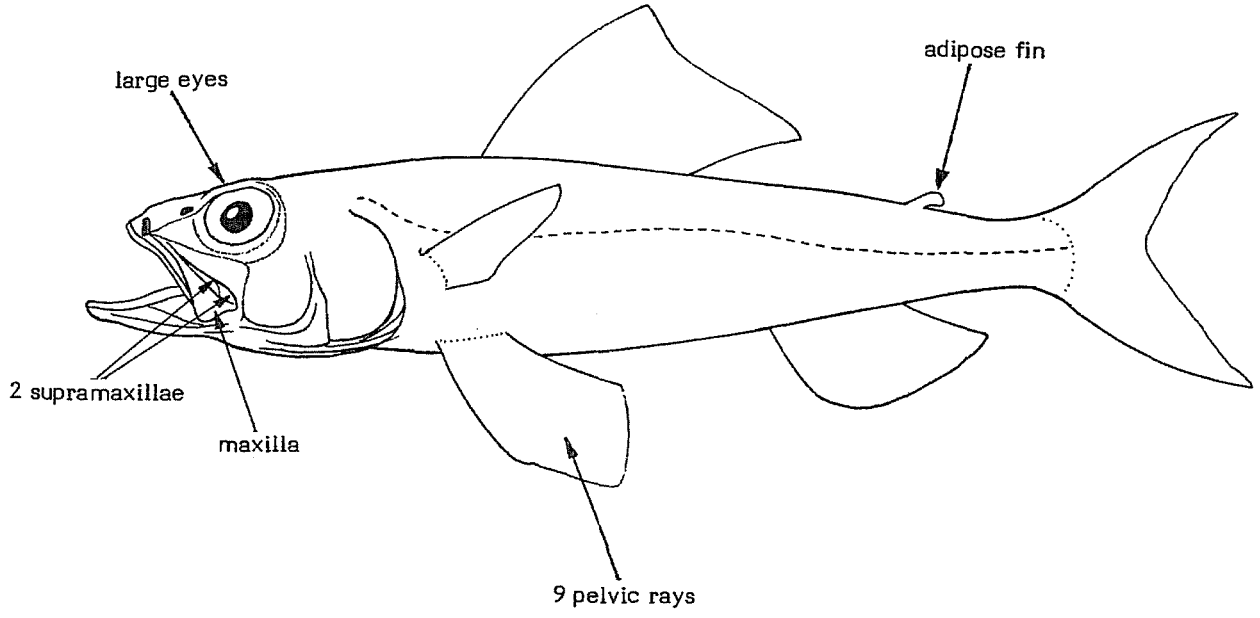
AULOPIDAE

Flagfins

Body slender, cylindrical, attaining a length of 20 to 45 cm. Head large, robust; eyes large, horizontally elliptical, pupil round; mouth slightly oblique, maxilla broadly expanded posteriorly, extending to rear margin of eye, bearing two supramaxillary bones; teeth small and sharp, present in jaws, on tongue, and on roof of mouth; gill rakers normal, elongate; pseudobranch well developed. Fins without hard spines, but caudal rays preceded by a small bony scute (fucral scale); dorsal fin long and high, inserted just behind level of pelvic fins; adipose fin present; pelvic fins with 9 rays, inserted just behind level of pectoral fins; caudal fin distinctly forked. Body completely scaled except for top of head; scales on cheeks and gill covers enlarged; scales ctenoid or cycloid. Lateral line without enlarged scales and not extending onto caudal fin.

Colour: brownish to reddish with iridescent yellow, blue, purple or silver shading; sides with irregular dark blotches; belly pale, yellowish or silvery. Anal and paired fins colourless, yellowish or reddish; dorsal colourless to dusky with anterior rays sometimes tipped with black; caudal fin dusky.

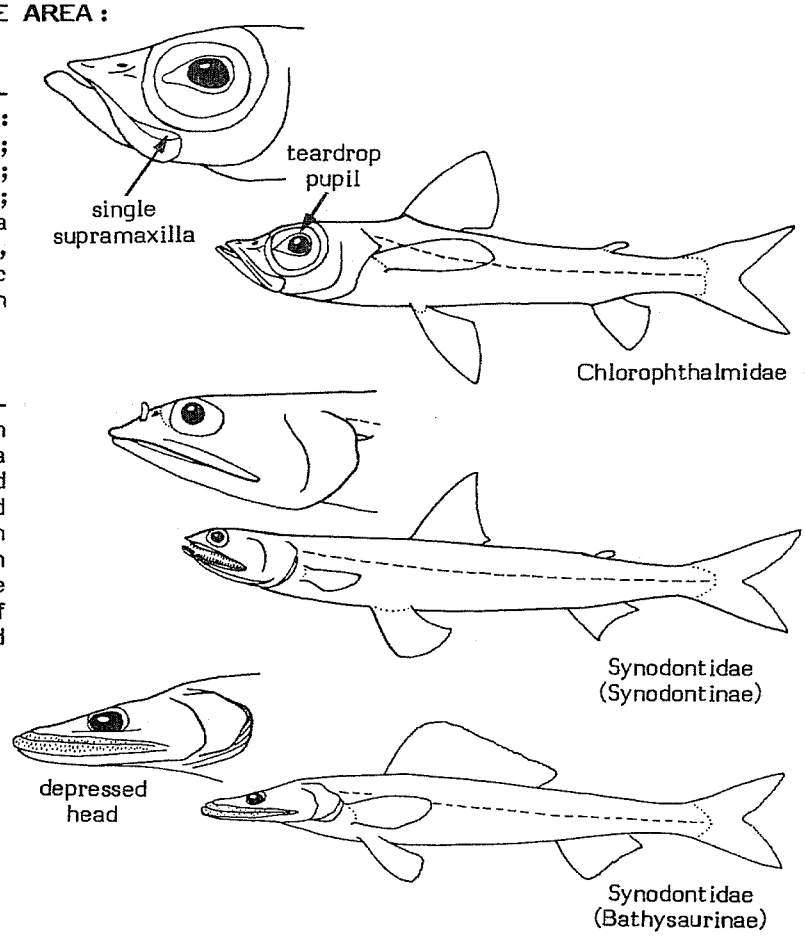
Demersal fishes of the continental shelf on mud and sand bottom between 75 and 300 m depth. Sexes are separate and differ in colouration, size and shape of the dorsal fin. Spawning is extended over several months; larvae are pelagic. Flagfins are abundant off northwestern Africa, Madeira and the Canary Islands. They are of limited economic importance as a by-catch of trawl fisheries, though the flesh is reportedly of excellent quality.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Chlorophthalmidae (excluding members of the deep-water subfamily Ipnopinae): eye very large with teardrop-shaped pupil; maxilla extending only to midpoint of eye; a single supramaxilla (2 in Aulopidae); mouth oblique, tip of lower jaw forming a projecting bony knob; gill rakers normal, elongate; dorsal fin inserted ahead of pelvic fin insertion; teeth mostly small and set in narrow bands.

Synodontidae (including the deep-water Bathysaurinae): eye moderate in size, pupil round or elliptical; maxilla undeveloped; premaxilla slender and pointed posteriorly, extending well beyond rear margin of eye; no supramaxillae; mouth moderately to strongly oblique; jaws with parallel bands of long, sharp depressible teeth; gill rakers modified into clusters of short, sharp gill teeth; dorsal fin inserted well behind pelvic fin insertion.



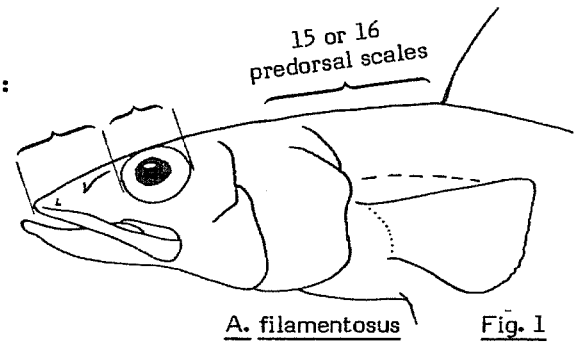
GENERA OCCURRING IN THE AREA:

Aulopus only.

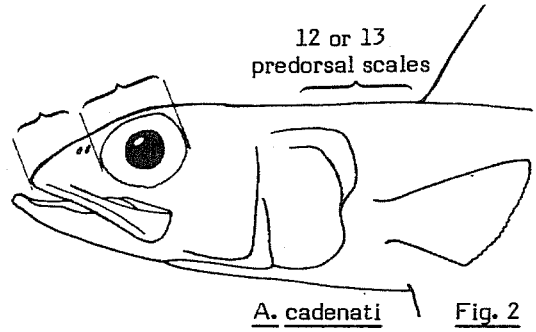
KEY TO SPECIES OF Aulopus OCCURRING IN THE AREA:

1 a. Snouth longer than horizontal eye diameter; interorbital space equal to, or slightly greater than eye diameter; 15 or 16 scales along dorsal midline in advance of dorsal fin (Fig. 1) ..... Aulopus filamentosus

1 b. Snout shorter than horizontal eye diameter; interorbital space more than two times greater than eye diameter; 12 or 13 scales along dorsal midline in advance of dorsal fin (Fig. 2) ..... Aulopus cadenati



A. filamentosus Fig. 1



A. cadenati Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Aulopus cadenati Poll, 1953	AULOP Aulop 1
Aulopus filamentosus (Bloch, 1792)	AULOP Aulop 2

Prepared by K.J. Sulak, Virginia Institute of Marine Sciences, Gloucester Point, Virginia, U.S.A.

AULOP Aulop 1

1981

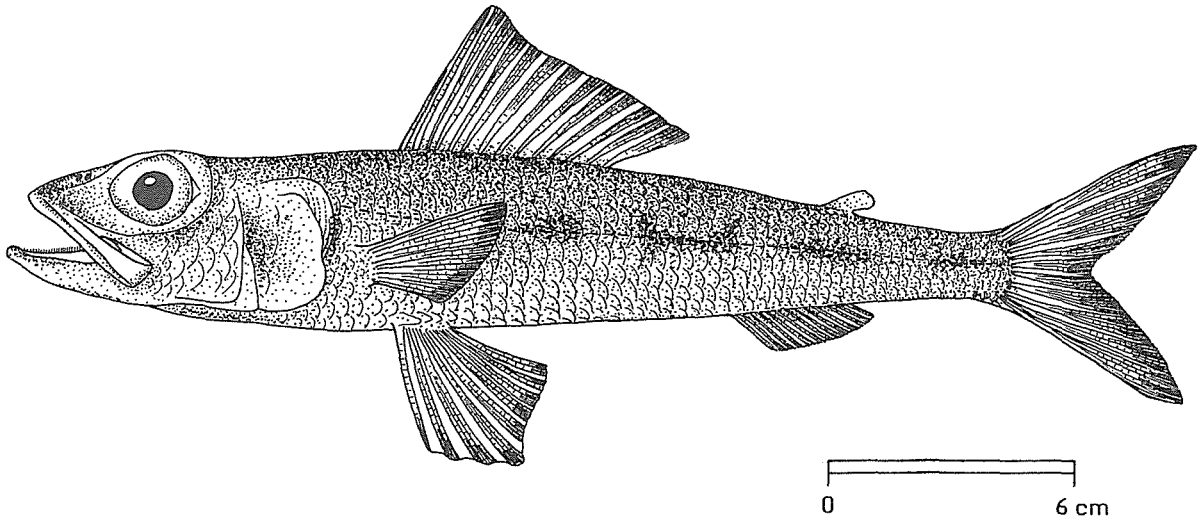
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : AULOPIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Aulopus cadenati Poll, 1953

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Guinean flagfin
Fr - Limbert guinéen
Sp - Lagarto real de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

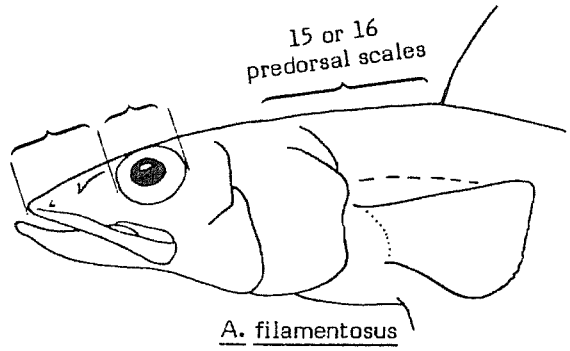
Body slender, cylindrical. Head large; snout shorter than horizontal eye diameter; interorbital space more than twice as wide as eye diameter; eye large and elliptical, pupil round; mouth large and terminal, slightly to moderately oblique; maxilla prominent, expanded posteriorly, extending to rear margin of eye, and bearing two supramaxillae; jaws with numerous small, sharp, depressible teeth; palate with several series of teeth (vomerine medially; palatine, ectopterygoid and endopterygoid laterally); gill rakers long; pseudobranch well developed. Dorsal fin long and high, inserted just behind level of pelvic fin insertion; dorsal fin rays of males longer than those of females, but anterior rays not greatly elongate, the longest shorter than head length; adipose fin inserted over posterior portion of anal fin; pelvic fins with 9 rays, thoracic; caudal fin distinctly forked. Body completely covered with adherent ctenoid or cycloid scales, except for top of head; scales on cheek and gill cover enlarged; 12 or 13 scales along dorsal midline in advance of dorsal fin; 50 or 51 lateral line scales.

Colour: body brownish dorsally and laterally with irregular dark markings; underside yellowish; male with fins colourless; female with dorsal fin spotted, rays tipped with black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Aulopus filamentosus: snout larger than horizontal eye diameter; interorbital space equal to, or slightly greater than eye diameter; 15 or 16 predorsal scales (12 or 13 in A. cadenati).

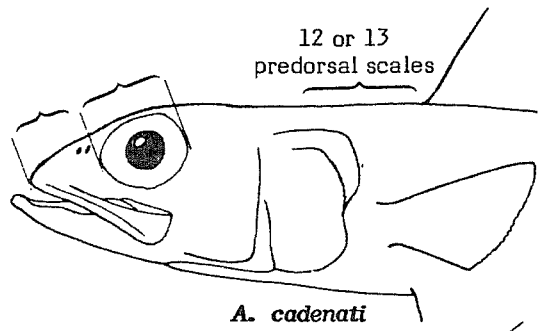
Chlorophthalmus agassizii: pupil, teardrop-shaped; a single supramaxilla; dorsal fin inserted ahead of pelvic fin insertion.



A. filamentosus

SIZE :

Maximum: 27 cm; common to 26 cm.



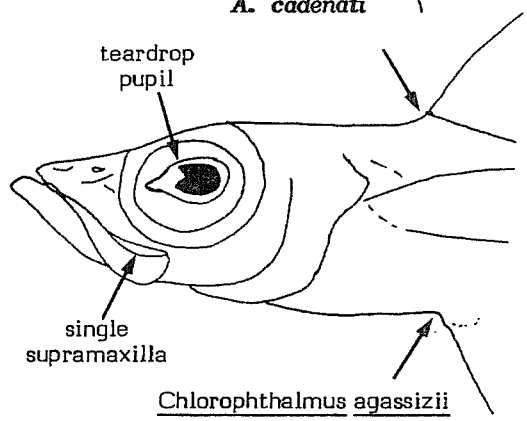
A. cadenati

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Known only from off tropical West Africa between latitude 0° and 13°S.

Benthic on outer shelf between 100 and 270 m (16 to 14.5°C).

Apparently preys on fishes.



Chlorophthalmus agassizii

PRESENT FISHING GROUNDS :

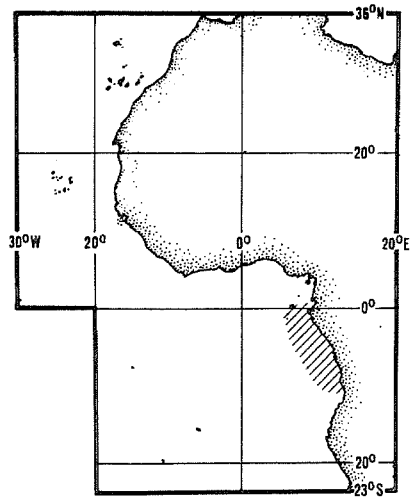
Outer shelf; taken as bycatch by offshore trawlers.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught incidentally in bottom trawls.

Mostly reduced to fishmeal.



AULOP Aulop 2

1981

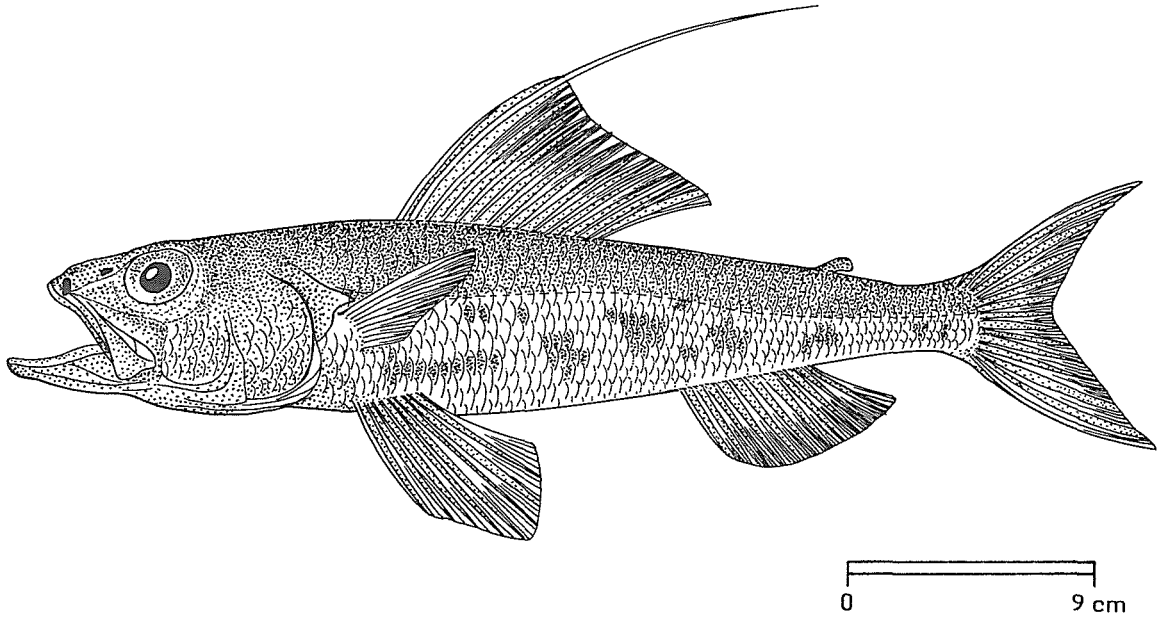
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : AULOPIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Aulopus filamentosus (Bloch, 1792)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Royal flagfin
Fr - Limbert royal
Sp - Lagarto real

NATIONAL :

DISTINCTIVE CHARACTERS :

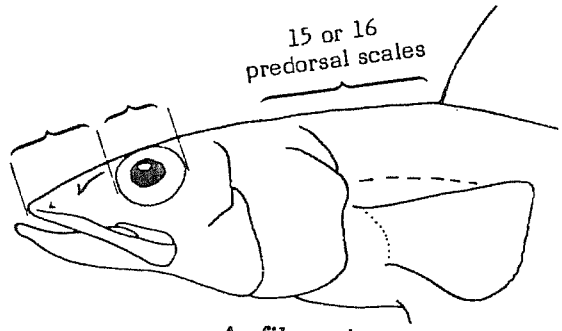
Body slender, cylindrical. Head large; snout longer than horizontal eye diameter; interorbital space about equal to eye diameter; eye large and elliptical, pupil round; mouth large and terminal, slightly to moderately oblique; maxilla prominent, expanded posteriorly, extending to rear margin of eye, and bearing two supramaxillae; jaws with numerous small, sharp, depressible teeth; palate with several series of teeth (vomerine medially; palatine, ectopterygoid and endopterygoid laterally); gill rakers long; pseudobranch well developed. Dorsal fin long and high, inserted just behind level of pelvic fin insertion; anterior dorsal fin rays very elongate in males, the longest exceeding head length; adipose fin inserted over posterior portion of anal fin; pelvic fin with 9 rays, thoracic; caudal fin distinctly forked. Body completely covered with adherent ctenoid or cycloid scales, except for top of head; scales on cheek and gill cover enlarged; 15 or 16 scales along dorsal midline in advance of dorsal fin; 52 lateral line scales.

Colour: body reddish brown to maroon with variable yellow, red, green or brown spotting; fins red-orange, the dorsal and caudal with dark spots.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Aulopus cadenati: snout shorter than horizontal eye diameter; interorbital space more than twice in eye diameter; 12 or 13 predorsal scales (15 or 16 in A. filamentosus).

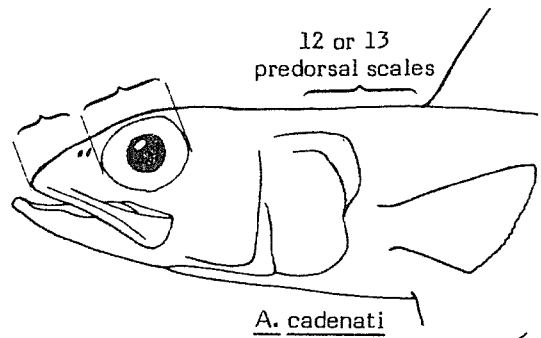
Chlorophthalmus agassizii: pupil, teardrop-shaped; a single supramaxilla; dorsal fin inserted ahead of pelvic fin insertion.



A. filamentosus

SIZE:

Maximum: 45 cm; common to 40 cm.



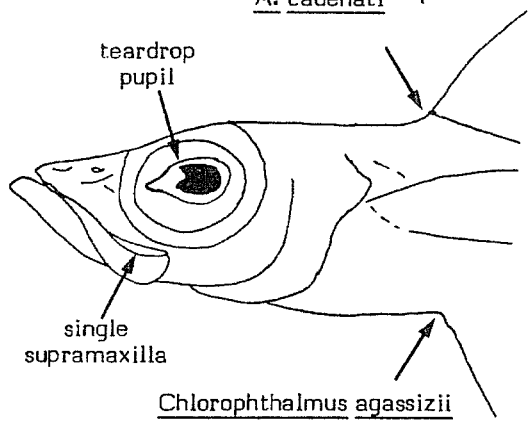
A. cadenati

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Madeira and Canary Islands to Senegal and the Cape Verde Islands; also found in the Mediterranean.

Benthic on the outer shelf between 70 and 1 000 m depth, most abundant between 200 and 300 m. Sexes are separate and dimorphic; the larvae are pelagic.

Carnivorous, probably feeding on fishes, shrimps and cephalopods.



Chlorophthalmus agassizii

PRESENT FISHING GROUNDS:

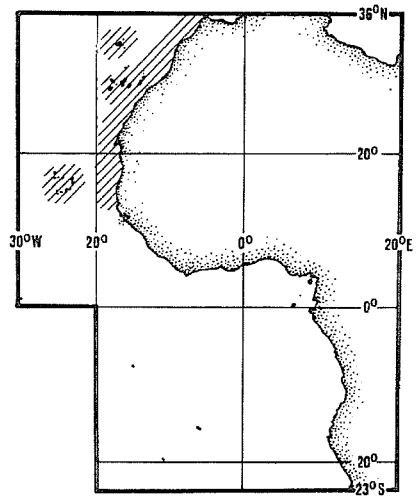
Outer shelf of northwestern Africa; rather abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken in trawls.

Consumed mostly fresh; flesh of good flavour and quality. Also reduced to fishmeal by industrial offshore trawlers.



AULOST

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

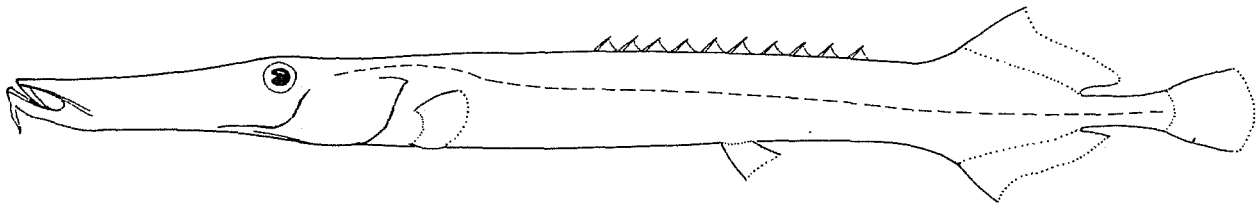
AULOSTOMIDAE

Trumpetfishes

Body elongate and compressed. Mouth at end of elongate snout; a single barbel on chin. First dorsal fin with 8 to 13 isolated spines; second dorsal and anal fins opposite to each other and similarly shaped, both with 24 or 25 segmented (soft) rays; pelvic fins small, abdominal, with 6 rays. Lateral line continuous. Body covered with small ctenoid (rough) scales, except for the head and anterior part of the back, which are scaleless. Vertebrae 62 or 63, the first 4 elongate and fused.

Colour: overall colour variable from light to very dark; body most commonly brown with scattered, dark spots on belly and back. A black maxillary stripe usually present; dorsal and anal fins dark, but with irregular light patches; caudal peduncle crossed by 3 light bars.

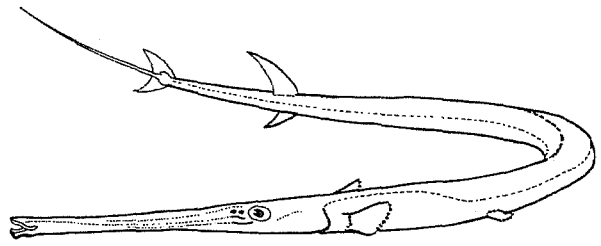
Medium-sized fishes reaching to about 75 cm in total length, occurring in shallow, clear water. Most frequently observed to hanging vertically in the water with the head down. Trumpetfishes feed on small fishes and shrimps. Because of their restricted distribution within this fishing area (apparently only around the Cape Verde and Madeira Islands), they are not regularly caught and have no commercial importance.



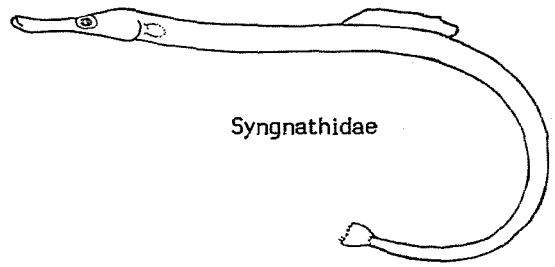
SIMILAR FAMILIES OCCURRING IN THE AREA:

Fistulariidae: a distinct caudal filament present; body depressed rather than compressed; no spines before soft dorsal fin.

Syngnathidae: body covered with armour; no chin barbel; size much smaller.



Fistulariidae



Syngnathidae

KEY TO GENERA OCCURRING IN THE AREA:

Aulostomus only.

LIST OF SPECIES OCCURRING IN THE AREA:

Aulostomus strigosus Wheeler, 1955 (= Aulostomus chinensis strigosus Vasconcelos & Paes de Franca, 1962; Aulostomus chinensis maculatus Valenciennes, 1839)

Prepared by R.A. Fritzsche, Department of Biology, The University of Mississippi, University, Mississippi, U.S.A.

BALI

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

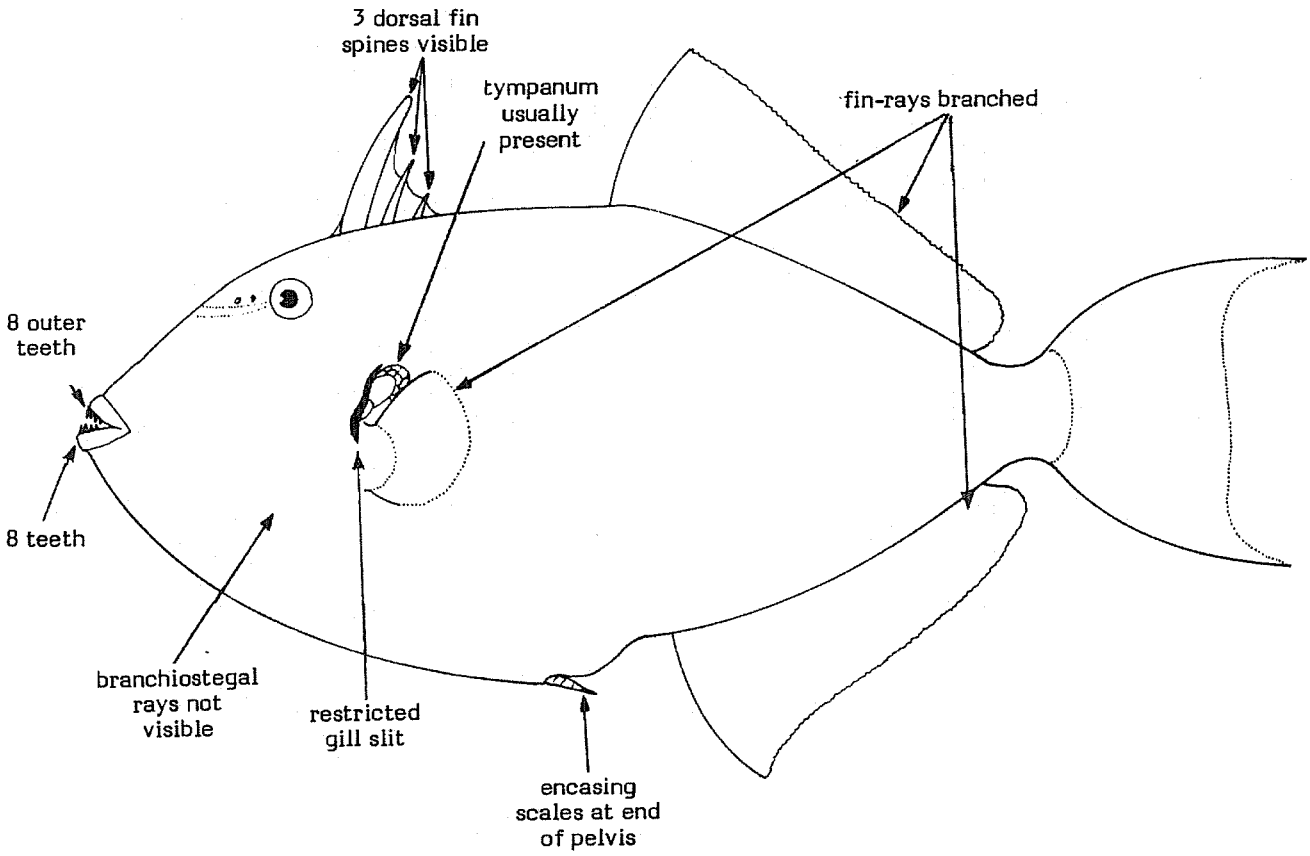
BALISTIDAE

(excluding the Monacanthidae = Aluteridae of some authors)

Triggerfishes and durgons

Small or medium-sized fishes, usually less than 40 cm in length, with deep, moderately compressed bodies encased with very thick, tough skin with large rectilinear scale plates easily discernible as individual units; scales above pectoral fin base usually enlarged and slightly separated, forming a flexible tympanum. Gill opening a relatively short vertical to oblique slit in front of the pectoral fin base, branchiostegal rays hidden beneath the skin; mouth small and usually more or less terminal; teeth heavy, 8 in an outer series in the upper jaw and 8 in the lower jaw. Three dorsal fin spines, the second spine more than one-half the length of the first; the first spine capable of being locked in an upright position of erection by the second; most dorsal, anal and pectoral fin rays branched; pelvic fins and spines rudimentary or absent, represented by a series of 4 pairs of enlarged scales encasing the end of pelvis. Lateral line inconspicuous.

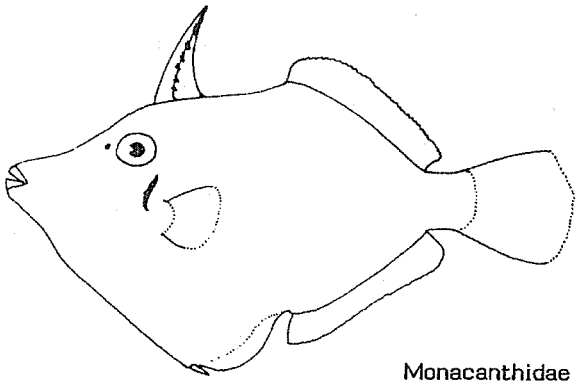
Colour: variable, sometimes black or drab brown, grey or greenish, but often with strikingly marked and vivid patterns.



Triggerfishes are usually solitary, ranging in depth from the coastline to about 90 m, with some species being found primarily in pelagic open water and others primarily benthic around rocky and coral reefs. They feed on *bottom invertebrates, often hard-shelled species, or zooplankton, with their small mouths typically armed with* large and relative heavy incisor-like teeth. Highly valued as food in many handline fisheries, and also taken as bycatch in commercial bottom trawls; on rare occasions the flesh has been considered toxic. Some species, such as Balistes capriscus and B. punctatus are very abundant and of growing commercial importance in some countries. The catch of unsorted triggerfishes reported from the area in 1978 totalled almost 10 000 t.

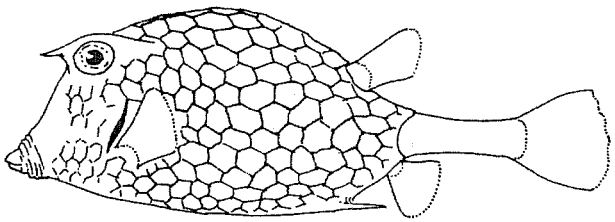
SIMILAR FAMILIES OCCURRING IN THE AREA:

Monacanthidae: two dorsal fin spines, only the first of which is especially large and prominent; *body more laterally compressed; fewer and* less massive teeth in jaws; scales shagreen-like, with the individual basal plates small and not readily distinguishable from one another to the unaided eye.



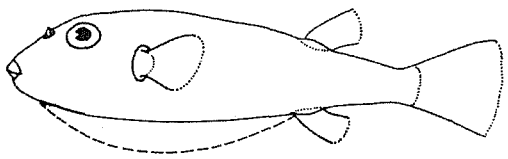
Monacanthidae

Ostraciidae: no spiny dorsal fin; teeth more conical; scales in the form of enlarged, exceptionally thick, usually hexagonal plates sutured together to form a box-like encasement of the body.

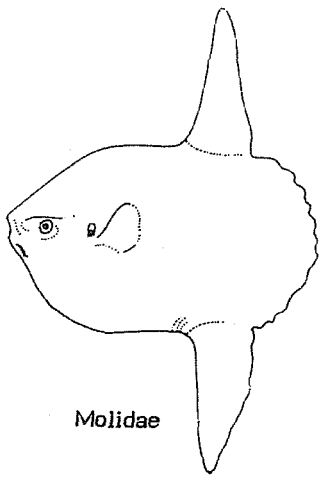


Ostraciidae

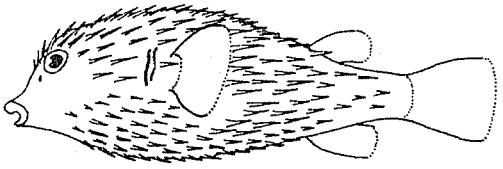
Tetraodontidae, Diodontidae, Molidae: no spiny dorsal fin; no pelvic fin of any kind; teeth incorporated into, or indistinguishably fused with the jaw bones to form a parrot-like beak, with or without a division in the midline into two equal halves in each jaw; skin either rough with scales modified as prickles and long quill-like spines or scales sometimes absent and the skin smooth.



Tetraodontidae



Molidae



Diodontidae

KEY TO GENERA OCCURRING IN THE AREA :

1 a. Scales above pectoral fin base and just behind gill slit much enlarged and partially separated, forming a flexible tympanum (Fig. 1)

2 a. Caudal peduncle depressed, wider than deep ..... Abalistes

2 b. Caudal peduncle compressed, deeper than wide

3 a. Teeth notched, uneven, of distinctly increasing length toward the middle teeth (Fig. 2); scales of posterior body without keels forming longitudinal ridges; body greyish to bluish-green, but never distinctly black, and no pale stripe along the bases of the soft dorsal and anal fins ..... Balistes

3 b. Teeth not notched, at least in larger juveniles and adults, with relatively even distal edges, not of distinctly increasing length toward the middle teeth (Fig. 3); scales of posterior body with keels at the centre forming longitudinal ridges; body blackish with a pale bluish stripe along the bases of the soft dorsal and anal fins ..... Melichthys

1 b. Scales above pectoral fin base and just behind gill slit not enlarged and not especially well separated, not forming a flexible tympanum

4 a. Cheek with about 3 prominent naked longitudinal grooves, darker in colour than the surrounding skin; mouth slightly, but distinctly, supraterminal (Fig. 4) ..... Xanthichthys

4 b. Cheek evenly scaled, without prominent naked longitudinal grooves; mouth terminal (Fig. 5) ..... Canthidermis

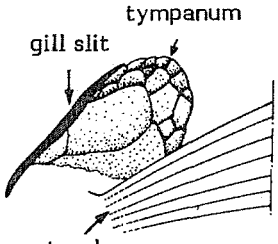
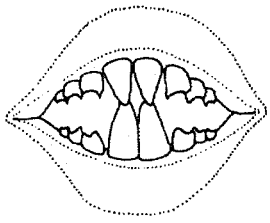
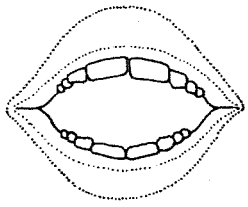


Fig. 1



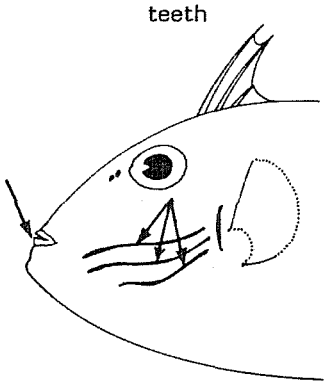
Balistes sp Fig. 2

teeth

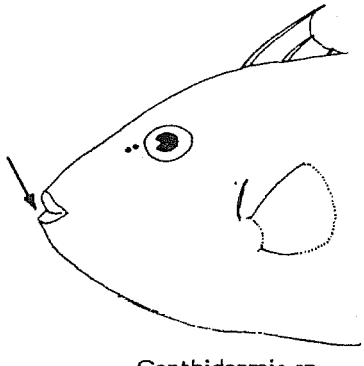


Melichthys sp. Fig. 3

teeth



Xanthichthys sp. Fig. 4



Canthidermis sp. Fig. 5

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Abalistes stellatus (Lacepède, 1798)

Balistes capriscus Gmelin, 1788	BALI Bali 1
Balistes punctatus Gmelin, 1788	BALI Bali 3
Balistes vetula Linnaeus, 1758	BALI Bali 2

Canthidermis maculatus (Bloch, 1786)

Melichthys niger (Bloch, 1786)

Xanthichthys ringens (Linnaeus, 1758)

Prepared by R. Winterbottom, Department of Ichthyology and Herpetology, Royal Ontario Museum, Toronto, Canada, and James C. Tyler, Program for Biological Research Resources, Division of Environmental Biology, National Science Foundation, Washington, D.C. 20550, U.S.A.

BALI Bali 1

1981

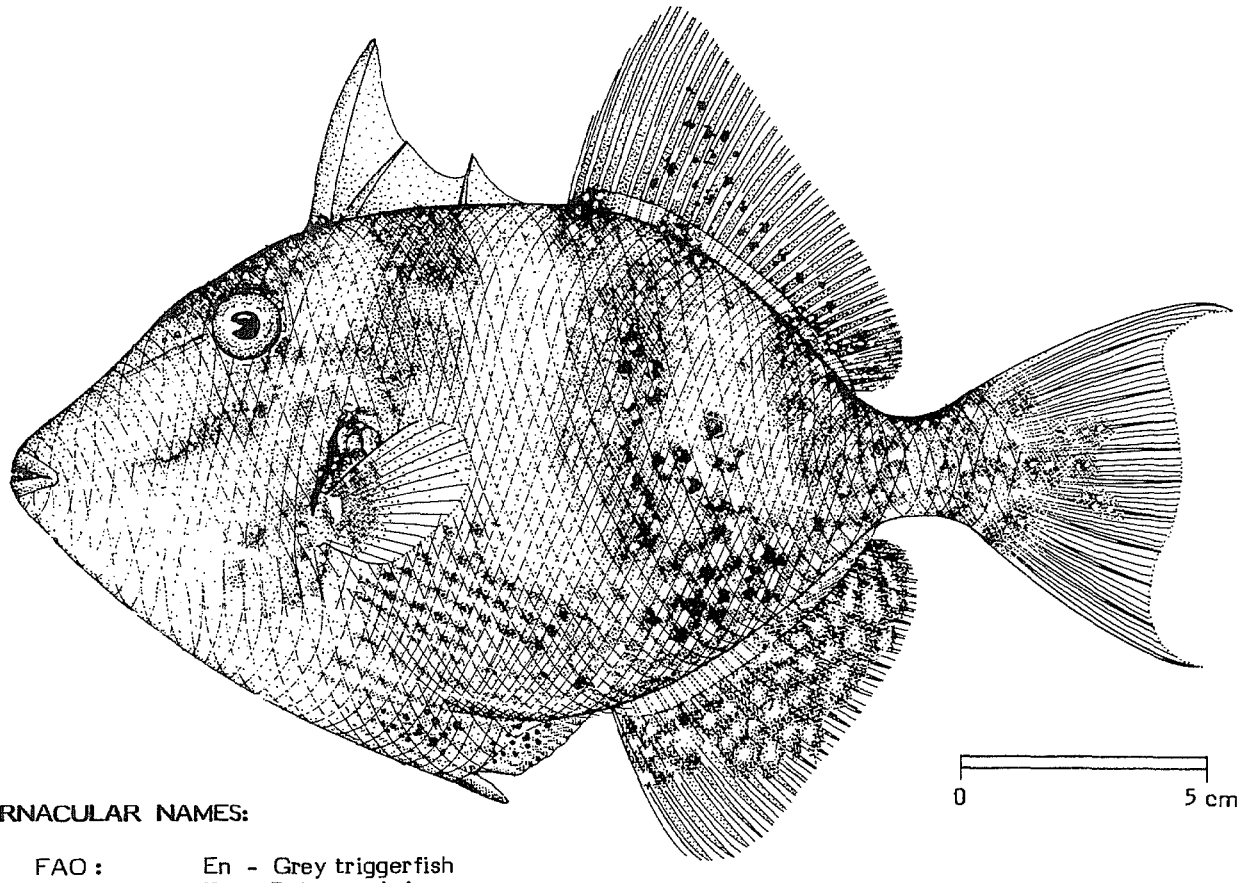
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BALISTIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Balistes capriscus Gmelin, 1788

OTHER SCIENTIFIC NAMES STILL IN USE : Balistes carolinensis Gmelin, 1788
Balistes forcipatus Gmelin, 1788



VERNACULAR NAMES:

FAO : En - Grey triggerfish
Fr - Baliste cabri
Sp - Pejepuerco blanco (= Pez ballesta)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and laterally compressed, with the large rectilinear scale plates of the thick skin forming regular rows, and the scales of the cheek in an even, relatively complete covering. Scales enlarged above the pectoral fin base and just behind the gill slit to form a flexible tympanum; scales of body without prominent keels, not forming longitudinal ridges. A small groove in the skin from in front of the eye to below the low nasal apparatus. Mouth terminal; teeth notched. All 3 dorsal fin spines readily apparent, the first spine capable of being locked erect by the second; most soft dorsal, anal and pectoral fin rays branched; caudal fin rays slightly prolonged above and below; caudal peduncle compressed, deeper than wide.

Colour: generally greyish with green overtones and about 3 darker blotches or irregular bars across the back; chin lighter; small bluish to purplish spots on the upper body, with lighter spots on lower body, sometimes larger and forming short irregular lines; soft dorsal and anal fins with spots, tending to form rows.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

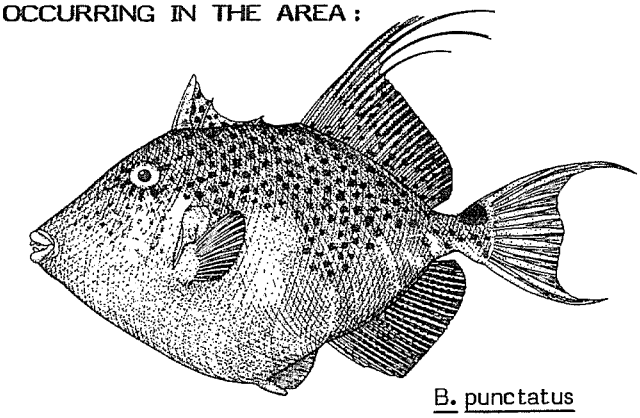
Balistes punctatus: body grey with numerous round blue or dark spots over most of body, posterior to eyes; 3 or 4 anterior rays of second (soft) dorsal fin filamentous and free of membrane in adults.

Balistes vetula: 2 broad blue lines on cheek from above mouth to below the region in front of pectoral fin base; caudal fin in adults greatly prolonged both above and below.

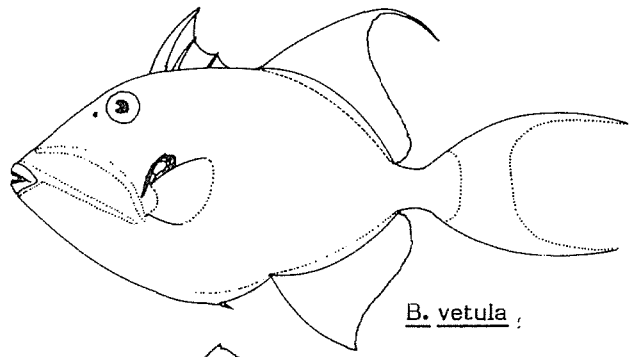
Melichthys niger: body blackish, with a pale bluish stripe along bases of soft dorsal and anal fins; scales of posterior body with keels at the centre forming longitudinal ridges; teeth of adults not notched and not distinctly increasing in length toward the middle teeth; third dorsal fin spine scarcely visible.

Abalistes species: caudal peduncle depressed, wider than deep.

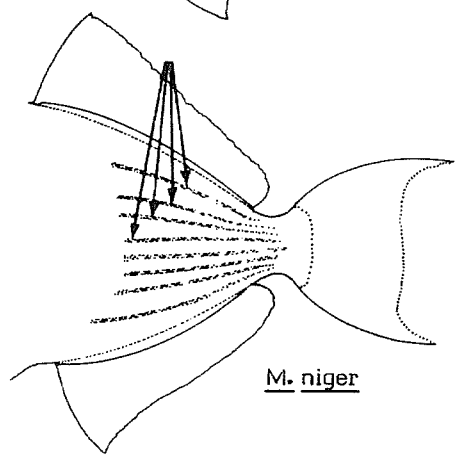
Canthidermis and Xanthichthys species: scales above pectoral fin base and just behind gill slit not enlarged, not forming a flexible tympanum.



B. punctatus



B. vetula



M. niger

SIZE:

Maximum: at least 45 cm, but unconfirmed reports quote 60 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

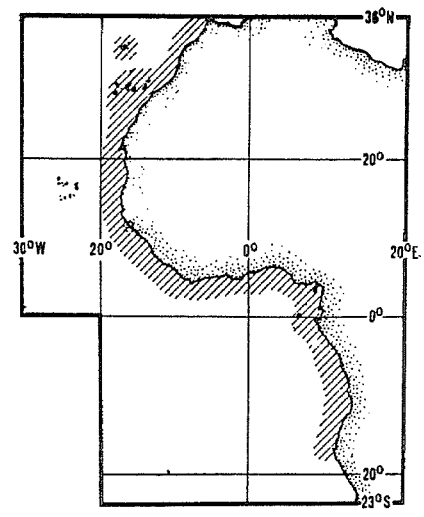
In the area, from the Straits of Gibraltar to Moçamedes, Angola including Madeira and the Canary and Cape Verde Islands; northward extending into the Mediterranean and along the Atlantic coasts of Europe up to England. Elsewhere, in the Western Atlantic from Nova Scotia to Argentina.

Found in shallow water down to about 50 m. Nothing definite is known about the areas occupied by this species, but like B. vetula, it seems to occur mainly in shallow sandy or grassy areas as well as rocky bottoms.

Feeds on bottom-living invertebrates.

PRESENT FISHING GROUNDS:

Caught throughout its range, very abundant, and becoming of increasing commercial importance in several African countries.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The catch of unsorted triggerfishes reported from the area in 1978 totalled about 10 000 t.

Taken in bottoms trawls, traps, beach seines and on handlines.

Consumed mostly fresh, smoked and dried salted. The flesh is of excellent quality. Also reduced to fishmeal by offshore trawlers.

BALI Bali 2
1981

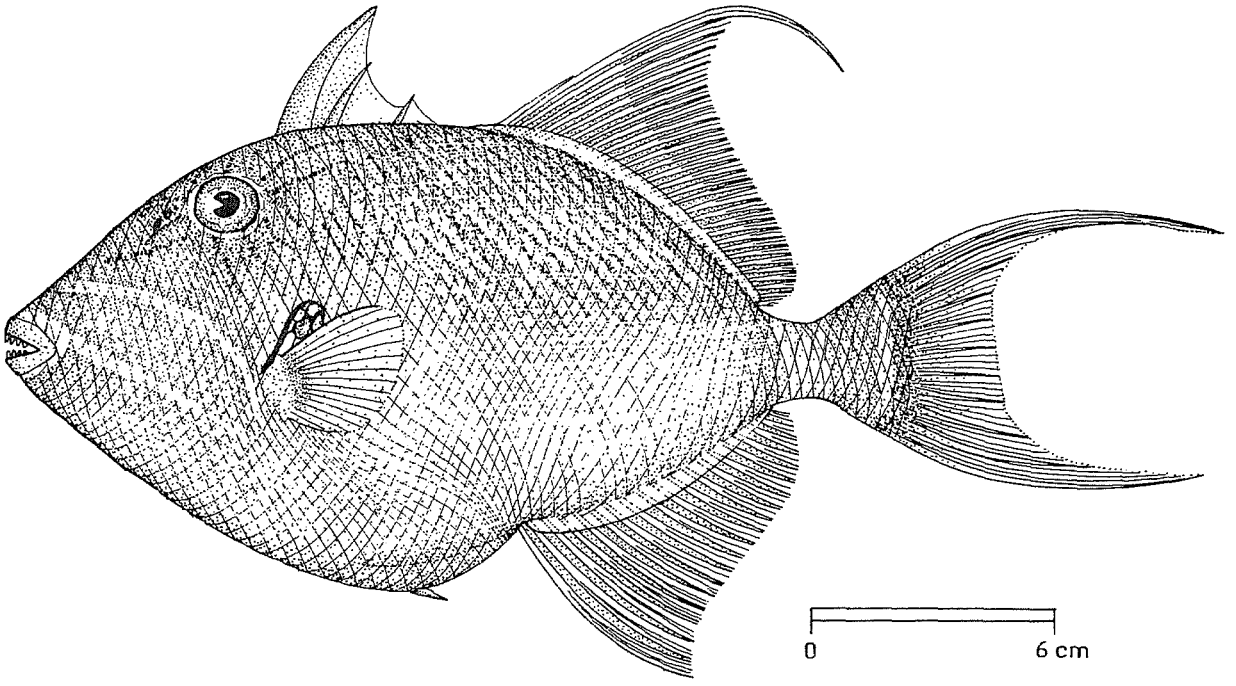
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BALISTIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Balistes vetula Linnaeus, 1758

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Queen triggerfish
Fr - Baliste royal
Sp - Pejepuerco cachúo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and laterally compressed, with the large rectilinear scale plates of the thick skin forming regular rows, and the scales of the cheek in an even, relatively complete covering. Scales enlarged above the pectoral fin base and just behind the gill slit to form a flexible tympanum; scales of body without prominent keels, not forming longitudinal ridges. A small groove in the skin from in front of the eye to below the low nasal apparatus. Mouth terminal; teeth notched. All 3 dorsal fin spines readily apparent, the first spine capable of being locked erect by the second; most soft dorsal, anal and pectoral fin rays branched; caudal fin rays of adults greatly prolonged above and below; caudal peduncle compressed, deeper than wide.

Colour: generally yellowish-grey to bluish-green, or brownish, the lower regions more yellow-orange; bluish lines outlined with yellow radiating from eyes; a wide bluish band around caudal peduncle; 2 obliquely curved bright blue bands from above mouth to below and in front of pectoral fin base.

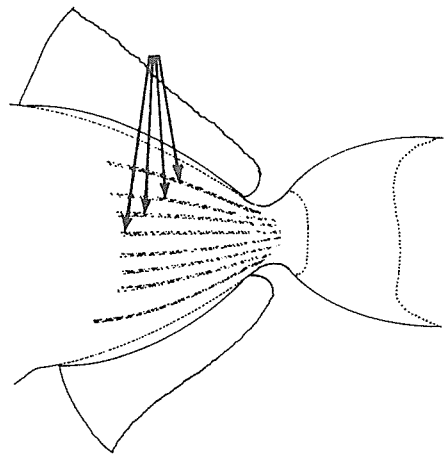
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Balistes capriscus and B. punctatus: no conspicuous lines or bands from above mouth to below region in front of pectoral fin base; caudal fin in adults only slightly prolonged above and below.

Melichthys niger: body blackish, with a pale bluish stripe along bases of soft dorsal and anal fins; scales of posterior body with keels at the centre forming longitudinal ridges; teeth of adults not notched and not distinctly increasing in length toward the middle teeth; third dorsal fin spine scarcely visible.

Abalistes species: caudal peduncle depressed, wider than deep.

Canthidermis and Xanthichthys species: scales above pectoral fin base and just behind gill slit not enlarged, not forming a flexible tympanum.



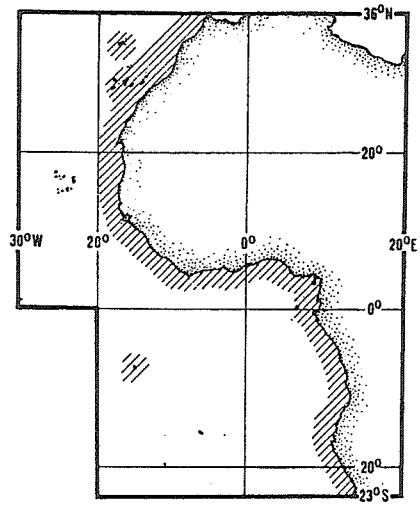
Melichthys niger

SIZE:

Maximum: about 50 cm; common to 30 cm

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Angola, including Madeira, the Canary, Cape Verde and Ascension Islands. Northward extending along the Atlantic coast of Europe to England and southward to South Africa. Elsewhere, in the Western Atlantic from Massachusetts to Brazil.



Adults of B. vetula are found near the bottom mostly in coral reef environments ranging from shallow sandy or grassy areas to hard substrates, to about 100 m depth.

Feeds mainly on bottom-living invertebrates, including molluscs and seaurchins.

PRESENT FISHING GROUNDS:

Taken throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The catch of unsorted triggerfish reported from the area in 1978 totalled about 10 000 t.

Caught with lines, traps and bottom trawls.

An excellent foodfish, but apparently mostly used for fishmeal and oil by offshore trawlers; occasionally reported to have caused slight intoxication.

BALI Bali 3

1981

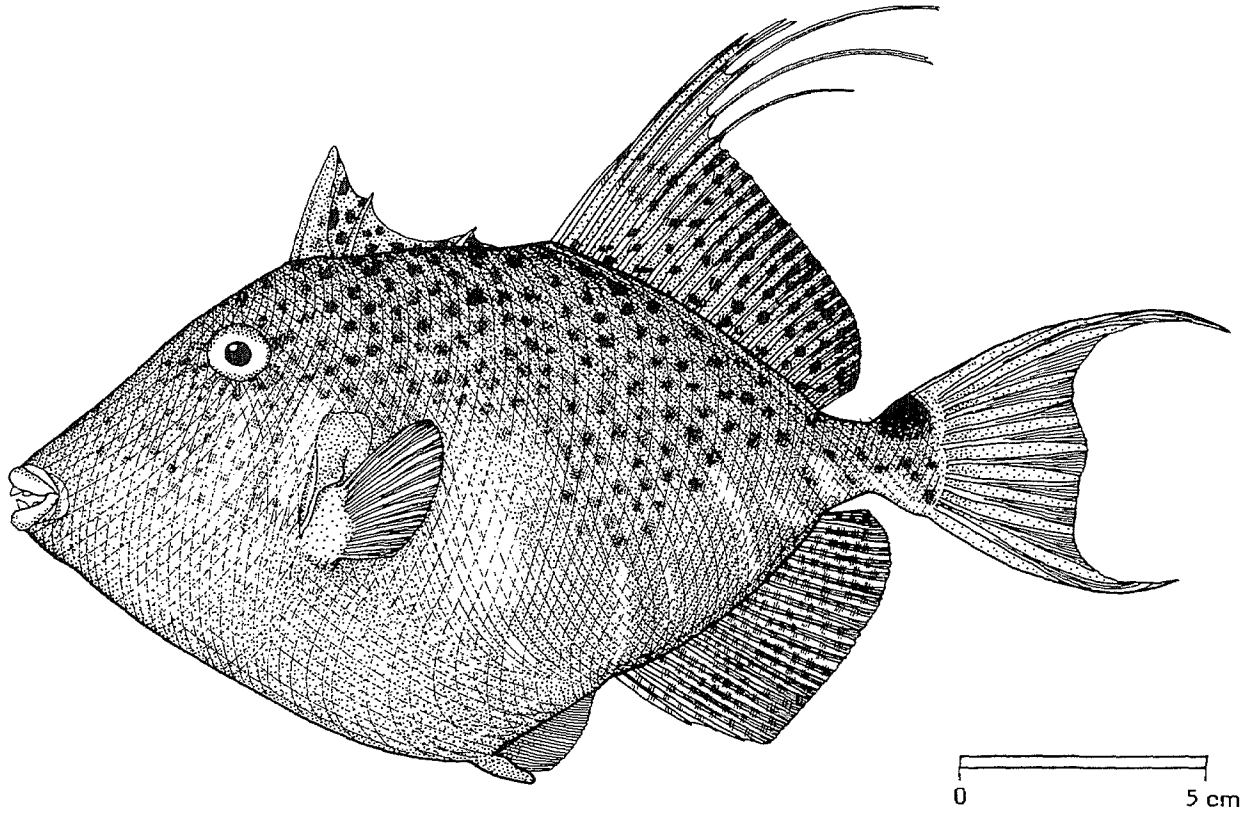
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BALISTIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Balistes punctatus Gmelin, 1788

OTHER SCIENTIFIC NAMES STILL IN USE : often misidentified as Balistes forcipatus Gmelin, 1788



VERNACULAR NAMES:

FAO : En - Bluespotted triggerfish
Fr - Baliste à taches bleues
Sp - Pejepuerco moteado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep and laterally compressed, with the large rectilinear scale plates of the thick skin forming regular rows, and the scales of the cheek in an even, relatively complete covering. Scales enlarged above the pectoral fin base and just behind the gill slit to form a flexible tympanum; scales of body without prominent keels, not forming longitudinal ridges. A small groove in the skin from in front of the eye to below the low nasal apparatus. Mouth terminal; teeth notched. All three dorsal fin spines readily apparent, the first spine capable of being locked erect by the second; most soft dorsal, anal and pectoral fin rays branched; first 3 or 4 second dorsal fin rays filamentous and free of membrane in adult specimens; caudal fin rays prolonged above and below; caudal peduncle compressed, deeper than wide.

Colour: generally grey with a regular pattern of large round blue or dark spots covering most of the body behind the eye. About 5 faint light lines radiating from front lower margin of eye.

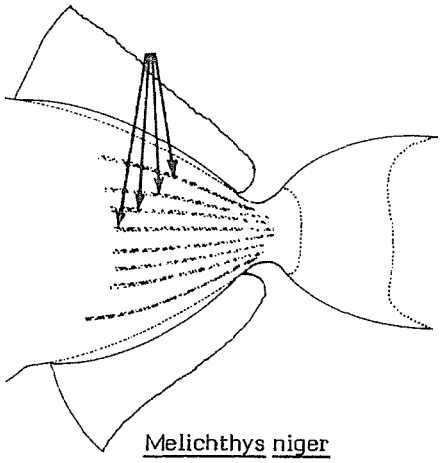
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Balistes capriscus and B. vetula: body not covered with a regular pattern of large dark round spots (although B. capriscus may have scattered small bluish spots on a restricted part of upper and lower body); anterior rays of second dorsal fin may be elongate, but never filamentous and free of membrane.

Melichthys niger: body blackish, with a pale bluish stripe along bases of soft dorsal and anal fins; scales of posterior body with keels at the centre forming longitudinal ridges; teeth of adults not notched and not distinctly increasing in length toward the middle teeth; third dorsal fin spine scarcely visible.

Abalistes species: caudal peduncle depressed, wider than deep.

Canthidermis and Xanthichthys species: scales above pectoral fin base and just behind gill slit not enlarged, not forming a flexible tympanum.



Melichthys niger

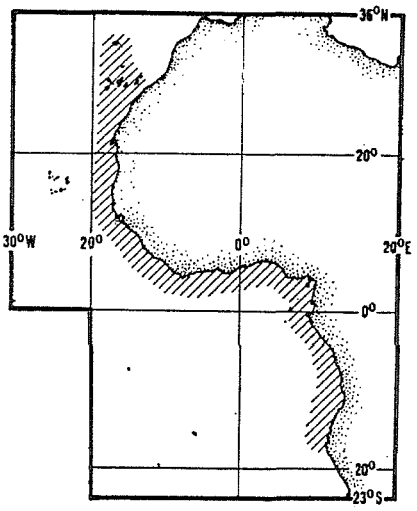
SIZE:

Maximum: at least to 45 cm (unconfirmed reports quote 60 cm); common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Confined to the Eastern Atlantic, along the African coast from southern Morocco to Moçamedes (Angola) and around Madeira, the Canary and Cape Verde Islands.

Inhabits coastal waters.



PRESENT FISHING GROUNDS:

Apparently of growing importance in recent years.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The catch of unsorted triggerfishes from the area totalled about 10 000 t in 1978.

Taken with bottom trawls, in traps, fixed bottom nets and on handlines.

Consumed mostly fresh, dried salted and smoked. The flesh is excellent. Also used for fishmeal and oil by offshore fishing fleets.

BATRACH

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

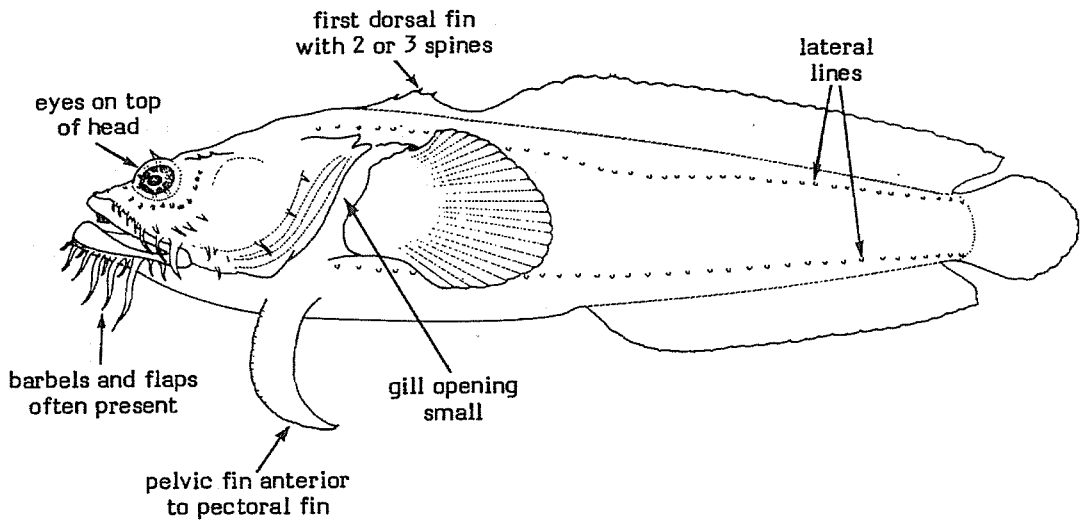
BATRACHOIDIDAE

Toadfishes

Small to medium-sized fishes easily recognized by their characteristic shape. Head broad and flattened, often with barbels and/or fleshy flaps around jaws; mouth large, terminal and slightly protrusible; rather strong and pointed teeth present in jaws as well as on roof of mouth; opercle and subopercle with spines. Glandular tissue may be present in the opercular region and in the pectoral fin axil; gill openings small, restricted to sides of body. Two separate dorsal fins, the first with 2 or 3 spines, the second long, with 16 to 25 soft rays; anal fin somewhat shorter than second dorsal, with 13 to 23 soft rays; pectoral fins large and broad-based; pelvic fins jugular in position and composed of 1 spine and 1 to 3 soft rays. Skin scaled or naked. Lateral system very well developed, lateral line either single or multiple. Swimbladder closed. Number of vertebrae ranging from 27 to 45.

Colour: rather variable; back and sides usually brownish, often with spots, saddles, bars or other markings.

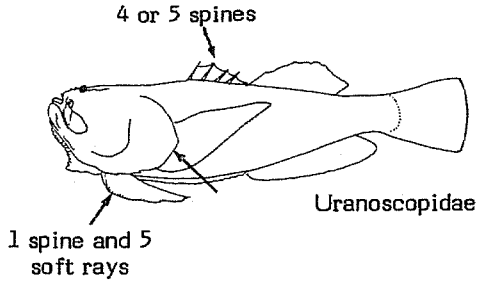
Toadfishes are bottom-dwellers ranging from littoral areas to rather deep waters. They often hide in the sediment or in rock crevices. Although none of the species occurring in Fishing Area 34 are presently of commercial importance, they are taken in local artisanal or trawl fisheries and are used as food or in the production of fishmeal and oil. The spines may inflict wounds to people handling these fishes.

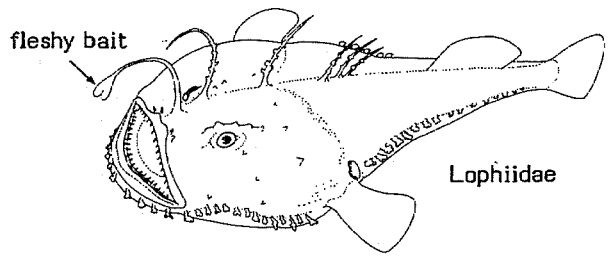


SIMILAR FAMILIES OCCURRING IN THE AREA:

Uranoscopidae: head rounded rather than depressed, the mouth strongly oblique, opening dorsally; gill openings wide, not restricted to sides; first dorsal fin with 4 or 5 spines (2 or 3 in Batrachoididae); anal fin base equal to or longer than second dorsal fin base (always shorter in Batrachoididae); pelvic fins with 1 spine and 5 soft rays (1 spine and 2 or 3 soft rays in Batrachoididae).

Lophiidae: body and head more strongly depressed; first dorsal fin spine modified into a long fishing rod with a fleshy bait.





KEY TO GENERA OCCURRING IN THE AREA*:

1.a A foramen (axillary pore) on upper part of pectoral axilla beneath upper edge of opercular membrane (Fig. 1a); less than 30 vertebrae ..... Halobatrachus

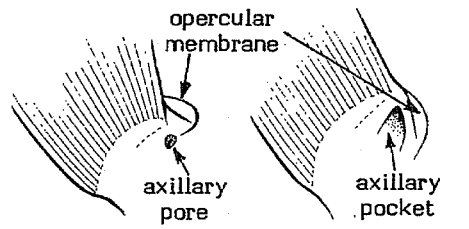
1 b. No foramen on upper part of pectoral axilla

2 a. A more or less funnel-shaped pocket (axillary pocket) present on upper part of pectoral axilla (Fig. 1b) ..... Perulibatrachus

2 b. Pectoral axilla without a pocket

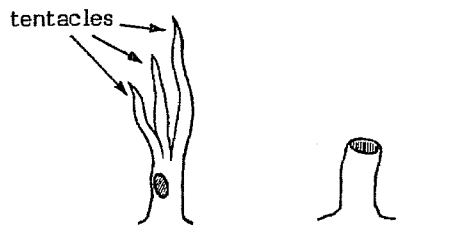
3 a. Anterior nostril with tentacles (Fig. 2a); less than 30 vertebrae ..... Chatrabus

3 b. Anterior nostril tubular, without tentacles (Fig. 2b); more than 30 vertebrae ..... Batrachoides



a. Halobatrachus b. Perulibatrachus

pectoral fin (folded forward) Fig. 1



a. Chatrabus b. Batrachoides

anterior nostril Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Batrachoides liberiensis (Steindachner, 1867)	BATRACH Batra 3
Chatrabus damaranus (Barnard, 1927)	BATRACH Chatr 1
Halobatrachus didactylus (Schneider, 1801)	BATRACH Halo 1
Perulibatrachus elminensis (Bleeker, 1863)	BATRACH Perul 1
Perulibatrachus rossignoli (Roux, 1957)	BATRACH Perul 2

Prepared by C. Roux, Ichtyologie Générale et appliquée, Muséum National d'Histoire Naturelle, Paris, France

Draft material reviewed by B.B. Collette, NMFS Systematics Laboratory, NOAA, Washington, D.C., U.S.A.

Species illustrations provided by author

*Applies to Eastern Central Atlantic species only

BATRACH Batra 3

1981

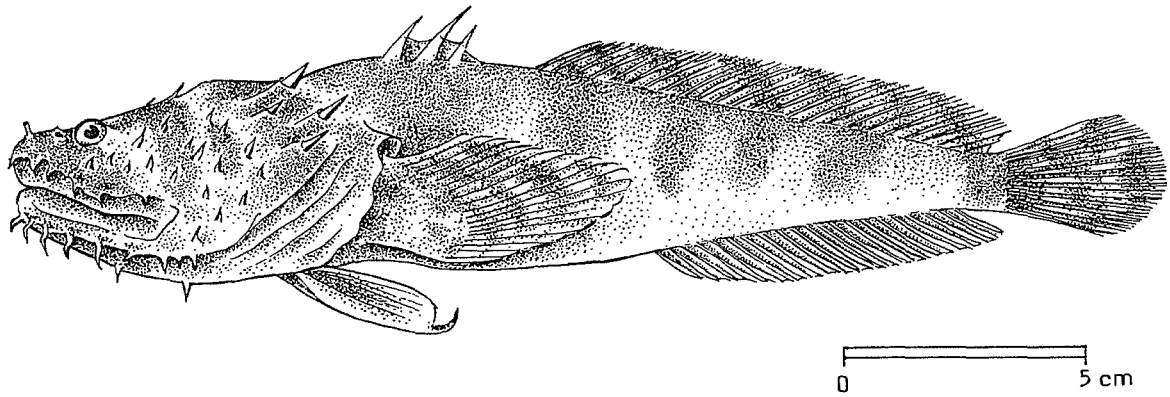
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BATRACHOIDIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Batrachoides liberiensis (Steindachner, 1867)

OTHER SCIENTIFIC NAMES STILL IN USE : Batrachus liberiensis Steindachner, 1867
Batrachoides beninensis Regan, 1915

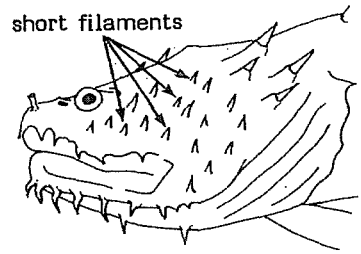


VERNACULAR NAMES:

FAO : En - Hairy toadfish
Fr - Crapaud poilu
Sp - Sapo peludo

NATIONAL :

DISTINCTIVE CHARACTERS :

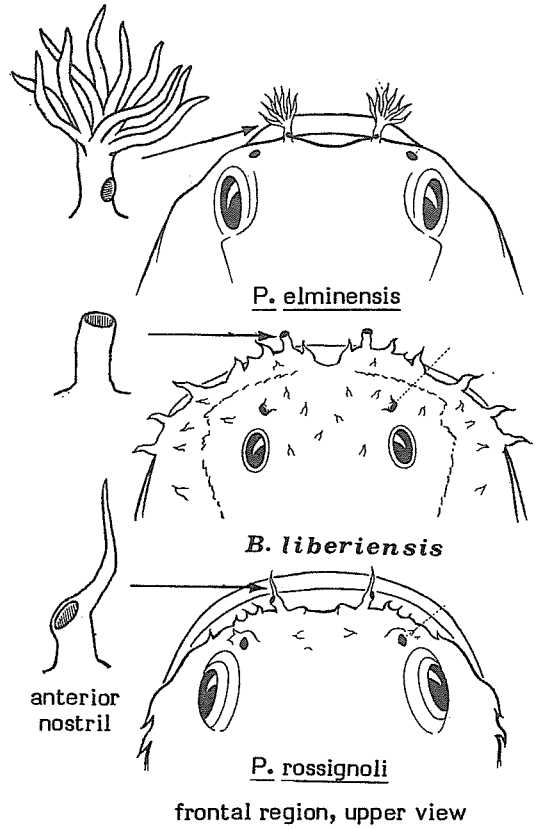


Head broad, strongly depressed and regularly rounded anteriorly (but more oval in young), most of its surface covered with numerous short , simple filaments giving it a "hairy" appearance; underside of lower jaw on each side with a double row of 4 multibranched mental barbels bordering a groove pierced by 4 pores; each one of these lateral grooves followed posteriorly by a crest bearing tentacles; branched tentacles also present above upper jaw; eyes small; sides of head crossed by a longitudinal groove extending from anterior profile to opercular spines; anterior, as well as posterior nostrils tubular, without ornamentation, the former opening on a fleshy frontal lobe above upper lip; 2 spines on both opercle and subopercle; teeth in upper jaw in 3 or 4 rows anteriorly and 2 or 3 rows laterally; those in lower jaw in 4 or 5 rows anteriorly and a single row laterally; teeth on vomer and palatines (roof of mouth) strong and conical. First dorsal fin with 3 spines, second dorsal with 24 to 26 soft rays; anal fin with 21 to 23 soft rays; pectoral fins with 19 to 22 rays; glands present between 13 to 15 pectoral fins rays. Two lateral lines, the upper bending upward at level of 10th dorsal fin ray, the lower bending downward at level of 7th anal fin ray, both lines thereafter running along fin bases to caudal fin; upper lateral line with 30 to 41, the lower with 34 to 42 pores, each pore flanked by a pair of branched tentacles. Number of vertebrae: 33 to 35.

Colour: rather variable, in preserved specimens ranging from dark to light brown, with usually 4 irregular brown cross bars on body; a brown spot between eyes, and sometimes other spots behind eyes.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Batrachoididae: head not covered with small filaments and therefore, not "hairy" in appearance; anterior nostrils with simple or branched tentacles; soft dorsal fin rays 21 or less (24 or 25 in B. liberiensis); anal fin rays 17 or less (22 or 23 in B. liberiensis): pectoral fin rays 23 or more (19 or 20 in B. liberiensis); vertebrae 29 or less (34 in B. liberiensis); furthermore, a pore or pocket present in pectoral axillary fold in all these species except Chatrabus damaranus.



frontal region, upper view

SIZE:

Maximum: 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Senegal to Northern Angola.

A bottom-living species occurring mainly in littoral areas and shallow coastal waters less than 30 m deep, but occasionally reported from deeper waters (to about 100 m). Also found in brackish environments.

PRESENT FISHING GROUNDS:

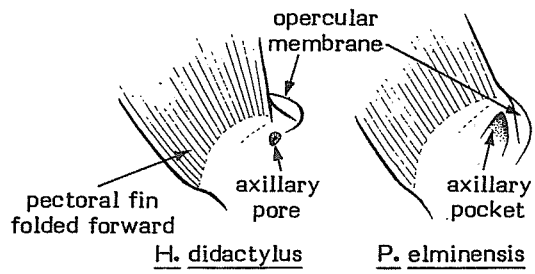
Taken throughout its range, mainly in artisanal fisheries, apparently rather abundant.

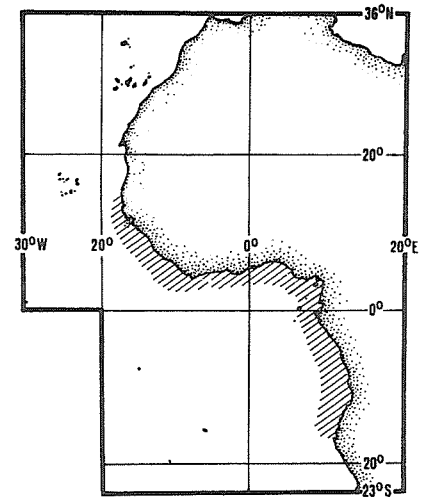
CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with artisanal fishing gear.

Probably marketed mostly fresh.





BATRACH Chatr 1

1981

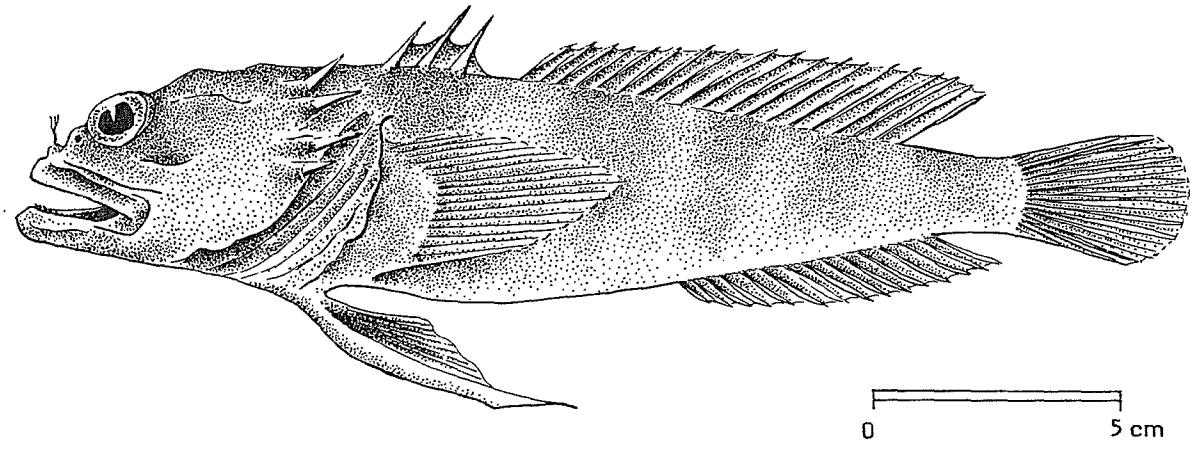
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BATRACHOIDIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chatrabus damaranus (Barnard, 1927)

OTHER SCIENTIFIC NAMES STILL IN USE : Batrachoides damaranus Barnard, 1927



VERNACULAR NAMES:

FAO : En - Pony toadfish
Fr - Crapaud angolais
Sp - Sapo chasquilla

NATIONAL :

DISTINCTIVE CHARACTERS :

Body robust. Head massive; underside of lower jaw on each side with a double row of simple and rather flat mental barbels (8 or 9 pairs), each pair bordering a pore; further back, a single row of 2 to 4 isolated, simple barbels on each side; anterior nostrils tubular and located on edge of a frontal lobe bearing 3 flattened tentacles; posterior nostrils circular with a slightly prominent margin; a few small filaments present between anterior nostrils; 2 spines on both opercle and subopercle. First dorsal fin with 3 spines, second dorsal with 19 soft rays; anal fin with 15 soft rays; pectoral fins with 24 rays, their inner surfaces with diffuse glandular tissue (not concentrated in inter-radial pockets). No pore or pocket in pectoral axillary fold. Two lateral lines, the upper with 37 pores, the lower scarcely visible, the pores each flanked by a pair of small vertical skin flaps; a third longitudinal row of pores, each flanked by a pair of horizontal flaps, present on midline of body. Number of vertebrae: 28.

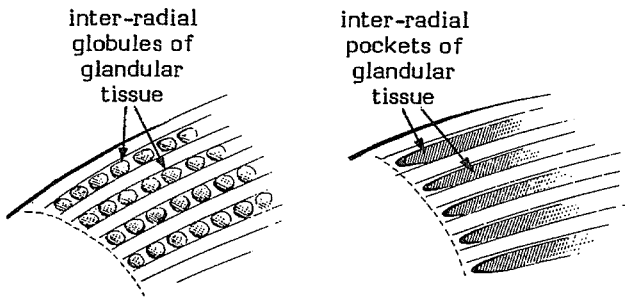
Colour: in preserved specimens, back brownish, belly light brown; brown dots spread over entire body (including belly), sometimes arranged to form eye-like spots (ocelli) on head; 2 brown cross bars on head and 4 on body.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Perulibatrachus elminensis and P. rossignoli: a funnel-shaped pocket on upper part of pectoral axillary fold; no tentacles between anterior nostrils. Also, only 1 subopercular spine and a single, simple tentacle on anterior nostrils in P. rossignoli; and inter-radial globules of glandular tissue on inner surfaces of pectoral fins and 60 pores in upper lateral line in P. elminensis (37 pores in C. damaranus).

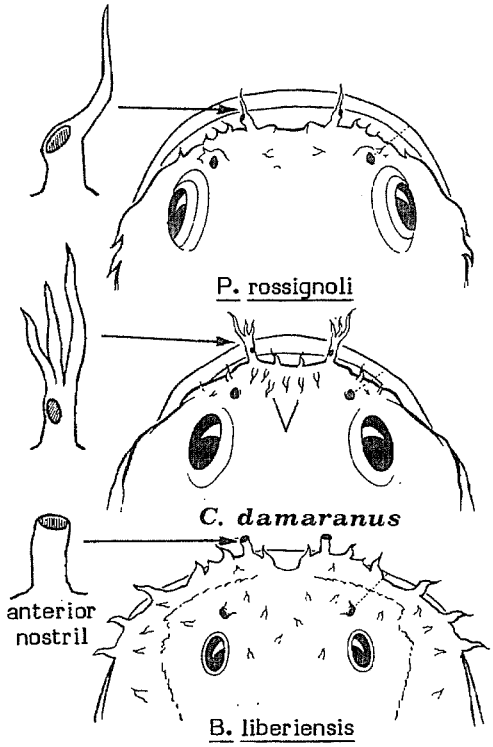
Halobatrachus didactylus: an axillary pore present beneath upper edge of opercular membrane; inter-radial pockets of glandular tissue on inner surfaces of pectoral fins; a single subopercular spine.

Batrachoides liberiensis: glandular tissue on inner surfaces of pectoral fins concentrated in inter-radial pockets; head covered with many short filaments giving it a "hairy" appearance; anterior nostrils tube-like, without tentacles; soft dorsal fin rays 24 or 25 (19 in C. damaranus); anal fin rays 22 or 23 (15 in C. damaranus); pectoral fin rays 19 or 20 (24 in C. damaranus); vertebrae: 34 (28 in C. damaranus).

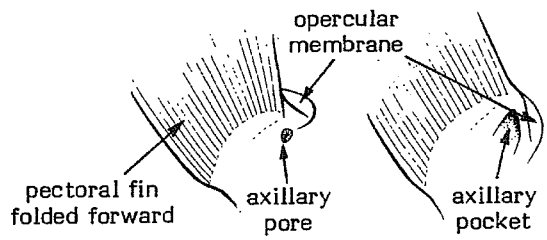


P. elminensis

B. liberiensis
H. didactylus



frontal region, upper view



H. didactylus P. elminensis

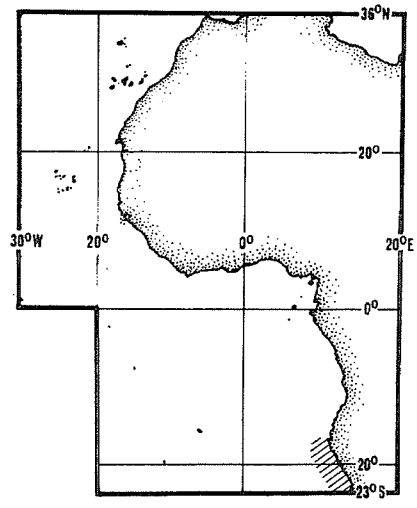
SIZE:

Maximum: 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Tigress Bay (Southern Angola) to Walfish Bay.

A bottom-living species occurring on the continental shelf to about 200 m depth.



PRESENT FISHING GROUNDS:

Occasionally taken in artisanal and trawl fisheries throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

BATRACH Halo 1

1981

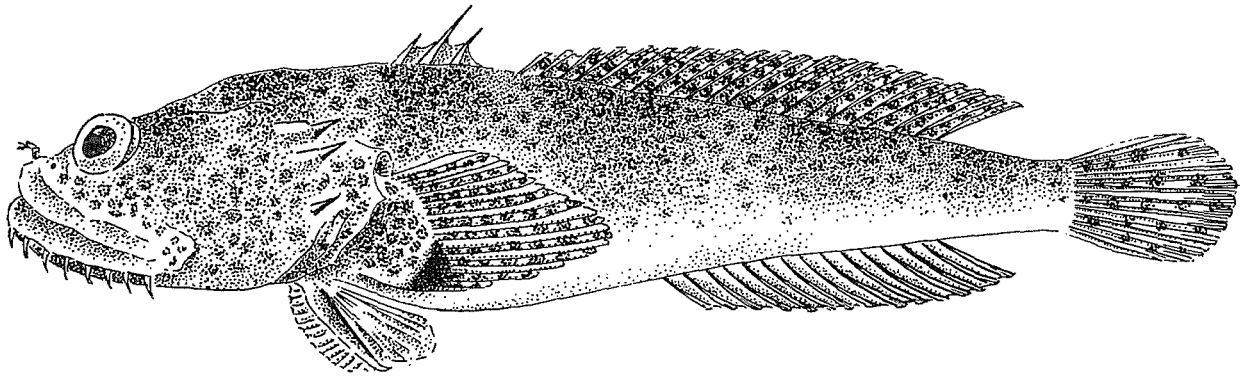
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BATRACHOIDIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Halobatrachus didactylus (Schneider, 1801)

OTHER SCIENTIFIC NAMES STILL IN USE : Batrachus didactylus Schneider, 1801



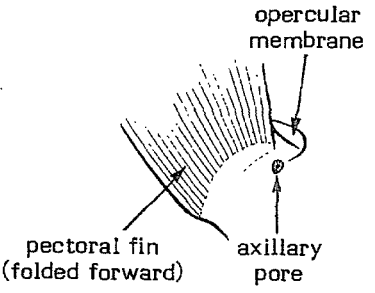
VERNACULAR NAMES:

FAO : En - Lusitanian toadfish
Fr - Crapaud lusitanien
Sp - Sapo lusitánico

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large and massive; a double row of simple mental barbels on each side of lower jaw bordering a groove pierced by about 15 pores, followed laterally by a single row of rather long, simple barbels; anterior tube-like nostrils located on anterior profile of head and bearing a tuft of finger-like tentacles; posterior nostrils simple rounded openings just in front of eyes; 2 spines on opercle and 1 on subopercle; anterior teeth of both jaws in 3 rows, upper lateral teeth in 2 rows, lower laterals in a single row; 2 or 3 rows of teeth on vomer and palatines (roof of mouth). First dorsal fin with 3 spines, second dorsal with 19 to 21 soft rays; anal fin with 16 or 17 soft rays; pectoral fins with 24 or 25 rays, their inner surfaces bearing inter-radial pockets of glandular tissue; an axillary pore present beneath upper edge of opercular membrane. Two lateral lines, the upper comprising 48 pores, each surrounded by minute skin flaps. Number of vertebrae 29.



Colour: rather variable; in preserved specimens, darker on back and upper sides, lighter on belly; often 4 dark cross bars on body and 3 on head (1 between eyes, the other 2 posterior to eyes); head and body covered with small dark spots superimposed on a lighter network; second dorsal fin with brown oblique lines; opercular and dorsal fin spines often surrounded by light areas at bases.

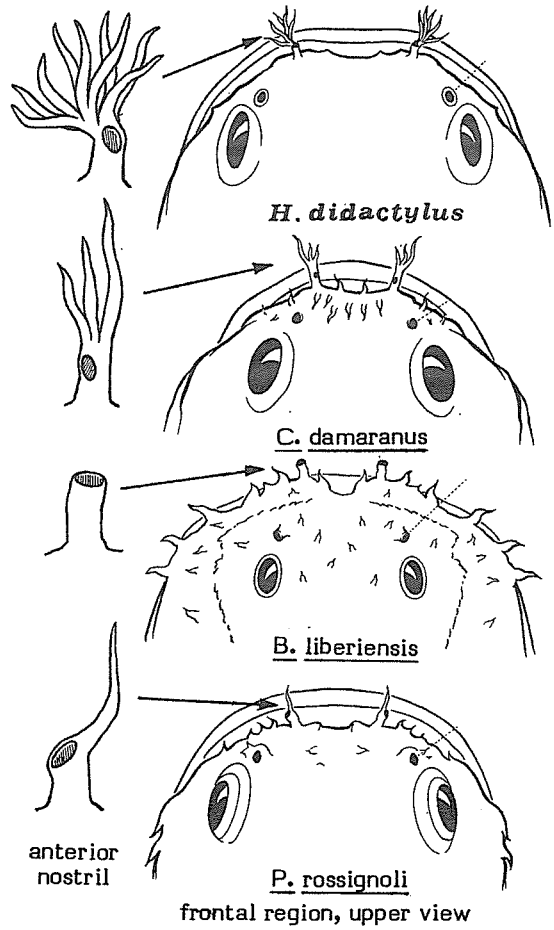
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Batrachoididae: no axillary pore beneath upper edge of opercular membrane. These species can be further distinguished as follows:

Perulibatrachus rossignoli and Chatrabus damaranus: glandular tissue on inner surface of pectoral fins diffuse, not concentrated in interradial globules or pockets; anal fin rays 15 or less (16 or 17 in H. didactylus); also, anterior nostrils with a simple tentacle in P. rossignoli, and 2 spines on subopercle and a few small tentacles between anterior nostrils in C. damaranus.

Perulibatrachus elminensis: glandular tissue on inner surface of pectoral fins in inter-radial globules rather than pockets; 60 pores in upper lateral line (48 in H. didactylus).

Batrachoides liberiensis: head covered with many short filaments giving it a "hairy" appearance; 22 or 23 anal fin rays (16 or 17 in H. didactylus); 19 or 20 pectoral fin rays (24 or 25 in H. didactylus); 2 subopercular spines; anterior nostrils simple, tubular, without tentacles.



frontal region, upper view

SIZE:

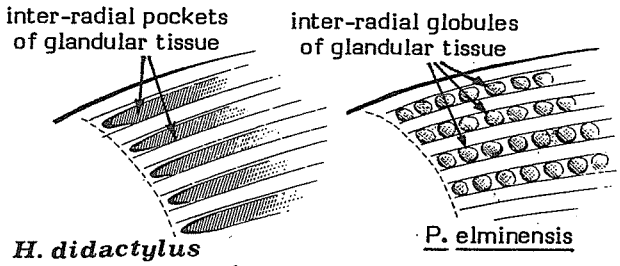
Maximum: 45 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

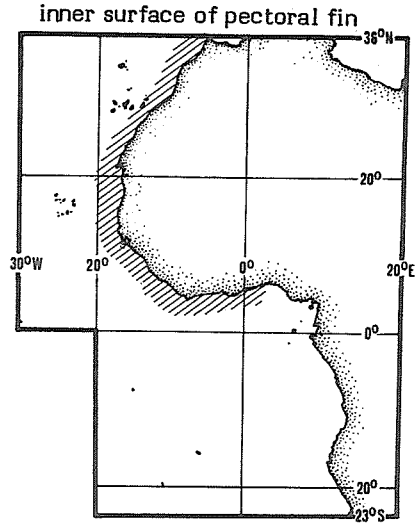
West African coast from the Straits of Gibraltar to Ghana; northward extending into the Mediterranean and along the coast of Portugal and Spain (possibly even further north).

A bottom-dwelling species inhabiting mainly shallow coastal waters to about 50 m depth, although some countries fishing in the area have reported it from deeper waters (to about 250 m).

Feeds chiefly on molluscs and crustaceans.



inner surface of pectoral fin



PRESENT FISHING GROUNDS:

Taken in artisanal fisheries and as bycatch in trawl fisheries throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and artisanal fishing gear.

Marketed mostly fresh; also used for fishmeal and oil.

BATRACH Perul 1

1981

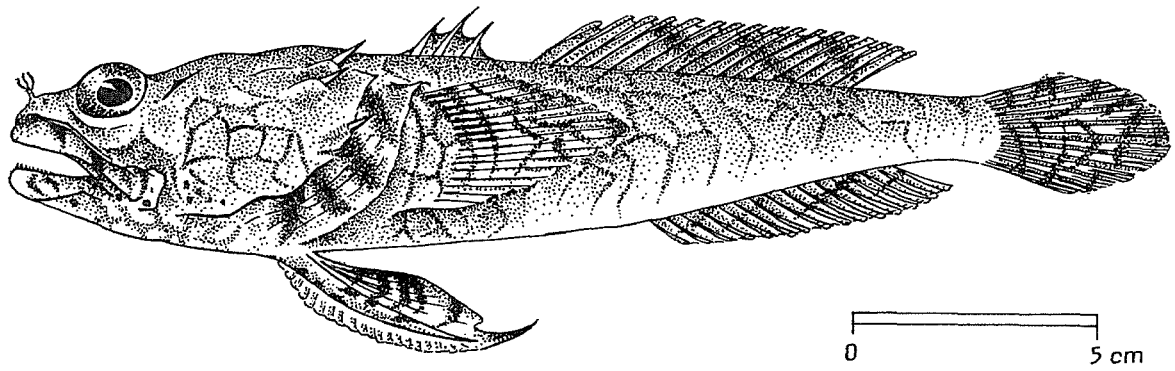
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BATRACHOIDIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Perulibatrachus elminensis (Bleeker, 1863)

OTHER SCIENTIFIC NAMES STILL IN USE : Batrachus elminensis Bleeker, 1863
Parabatrachus elminensis (Bleeker, 1863)
Batrachus budkeri Roux, 1957



VERNACULAR NAMES:

FAO : En - Guinean toadfish
Fr - Crapaud guinéen
Sp - Sapo guineano

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large and depressed; mouth terminal; underside of lower jaw on each side with a double row of simple or bifid filamentous mental barbels bordering a groove pierced by about 14 pores (each surrounded by a pair of short tentacles) and ending in a rather large orifice on either end; further back on underside of lower jaw, at level of mouth cleft, another 2 pores surrounded by fringed barbels; anterior nostrils located on anterior profile of head and bearing a tuft of tentacles; posterior nostrils simple round orifices surrounded by a low ringwall and located just in front of eyes; 2 spines on opercle and a single, bifid spine on subopercle; teeth in upper jaw in 3 rows anteriorly and a single row laterally; those in lower jaw in 4 or 5 rows anteriorly followed laterally first by 2 rows and then ending in a single row; 3 or 4 rows of teeth on vomer and 1 or 2 rows on palatines (roof of mouth). First dorsal fin with 3 spines; second dorsal with 16 to 21 soft rays (usually 16 or 17); anal fin with 14 to 17 soft rays; pectoral fins with 26 rays, their inner sides bearing a variable number of inter-radial globules of glandular tissue; an axillary pocket (distinct funnel-like depression) occupying the entire upper part of the pectoral axillary fold. Two lateral lines, the upper comprising about 60 pores, each surrounded by 2 short skin flaps. Number of vertebrae: 27.

Colour: in preserved specimens, back more or less dark brown, sides and belly light brown; a network of irregular brown lines covering the entire body except belly; soft dorsal and anal fins with oblique brown stripes; a dark spot on body beneath pectoral fins close to the axillary pocket.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

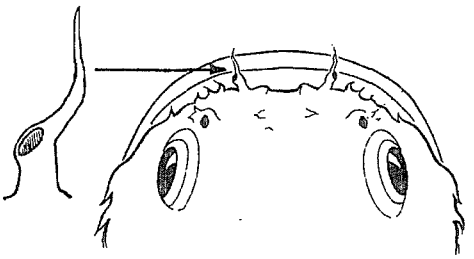
Other species of Batrachoididae: 48 or less pores in upper lateral line (60 in P. elminensis). These species can be further distinguished as follows:

Perulibatrachus rossignoli: glandular tissue on inner surfaces of pectoral fins diffuse, not concentrated in inter-radial globules; anterior nostrils tubular with a simple tentacle; pectoral fin rays 23 (26 in P. elminensis); subopercular spine not bifid.

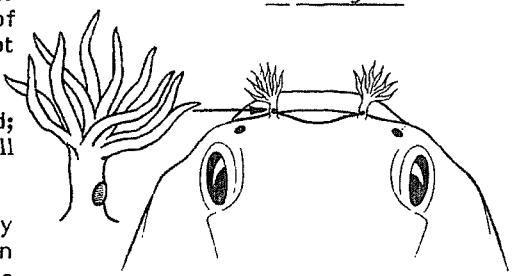
Halobatrachus didactylus: an axillary pore present beneath upper edge of opercular membrane; inter-radial pockets (instead of globules) of glandular tissue on inner surfaces of pectoral fins; subopercular spine not bifid.

Chatrabus damaranus: no pocket or pore in pectoral axillary fold; glandular tissue on inner surfaces of pectoral fins diffuse; a few small filaments between anterior nostrils, the latter bearing only 3 tentacles.

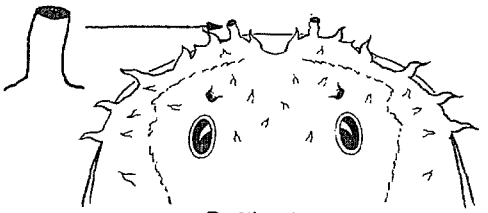
Batrachoides liberiensis: no pocket or pore in pectoral axillary fold; inter-radial pockets (rather than globules) of glandular tissue on inner surfaces of pectoral fins; head covered with many small filaments giving it a hairy appearance; anterior nostrils simple tubes without tentacles; soft dorsal fin rays 24 or 25 (16 to 21 in P. elminensis); anal fin rays 22 or 23 (14 to 17 in P. elminensis); pectoral fin rays 19 or 20 (26 in P. elminensis); vertebrae 34 (27 in P. elminensis).



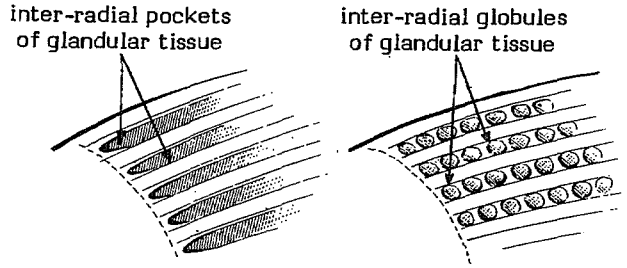
P. rossignoli



P. elminensis



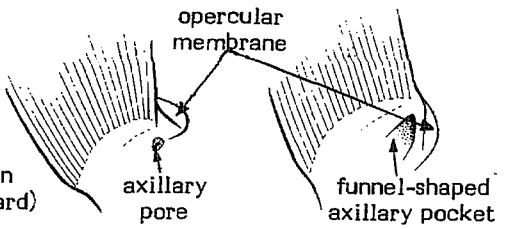
B. liberiensis
frontal region, upper view



B. liberiensis
H. didactylus

P. elminensis

inner surface of pectoral fin



H. didactylus

P. elminensis

SIZE:

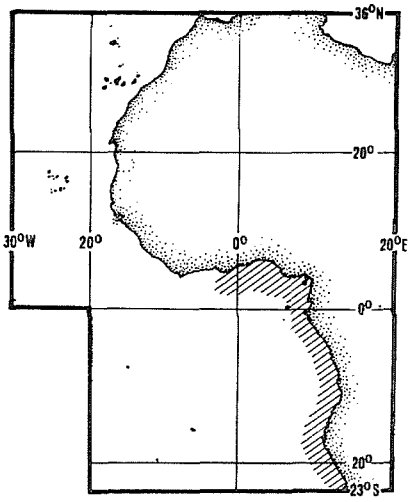
Maximum: 35 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Ghana to Walfish Bay.

A bottom-living species inhabiting coastal waters on the continental shelf.

Feeds on crustaceans and molluscs.



PRESENT FISHING GROUNDS:

Occasionally taken in artisanal and trawl fisheries, but apparently nowhere abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and artisanal fishing gear.

Probably utilized fresh.

BATRACH Perul 2

1981

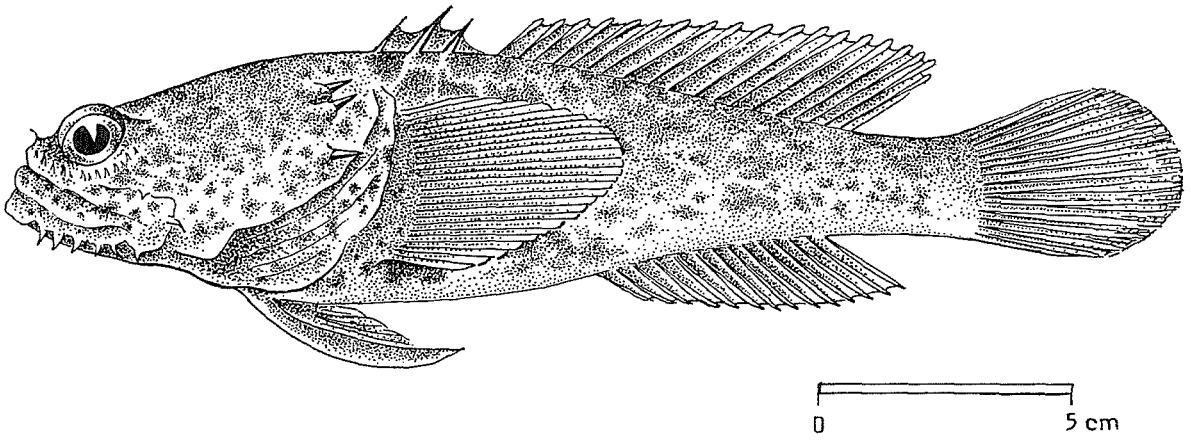
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BATRACHOIDIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Perulibatrachus rossignoli (Roux, 1957)

OTHER SCIENTIFIC NAMES STILL IN USE : Batrachus rossignoli Roux, 1957



VERNACULAR NAMES:

FAO : En - Rossignol toadfish
Fr - Crapaud de Rossignol
Sp - Sapo de Rossignol

NATIONAL :

DISTINCTIVE CHARACTERS :

Head large and massive; underside of lower jaw on each side with a double row of flat, broad-based mental barbels bordering a groove pierced by about 12 pores (each surrounded by a pair of short tentacles); anterior nostrils tubular and located on the edge of a fleshy frontal lobe, bearing a simple tentacle; posterior nostrils simple round openings; 2 spines on opercle and 1 on subopercle; teeth in both jaws small and conical, in 3 rows anteriorly, and successively reduced to 2 and 1 row laterally; a single row of teeth on vomer and palatines (roof of mouth). First dorsal fin with 3 spines, second dorsal with 19 soft rays; anal fin with 13 to 15 soft rays; pectoral fins with 23 rays, their inner surfaces with diffuse glandular tissue (not concentrated in inter-radial pockets). A more or less deep funnel-shaped pocket present on upper part of pectoral axillary fold. Two lateral lines, the upper comprising 40 pores, each surrounded by 2 skin flaps, the lower with about 30 pores. Number of vertebrae: 29.

Colour: in preserved specimens, back brownish, belly beige; 3 or 4 brown cross bars on body and 2 on head. Fresh specimens sometimes with brown spots spread over entire body (including belly) arranged to form constellations or eye-like spots (ocelli).

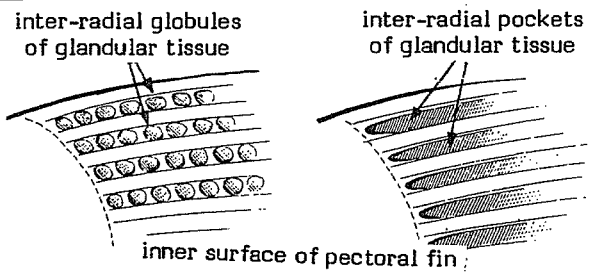
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

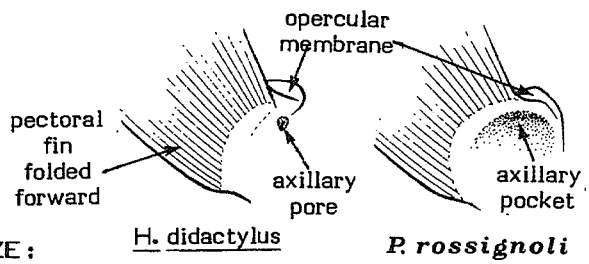
Perulibatrachus elminensis: glandular tissue on inner surface of pectoral fins concentrated in inter-radial globules; anterior nostrils with a tuft of tentacles; 26 pectoral fin rays (23 in P. rossignoli); subopercular spine bifid; 60 pores in upper lateral line (40 in P. rossignoli).

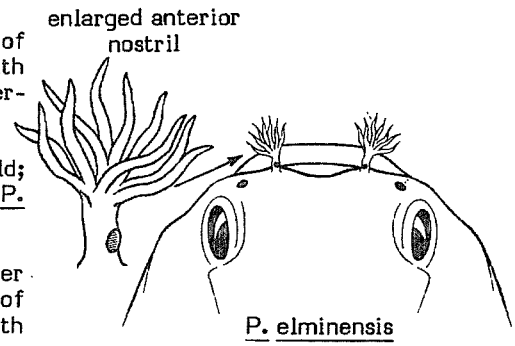
Chatrabus damaranus: no pocket or pore in pectoral axillary fold; anterior nostrils with 3 tentacles; 2 subopercular spines (1 in P. rossignoli).

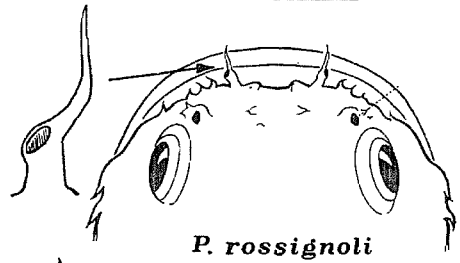
Halobatrachus didactylus: an axillary pore present beneath upper edge of opercular membrane; glandular tissue on inner surfaces of pectoral fins concentrated in inter-radial pockets; anterior nostrils with branched tentacles.

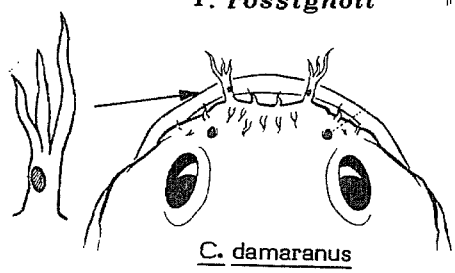
Batrachoides liberiensis: no pocket or pore in pectoral axillary fold; inter-radial pockets of glandular tissue on inner surfaces of pectoral fins; no tentacles on tube-like anterior nostrils; many small tentacles on head, giving it a "hairy" appearance; soft dorsal fin rays 24 or 25 (19 in P. rossignoli)anal fin rays 22 or 23 (13 to 15 in P. rossignoli); pectoral fin rays 19 or 20 (23 in P. rossignoli); vertebrae 34 (29 in P. rossignoli).

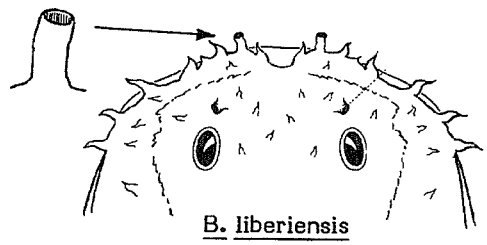












frontal region, upper view

SIZE:

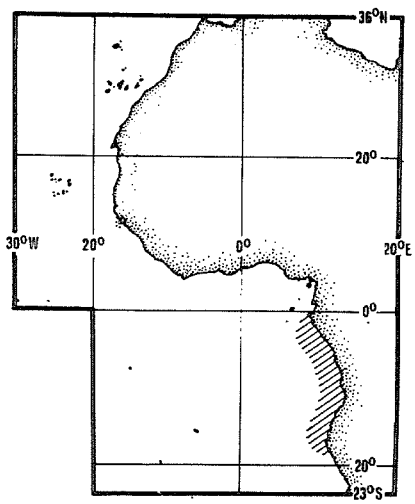
Maximum: at least 30 cm (possibly 40 cm).

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from Gabon to Tiger Bay (Angola).

A bottom-living species occurring on the continental shelf.

Feeds chiefly on crustaceans.



PRESENT FISHING GROUNDS:

Occasionally taken in artisanal and trawl fisheries throughout its range, but apparently nowhere abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls and several types of artisanal gear.

Utilized mainly fresh.

BELON

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

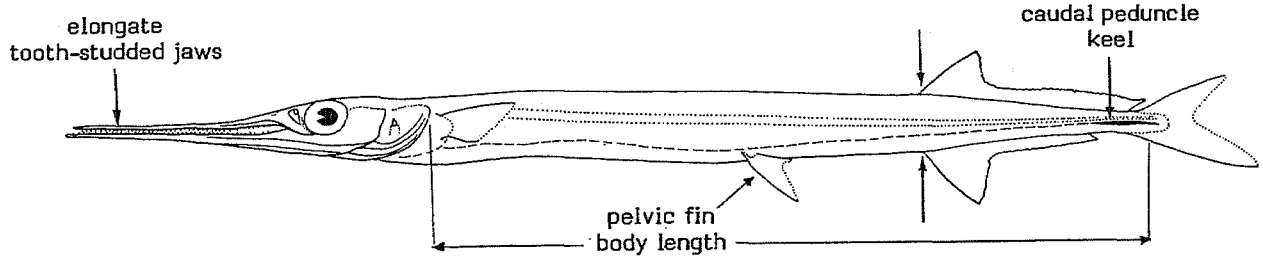
BELONIDAE

Needlefishes

Elongate fishes with both upper and lower jaws extended into long beaks filled with sharp teeth; nostrils in a pit anterior to eyes. No spines in fins; dorsal and anal fins posterior in position; pelvic fins located in abdominal position and with 6 soft rays; pectoral fins short. Lateral line running down from pectoral fin origin and then along ventral margin of body. Scales small, cycloid (smooth), easily detached.

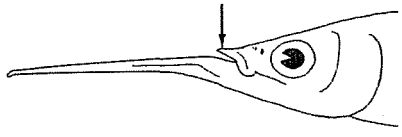
Colour: these fishes live at the surface and are protectively coloured for this mode of life by being green or blue on the back and silvery white on the lower sides and belly. Usually, a dusky or dark blue stripe along sides; tip of lower jaw frequently red or orange.

Most species are marine, but some occur in freshwaters. Carnivorous, feeding largely on small fishes which they catch sideways in their beaks. Needlefishes tend to leap and skitter at the surface and some people have been injured when accidentally struck by them, particularly at night when the fishes are attracted by lights. Caught by casting or trolling surface or near-surface lures. Flesh excellent in flavour although some people have misgivings about eating it due to the green colour of the bones. Some freshwater needlefishes reach only 6 or 7 cm in total length while some marine species may attain 2 m.



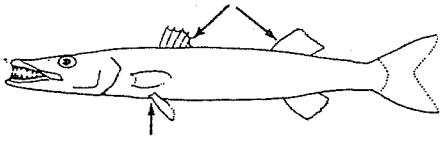
SIMILAR FAMILIES OCCURRING IN THE AREA:

Hemiramphidae (halfbeaks): only the lower jaw prolonged or none of the jaws prolonged (Oxyporhamphus) and lacking the needle-sharp teeth that stud the needlefishes' upper and lower jaws.



Hemiramphidae

Sphyraenidae (barracudas): jaws pointed but not prolonged into a beak; 2 dorsal fins, the first spiny; pelvic fins in thoracic position.



Sphyraenidae

KEY TO GENERA OCCURRING IN THE AREA :

Out of 10 genera and about 32 species in the family, only 7 species belonging to 4 genera occur in the Eastern Central Atlantic.

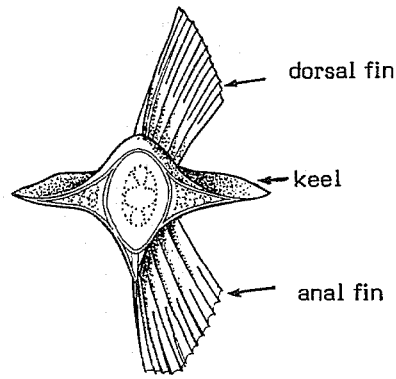


Ablennes Fig. 1

1 a. Body strongly laterally compressed and marked with a series of vertical bars (Fig. 1); anal fin rays 24 to 28 ..... Ablennes

1 b. Body rounded or squarish in cross-section; no vertical bars present; anal fin rays 13 to 23

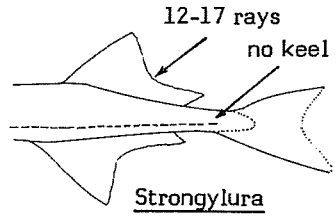
2 a. Caudal peduncle strongly depressed (flattened dorso-ventrally) and with well developed lateral keels, least depth of caudal peduncle about half the width (Fig. 2); gill rakers present ..... Platybelone



cross section through caudal peduncle
Platybelone argalus Fig. 2

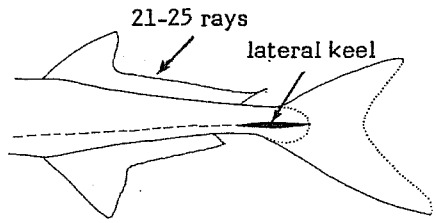
2 b. Caudal peduncle not strongly depressed, a small lateral keel on caudal peduncle or no keel at all, caudal peduncle deeper than wide; gill rakers absent

3 a. Dorsal fin rays 12 to 17; no keels on caudal peduncle (Fig. 3); no expanded black posterior dorsal fin lobe at any size .. Strongylura



Strongylura Fig. 3

3 b. Dorsal fin rays 20 to 26; a weak, darkly pigmented lateral keel on each side of caudal peduncle (Fig. 4); juveniles with an expanded black lobe in the posterior part of the dorsal fin ..... Tylosurus



Tylosurus Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Ablennes hians (Valenciennes, 1846)	BELON Ablen 1
Platybelone argalus lovii (Günther, 1866) Platybelone argalus annobonensis Collette & Parin, 1970 Platybelone argalus trachura (Valenciennes, 1846)	BELON Platy 1
Strongylura senegalensis (Valenciennes, 1846)	BELON Strong 3
Tylosurus acus rafale Collette & Parin, 1970	BELON Tylo 1
Tylosurus acus imperialis (Rafinesque, 1810)	
Tylosurus crocodilus crocodilus (Peron & LeSueur, 1821)	BELON Tylo 2

Prepared by B.B. Collette, NMFS Systematic Laboratory, NOAA, Washington, D.C., U.S.A.

Species Illustrations provided by author

BELON Ablen 1

1981

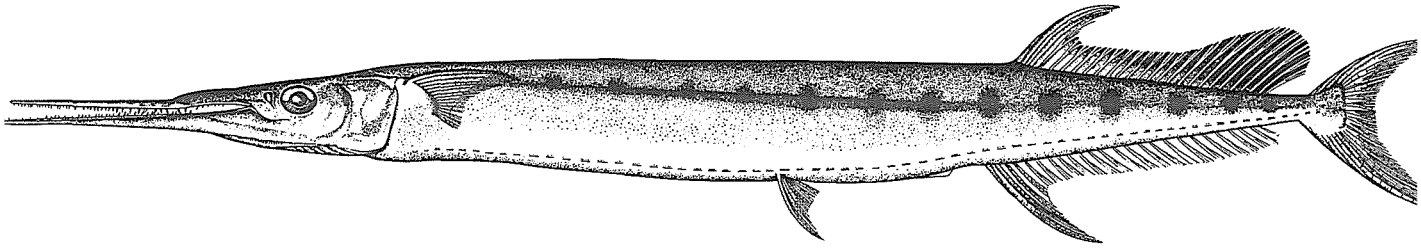
FAO SPECIES IDENTIFICATION SHEETS

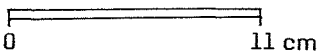
FAMILY : BELONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Ablennes hians (Valenciennes, 1846)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Flat needlefish
Fr - Orphie plate
Sp - Agujón sable

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate and greatly compressed laterally. Upper and lower jaws greatly elongated and studded with small sharp teeth. Gill rakers absent. Anterior parts of dorsal and anal fins with high falcate lobes; dorsal fin rays numerous, 23 to 26, usually 24 or 25; posterior part of dorsal fin with a prominent dark lobe; anal fin rays numerous, 24 to 28, usually 26 or 27; pectoral fins falcate; pectoral fin rays 13 to 15; caudal peduncle without lateral keels, caudal fin deeply forked, lower lobe much longer than upper. Females lack the right gonad and males either lack it or have it greatly reduced. Total number of vertebrae 87 to 93.

Colour: bluish green above, silvery white below. A broad dark blue stripe along sides and about 12 to 14 prominent dark vertical bars on body; tip of lower jaw red. Juveniles and adults have an elevated black lobe in the posterior part of the dorsal fin. Scales and bones green.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

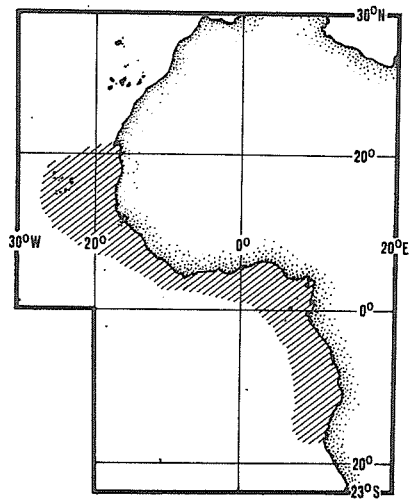
Other species of Belonidae: body rounded or squarish in cross-section (strongly laterally compressed in A. hians), no vertical bars on body, fewer anal fin rays, less than 24 (24 or more in A. hians) and no prominent dark lobe to posterior part of dorsal fin, except in juveniles of Tylosurus species.

SIZE :

Maximum: at least to 95 cm standard length (without caudal fin) and 77 cm body length (without beak and caudal fin).

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the Eastern Atlantic, known from the Cape Verde Islands and Dakar through the Gulf of Guinea to the Congo and Moçamedes, southern Angola. World-wide in tropical and subtropical seas.



A pelagic species inhabiting offshore surface waters.

Carnivorous, feeding mainly on small fishes.

PRESENT FISHING GROUNDS :

Mainly offshore waters throughout its area of distribution; locally abundant, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not collected for this species.

Caught mainly by casting or trolling surface or near-surface lures; also with seines.

Marketed mostly fresh, salted and smoked.

BELON Platy 1

1981

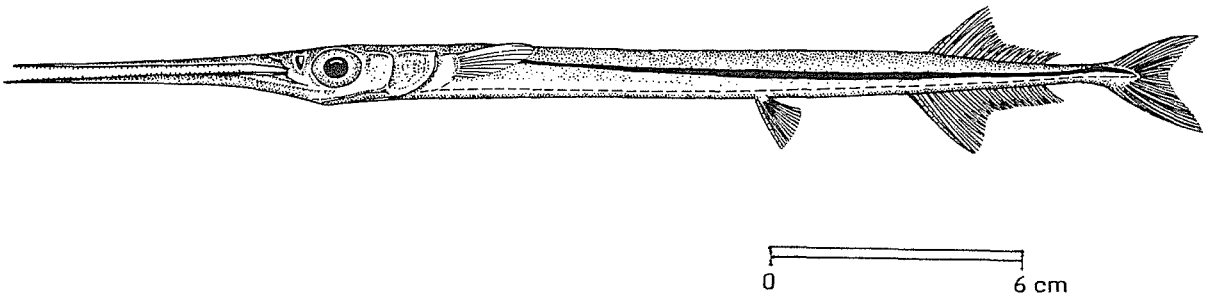
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BELONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Platybelone argalus lovii (Günther, 1866)
Platybelone argalus annobonensis Collette & Parin, 1970
Platybelone argalus trachura (Valenciennes, 1846)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

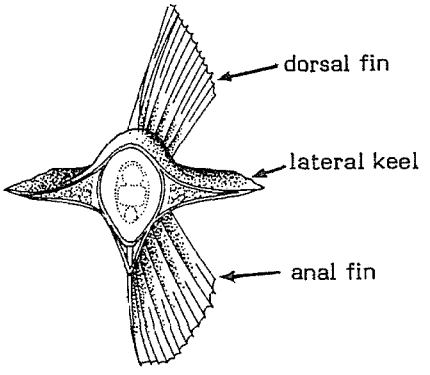
FAO : En - Keeltail needlefish
Fr - Orphie carène
Sp - Agujón de quilla

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, rounded in cross-section. Upper and especially lower jaws greatly elongated and studded with fine teeth. Gill rakers present. Anterior parts of dorsal and anal fins not forming prominent lobes; dorsal fin rays few, 12 to 16; anal fin rays 17 to 19; pectoral fin not falcate, pectoral fin rays 10 to 12, usually 11; caudal peduncle greatly depressed with very large lateral keels; caudal fin forked, upper and lower lobes of about equal length. Predorsal scales (in front of dorsal fin) comparatively few and large, 107 to 138. Both right and left gonads present, right longer than left. Total vertebrae 66 to 76.

Colour: bluish green above, silvery below. A dark blue stripe along sides. Fins clear, without pigment. Scales and bones green.

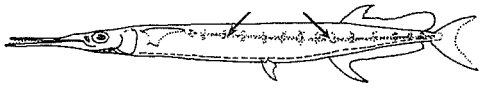


cross section through caudal peduncle

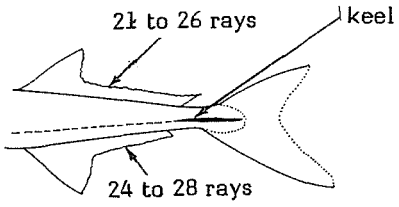
P. argalus

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Belonidae: caudal peduncle not strongly depressed (not wider than deep), lateral keels either small or absent (well developed in P. argalus) and gill rakers absent (present in P. argalus); also, body strongly compressed laterally and dark bars on sides of Ablennes hians, and many more dorsal fin rays in Tylosurus species (21 to 26, compared to 12 to 16 in P. argalus).



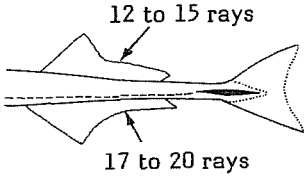
Ablennes hians



Tylosurus species

SIZE:

Maximum: at least to 38.2 cm standard length (without caudal fin) and 25.6 cm body length (without beak and caudal fin) in the E.C. Atlantic common to 30 cm standard length.



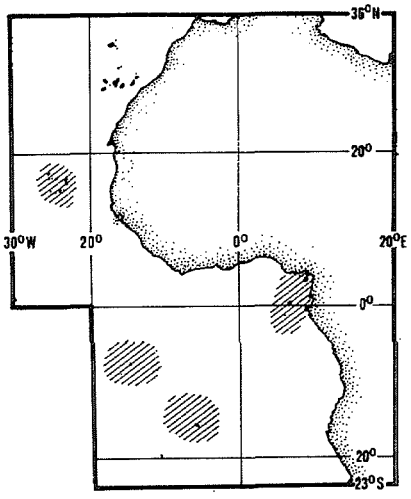
Platybelone argalus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic, known only from near islands: Azores; Cape Verdes (P. argalus lovii); Fernando Póo, São Tomé, and Annobon in the Gulf of Guinea (P. argalus annobonensis); and Ascension and St. Helena (P. argalus trachura). Other subspecies found worldwide in tropical and warm-temperate seas.

A pelagic species inhabiting offshore surface waters but particularly abundant about islands.

Carnivorous, feeding mainly on small fishes.



PRESENT FISHING GROUNDS:

Incidentally in surface waters, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly by casting or trolling surface or near-surface lures; also with seines and trammel nets.

Apparently not regularly consumed.

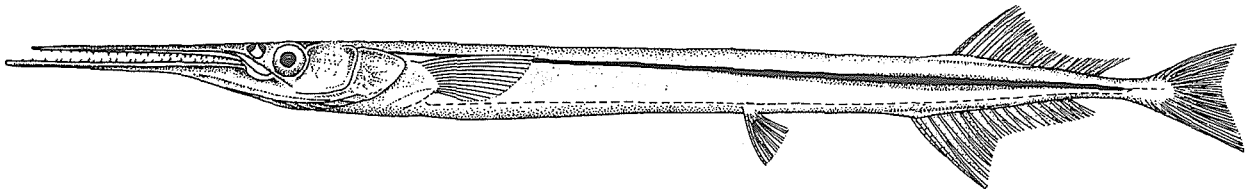
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BELONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Strongylura senegalensis (Valenciennes, 1846)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Senegal needlefish
Fr - Aiguillette sénégalaise
Sp - Agujón senegalés

NATIONAL :

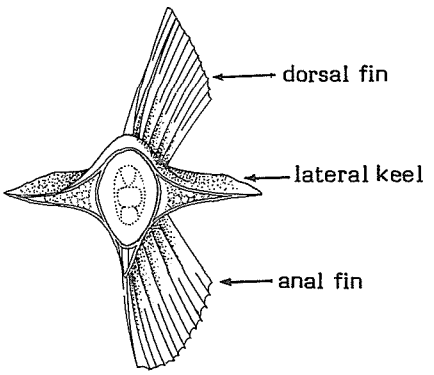
DISTINCTIVE CHARACTERS :

Body elongate, rounded in cross-section. Upper and lower jaws greatly elongated and studded with sharp teeth. Gill rakers absent. Anterior parts of dorsal and anal fins not forming prominent lobes; dorsal fin rays 13 to 16; anal fin rays 14 to 18; pectoral fins not falcate; pectoral fin rays 10 to 12, usually 11. Caudal peduncle without lateral keels; caudal fin emarginate, not deeply forked. Predorsal scales (in front of dorsal fin) 113 to 137, average 125. Total number of vertebrae 62 to 67.

Colour: bluish green above, silvery below. A conspicuous dark blue stripe along sides.

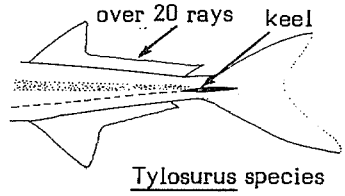
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Platybelone argalus: caudal peduncle strongly depressed dorso-ventrally and with well developed keels (not depressed and no keels in S. senegalensis); gill rakers present (absent in S. senegalensis).



cross section through caudal peduncle
Platybelone argalus

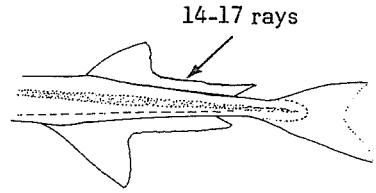
Tylosurus and Ablennes species: many more dorsal fin rays, more than 20 (13 to 16 in S. senegalensis) and caudal fin deeply forked, with lower lobe much longer than upper; also, a narrow black keel on caudal peduncle in Tylosurus species; body greatly compressed laterally and a dark posterior lobe to dorsal fin and dark bars on sides in Ablennes hians.



Tylosurus species

SIZE :

Maximum: at least to 64 cm standard length (without caudal fin) and 42 cm body length (without beak and caudal fin).



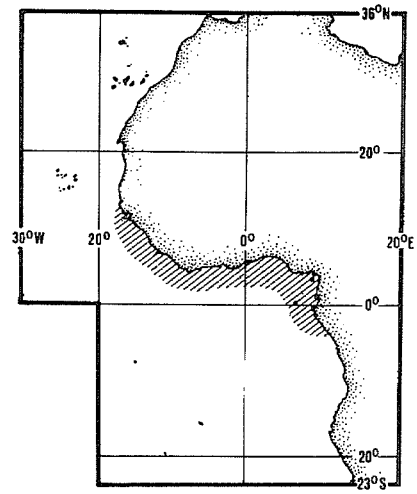
Strongylura senegalensis

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Restricted to the West African coast from Senegal and Guinea southward through the Gulf of Guinea to Angola.

Inhabits coastal areas and brackish lagoons.

Carnivorous, feeding mainly on small fishes.



PRESENT FISHING GROUNDS :

Inshore waters, but no special fishery.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught by casting or trolling surface or near-surface lures; also with purse seines.

Marketed fresh.

BELON Tylo 1

1981

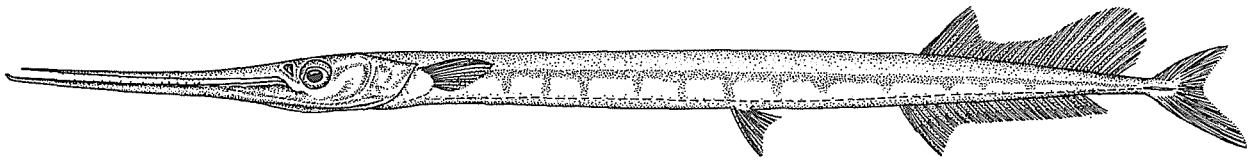
FAO SPECIES IDENTIFICATION SHEETS

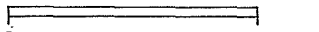
FAMILY : BELONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Tylosurus acus rafale Collette & Parin, 1970
Tylosurus acus imperialis (Rafinesque, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : None





VERNACULAR NAMES:

FAO : En - Agujon needlefish
Fr - Aiguille voyeuse
Sp - Marao ojón (= Aguja imperial)

NATIONAL :

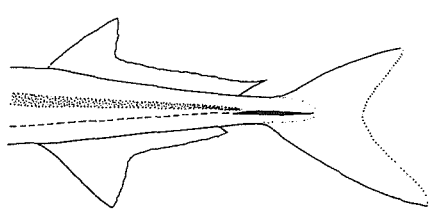
DISTINCTIVE CHARACTERS :

Body elongate, rounded in cross section. Upper and lower jaws greatly elongated and studded with sharp teeth. Gill rakers absent. Anterior part of dorsal fin with a low lobe, contained 10.5 to 13.3 times in body length; dorsal fin rays numerous, 20 to 26; anal fin lobe low, contained 9.7 to 11.7 times in body length; anal fin rays numerous, 20 to 24, usually 21 or 22; pectoral and pelvic fins relatively short, 8.0 to 12.4 and 10.0 to 14.1 times in body length, respectively; pectoral fin rays 13 or 14; a small black lateral keel on caudal peduncle; caudal fin deeply forked, lower lobe much longer than upper. Predorsal scales (in front of dorsal fin) very numerous and tiny, 267 to 430. Left gonad absent or greatly reduced in both sexes. Total number of vertebrae 82 to 96.

Colour: dark bluish above, silvery white below. A dark blue stripe along sides. Juveniles have an elevated black lobe in the posterior part of the dorsal fin which is lost with growth.

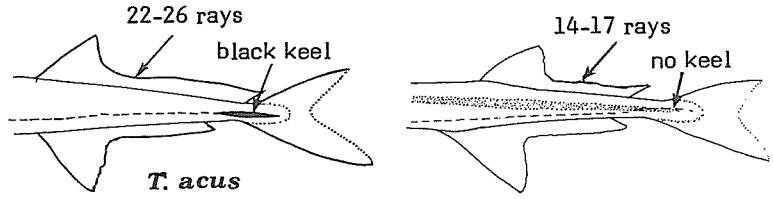
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

T. crocodilus: a much heavier-set species with relatively longer fins; dorsal and anal-fin lobes relatively high, contained 5.4 to 10.6 and 5.5 to 8.0 times in body length, respectively (10.5 to 13.3 and 9.7 to 11.7 times in T. acus); pectoral and pelvic fins relatively long, contained 6.6 to 8.3 and 7.3 to 10.6 times in body length respectively (8.0 to 12.4 and 10.0 to 14.1 times in T. acus).



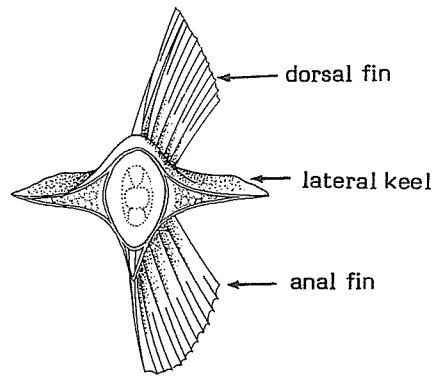
T. crocodilus

Strongylura species: fewer dorsal fin rays, 14 to 17 (20 to 26 in T. acus); no black lateral keel on caudal peduncle (keel present in T. acus); caudal fin emarginate or slightly forked with dorsal and ventral lobes about equal in length (deeply forked in T. acus with ventral lobe much longer); fewer vertebrae, 53 to 77 (82 to 96 in T. acus).



Strongylura species

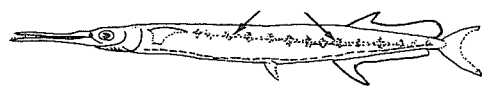
Platybelone argalus: caudal peduncle strongly depressed dorso-ventrally with very prominent keels, not black (rounded in cross section with small black lateral keels in T. acus); gill rakers present (absent in T. acus); many fewer predorsal scales, 107 to 138 instead of 267 to 430; fewer vertebrae, 66 to 76 instead of 82 to 96.



cross section through caudal peduncle

Platybelone argalus

Ablennes hians: body greatly compressed laterally (rounded in T. acus); 12 to 14 prominent vertical bars on body (no bars in adults of T. acus); more anal fin rays, 24 to 28 (20 to 24 in T. acus); a dark lobe present in posterior part of dorsal fin in adults and juveniles (lobe present only in juveniles of T. acus); no black lateral keel on caudal peduncle.



Ablennes hians

SIZE :

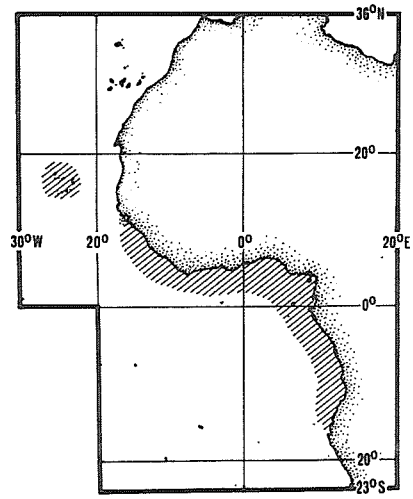
Maximum: 128.5 cm standard length (without caudal fin) and 95 cm body length (without beak and caudal fin); common to 90 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Confined to the Gulf of Guinea from Freetown, Sierra Leone south to Moçamedes, Angola. May occur north to Dakar, Senegal. Replaced by T. acus imperialis in the Mediterranean Sea and around the Cape Verde Islands. Other subspecies found worldwide in tropical and warm-temperate seas.

A pelagic species inhabiting more offshore waters than T. crocodilus, but also found in coastal waters.

Carnivorous, feeding mainly on small fishes.



PRESENT FISHING GROUNDS :

Inshore and offshore waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Data on gear and utilization not available.

BELON Tylo 2
1981

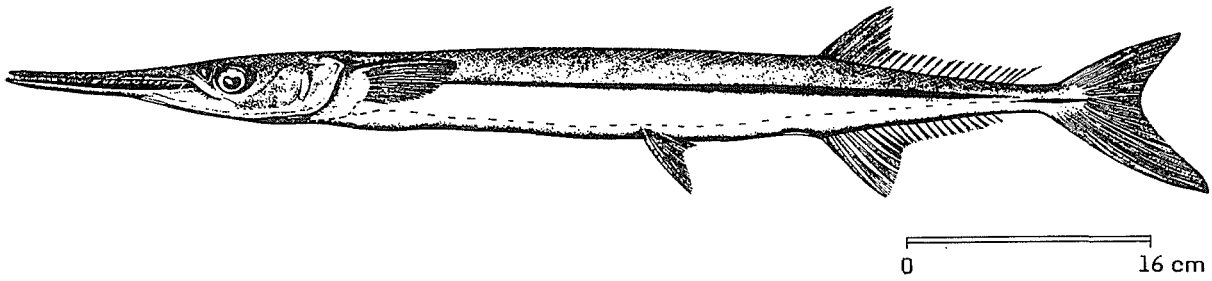
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BELONIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Tylosurus crocodilus crocodilus (Peron & LeSueur, 1821)

OTHER SCIENTIFIC NAMES STILL IN USE : Tylosurus raphidoma (Ranzani, 1842)



VERNACULAR NAMES:

FAO : En - Hound needlefish
Fr - Aiguille crocodile
Sp - Marao lisero

NATIONAL :

DISTINCTIVE CHARACTERS :

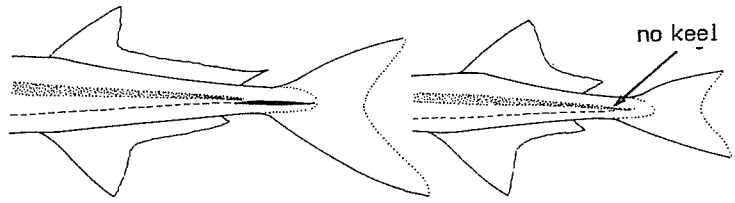
Body elongate, rounded in cross section. Upper and lower jaws greatly elongated and studded with sharp teeth. Gill rakers absent. Anterior part of dorsal and anal fins with relatively high lobes, contained 5.4 to 10.6 and 5.5 to 8.0 times in body length, respectively; dorsal fin rays 21 to 23, usually 22 or 23; anal fin rays 18 to 22, usually 20 or 21; pectoral and pelvic fins long, contained 6.6 to 8.3 and 7.3 to 10.6 times in body length, respectively; pectoral fin rays 13 to 15, usually 14 or 15; a small black lateral keel on caudal peduncle; caudal fin deeply forked, lower lobe much longer than upper. Predorsal scales (in front of dorsal fin) numerous and tiny, 240 to 290. Both right and left gonads present, right longer than left. Total number of vertebrae 79 to 84.

Colour: dark bluish green above, silvery below. A dark blue stripe along sides. Juveniles have an elevated black lobe in the posterior part of the dorsal fin which is lost with growth. Scales and bones green.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

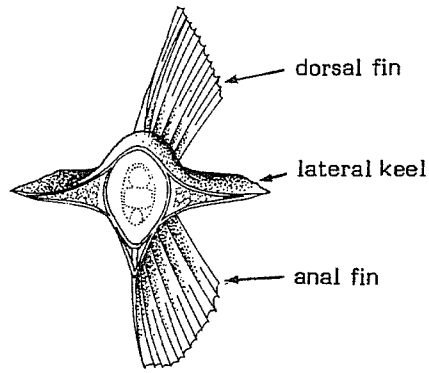
T. acus: a much more slender and graceful species with relatively shorter fins; dorsal and anal fin lobes relatively low, contained 10.5 to 13.3 and 9.7 to 11.7 times in body length (5.4 to 10.6 and 5.5 to 8.0 times in T. crocodilus); pectoral and pelvic fins relatively short, contained 8.0 to 12.4 and 10.0 to 14.1 times in body length (compared to 6.6 to 8.3 and 7.3 to 10.6 times in T. crocodilus).

Strongylura species: fewer dorsal fin rays, 14 to 17 (21 to 23 in T. crocodilus); no black lateral keel on caudal peduncle (keel present in T. crocodilus); caudal fin emarginate or slightly forked with dorsal and ventral lobes about equal in length (deeply forked with the lower lobe much longer in T. crocodilus); fewer vertebrae, 53 to 77 (79 to 84 in T. crocodilus).



T. crocodilus crocodilus Strongylura species

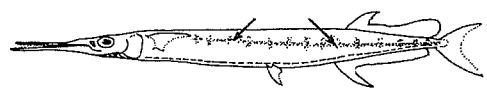
Platybelone argalus: caudal peduncle strongly depressed dorso-ventrally with very prominent, but not black, lateral keels (caudal peduncle rounded in cross section with small black lateral keels in T. crocodilus); gill rakers present (absent in T. crocodilus); many fewer predorsal scales, 107 to 138 instead of 240 to 290; fewer vertebrae, 66 to 76 instead of 79 to 84.



cross section through caudal peduncle

Platybelone argalus

Ablennes hians: body greatly compressed laterally (rounded in T. crocodilus); 12 to 14 prominent vertical bars on body (no bars in T. crocodilus); more anal fin rays, 24 to 28 (18 to 22 in T. crocodilus); dark lobe present in posterior part of dorsal fin in adults and juveniles (dark lobe present only in juveniles of T. crocodilus); no black lateral keel on caudal peduncle (keel present in T. crocodilus).



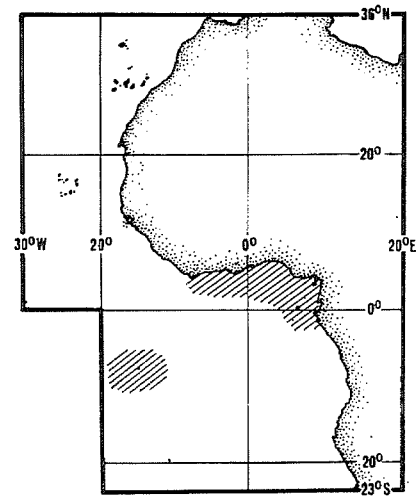
Ablennes hians

SIZE :

Maximum: at least to 101.3 cm standard length (without caudal fin) and 71.5 cm body length (without beak and caudal fin) in the E.C. Atlantic, but unpublished reports give up to 150 cm total length; common to 90 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the Eastern Atlantic known from only a few specimens taken off Fernando Poo, Cameroon and Liberia in the Gulf of Guinea, and around Ascension Island. A worldwide species in tropical and warm-temperate waters.



A pelagic species inhabiting more coastal waters than T. acus.

Carnivorous, feeding mainly on small fishes. Large individuals may be dangerous when leaping out of the water.

PRESENT FISHING GROUNDS :

Inshore and offshore waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught by casting or trolling surface or near-surface lures; also with purse seines.

Data on utilization not available.

BER

1981

FAO SPECIES IDENTIFICATION SHEETS

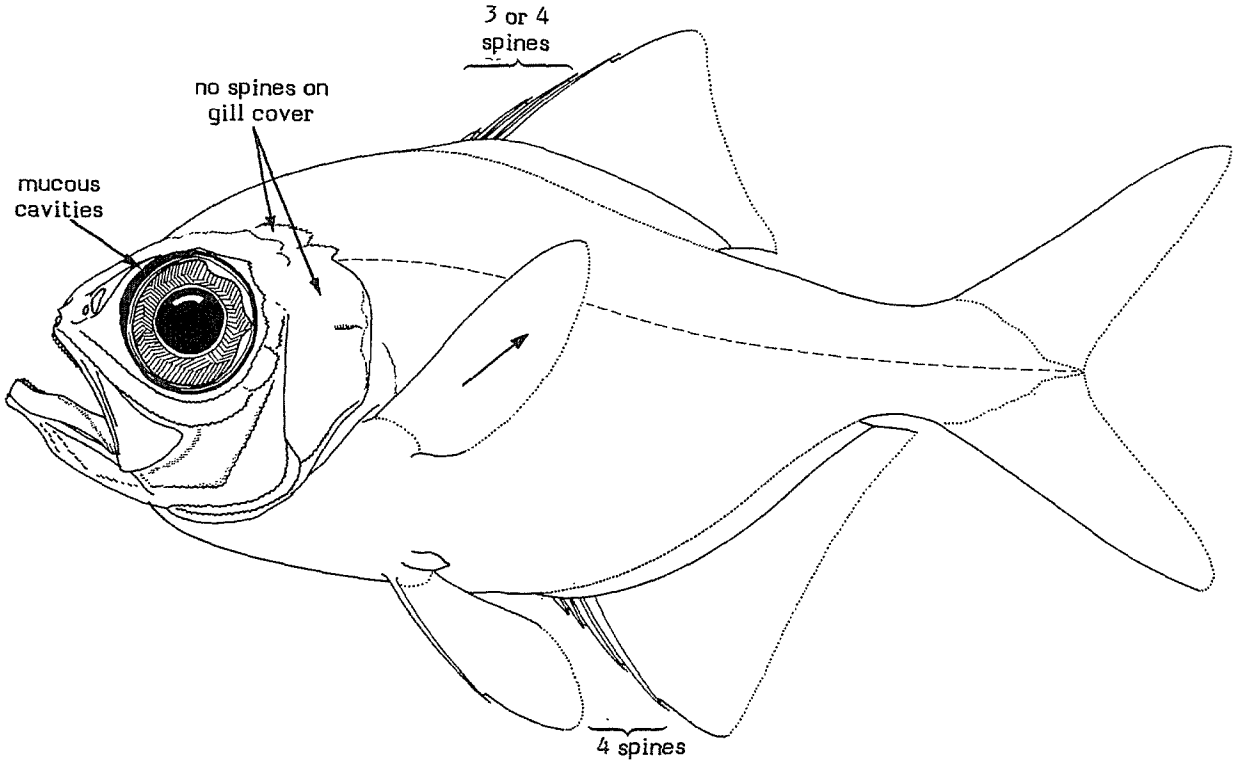
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

BERYCIDAE

Alfonsinos

Body ovate and compressed. Upper profile of head concave; eyes lateral, very large; extensive, skin-covered cavities present in areas between upper and anterior margins of eyes containing a transparent, slimy liquid; cheeks covered with scales; opercular bones without spines; mouth large, oblique; posterior end of maxilla wide, reaching a vertical line through hind margin of pupil; tip of lower jaw distinctly in advance of snout tip; bands of villiform teeth in both jaws. Dorsal fin with 4 (exceptionally 3) close-set spines and 13 to 18 soft rays, one or two rays of the anterior ones sometimes (but rarely) prolonged, particularly in small individuals (up to 10 cm standard length); dorsal fin base shorter than that of anal fin; pectoral fins pointing steeply upward; pelvic fins about the size of pectorals and inserted below the posterior half of pectoral fin bases, their tips reaching to, or beyond, anal fin origin; anal fin with 4 close-set spines and 25 to 29 soft rays, its origin under second half of dorsal fin base; caudal fin deeply forked, with long, narrow lobes. Lateral line almost straight; all scales strongly ctenoid (rough to touch).

Colour: bright orange red on upper parts of body, head and basal parts of fins; sides of body pink on a silvery background. Iris entirely blood-red.

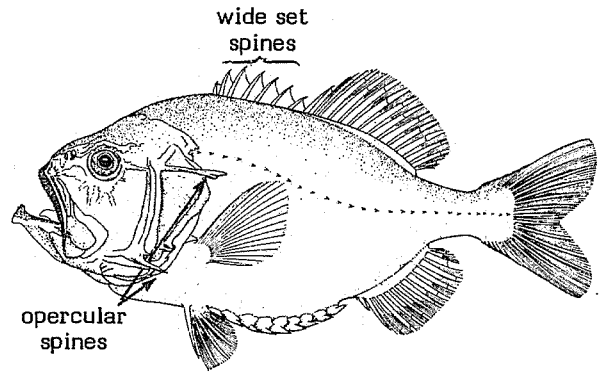


FAO Sheets | BERYCIDAE | Fishing Areas 34, 47 (in part)

Medium-sized fishes (to about 50 cm total length) inhabiting the upper slope and possibly, deep banks near the bottom, between 200 and 600 m depth. They are probably cosmopolitan in distribution. The fishes of the genus Beryx are relatively abundant in the temperate Eastern North Atlantic, but they also occur in the western and southeastern parts of that ocean, as well as in the northern and southern parts of the Western Pacific; they have also been recorded from the Mediterranean. Alfonsinos are mostly caught accidentally, but where abundant, they are more or less regularly fished and exploited commercially. In Fishing Area 34, they seem to be taken frequently, although only in moderate quantities, with bottom trawls and longlines. They are good foodfishes, occasionally consumed fresh, but more often reduced to fishmeal and oil.

SIMILAR FAMILIES OCCURRING IN THE AREA:

Trachichthyidae: stout opercular spines usually present; one large supramaxillary bone (two in Berycidae); spines in dorsal fin stout and wide-set; dorsal fin base much longer than anal fin base; usually strong ventral scutes present.



Gephyroberyx darwini
(Trachichthyidae)

KEY TO GENERA OCCURRING IN THE AREA*:

Beryx only.

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Beryx decadactylus Cuvier, 1829	BER Ber 1
Beryx splendens Lowe, 1836	BER Ber 2

Prepared by G.E. Maul, Museu Municipal do Funchal, Madeira, Portugal

* Additional genera exist outside Fishing Area 34

BER Ber 1

1981

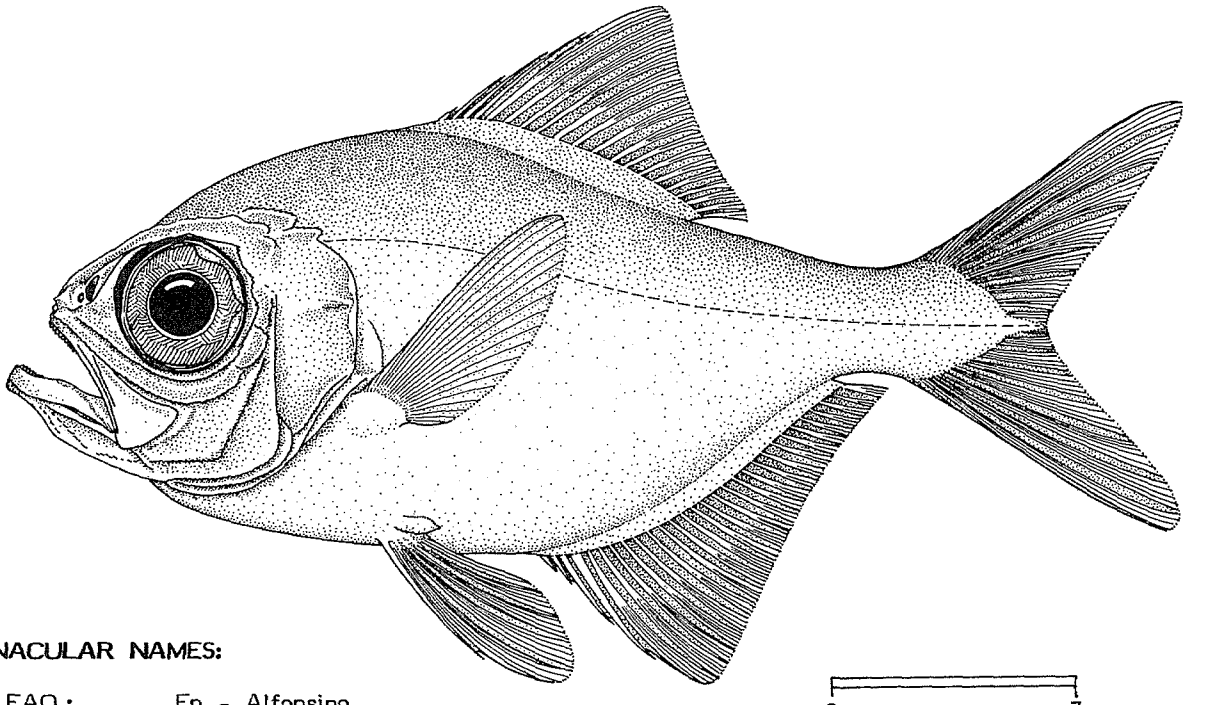
FAO SPECIES IDENTIFICATION SHEETS

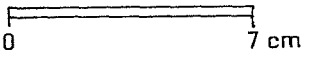
FAMILY : BERYCIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Beryx decadactylus Cuvier, 1829

OTHER SCIENTIFIC NAMES STILL IN USE : None





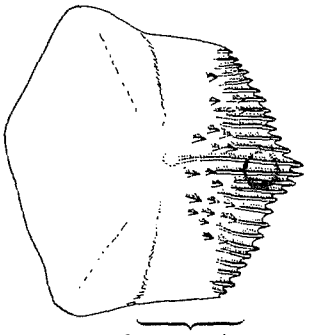
VERNACULAR NAMES:

FAO : En - Alfonsino
Fr - Beryx commun
Sp - Alfonsino palometón (= Palometa roja)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body very deep, compressed, its greatest depth contained 2.0 to 2.25 times in standard length and very much greater than length of head. Head with large, skin-covered cavities on interorbital space of forehead and above upper margins of eyes, containing white, transparent, slimy liquid; cheeks covered with scales; upper profile slightly concave at forehead; eye very large, its diameter less than 2.5 times in length of head; mouth large, oblique; posterior end of maxilla wide, reaching a vertical through posterior margin of pupil when mouth is closed; bands of villiform teeth in both jaws; lower margin of gill covers finely serrated; gill rakers fairly long, total 23 or 24 on first gill arch. Dorsal fin with 4 close-set spines and 16 to 18 soft rays; anal fin with 4 close-set spines and 26 to 29 soft rays, its origin under middle of dorsal fin base. Scales ctenoid, with a small, elevated, pad-like disc under free part. Lateral-line scales about 58 to 60 (to end of standard length); 11 rows of scales in an oblique line between base of first dorsal fin spine and lateral line, and 19 rows between base of first anal fin spine and lateral line. Pyloric caeca about 100.

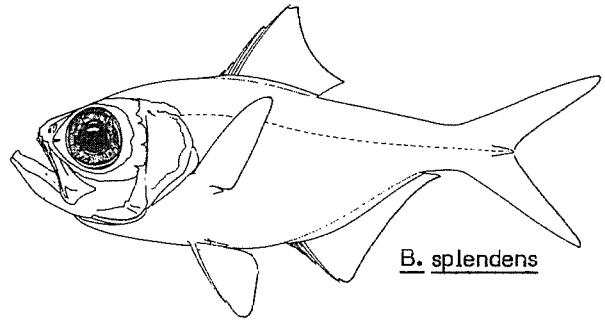


scale

Colour: upper parts of head and body as well as basal parts of fins bright orange red; sides of body pink on a silvery background; iris uniform blood/red.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

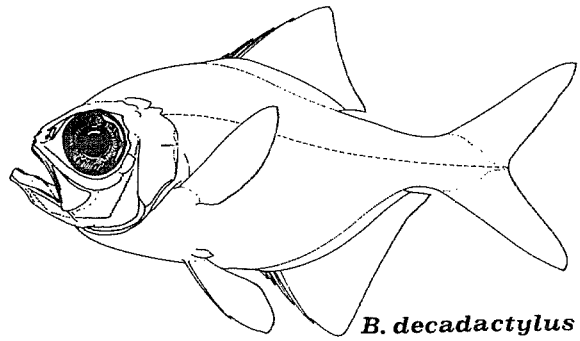
Beryx splendens: body more slender, its depth contained from slightly less than 2.5 to 2.8 times in standard length, and only slightly greater than length of head (2 to 2.25 times in standard length and much greater than head length in B. decadactylus); anal fin origin at about end of dorsal fin base; dorsal fin with 13 to 15 soft rays (16 to 18 in B. decadactylus); gill rakers (total) 25 to 28 (23 or 24 in B. decadactylus); pyloric caeca about 30 (about 100 in B. decadactylus).



B. splendens

SIZE:

Maximum: to about 40 cm standard length and 2.5 kg; common to about 35 cm, and 1 to 1.5 kg.



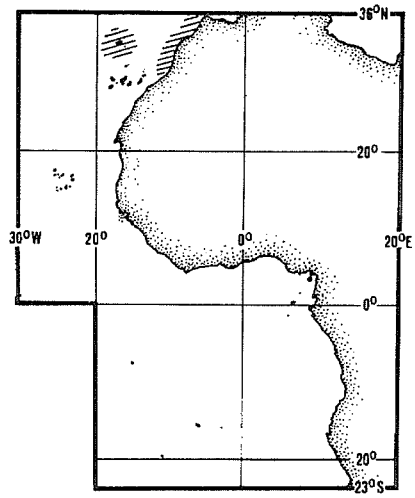
B. decadactylus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, around Madeira and off Morocco. Northward extending into the Mediterranean and along the Atlantic coasts of Europe up to Norway and Iceland. There are also records from Cuba and Nova Scotia.

Lives near the bottom of the upper slope between 200 and 600 m depth.

Feeds on crustaceans, fish and cephalopods.



PRESENT FISHING GROUNDS:

Off the southern coast of Madeira, and protected coasts of other islands in the archipelago, usually to about 500 m depth.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species, but judging from observations on almost daily visits to the local fish market in Madeira, the yearly catch of this relatively rare fish seems to be in the neighbourhood of 2 000 specimens (about 2 or 3 t).

Caught on longlines and with bottom trawls.

Marketed fresh; flesh white, delicate and firm; also used for fishmeal and oil by foreign industrial fleets.

BER Ber 2

1981

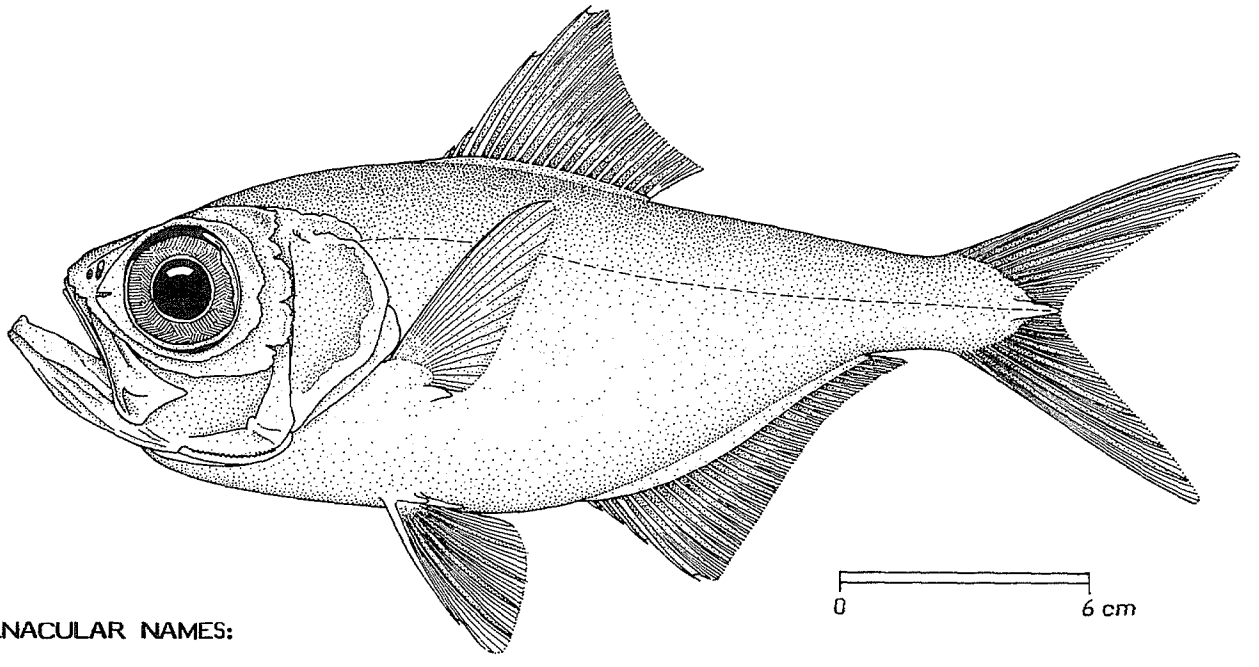
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BERYCIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Beryx splendens Lowe, 1838

OTHER SCIENTIFIC NAMES STILL IN USE : None



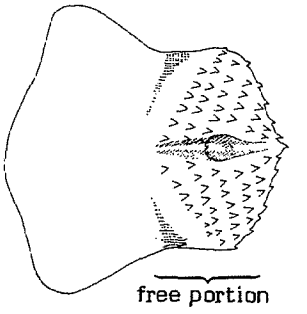
VERNACULAR NAMES:

FAO : En - Slender alfonsino
Fr - Beryx long
Sp - Alfonsino besugo (= Besugo americano)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body moderately deep, compressed, its greatest depth contained 2.5 to 2.8 times in standard length and only insignificantly greater than length of head. Head with large, skin-covered cavities on interorbital space of forehead and above upper margins of eyes, containing white, transparent, slimy liquid; cheeks covered with scales; upper profile slightly concave at forehead; mouth large, oblique; posterior end of maxilla wide, reaching to slightly behind a vertical line through middle of eye; bands of villiform teeth in both jaws; lower margin of gill covers finely serrated; gill rakers fairly long, total on first gill arch 25 to 28. Dorsal fin with 4 close-set spines and 13 to 15 soft rays; anal fin with 3 or 4 close-set spines and 25 to 29 soft rays; its origin at about (just before to behind) a vertical line through end of dorsal fin base. Scales ctenoid, with a small, elevated, pad-like disc under free part. Lateral-line scales about 65 to 67 (to end of standard length); 9 rows of scales in an oblique line between base of first dorsal fin spine and lateral line; 19 rows between base of first anal fin spine and lateral line. Pyloric caeca about 30.

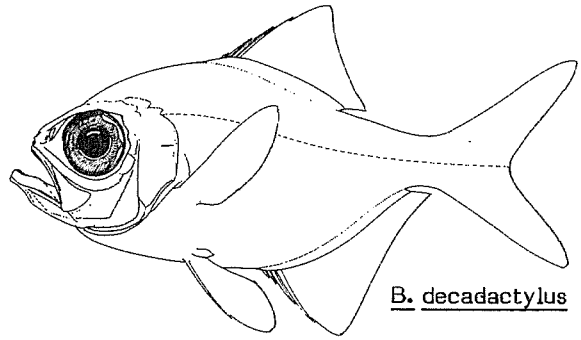


scale

Colour: upper parts of head and body as well as basal parts of fins bright orange red; sides of body pink on a silvery background. Iris uniform blood red.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

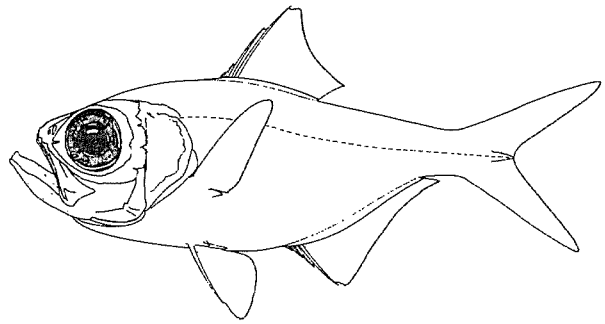
Beryx decadactylus: body distinctly deeper, its depth contained from 2.0 to 2.25 times in standard length and greatly superior to length of head (from slightly less than 2.5 to 2.8 times in standard length and slightly greater than head length in B. splendens); anal fin origin below middle of base of dorsal fin; dorsal fin with 16 to 18 soft rays (13 to 15 in B. splendens); gill rakers (total) 23 or 24 (25 to 28 in B. splendens); pyloric caeca about 100 (about 30 in B. splendens).



B. decadactylus

SIZE:

Maximum: to about 35 cm standard length, and to 1.5 kg; common to about 30 cm standard length, 0.75 to 1 kg.



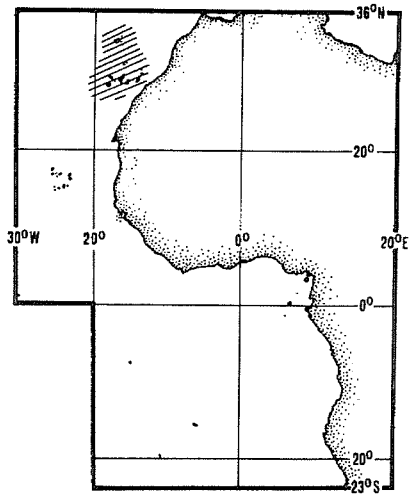
B. splendens

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Within the area, around Madeira and the Canary Islands. Elsewhere, along the Atlantic coast of Europe up to Norway and Iceland, around the Azores and off South Africa.

Lives near the bottom of the upper slope between 200 and 600 m depth.

Feeds on crustaceans, fish and cephalopods.



PRESENT FISHING GROUNDS:

In Madeira (southern coast) and protected coasts of other islands in the archipelago, usually to about 500 m depth.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species. Judging from observations on almost daily visits to the local fish market in Madeira, the yearly catch of this fish seems to be in the neighbourhood of 30 to 50 thousand specimens (about 30 to 50 t).

Caught on longlines, and with bottom trawls.

Marketed fresh; flesh yellowish white, fairly firm and moderately esteemed; also used for fishmeal and oil by foreign industrial fleet.

BLENN

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

BLENNIIDAE

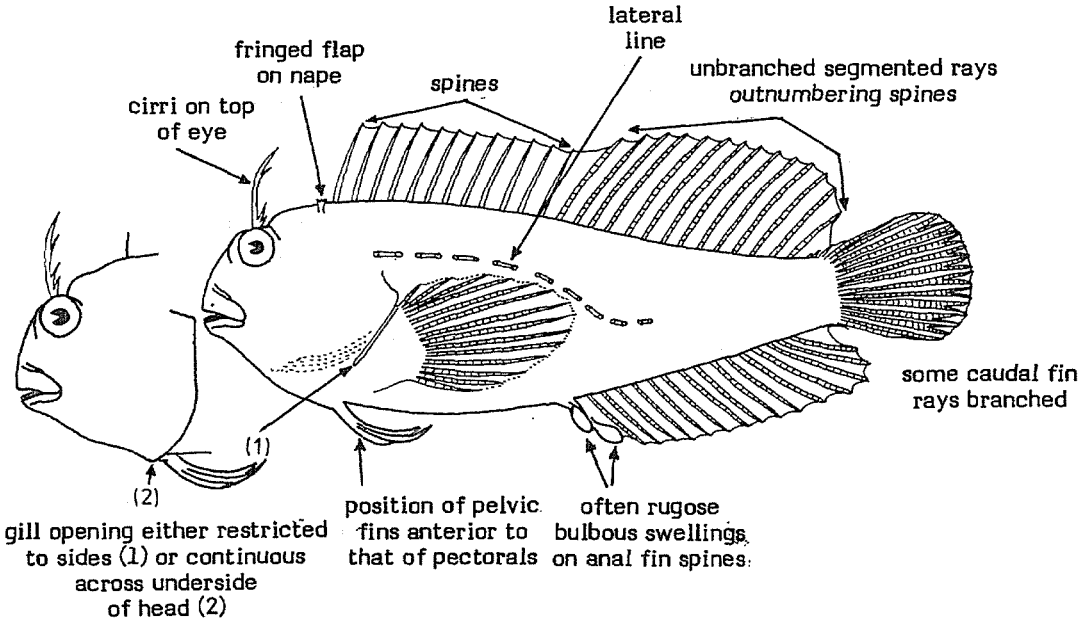
Combtooth blennies

Small, often elongate fishes, largest species about 20 cm, most under 15 cm. Head usually with cirri on eye, sometimes also on the nape; eyes high on sides of head; mouth ventral, upper jaw not protractile; gill membranes either continuous with each other across the ventro-posterior surface of head, or restricted to sides of head (a separate gill opening on each side). A single row of incisor-like teeth in each jaw and often an enlarged canine-like tooth posteriorly on each side of lower and, sometimes, upper jaw; sometimes teeth on vomer (never on palatines). Dorsal and anal fins long, their spines flexible; dorsal fin occasionally high anteriorly, with fewer spines than segmented (soft) rays; two spines in anal fin, scarcely differentiated from the segmented rays, the first not visible in females, both often supporting fleshy, bulbous, rugose swellings at their tips in males; pelvic fins inserted anterior to position of pectoral fins, with 1 spine (not visible) and 2 to 4 segmented rays; all segmented fin rays, except those of caudal fin, unbranched (simple). Lateral-line tubes or canals varying from complete (extending entire length of body) to present only anteriorly on body. All species lack scales.

Colour: usually drab, often mottled or with irregular bands on body.

Benthic inhabitants of the sea and estuaries, usually at very shallow depths, rarely between 30 and 400 m; often found in tide-pools, on wharf pilings, oyster reefs, rock and coral reefs; occasionally in marine grass beds. The larvae of some species have several laterally directed canine teeth at the front of each jaw.

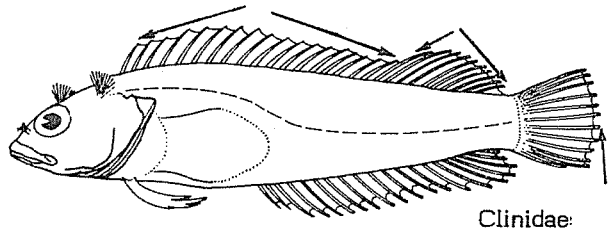
Although very abundant in littoral areas, none of the blenniids in the area are of commercial importance, mainly because of their small size; they are often caught in traps or by bottom trawl, but usually not used for food. The larger species, such as Blennius ocellaris may occasionally be found at the fish markets in Morocco.



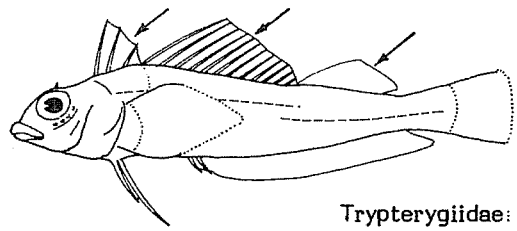
SIMILAR FAMILIES OCCURRING IN THE AREA:

Clinidae: caudal fin rays always unbranched (branched in all but one species of Blenniidae); usually more dorsal fin spines than segmented rays (always more dorsal segmented rays than spines in Blenniidae); many species with scales; those lacking scales without lateral line tubes on body (lateral-line tubes well developed at least anteriorly in all blenniids).

Trypterygiidae: body always scaled; three clearly defined dorsal fins.



Clinidae

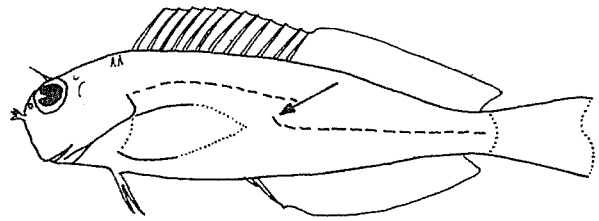


Trypterygiidae

KEY TO GENERA OCCURRING IN THE AREA:

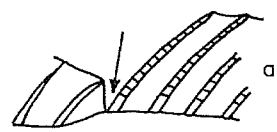
1 a. Over 120 freely movable teeth in each jaw

2 a. Pectoral fin rays usually 15; scarcely any indentation separating the spinous and rayed portions of the dorsal fin; lateral line consisting of two disconnected, elongate portions, the anterior portion overlapping the anterior end of the ventral portion (Fig. 1); total dorsal fin elements 32 or more; ventral margin of upper lip and dorsal margin of lower lip crenulate ..... Ophioblennius

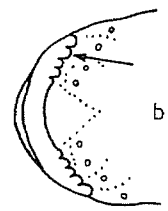


Ophioblennius Fig. 1

2 b. Pectoral fin rays usually 14; dorsal fin separated into two portions by a deep notch that reaches the dorsal contour of body (Fig. 2a); dorsal fin spines usually 13, the last tiny and difficult to see; lateral line not consisting of two disconnected portions; total dorsal fin elements 27 to 29; ventral margin of upper lip crenulate on lateral thirds, entire on middle third (Fig. 2b) ..... Entomacrodus



a junction of spines and segmented rays in dorsal fin



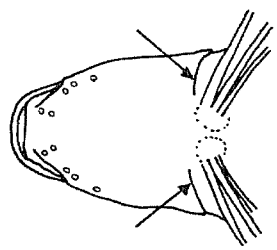
b underside of head

Entomacrodus Fig. 2

1 b. Less than 70 (usually less than 40) scarcely movable teeth in each jaw

3 a. Gill openings not continuous, each restricted to side of head (Fig. 3)

4 a. A short, broad, fringed flap on either side of the base of first dorsal fin spine present or absent (Fig. 4); lateral line composed of short separate tubes, each with a pore at either end, and without transverse branches (Fig. 4); pectoral fins with 11 to 13 rays ..... Blennius



underside of head

Fig. 3

fringed flap on nape

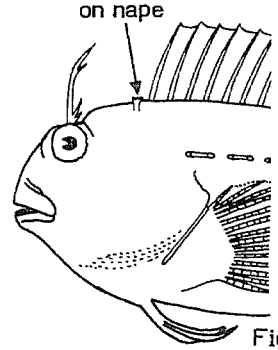


Fig. 4

4 b. No appendages on either side of the base of *first dorsal fin spine; lateral line forming* a continuous tube anteriorly, with regularly short transverse branches (Fig. 5); pectoral fin with 14 rays ..... Hypleurochilus

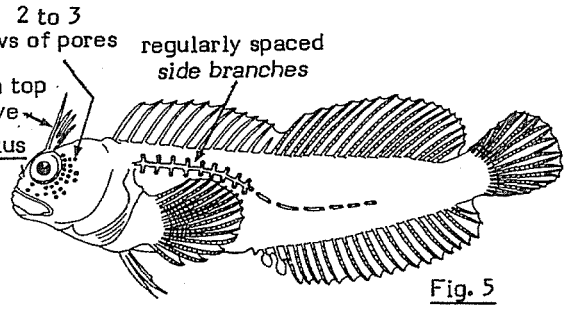
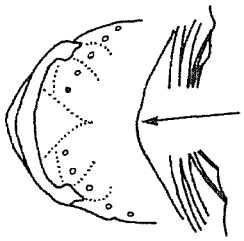


Fig. 5

3 b. Gill opening continuous from one side of head to other across ventral surface of head (Fig. 6)

5 a. Cirri on top of each eye absent

6 a. An erectile triangular flap on the head between the hinder parts of the eyes (Fig. 7); upper lip produced beyond the angle of mouth to form a *fleshy flap* (Fig. 7); an enlarged canine tooth only present posteriorly on both sides of lower jaw; teeth on vomer present ..... Coryphoblennius

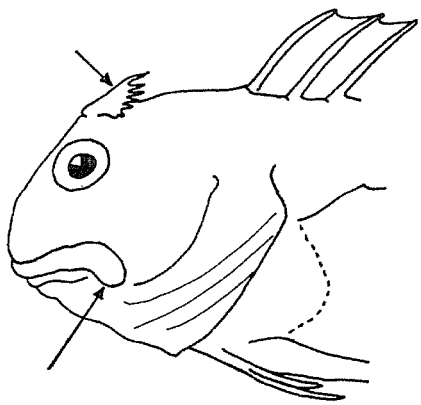


underside of head Fig. 6

6 b. No triangular flap on the head between the hinder parts of the eyes; upper lip not produced as a fleshy flap at the angle of mouth; an enlarged canine tooth present posteriorly on either side of both jaws

7 a. Infraorbital with only one row of sensory pores (Fig. 8); anterior part of lateral line without regularly spaced side branches (Fig. 8) ..... Lipophrys

7 b. Infraorbital with 2 or 3 rows of sensory pores (Fig. 5); anterior part of lateral line with regularly spaced side branches (Fig. 5) ..... Paralipophrys



Coryphoblennius Fig. 7

5 b. Cirri on top of each eye present (Fig. 5)

8 a. Numerous cirri present on top of head, as well as on top of each eye (Fig. 9) ..... Scartella

8 b. Cirri present only on top of each eye

9 a. Teeth on vomer (roof of mouth) ..... Pictiblennius

9 b. No teeth on vomer

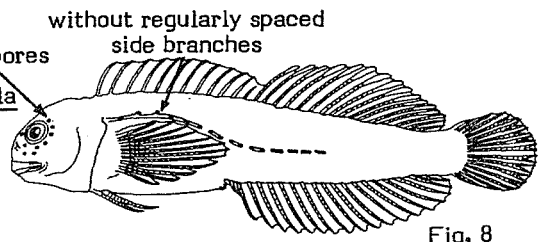


Fig. 8

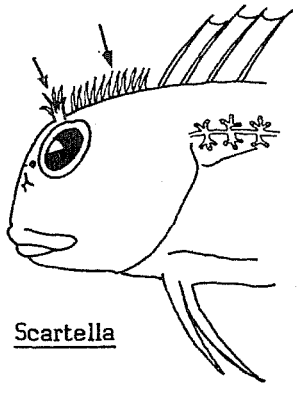


Fig. 9

Scartella

10 a. Lateral line composed of short separate tubes, each with a pore at either end, and without transverse branches (Fig. 4); pectoral fin with 12 rays ..... Bathyblennius

10 b. Lateral line forming a continuos tube anteriorly, with regularly short transverse branches (Fig. 5); pectoral fin with 14 rays ..... Parablennius

LIST OF SPECIES OCCURRING IN THE AREA :

Bathyblennius antholops (Springer & Smith-Vaniz, 1970) (= Blennius antholops)

Blennius normani Poll, 1949
Blennius ocellaris Linnaeus, 1758
Blennius riodourensis Metzelaar, 1919

Coryphoblennius galerita (Linnaeus, 1758)

Entomacrodus cadenati Springer, 1966
Entomacrodus textilis (Quoy & Gaimard, 1836)

Hypleurochilus bananensis (Poll, 1959)
Hypleurochilus langi (Fowler, 1923)

Lipophrys pholis (Linnaeus, 1758) (= Blennius pholis)
Lipophrys velifer (Norman, 1935) (= Blennius velifer)

Ophioblennius atlanticus atlanticus (Valenciennes, 1836)

Parablennius fucorum (Valenciennes, 1836) (= Blennius fucorum)
Parablennius goreensis (Valenciennes, 1836) (= Blennius goreensis)
Parablennius pilicornis (Cuvier, 1829) (= Blennius pilicornis)
Parablennius tentacularis (Brunnich, 1768) (= Blennius tentacularis)

Paralipophrys trigloides (Valenciennes, 1836) (= Blennius trigloides)

Pictiblennius cornutus (Linnaeus, 1758) (= Blennius cornutus)
Pictiblennius incognitus (Bath, 1968) (= Blennius incognitus)
Pictiblennius parvicornis (Valenciennes, 1836) (= Blennius parvicornis)

Scartella cristata (Linnaeus, 1758) (= Blennius cristatus)
Scartella nuchifilis (Valenciennes, 1836) (= Blennius nuchifilis)
Scartella springeri (Bauchot, 1966) (= Blennius springeri)

Prepared by H. Bath, 678 Pirmasens/Pfalz, Federal Republic of Germany; based on identification sheets for the Western Central Atlantic prepared by V.G. Springer, Washington, D.C., U.S.A.

BOTH

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

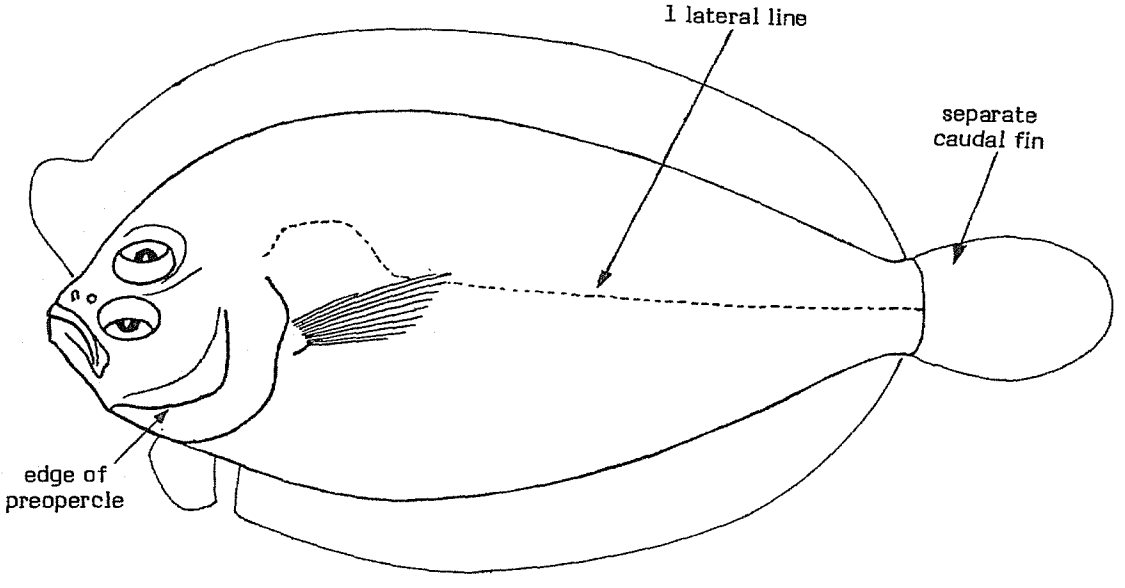
BOTHIDAE

Lefteye flounders, moonflounders, scaldfishes

Flatfishes with eyes on left side of head (except for reversed individuals which are not common). Spines sometimes present before eyes in males; mouth protractile, asymmetrical, lower jaw moderately prominent; teeth in jaws in 1 or 2 rows, sometimes canine-like; preopercle exposed, its hind margin free and visible to the naked eye. No spiny rays in fins; dorsal fin long, originating above or in front of upper eye; pectoral and pelvic fins present (except right pectoral fin of Monolene which is lost in adults); pelvic fin on eyed side larger than that of blind side (Bothinae) or both fins equally short (Paralichthinae); caudal fin free from dorsal and anal fins. A single lateral line, sometimes forked behind upper eye, may be faint or absent on blind side.

Colour: ocular side brown, may be variously coloured with spots and/or blotches; markings may be round, ring-like, or incomplete circles (extensive marking often seen on species of Bothus). Blind side usually white, but may be dusky on some larger specimens; ambicolouration has been reported in this family (ocular side colouration extending onto blind side).

Left-eye flounders are bottom dwelling (demersal) predators which burrow into the mud or sand substrate; once burrowed, the body outline and movable eyes are all that can be seen. Most species inhabit the continental shelf, but Arnoglossus thori may enter brackish waters and Chascanopsetta lugubris and Monolene mertensi occur on the slope (200 to 600 m depth). Bothids have the ability to change colour rapidly in order to more nearly match their background. Some species show sexual dimorphism in interorbital width, origin of fin rays (dorsal, pectoral, or pelvic), cephalic spination or colour pattern.



Species of Bothidae caught within Fishing Areas 34 and 47 represent only a small portion of the total biomass, and are not the dominant flatfish caught in the Eastern Central Atlantic. Most species are relatively small (maximum size varying from 16 to 25 cm, but some species of Bothus and Syacium may reach over 40 cm. The flesh quality of bothid species makes them highly prized, good-eating fish, but they are not sufficiently abundant to be of significant commercial importance. Although only 2 of the species occurring in the area are large enough to be of any real economic value, all species caught are utilized. Bothids comprise only an insignificant amount of the fish flesh seen in the fresh fish markets throughout this fishing area.

Commercial landings of Bothidae from the area are unknown as neither the species nor the family are treated separately.

SIMILAR FAMILIES OCCURRING IN THE AREA:

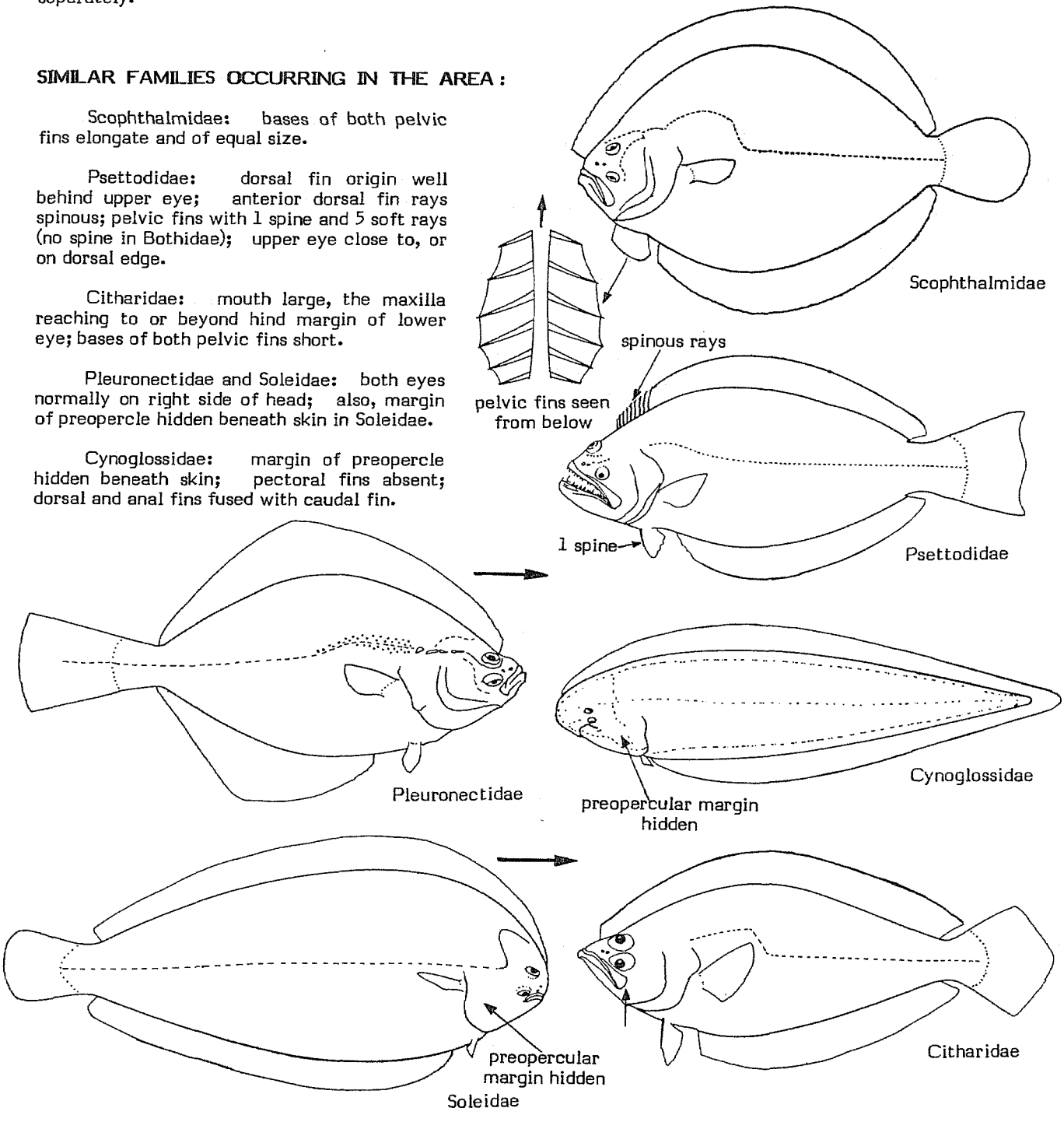
Scophthalmidae: bases of both pelvic fins elongate and of equal size.

Psettodidae: dorsal fin origin well behind upper eye; anterior dorsal fin rays spinous; pelvic fins with 1 spine and 5 soft rays (no spine in Bothidae); upper eye close to, or on dorsal edge.

Citharidae: mouth large, the maxilla reaching to or beyond hind margin of lower eye; bases of both pelvic fins short.

Pleuronectidae and Soleidae: both eyes normally on right side of head; also, margin of preopercle hidden beneath skin in Soleidae.

Cynoglossidae: margin of preopercle hidden beneath skin; pectoral fins absent; dorsal and anal fins fused with caudal fin.



KEY TO SUBFAMILIES AND GENERA OCCURRING IN THE AREA:

1 a. Pelvic fin bases unequal in length, that on eyed side much longer and the first rays inserted notably anterior to fin of blind side (Fig. 1a) ..... Subfamily Bothinae

2 a. Mouth very large, maxilla more than 50% of head length, extending well beyond hind margin of lower eye (Fig. 2) ..... Chascanopsetta

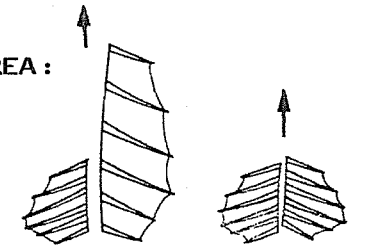
2 b. Mouth moderate to small, maxilla less than 50% of head length, not extending to hind margin of lower eye (Figs. 3,4)

3 a. Eyes separated by a flat or concave space; interorbital width large (nearly equal to, or greater than eye diameter), wider in males; lower eye well in advance of upper eye; body depth generally greater than 50% of total length (Fig. 3) ..... Bothus

3 b. Eyes separated by a bony ridge or narrow concave space; interorbital width much less than eye diameter, similar in both sexes; lower eye only slightly in advance of upper eye; body depth less than 50% of total length (Fig. 4) ..... Arnoglossus

1 b. Bases of pelvic fins about equal in length (both short); fin of eyed side not inserted anterior to fin of blind side (Fig. 1b) ... Subfamily Paralichthinae

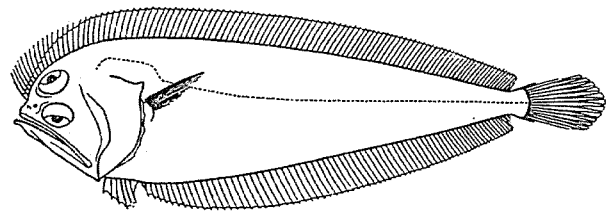
4 a. Lateral line of eyed side describing a high arch over pectoral fin; pectoral fin on blind side absent (Fig. 5) ..... Monolene



a. Subfamily Bothinae b. Subfamily Paralichthinae

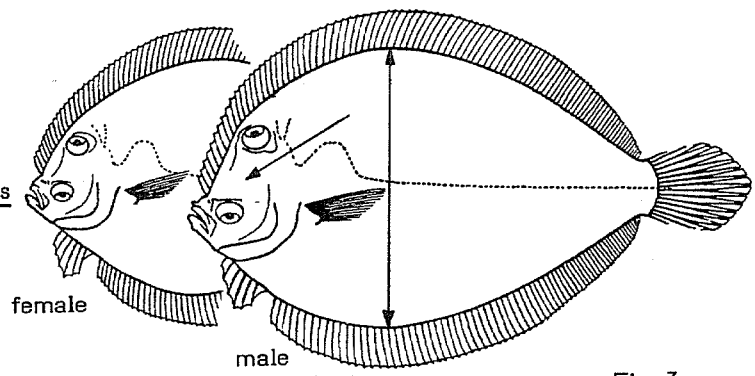
pelvic fin see from below (arrows point toward head)

Fig. 1



Chascanopsetta

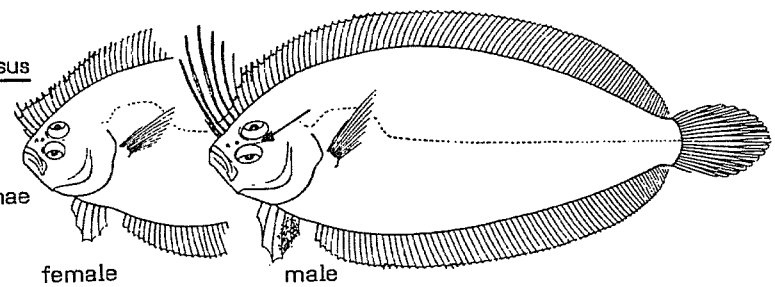
Fig. 2



female male

Bothus

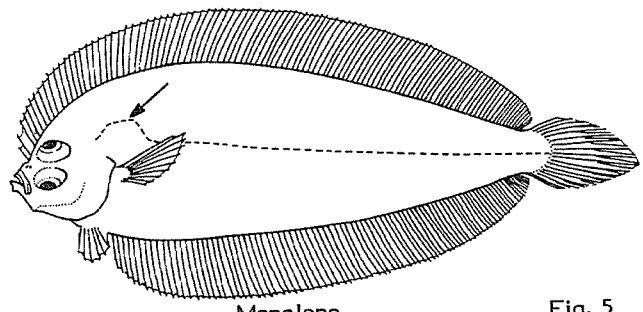
Fig. 3



female male

Arnoglossus

Fig. 4



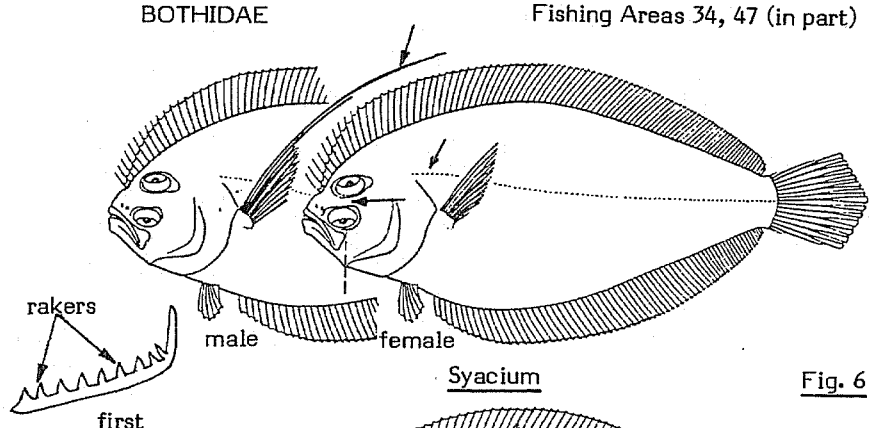
Monolene

Fig. 5

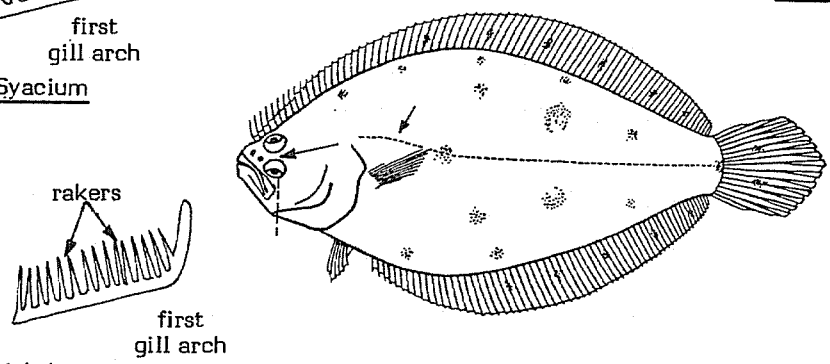
4 b. Lateral line of eyed side nearly straight throughout its length; pectoral fin present on both sides (Figs. 6,7)

5 a. Gillrakers short and stout, 7 or 8 on lower limb of first arch; dorsal fin rays 83 to 92; anal fin rays 64 to 74; males with wide interorbital space and elongate upper pectoral fin rays, maxilla reaching only to below centre of eye; teeth biserial in upper jaw, uniserial in lower jaw (Fig. 6) ..... Syacium

5 b. Gillrakers moderately long and slender, 14 to 17 on lower limb of first arch; dorsal fin rays 82 to 87; anal fin rays 62 to 65; interorbital space narrow in both sexes; maxilla reaching beyond vertical from centre of eye; teeth uniserial in both jaws (Fig. 7) ..... Citharichthys



Syacium Fig. 6



Citharichthys Fig. 7

LIST OF SPECIES OCCURRING IN THE AREA: *

Code numbers are given for those species for which Identification Sheets are included

Subfamily Bothinae

Arnoglossus capensis Boulenger, 1898 (? A. entomorhynchus Stauch, 1967)	BOTH Arno 2
Arnoglossus imperialis (Rafinesque, 1810) (= ? A. blachei Stauch, 1965)	BOTH Arno 3
Arnoglossus laterna (Walbaum, 1792) (off Morocco only)	
Arnoglossus rüppelli (Cocco, 1844) (off Morocco only)	
Arnoglossus thori Kyle, 1913	BOTH Arno 4
Bothus guibei Stauch, 1966	BOTH Both 3
** Bothus lunulatus ?	
Bothus mellissi Norman, 1931	BOTH Both 4
Bothus podas (Delaroche, 1809)	BOTH Both 5
Chascanopsetta lugubris Alcock, 1894	BOTH Chasc 1

Subfamily Paralichthinae

Citharichthys stampflii (Steindachner, 1894)	BOTH Cith 1
Monolene mertensi (Poll, 1959)	BOTH Mono 1
Monolene microstoma (Cadenat, 1937)	BOTH Mono 2
Syacium micrurum Ranzani, 1840	BOTH Syac 1

Prepared by E.J. Gutherz, Pascagoula Laboratory, Southeast Fisheries Center, NMFS, NOAA, Pascagoula, Mississippi, U.S.A. Draft material revised by J.C. Quéro, I.S.T.P.M., La Rochelle, France

Main illustrations reproduced from Norman, J.R., 1934, Poll, M., 1959 and Stauch, A., 1966

* This list must be regarded as tentative, the taxonomy of the family being in need of revision

** Bothus lunulatus listed by F. Williams in the report on the Guinean trawling survey Vol. 1 general report, page 817, cannot be traced. In Norman 1934, Monogragh of the flatfishes, page 227, in the synonymy of Bothus lunatus a reference is made to Bothus lunulatus, Poey 1875, Anal Soc.Espan.Hist.Nat.V., p. 180. These two accounts may only represent misspelling of B. lunatus

BOTH Arno 2

1981

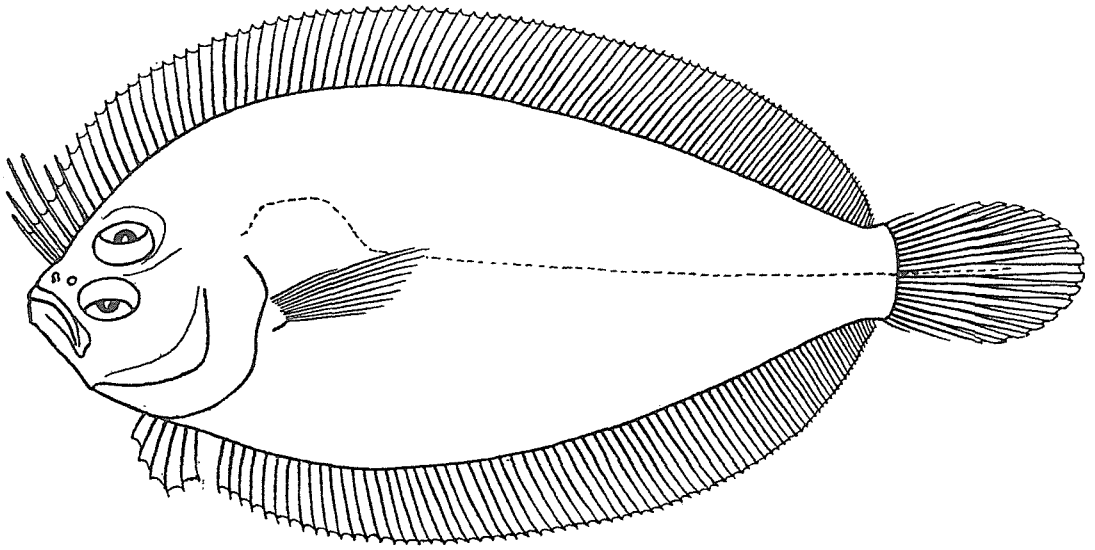
FAO SPECIES IDENTIFICATION SHEETS

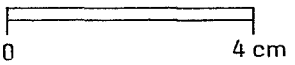
FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Arnoglossus capensis Boulenger, 1898

OTHER SCIENTIFIC NAMES STILL IN USE : Arnoglossus entomorhynchus Stauch, 1967 ?





VERNACULAR NAMES:

FAO : En - Cape scaldfish
Fr - Arnoglosse du Cap
Sp - Peludilla del Cabo

NATIONAL :

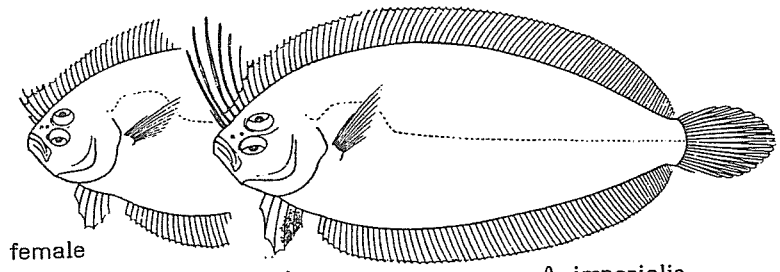
DISTINCTIVE CHARACTERS :

Body ovate, its depth 40 to 45% of standard length; head length 22 to 28% of standard length. Snout shorter than eye; eye diameter 25 to 30% of head length; eyes separated by a scaled, concave space which is 30 to 40% of eye diameter; lower eye slightly in advance of upper eye; maxilla about 33% of head length and slightly longer than or equal to eye diameter, extending backward to below anterior edge of lower eye; teeth small, scarsely enlarged anteriorly. Dorsal fin rays 96 to 100, anterior rays slightly prolonged, 50 to 65% of head length and free from membrane in both sexes; anal fin rays 76 to 80; pelvic fin bases unequal in length, that on eyed side much longer. Scales feebly ctenoid (rough) on eyed side, mostly cycloid (smooth) on blind side, 62 to 66 in lateral line. Gillrakers moderately long, 10 to 13 on lower limb of first arch.

Colour: eyed side brownish, with traces of darker markings; a series of indistinct dark spots on dorsal and anal fins. Blind side light in colour, with no markings on pelvic fins.

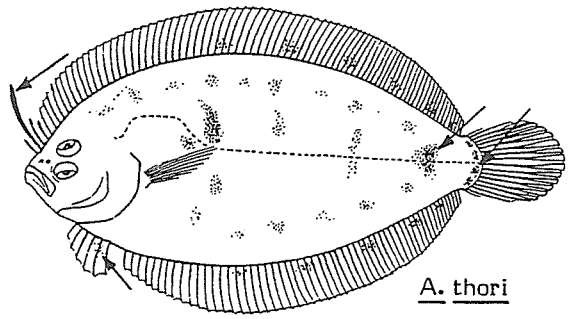
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Arnoglossus imperialis: eyes separated by a bony ridge; gillrakers 8 to 10 on lower limb of first arch (10 to 13 in A. capensis); dorsal fin rays 95 to 106 (96 to 100 in A. capensis), the anterior 2nd to 5th or 6th rays produced in adult males; elongate dorsal fin rays about as long as head; a black spot on posterior part of pelvic fin of eyed side in males, less distinct, greyish, in females.



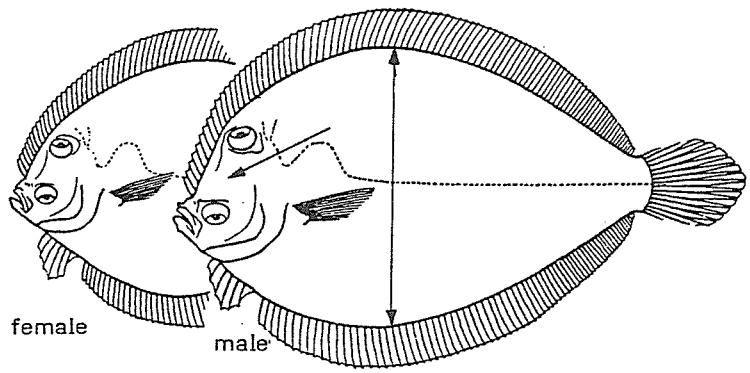
A. imperialis

A. thori: gillrakers short, 7 to 9 on lower limb of first arch; dorsal fin rays 81 to 91, 2nd ray greatly produced, having a pinnate appearance, its length varying from about 60% of, to greater than head length; a black spot or blotch on straight part of lateral line immediately anterior to caudal peduncle, and generally a series of dark spots along caudal fin base; often a dark spot or blotch on posterior part of pelvic fin on eyed side.


A. thori

Chascanopsetta lugubris: mouth large, maxilla extending well beyond hind margin of lower eye; lower jaw prominent; body slender, 25 to 33% of standard length.

Bothus species: body depth greater than 50% of standard length; eyes separated by a wide concave interorbital space, at least 60% of eye diameter, but often wider, especially in males; lower eye well in advance of upper eye.

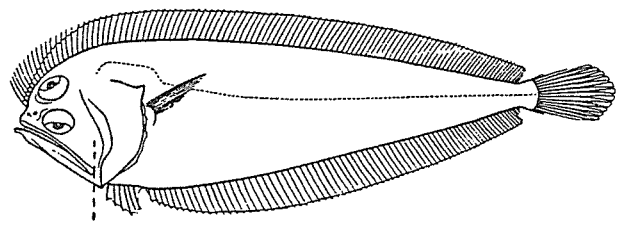


Bothus sp.

Other species of Bothidae: bases of pelvic fins about equal in length (both short).

SIZE:

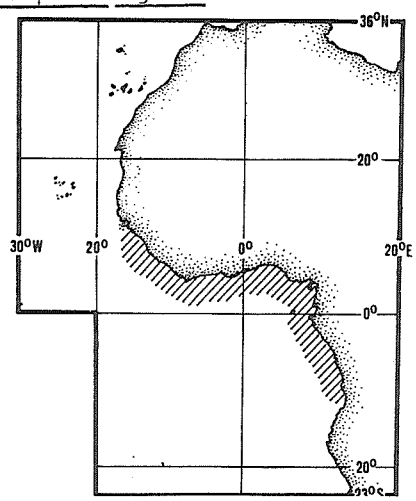
Maximum length reported: 20 cm.


Chascanopsetta lugubris

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West African coast from off Sierra Leone to Angola and off St. Helena and Ascension Islands.

Taken in 70 to 200 m during the Guinean trawling survey. Little additional information is available concerning this species.



PRESENT FISHING GROUNDS:

Not well known, probably taken incidentally on the continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught inshore with beach seines or trawls.

Utilized fresh, especially in Ghana; also reduced to fishmeal and oil.

BOTH Arno 3

1981

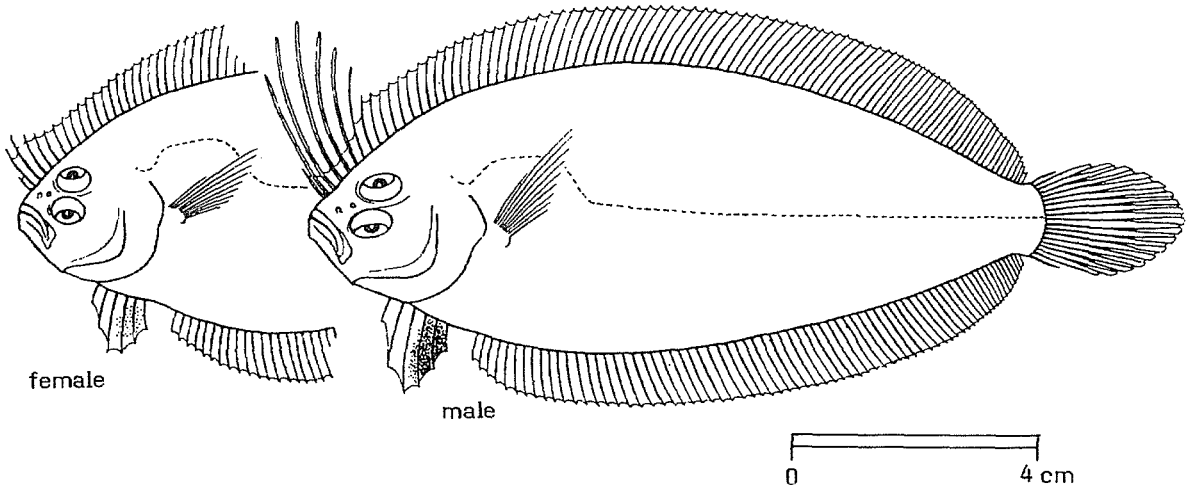
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Arnoglossus imperialis (Rafinesque, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : Arnoglossus blachei Stauch, 1965



VERNACULAR NAMES:

FAO : En - Imperial scaldfish
Fr - Arnoglosse impérial
Sp - Serrandel imperial

NATIONAL :

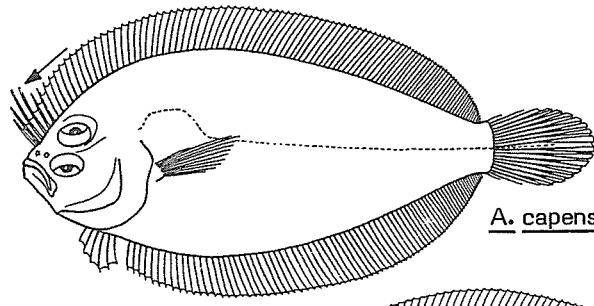
DISTINCTIVE CHARACTERS :

Body ovate, its depth 36 to 42% of standard length; head length 22 to 26% of standard length. Snout shorter than eye; eye diameter 25 to 35% of head length; eyes separated by a bony ridge; lower eye slightly in advance of upper eye; maxilla 33% of head length and about as long as eye, or slightly longer extending backward to below anterior part of lower eye; teeth small, not enlarged anteriorly. Dorsal fin rays 95 to 106, with 2nd to 5th or 6th rays elongate and thickened in mature males; immature males and females with anterior rays not or only slightly elongate; anal fin rays 74 to 82; pelvic fin bases unequal in length, that on eyed side much longer. Scales feebly ctenoid (rough) on eyed side, cycloid (smooth) on blind side, 58 to 63 in lateral line. Gillrakers moderately long, 8 to 10 on lower limb of first arch.

Colour: eyed side greyish or brownish, with irregular darker markings; fins with some small spots or blotches; males with a distinct black spot on posterior part of pelvic fins; in females, this spot greyish and often indistinct, but present. Blind side light in colour, with no markings in either sex.

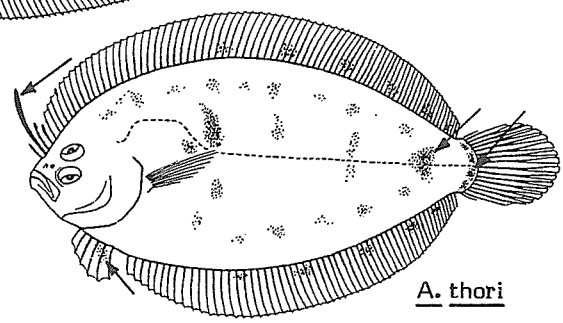
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Arnoglossus capensis: interorbital space concave; gillrakers 10 to 13 on lower limb of first arch (8 to 10 in A. imperialis); anterior dorsal fin rays only slightly elongate in either sex; no spotting on pelvic fin of eyed side.



A. capensis

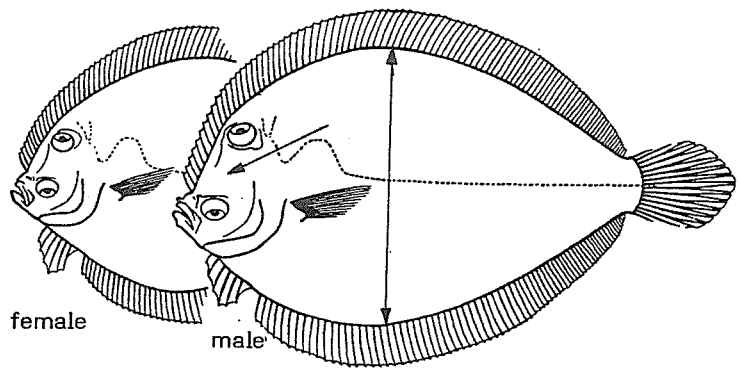
A. thori: eyes separated by a narrow concave space; dorsal fin rays 81 to 91 (95 to 106 in A. imperialis), 2nd ray greatly produced (at least 60% of head length) having a pinnate appearance; a black spot or blotch on straight part of lateral line immediately anterior to caudal peduncle and generally a series of spots along caudal fin base; often a dark spot or blotch on pelvic fin rays of eyed side.



A. thori

Chascanopsetta lugubris: mouth large, maxilla extending well beyond hind margin of lower eye; lower jaw prominent; body slender, its depth 25 to 33% of standard length.

Bothus species: body depth greater than 50% of standard length; eyes separated by a wide concave interorbital space, at least 60% of eye diameter, but often wider, especially in males; lower eye well in advance of upper eye.



female male

Bothus sp.

Other species of Bothidae: bases of pelvic fins about equal in length (both short).

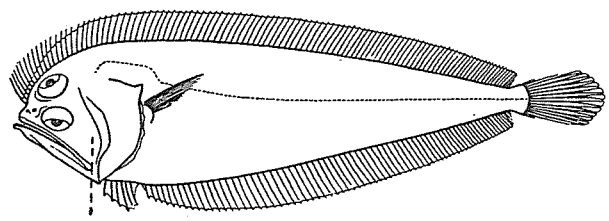
SIZE :

Maximum length reported: 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Present throughout the area; also extending into the Western Mediterranean and northward to Scotland.

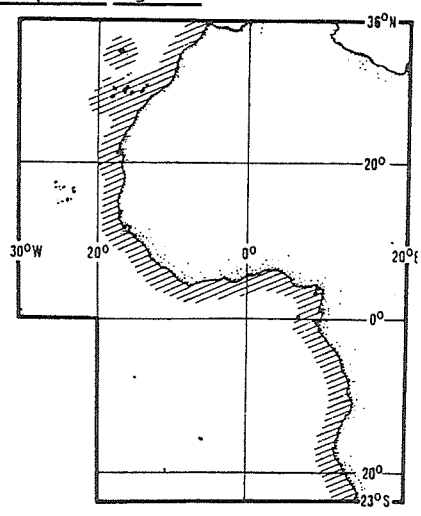
Taken from 40 to 200 m depth during the Guinean trawling survey, on mud, sand, shell, and coral bottoms, but reported to occur from 15 to at least 350 m depth.



Chascanopsetta lugubris

PRESENT FISHING GROUNDS :

Caught on the continental shelf and the upper slope throughout its range. Reported to be rather common in local fish markets, and also, to be taken regularly by offshore fleets.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught mainly with bottom and pelagic trawls and seines.

Utilized mostly fresh, smoked and dried salted; also reduced to fishmeal and oil.

BOTH Arno 4

1981

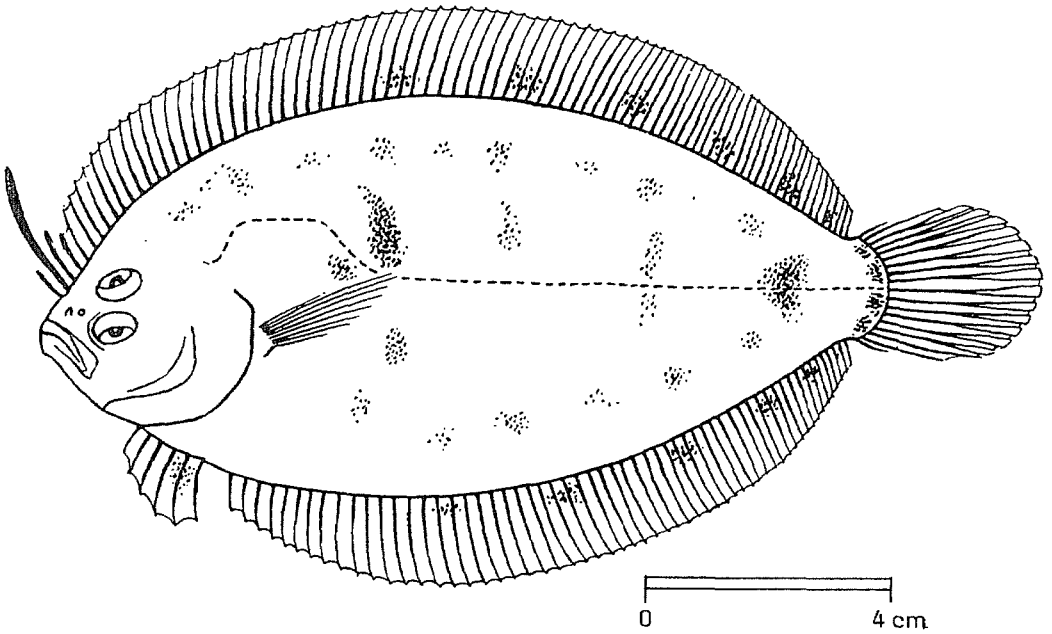
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Arnoglossus thori Kyle, 1913

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Thor's scaldfish
Fr - Arnoglosse de Thor
Sp - Peludilla

NATIONAL :

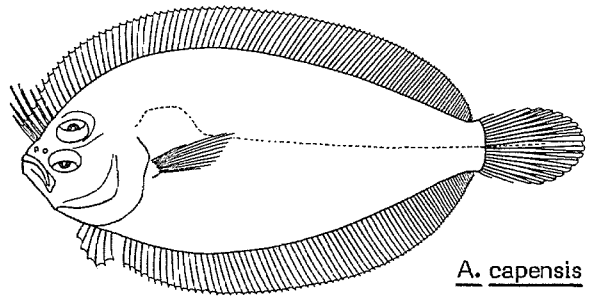
DISTINCTIVE CHARACTERS :

Body ovate, its depth 40 to 48% of standard length; head length 22 to 27% of standard length. Snout as long as eye; eye diameter 22 to 27% of head length; eyes separated by a narrow, concave space (a bony ridge in the young); lower eye slightly in advance of upper eye; maxilla about 35% of head length, longer than eye diameter, extending backward to anterior edge of lower eye or slightly beyond; teeth small, not enlarged anteriorly. Dorsal fin rays 81 to 91, with second ray elongate (varying from about 60% of head length, to longer than head), fringed with a broad membrane giving it a pinnate appearance; 1st, 3rd and 4th dorsal fin rays may also be slightly elongate in some mature specimens; anal fin rays 61 to 69; pelvic fin bases unequal in length, that on eyed side much longer. Scales feebly ctenoid on eyed side, cycloid (smooth) on blind side, 49 to 56 in lateral line. Gillrakers short, 7 to 9 on lower limb of first arch.

Colour: eyed side brownish or greyish, with darker spots or blotches on lateral line, one behind the anterior curve and one near distal end; generally, a series of dark spots along caudal fin base which may give the appearance of a bar; all fin rays sprinkled with small dark spots; pelvic fin of eyed side may have a diffuse spot on its posterior portion; first 3 or 4 dorsal fin rays generally blackish in adults, but only the elongate 2nd ray is dark in immature specimens. Blind side light in colour, with no special markings in either sex.

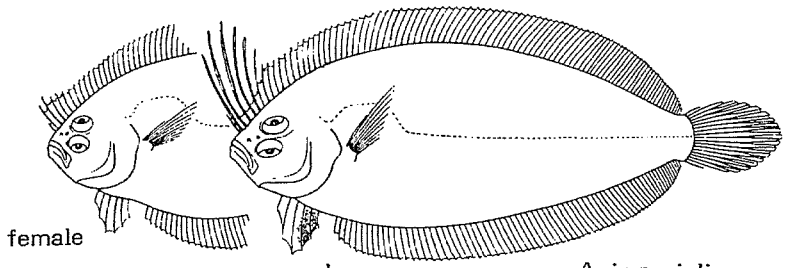
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Arnoglossus capensis: dorsal fin rays 96 to 100 (81 to 91 in A. thori), with anterior rays only slightly elongate in either sex and no broad membrane around any of the elongate rays; no distinct spotting on lateral line along caudal peduncle or on pelvic fins.



A. capensis

A. imperialis: eyes separated by a bony ridge; gillrakers moderately long, 8 to 10 on lower limb of first arch (7 to 9 in A. thori); dorsal fin rays 95 to 106, the anterior 2nd to 5th or 6th rays produced in adult males (about as long as head); a black (males) or greyish (females) spot on posterior part of pelvic fin of eyed side.

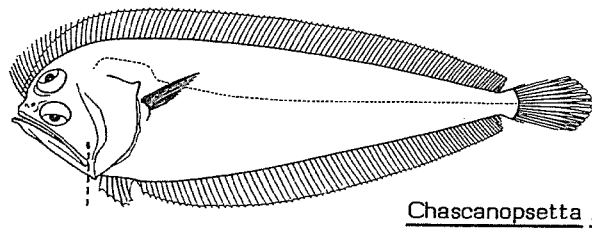


female male

A. imperialis

Chascanopsetta lugubris: mouth large, maxilla extending well beyond hind margin of eye; lower jaw prominent; body slender, 25 to 33% of standard length.

Bothus species: body depth greater than 50% of standard length; eyes separated by a wide concave interorbital space, at least 60% of eye diameter, but often wider, especially in males; lower eye well in advance of upper eye.

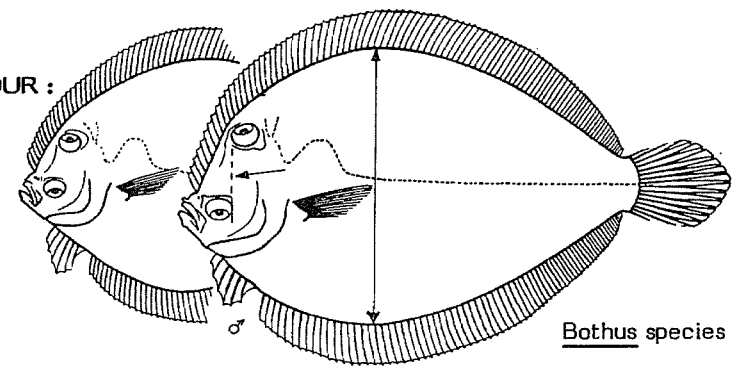


Chascanopsetta lugubris

Other species of Bothidae: bases of pelvic fins about equal in length (both short).

SIZE:

Maximum length reported: 16 cm.



Bothus species

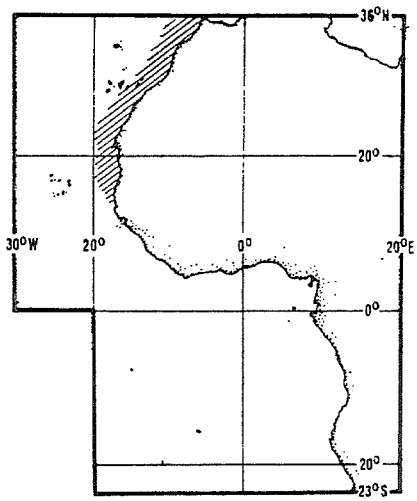
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from the Straits of Gibraltar to Mauritania (Cape Blanc). Also extending into the Mediterranean.

Inhabits hard sand and mud bottoms to at least 80 m depth. Little additional information is available concerning this species.

PRESENT FISHING GROUNDS:

Continental shelf; caught incidentally throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Utilized mostly fresh and dried salted.

BOTH Both 3

1981

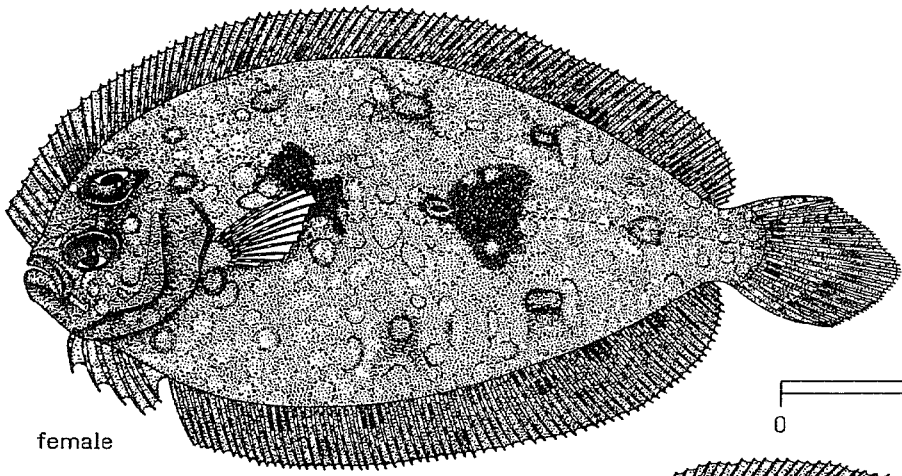
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

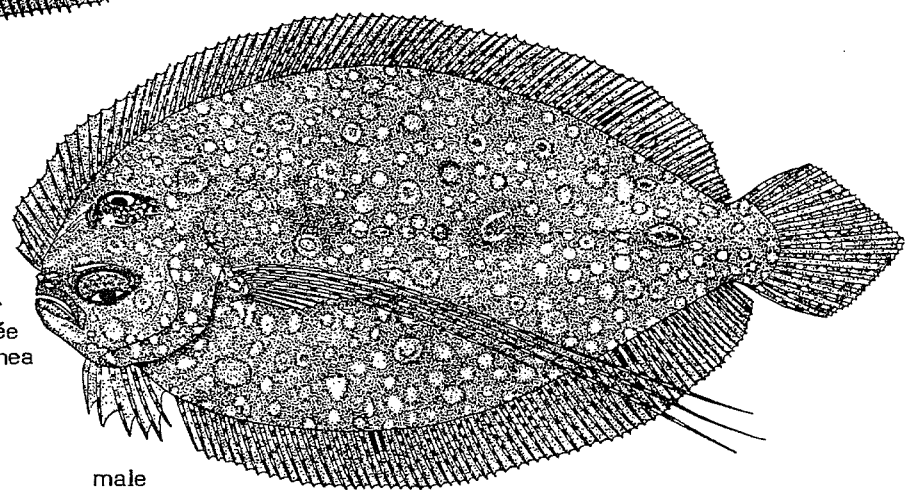
Bothus guibei Stauch, 1966

OTHER SCIENTIFIC NAMES STILL IN USE : None



female

0 4 cm



male

VERNACULAR NAMES:

FAO : En - Guinean flounder
Fr - Rombou de Guinée
Sp - Lenguado de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovate, its depth 50 to 56% of standard length; head length 26 to 30% of standard length. Anterior profile of head rounded, not steeply sloping; no notch above and in front of lower eye; eye diameter 21 to 28% of head length; interorbital space broader in males than in females and immature individuals, but not exceeding eye diameter in either sex; anterior edge of upper eye over about centre of lower eye or further in front; snout and orbital area may be rugose in adult males; maxilla longer than eye diameter, 30 to 34% of head length, extending backward to below about anterior third of lower eye; teeth small, equally developed in both jaws; no enlarged canines. Dorsal fin rays 88 to 94, none of them elongate; anal fin rays 67 to 75; anterior pectoral fin rays in adult males elongate, extending to caudal peduncle or beyond (not elongate in females); pelvic fin bases unequal in length, that on eyed side much longer; caudal fin bluntly triangular, not rounded. Scales ctenoid (rough) on eyed and blind sides, 77 to 84 scales in lateral line. Gillrakers short, 6 to 8 on lower limb of first arch.

Colour: eyed side brownish to greyish, with numerous blotches and spots, some solid and others ocellated, giving the fish a mottled appearance; a large, diffuse spot immediately behind curved portion of lateral line; a darker, smaller, better defined spot near middle of straight portion; and a third, less defined spot in peduncular region; fins coloured with numerous diffuse spots. Blind side uniformly light, except that head region may be spotted with brown.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

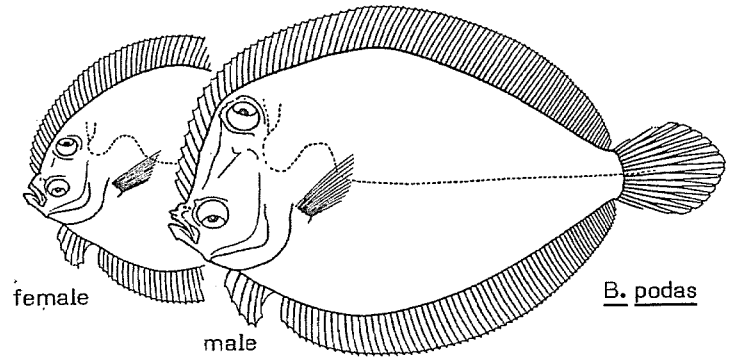
Bothus podas: anterior profile of head nearly vertical in mature males; body depth 56 to 59% of standard length (50 to 56% in B. guibei); interorbital space broader, anterior edge of upper eye above posterior margin of lower eye; maxilla somewhat shorter, 27 to 31% of head length (30 to 34% in B. guibei), extending to below anterior edge of lower eye.

B. mellissi: anterior profile of head steeply sloping; dorsal fin rays generally more numerous, 92 to 98 (88 to 94 in B. guibei); body depth 59 to 67% of standard length.

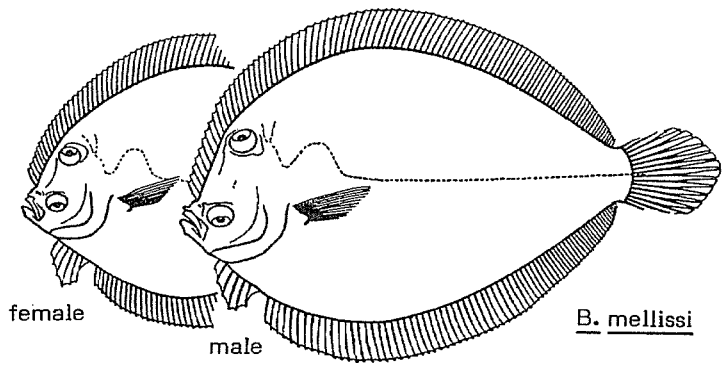
Arnoglossus species: eyes separated by a narrow, concave space (much smaller than eye diameter) or by a bony ridge, similar in both sexes; lower eye only slightly in advance of upper eye; body depth less than 50% of standard length (50 to 56% in B. guibei).

Chascanopsetta lugubris: mouth very large, maxilla more than 50% of head length (30 to 34% in B. guibei), extending well beyond hind margin of eye; lower jaw prominent; body slender, its depth 25 to 35% of standard length.

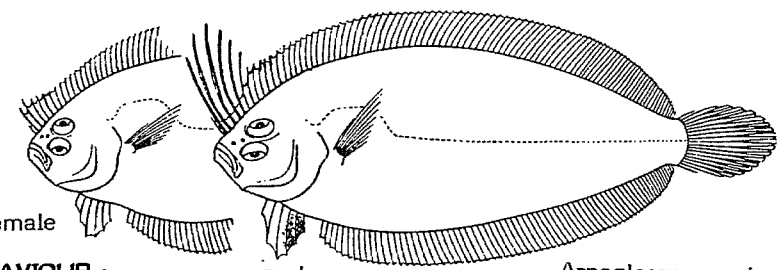
Other species of Bothidae: pelvic fin bases equal in length (both short).



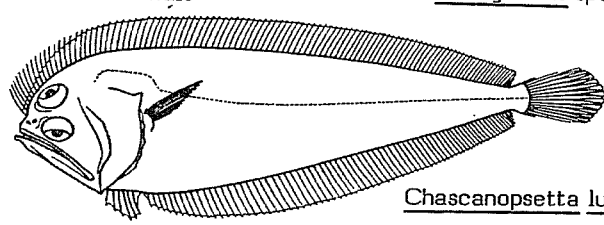
B. podas



B. mellissi



Arnoglossus species


Chascanopsetta lugubris

SIZE:

Maximum length reported: 28 cm.

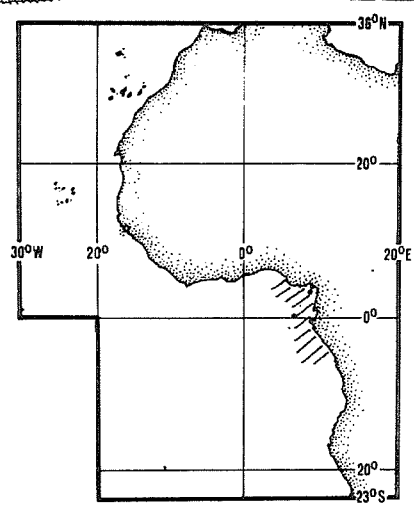
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Reported from off Annobon and the Gulf of Guinea.

Bottom-dwelling in depths between 15 and 40 m. Little additional information is known concerning this species.

PRESENT FISHING GROUNDS:

Gulf of Guinea.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly by hand-held fishing poles; also with bottom trawls and on hook and line.

Marketed mostly fresh and dried salted.

BOTH Both 4

1981

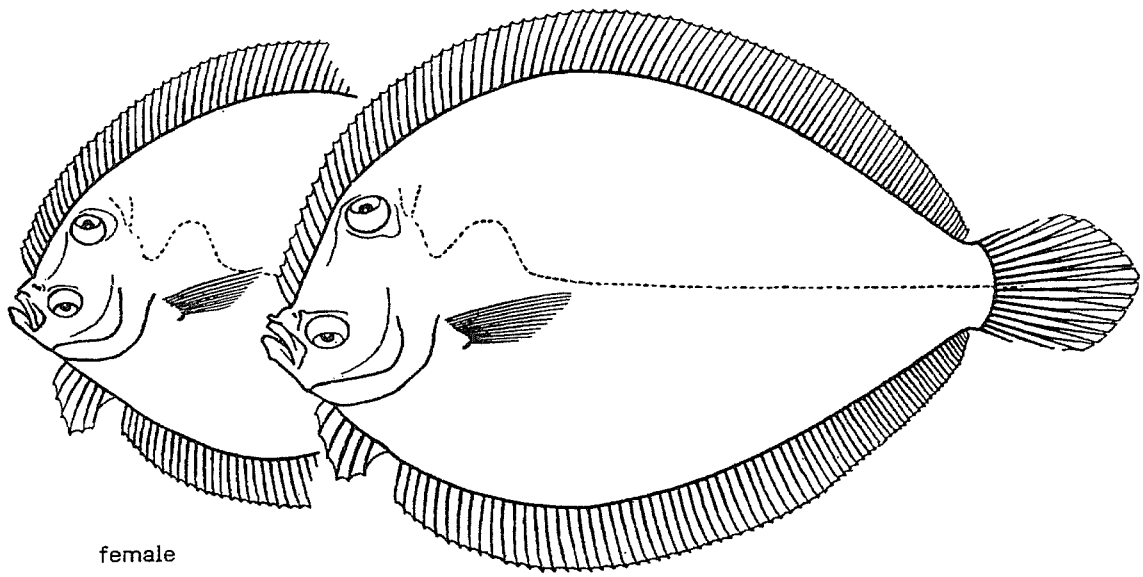
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Bothus mellissi Norman, 1931

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - St. Helena flounder
Fr - Rombou de St. Hélène
Sp - Lenguado de Santa Elena

NATIONAL :

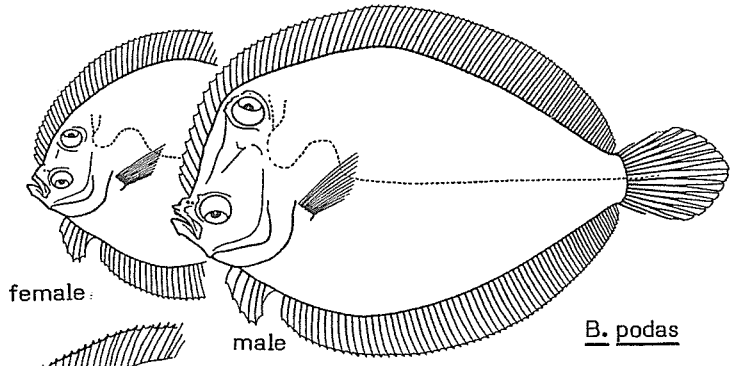
DISTINCTIVE CHARACTERS :

Body ovate, its depth 59 to 67% of standard length; head length 21 to 24% of standard length. Anterior profile of head steeply sloping, but not vertical; a slight notch above and in front of lower eye; eye diameter 21 to 25% of head length; interorbital space broad, 60% of eye diameter in females and immature males to well in excess of eye diameter in mature males; anterior edge of upper eye above posterior edge of lower eye; maxilla 25 to 31% of head length, longer than eye diameter, extending to below anterior portion of lower eye; teeth small, equally developed in both jaws; no enlarged canines. Dorsal fin rays 92 to 98, none of them elongate; anal fin rays 70 to 75; pelvic fin bases unequal, that on eyed side much longer. Scales ctenoid (rough) on eyed side, cycloid (smooth) on blind side, 86 to 90 in lateral line. Gillrakers on lower limb of first arch 9 or 10.

Colour: eyed side brownish, blackish or greyish, usually covered with spots and ocelli, sometimes uniformly brownish. Blind side light in colour with no special markings.

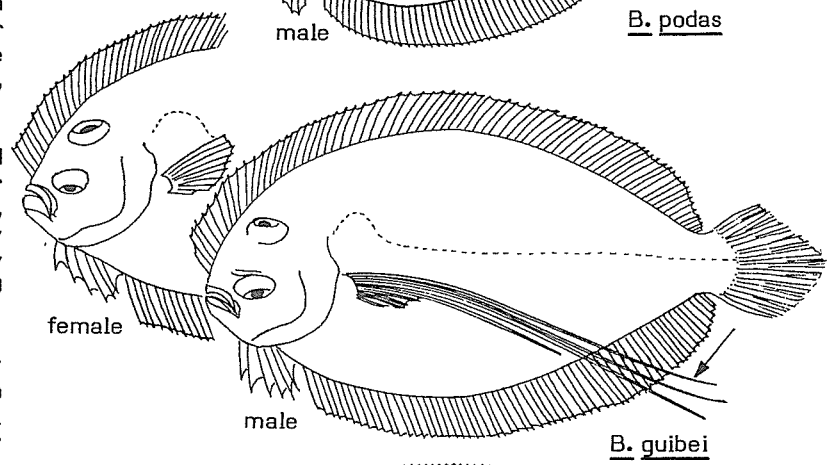
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Bothus podas: anterior profile of head nearly vertical in mature males; dorsal fin rays generally less numerous, 85 to 94 (92 to 98 in B. mellissi); anal fin rays generally less numerous, 63 to 73 (70 to 75 in B. mellissi); body depth not as great, 55 to 62% of standard length (59 to 67% in B. mellissi); eye diameter 25 to 30% of head length (21 to 25% in B. mellissi).



B. podas

Bothus guibei: anterior pectoral fin rays elongate in mature males, often extending to caudal fin base; anterior profile more rounded, without a notch above and in front of lower eye; body less deep, its depth 50 to 56% of standard length.

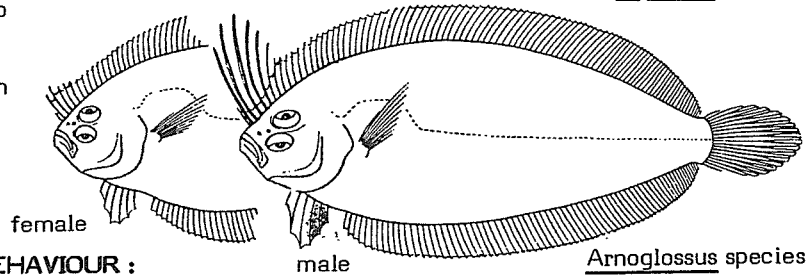


B. guibei

Arnoglossus species: eyes separated by a narrow, concave space (much smaller than eye diameter) or by a bony ridge, similar in both sexes; lower eye only slightly in advance of upper eye; body depth less than 50% of standard length (50 to 56% in B. guibei).

Chascanopsetta lugubris: mouth very large, maxilla more than 50% of head length (30 to 34% in B. guibei), extending well beyond hind margin of eye; lower jaw prominent; body slender, its depth 25 to 35% of standard length.

Other species of Bothidae: pelvic fin bases equal in length (both short).



Arnoglossus species

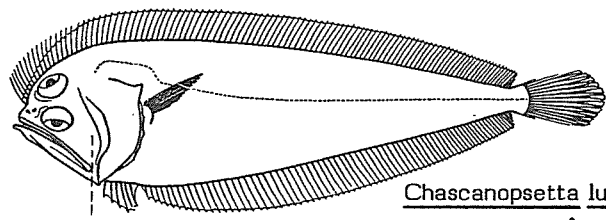
SIZE:

Maximum length reported: 22 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

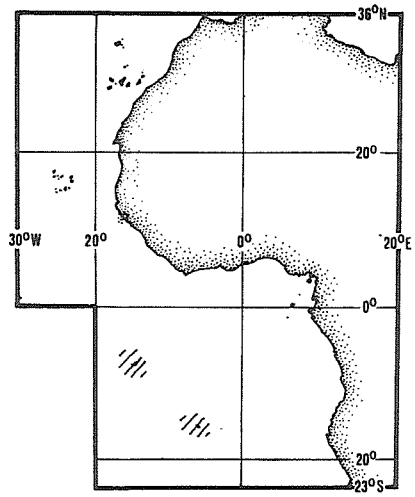
Reported only from St. Helena and the Ascension Islands.

Inhabits mud, sand, gravel and shell bottoms, in depths between 40 and 75 m. Little additional information is available concerning this species.


Chascanopsetta lugubris

PRESENT FISHING GROUNDS:

Caught incidentally throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and dried salted.

BOTH Both 5

1981

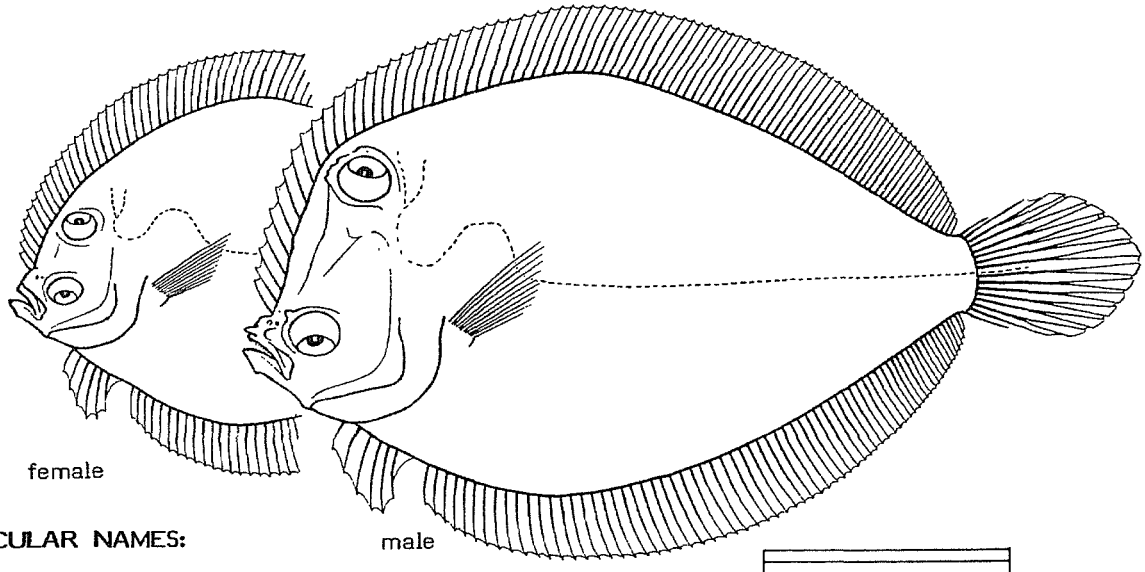
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Bothus podas (Delaroche, 1809)

OTHER SCIENTIFIC NAMES STILL IN USE : Three subspecies are recognized:
Bothus podas podas (Delaroche, 1809)
Bothus podas maderiensis (Lowe, 1834)
Bothus podas africanus Nielsen, 1961



VERNACULAR NAMES:

FAO : En - Wide-eyed flounder
Fr - Rombou podas
Sp - Podas

NATIONAL :

DISTINCTIVE CHARACTERS : *

Body ovate, its depth 55 to 62% of standard length; head length 25 to 30% of standard length. Anterior profile of head nearly vertical (mature males); a slight notch above and in front of lower eye; males with a spine on snout; eye diameter 25 to 30% of head length; interorbital space broad, 60% of eye diameter (females and immature specimens) to much greater than eye diameter (mature males); anterior edge of upper eye above posterior margin of lower eye; maxilla 27 to 31% of head length, longer than diameter of eye, extending backward to anterior edge of lower eye; teeth small, equally developed in both jaws: no enlarged canines. Dorsal fin rays 85 to 94, none of them elongate; anal fin rays 63 to 73; pelvic fin bases unequal in length, that of eyed side much longer. Scales ctenoid (rough) on eyed side, cycloid (smooth) on blind side, 80 to 92 in lateral line. Gillrakers short, 7 to 9 on lower limb of first arch.

Colour: eyed side brownish, blackish or greyish, usually covered with spots and/or ocelli, sometimes uniformly brownish; generally a diffuse dark spot at junction of curved and straight parts of lateral line, and another more distinct spot on middle of straight part; colouration of median fins similar to that of body, with small brown spots generally seen on the pectoral fins. Blind side light in colour with no special markings.

* Meristic and morphometric values are quite broad in this account because the three subspecies are treated as a single species

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

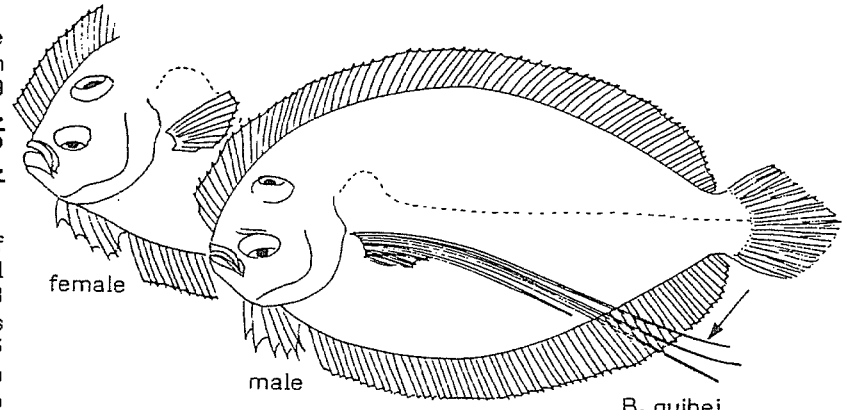
Bothus guibei: anterior head profile more rounded, without a notch above and in front of eye; body less deep, its depth 50 to 56% of standard length (55 to 62% in B. podas); maxilla somewhat longer, 30 to 34% of standard length (27 to 31% in B. podas).

Bothus mellissi: anterior profile of head steeply sloping, but not vertical; dorsal fin rays generally more numerous, 92 to 98 (85 to 94 in B. podas); anal fin rays generally more numerous, 70 to 75 (63 to 73 in B. podas); body deeper, its depth 59 to 67% of standard length; eye diameter 21 to 25% of head length.

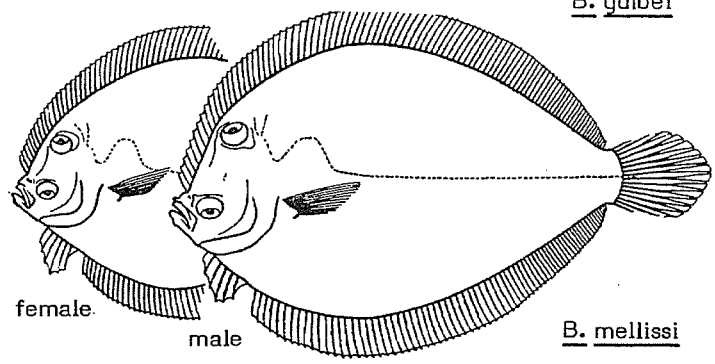
Arnoglossus species: eyes separated by a narrow, concave space (much smaller than eye diameter) or by a bony ridge, similar in both sexes; lower eye only slightly in advance of upper eye; body depth less than 50% of standard length.

Chascanopsetta lugubris: mouth very large, maxilla more than 50% of head length, extending well beyond hind margin of eye; lower jaw prominent; body slender, its depth 25 to 35% of standard length.

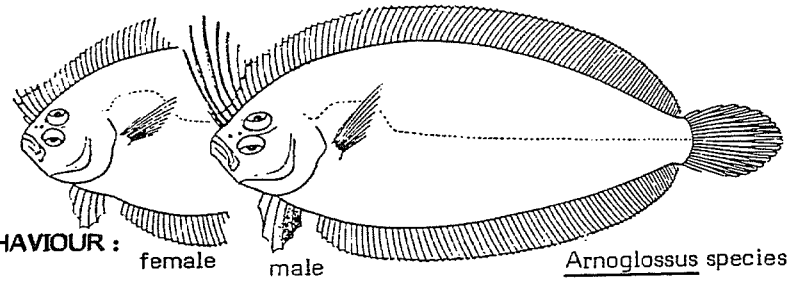
Other species of Bothidae: pelvic fin bases equal in length (both short).



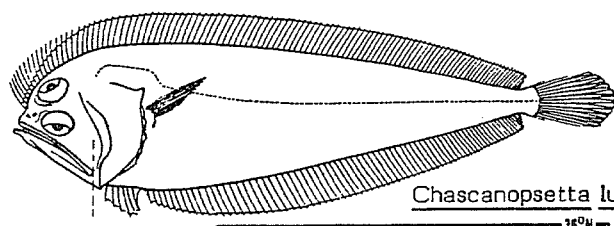
B. guibei



B. mellissi



Arnoglossus species


Chascanopsetta lugubris

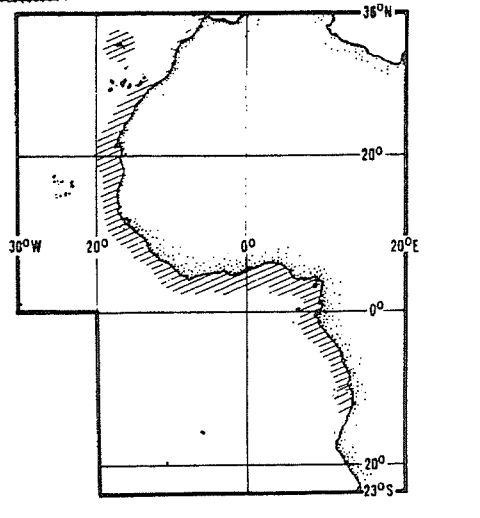
SIZE:

Maximum length reported: 45 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Two of the three subspecies occur in the area: Bothus podas maderiensis, off Madeira and the Canary Islands, and Bothus podas africanus, on the West African coast from Cape Blanc to Angola. The third subspecies, Bothus podas podas, occurs in the Mediterranean.

Inhabits sand, shell, mud and coral bottoms in depths from 15 to 200 m. Several small, unmetamorphized individuals have been taken in surface waters over depths of 3 200 m.



PRESENT FISHING GROUNDS:

Caught throughout its range, but specially in inshore waters off Ghana and Senegal; probably not very abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with dredges, bottom trawls, fixed bottom nets, beach seines and dipnets.

Marketed fresh, smoked and dried salted.

BOTH Chasc 1

1981

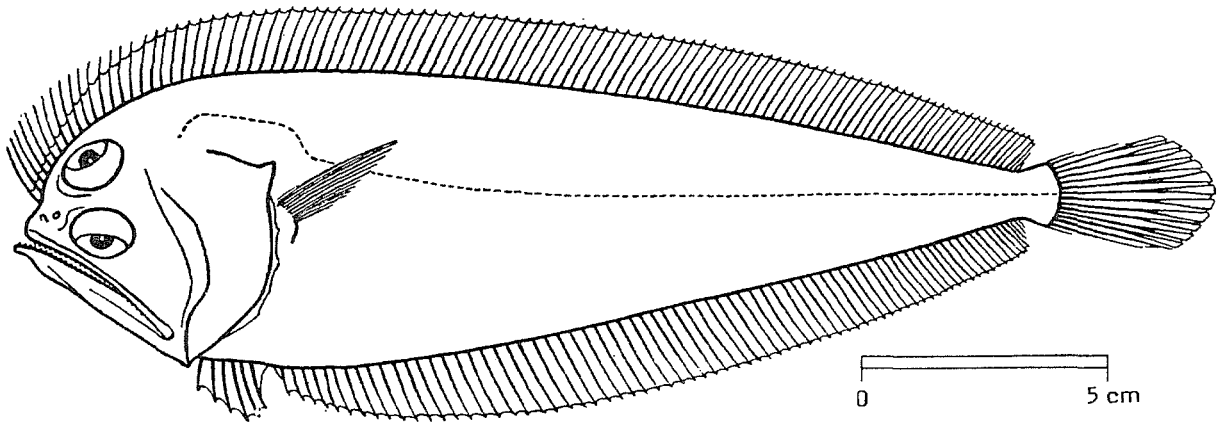
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chascanopsetta lugubris Alcock, 1894

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Pelican flounder
Fr - Perpeire pélican
Sp - Lenguado pelicano

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, its depth 25 to 33% of standard length. Head length 20 to 25% of standard length; eye diameter 24 to 28% of head length; interorbital space narrow; maxilla long (70% of head length or greater), extending backward well beyond posterior edge of eye; teeth small, slender (no distinct canines), depressible on lower jaw. Dorsal fin rays 114 to 122, none of them elongate; anal fin rays 77 to 85; pelvic fin bases unequal in length, that on eyed side much longer. Scales small, cycloid (smooth) on both sides, about 190 in lateral line. Gillrakers absent, although 1 or 2 rudiments may be present on lower limb of first arch.

Colour: eyed side greyish or yellowish brown, with or without numerous spots; fins dusky; peritoneum black, visible through the thin abdominal walls. Blind side uniformly light.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

The long maxilla extending well beyond posterior eye margin, the protruding lower jaw, and the absence of well developed gillrakers, easily separate *C. lugubris* from other lefteye flounders in the area.

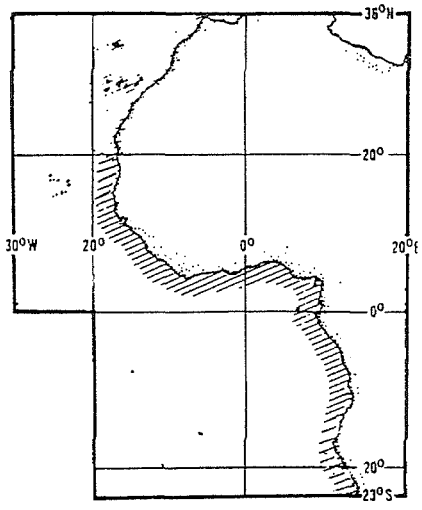
SIZE:

Maximum length reported: 28 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A circumtropical species. Off West Africa, from Senegal to Namibia and probably further south.

Inhabits mud bottoms in depths from 120 to 600 m. Little additional information is known concerning this species.



PRESENT FISHING GROUNDS:

Continental shelf and slope; caught throughout its range, and reported to be very abundant in the southern part of the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and dried salted.

BOTH Cith 1

1981

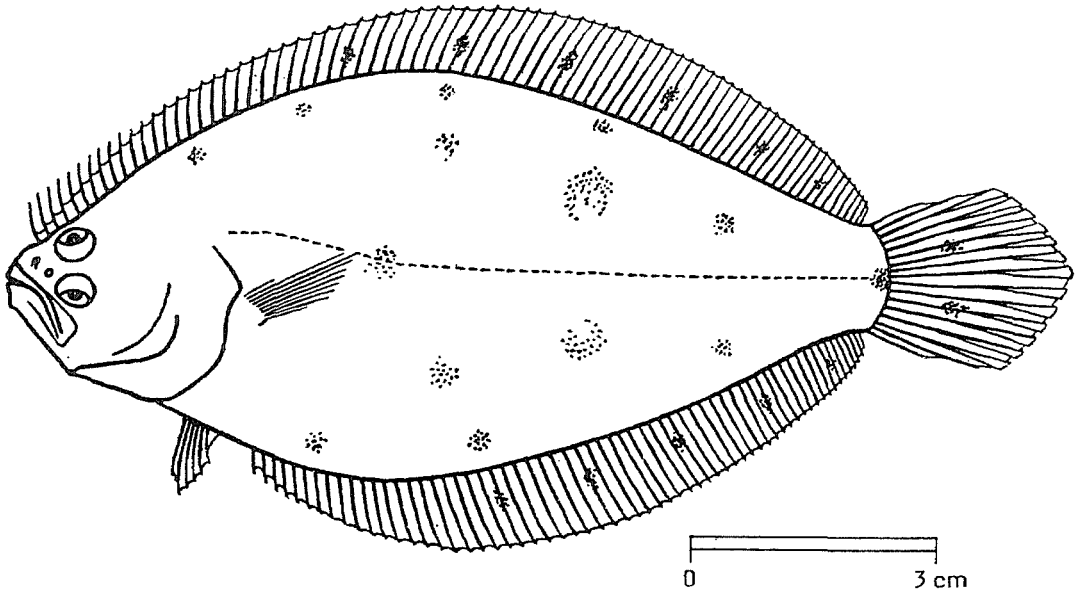
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Citharichthys stampflii (Steindachner, 1894)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Smooth flounder
Fr - Perpeire lisse
Sp - Lenguado liso

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovate, its depth 45 to 50% of standard length; head length 27 to 31% of standard length. Eye diameter 16 to 23% of head length; interorbital space narrow, may be somewhat concave; maxilla about 38 to 42% of head length, extending backward to below middle of eye, but not beyond posterior edge of pupil; teeth uniserial on both jaws; no canine-like teeth. Dorsal fin rays 80 to 87; anal fin rays 59 to 65; bases of pelvic fins about equal in length, both short. Scales cycloid or feebly ctenoid, 46 to 50 in lateral line. Gillrakers moderately long and slender, 14 to 17 on lower limb of first arch.

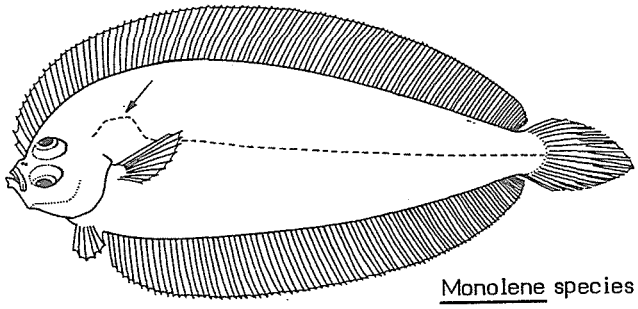
Colour: eyed side brownish with darker spots and blotches, often with a series of conspicuous spots along body edges; a dark spot at base of caudal fin, and a similar spot on upper and lower caudal fin rays; dorsal and anal fins with a row of dark spots. Blind side uniformly light.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

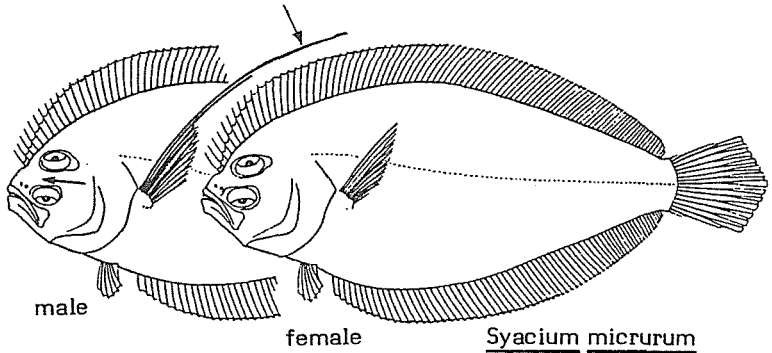
Monolene species: lateral line of eyed side describing a high arch above pectoral fin.

Syacium micrurum: upper profile rounded, not concave; a slight notch above lower eye; gillrakers short and stout, 7 to 9 on lower limb of first arch (14 to 17 in C. stampflii); lateral line scales 54 to 68 (46 to 50 in C. stampflii); eye diameter 21 to 29% of head length (16 to 23% in C. stampflii); interorbital space wide, 35 to 70% of eye diameter in mature males and up to 30% of eye diameter in mature females; mature males with upper pectoral fin rays *elongate*.

Other species of Bothidae: bases of pelvic fins about equal in length, both short.



Monolene species



male female Syacium micrurum

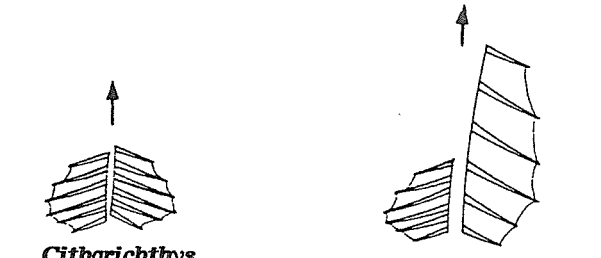
SIZE:

Maximum size reported: 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Reported from Senegambia to Angola.

Inhabits tidal waters out to 50 m depth; also taken in brackish water and reported to enter fresh water.



Citharichthys
Syacium, Monolene

other species of Bothidae

pelvic fins seen from below
(arrows point toward head)

PRESENT FISHING GROUNDS:

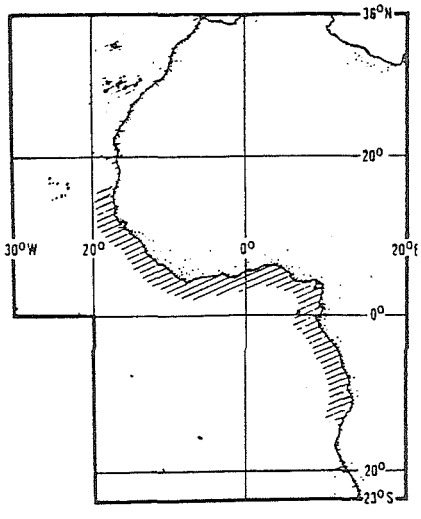
Off tropical West Africa, caught incidentally throughout its range. Apparently not abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls, beach seines, dipnets and other artisanal gear.

Marketed fresh and dried salted.



BOTH Mono 1

1981

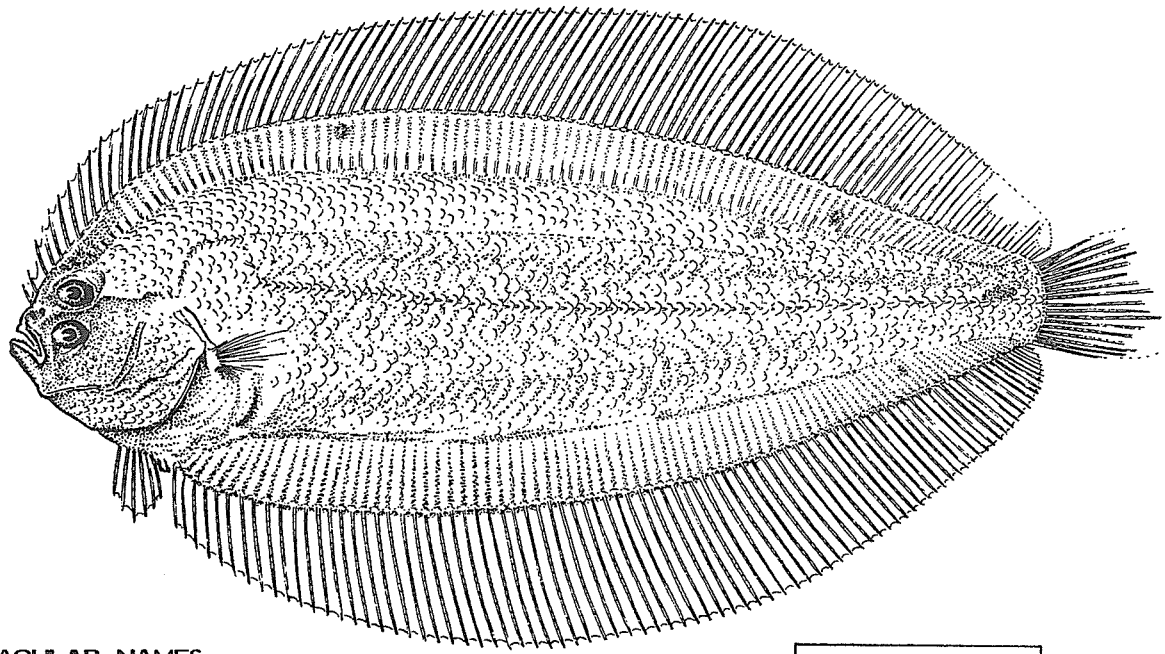
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Monolene mertensi (Poll, 1959)

OTHER SCIENTIFIC NAMES STILL IN USE : Laeops mertensi Poll, 1959



0 1 cm

VERNACULAR NAMES:

FAO : En - Mertens' moonflounder
Fr - Monolène de Mertens
Sp - Monolena de Mertens

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovate, its depth 36 to 42% of standard length; head length 17 to 19% of standard length. Eye diameter 20 to 25% of head length; interorbital space about 50% of eye diameter; maxilla short, about equal to eye diameter, extending posterioly to anterior portion of eye; mouth small; teeth small, not enlarged anteriorly, equally developed on both jaws. Dorsal fin rays 102 to 106; anal fin rays 84 to 91; pectoral fin on blind side rudimentary in juveniles, absent in adults; bases of pelvic fins about equal in length, both short. Scales ctenoid (rough) on ocular side, cycloid (smooth) on blind side, about 80 in lateral line.

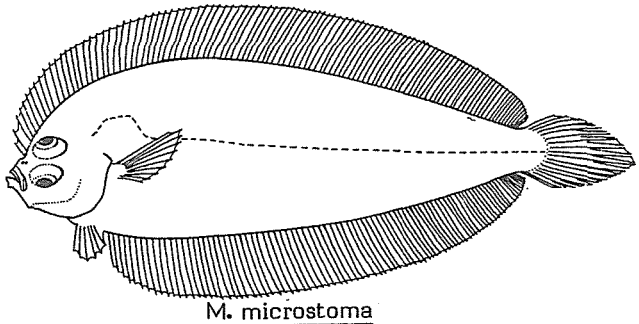
Colour: eyed side uniform pale brown. Blind side colourless.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

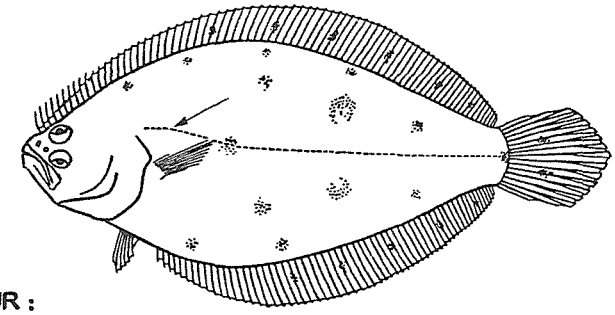
Monolene microstoma: body less deep, its depth 30 to 36% of standard length (36 to 42% in M. mertensi); eyes much larger, their diameter 33 to 44% of head length (20 to 25% in M. mertensi).

Citharichthys stampflii and Syacium micrurum: lateral line of eyed side not arched over pectoral fin, nearly straight throughout its length.

Other species of Bothidae: bases of pelvic fins unequal in length, that on eyed side much longer and inserted further forward than the one on blind side.



M. microstoma



Citharichthys stampflii

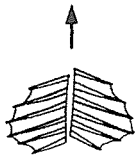
SIZE:

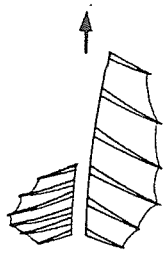
Maximum size reported: 8 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Off West Africa from about 10°N Lat. to about 11°S Lat.

Inhabits mud bottoms in depths of 100 to 700 m. No additional information is available concerning this species.





Monolene
Syacium, Citharichthys

other species of Bothidae

pelvic fins seen from below
(arrows point toward head)

PRESENT FISHING GROUNDS:

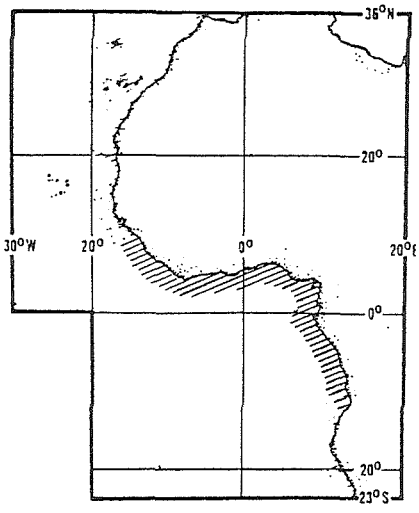
Caught incidentally throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh and dried salted.



BOTH Mono 2

1981

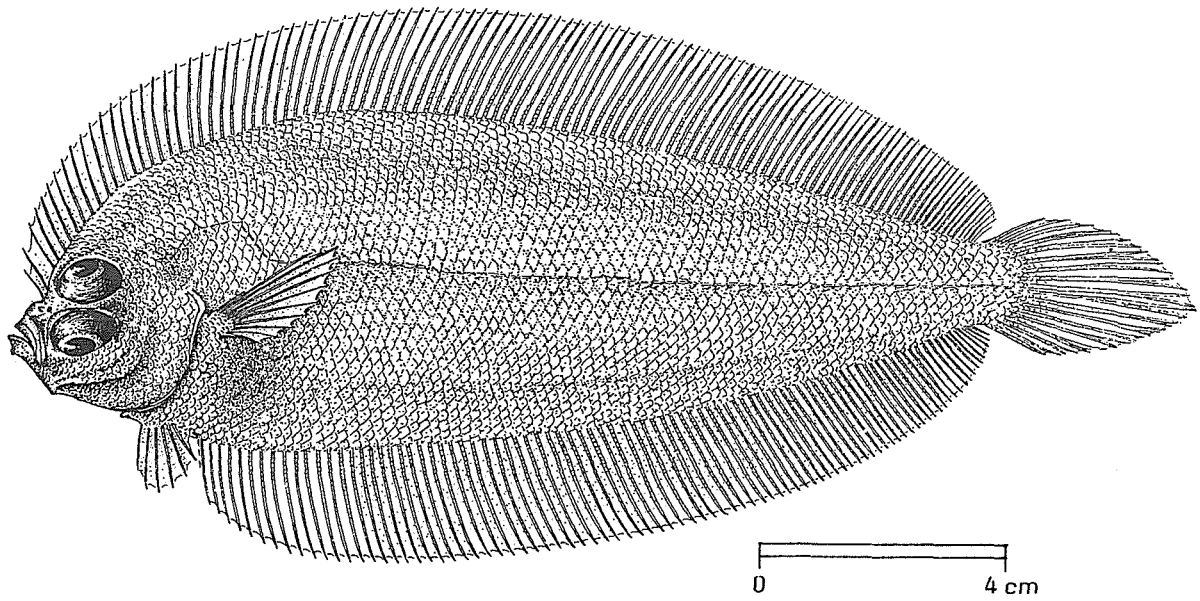
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Monolene microstoma (Cadenat, 1937)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Smallmouth moonflounder
Fr - Monolène à petite bouche
Sp - Monolena bocachica

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovate, its depth 30 to 36% of standard length; head length 18 to 22% of standard length. Eye diameter 33 to 44% of head length; interorbital space narrow, eyes separated by a bony ridge or narrow space; maxilla about 25% of head length and shorter than eye diameter, extending backward to about anterior edge of pupil; mouth small; teeth small, not enlarged anteriorly, equally developed on both sides of jaws. Dorsal fin rays 102 to 112; anal fin rays 84 to 93; pectoral fin absent on blind side; bases of pelvic fins about equal in length, both short. Scales ctenoid (rough) on ocular side, cycloid (smooth) on blind side, 77 to 83 in lateral line. Gillrakers short.

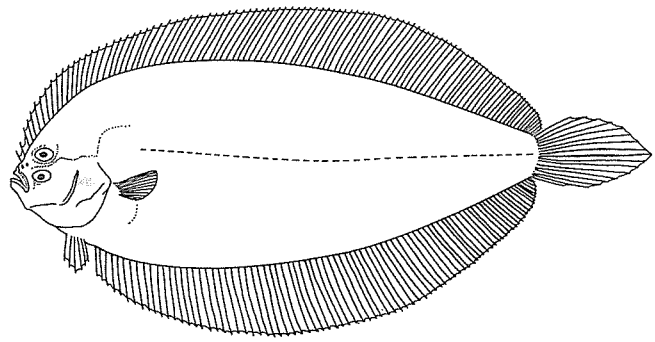
Colour: eyed side brownish, more or less ornamented with usually inconspicuous darker blotches. Blind side colourless.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

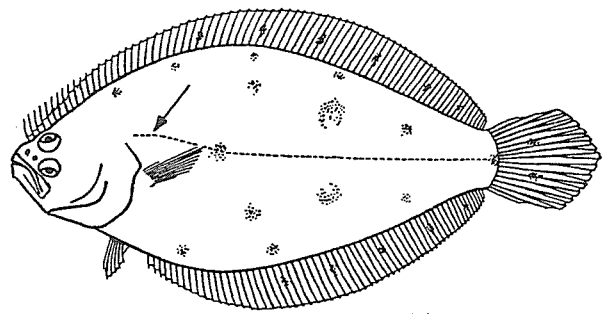
Monolene mertensi: body depth slightly greater, 36 to 42% of standard length (30 to 36% in M. micrurum); eyes and mouth very small, eye diameter 20 to 25% of head length (33 to 44% in M. micrurum).

Citharichthys stampflii and Syacium micrurum: lateral line of eyed side not arched over pectoral fin, nearly straight throughout its length.

Other species of Bothidae: bases of pelvic fins unequal in length, that on eyed side much longer and inserted further forward than the one on blind side.



M. mertensi



Citharichthys stampflii

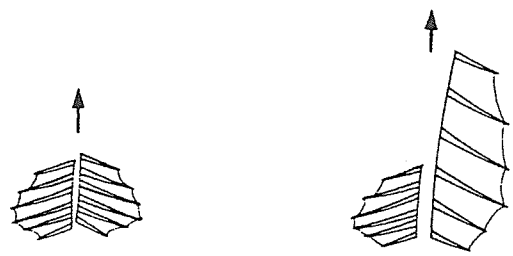
SIZE:

Maximum size reported: 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Reported from Guinea Bissau to Angola.

Inhabits mud bottoms in depths from about 25 to 400 m. No additional information is available concerning this species.



Monolene
Syacium, Citharichthys

other species of Bothidae
pelvic fins seen from below
(arrows point toward head)

PRESENT FISHING GROUNDS:

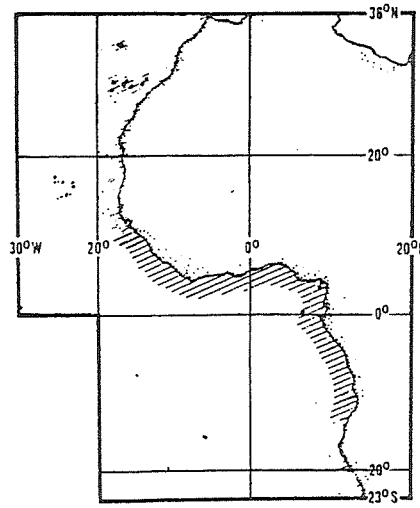
Caught incidentally throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom trawls.

Marketed fresh or dried salted.



BOTH Syac 1

1981

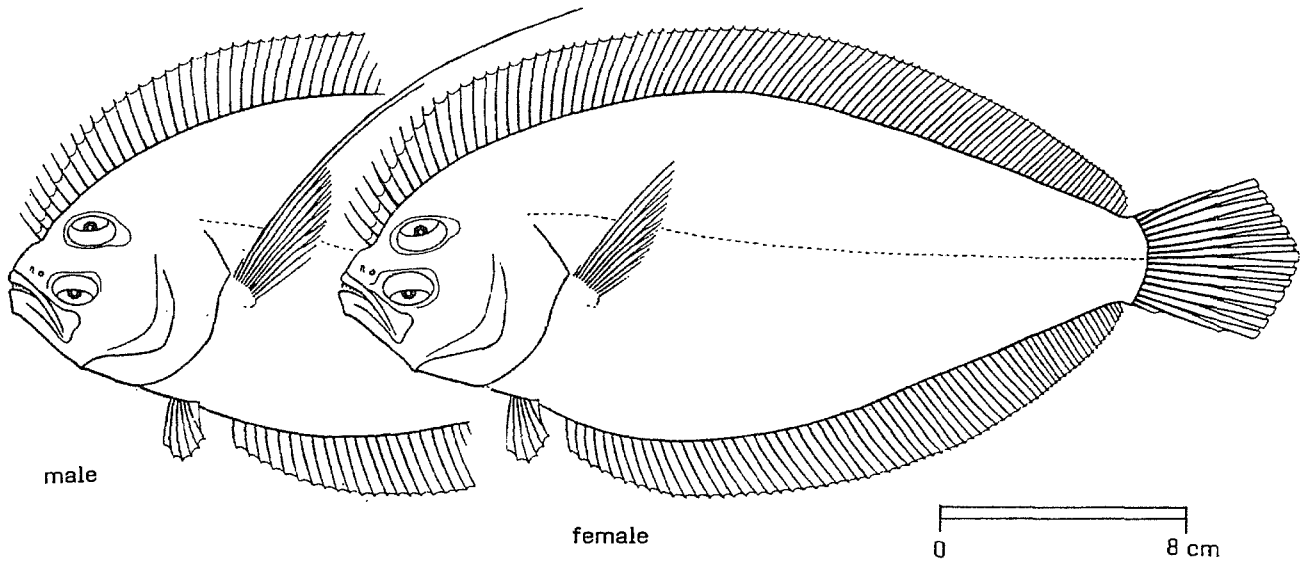
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BOTHIDAE

FISHING AREAS
34, 47 (*in part*)
(E.C. Atlantic)

Syacium micrurum Ranzani, 1840

OTHER SCIENTIFIC NAMES STILL IN USE : Syacium guineensis (Bleeker, 1853)
Scyacium micrurum (*generic misspelling*)



VERNACULAR NAMES:

FAO : En - Channel flounder
Fr - Fausse limande paté
Sp - Lenguado paté

NATIONAL :

DISTINCTIVE CHARACTERS :

Body ovate, its depth 38 to 45% of standard length; head length 27 to 31% of standard length. Eye diameter 21 to 29% of head length; interorbital space wider in males than in females and reduced to a bony ridge in the young; interorbital width about 35 to 70% of eye diameter in males, less than 30% in mature females; maxilla about 38 to 40% of head length, extending backward to about centre of eye; teeth present in both jaws, biserial in upper and uniserial in lower, some anterior teeth of upper jaw forming strong canines; teeth about equally developed on both sides. Dorsal fin rays 83 to 92, no elongate rays; anal fin rays 64 to 74; upper rays of pectoral fin elongate in males, not extending much beyond midline of body; bases of pelvic fins about equal in length, both short. Scales ctenoid (rough) on eyed side, cycloid (smooth) on blind side, 54 to 68 in lateral line. Gillrakers short and stout, 7 to 9 on lower limb of first arch.

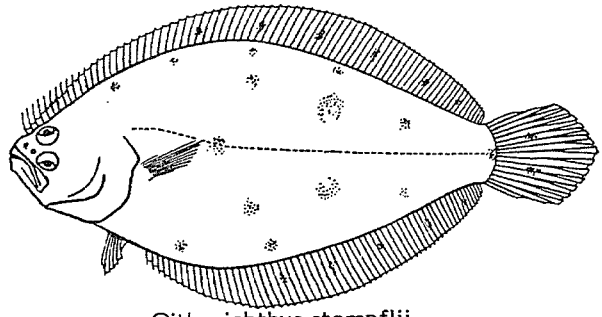
Colour: eyed side tan to brownish, with or without numerous spots or blotches on body and median fins; a dark, diffuse spot or spots near junction of curved and straight parts of lateral line; pectoral fin with diffuse cross bars; several broad, dark, vertical lines across interorbital space. Blind side uniformly light, large males may be somewhat dusky.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

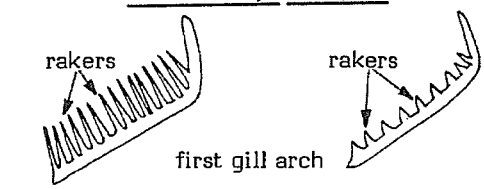
Citharichthys stampflii: upper profile of head distinctly concave; gillrakers slender and of moderate length, 14 to 17 on lower limb of first arch (7 to 9 in S. micrurum); lateral line scales 40 to 50 (54 to 68 in S. micrurum); eye smaller, its diameter 16 to 23% of head length (21 to 29% in S. micrurum); teeth in both jaws uniserial.

Monolene species: lateral line of eyed side describing a high arch above pectoral fin.

Other species of Bothidae: bases of pelvic fins unequal, that on eyed side much longer and inserted further forward.



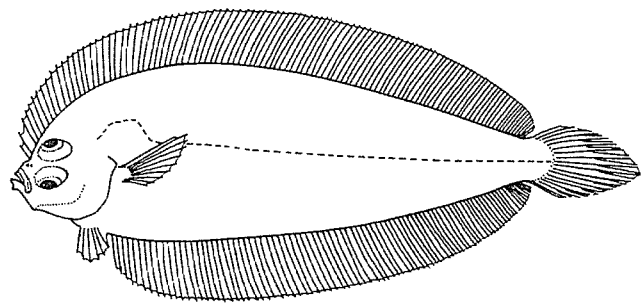
Citharichthys stampflii



Citharichthys *Syacium*

SIZE :

Maximum length reported: 40 cm.

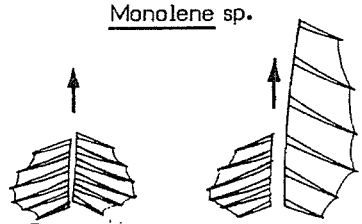


Monolene sp.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Off West Africa, reported from Mauritania to Angola.

Inhabits mud, sand and shell bottoms in depths of 15 to 200 m, possibly even to 400 m. Little additional information is known concerning this species.



Syacium other Bothidae

Citharichthys, Monolene

pelvic fins seen from below

(arrow point toward head)

PRESENT FISHING GROUNDS :

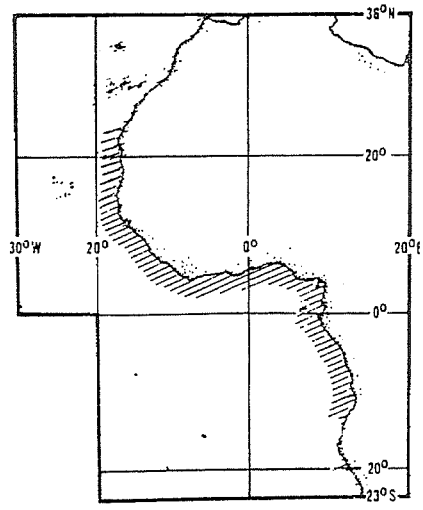
Caught off the entire West African coast, both inshore and offshore. It appears to be the most commercial bothid species in the area.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with bottom trawls, fixed bottom nets, beach seines and on line gear.

Utilized fresh, smoked and dried salted.



BRAM

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

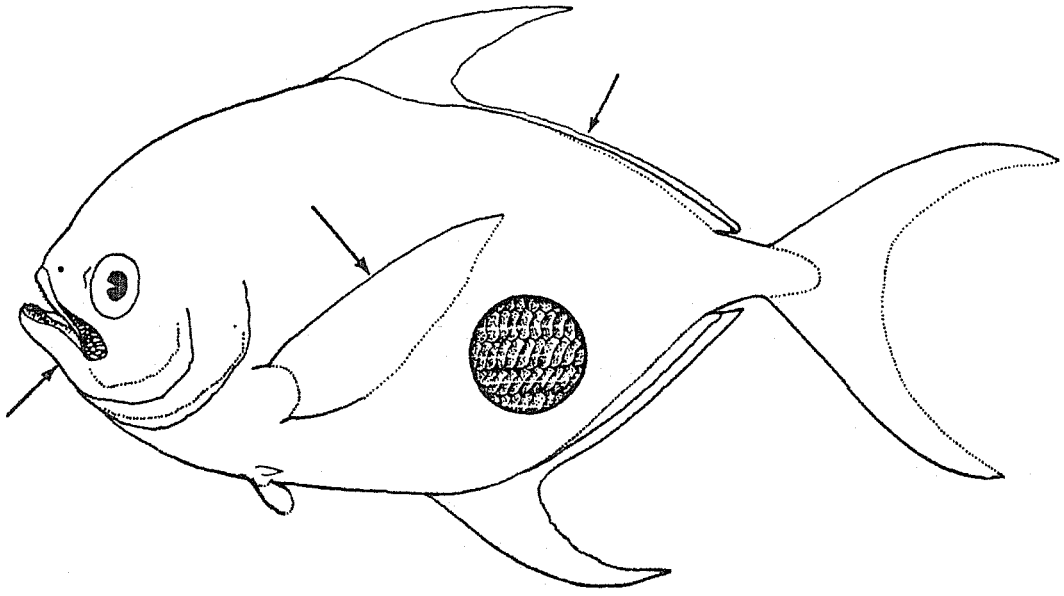
BRAMIDAE

Pomfrets

Medium- to large-sized fishes (up to about 1 m in length). Body deep and somewhat compressed, with a heavy caudal peduncle. Head rather deep; eyes large, centrally located; mouth large, and oblique; jaws heavy, the maxillary exposed, broad, scaled and extending at least to below middle of eye; opercle and preopercle smooth-edged in adults; teeth moderately strong and in bands. A single long-based dorsal fin, equal in length to, or longer than, anal fin, with a few spines forming an integral part of the fin; pectoral fins long and wing-like; pelvic fins usually with 1 spine and 5 soft rays and a prominent axillary scale; anal fin very similar to dorsal fin; caudal fin strong and forked. Lateral line single or absent; scales large, usually keeled, covering body and head except for a naked area on snout in most species; scales also extending onto median fins, except in Pteraclis and Pterycombus where large scales form a basal sheath for the dorsal and anal fins.

Colour: uniform black, bluish-black or silvery.

Most pomfrets are oceanic epi- and mesopelagic fishes of warm and temperate waters; only Eumegistus is possibly deep benthic. Pomfrets probably travel in small schools and some (i.e. Brama) undertake extensive migrations; they feed mostly on small fishes and squid. In the Eastern Central Atlantic Brama and Taractichthys are caught incidentally on longlines and with pelagic and bottom trawls, but there is a special fishery for Brama brama in the Canary Islands and, outside the area, off northwestern Spain. They are excellent foodfishes.

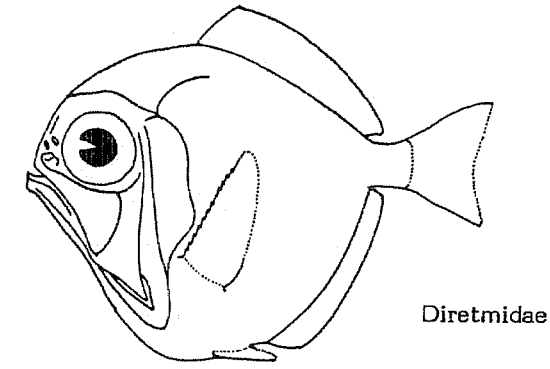


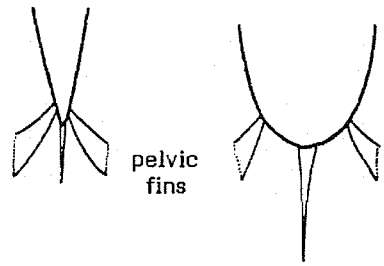
SIMILAR FAMILIES OCCURRING IN THE AREA:

Diretmidae: size small (usually less than 25 cm), abdomen keeled, with a row of scutes ahead of the pelvic fins; lateral line absent; pelvic fins with 1 spine and 6 soft rays (5 soft rays in Bramidae).

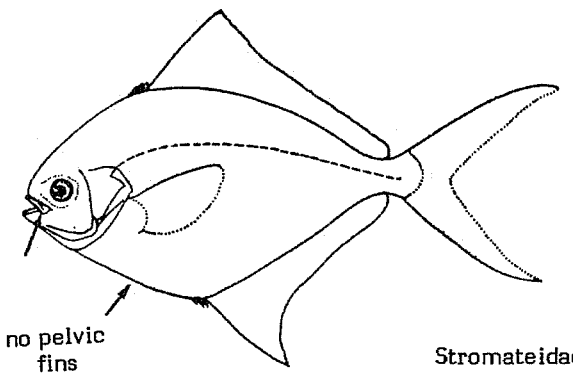
Lampridiidae: somewhat similar in shape, but brightly coloured, especially the fins and jaws (bright scarlet); also, mouth smaller and pelvic fins about as large as pectorals, the latter with a horizontal base.

Stromateidae: somewhat similar in shape, but they have a small mouth, lack pelvic fins and have very thin, small scales which are easily shed.

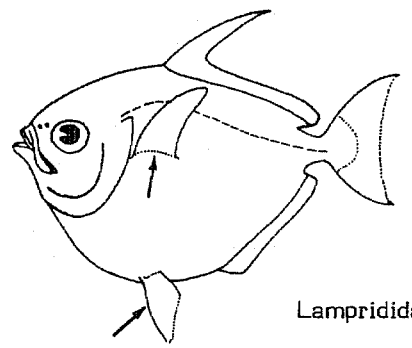




Diretmidae **Bramidae**
schematic cross section



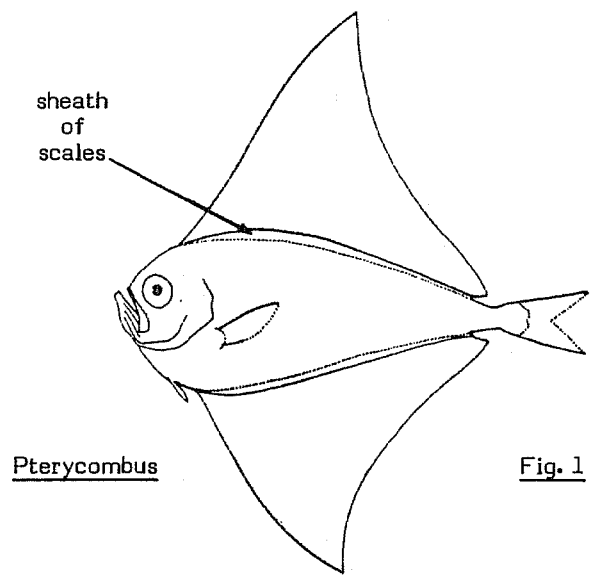
Stromateidae



Lampridiidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Dorsal and anal fins high, scaleless, flexible, completely depressible into a sheath formed by elongate scales arranged along the base of the fin (Fig. 1)



Pterycombus

Fig. 1

2 a. One of the anterior 5 dorsal and anal rays notably thickened; basal sheath of dorsal fin continuing forward to scaleless area on snout (Fig. 2a) ..... Pteraclis

2 b. Anterior dorsal and anal rays of similar thickness; basal sheath of dorsal fin ending at dorsal fin origin (Fig. 2b) ..... Pterycombus

1 b. Dorsal and anal fins scaled, moderately stiff and erect and without a basal sheath of modified scales

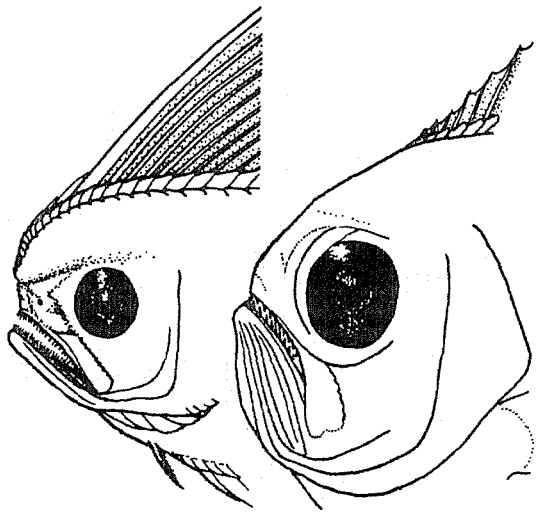
3 a. Dorsal profile of head between eyes flat or slightly concave, not arched and rounded (Fig. 3) ..... Taractes

3 b. Dorsal profile of head between eyes notably arched and rounded, the distance between orbit and nearest point on dorsal mid-line more than half the eye diameter (Fig. 4)

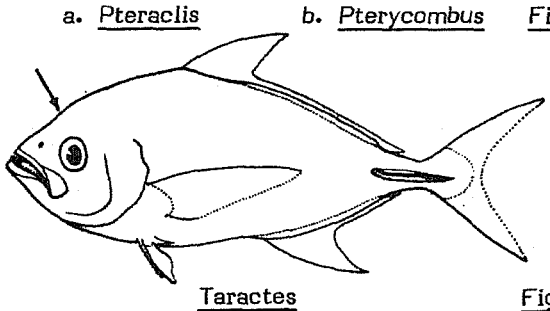
4 a. Head strongly compressed, lower edges of mandibles wholly touching each other behind symphysis at ventral midline (Fig. 5a); scales on caudal peduncle form a graded size series to those on base of caudal fin ..... Brama

4 b. Head moderately compressed, lower edges of mandibles not wholly touching at ventral midline behind symphysis with the isthmus visible between them (Fig. 5b); scales on caudal peduncle abruptly larger than those on base of caudal fin.

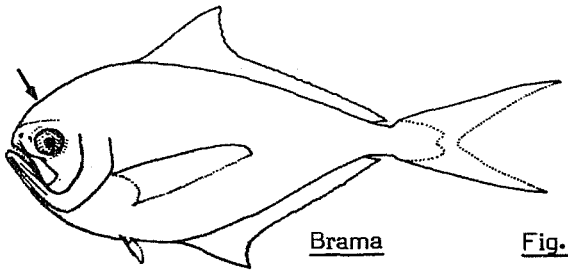
5 a. Scaleless area present above and behind eye; pectoral fins ending over lobe of anal fin; insertion of pelvic fins under end of pectoral fin base (Fig. 6) ... Eumegistus



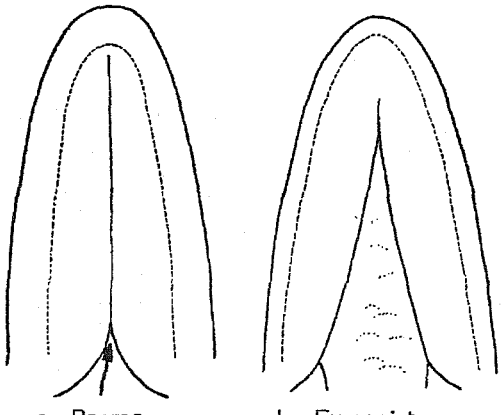
a. Pteraclis b. Pterycombus Fig. 2



Taractes Fig. 3

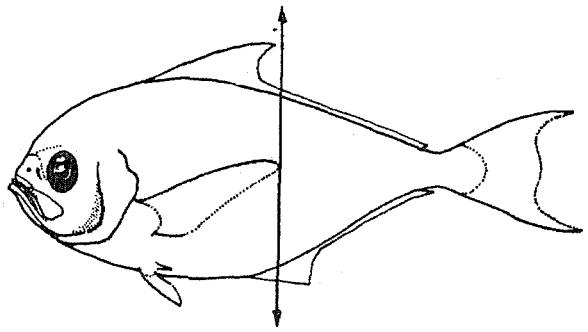


Brama Fig. 4



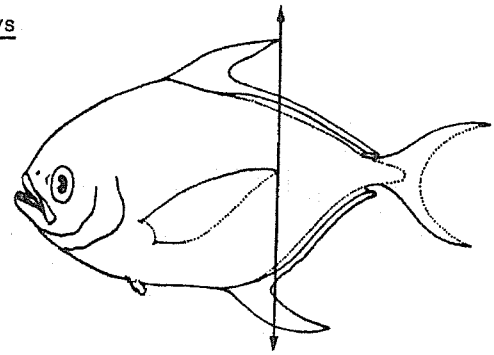
a. Brama b. Eumegistus, Taractichthys

head viewed from below Fig. 5



Eumegistus Fig. 6

5 b. No scaleless area over and behind eye; pectoral fin extends beyond lobe of anal fin; insertion of pelvic fin under anterior end of pectoral fin base (Fig. 7) ..... Taractichthys



Taractichthys Fig. 7

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

Brama brama (Bonnaterre, 1788) BRAM Bram 1
Brama caribbea Mead, 1972
Brama dussumieri Cuvier, 1831

Eumegistus brevorti (Poey, 1861)

Pteraclis carolinus Valenciennes, 1833

Pterycombus brama Fries, 1837

Taractes asper Lowe, 1834
Taractes rubescens (Jordan & Evermann, 1887)

Taractichthys longipinnis (Lowe, 1843) BRAM Tara 1

Prepared by R.L. Haedrich, Memorial University of Newfoundland, St. John's, Newfoundland, Canada

BRAM Bram 1

1981

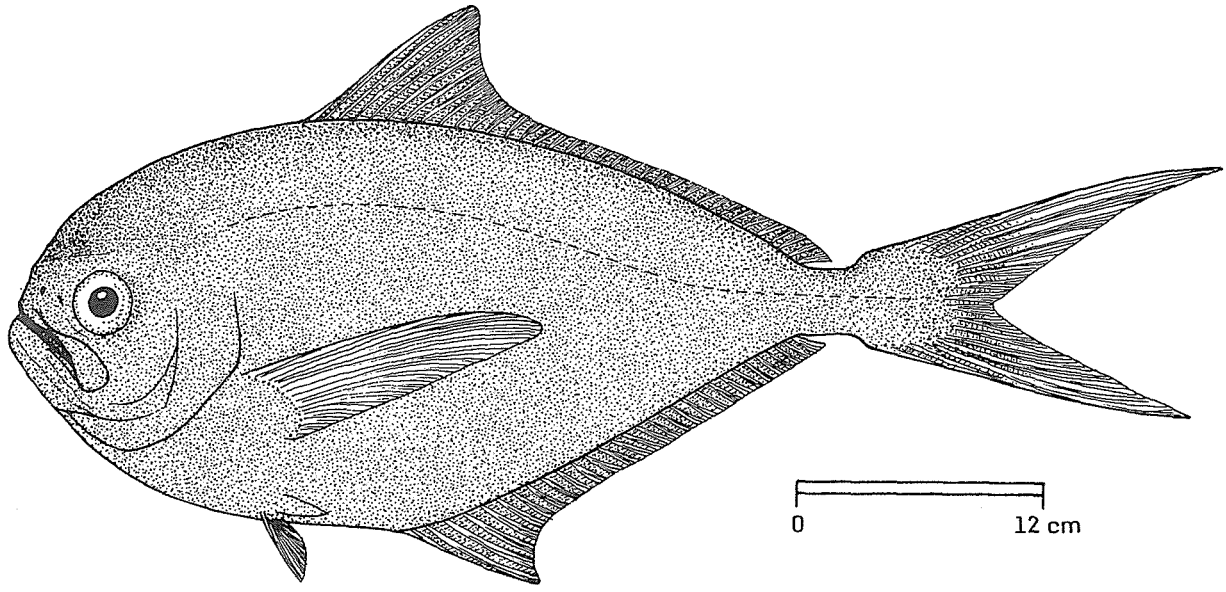
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BRAMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Brama brama (Bonnaterre, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : Brama raji Bloch & Schneider, 1801, and also all the various spellings in the literature such as raii, rayi, rajii and rayii



VERNACULAR NAMES:

FAO : En - Atlantic pomfret
Fr - Grande castagnole
Sp - Japuta

NATIONAL :

DISTINCTIVE CHARACTERS :

Body moderately deep and somewhat compressed. Lower edges of mandibles wholly touching each other at ventral midline behind symphysis, the isthmus not visible between them; gill rakers 15 to 18 in first arch. Dorsal fin with 35 to 38, and anal fin with 29 to 32 elements (spines and rays), both fins long based and moderately falcate; pectoral fins extending to beyond anal fin lobe; pelvic fins originating below posterior half of pectoral fin bases or slightly further back. Transverse grooves on caudal peduncle indistinct. Lateral line absent or scarcely visible. Scales smooth, with uneven edges, extending well onto median fins, 70 to 80 in a horizontal series, the last ones along midline of peduncle graduating in size to the smaller scales on caudal fin. Vertebrae 41 to 43; thoracic ribs normal, without greatly expanded portions.

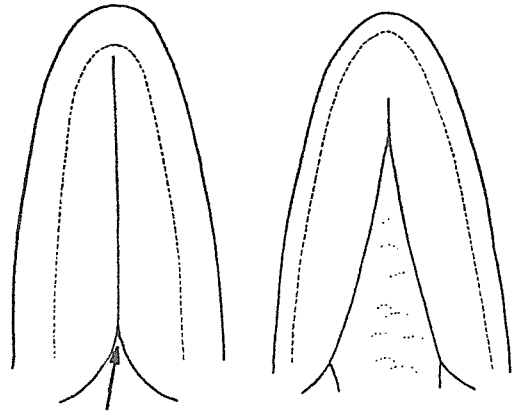
Colour: usually dark; inside of mouth dark-coloured.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Brama dussumieri (a closely related species, found mainly in oceanic waters): gill rakers on first arch 13 to 15 (15 to 18 in B. brama); dorsal fin with 33 to 35 rays (35 to 38 in B. brama); anal fin with 26 to 28 rays (29 to 32 in B. brama); anal fin usually without lobe; scales in a horizontal series 57 to 65 (70 to 80 in B. brama); size much smaller, less than 20 cm.

Taractichthys longipinnis: body more robust; lower edges of mandibles not wholly touching at ventral midline behind symphysis, the scaled portion of isthmus visible between them; gill rakers fewer, 8 to 12 on first arch; pelvic fins originating under anterior half or ahead of pectoral fin bases; 39 to 46 scales in a lateral series each bearing a central spine or keel; inside of mouth unpigmented.

Diretmus argenteus (Family Diretmidae): ventral profile of body keeled, with a row of bony scutes anterior to pelvic fin insertions; mouth very oblique, with a bony projecting knob at symphysis; dorsal fin with 26 to 29, and anal fin with 20 to 23 rays; scales armed with many spines; size small.



Brama brama Taractichthys

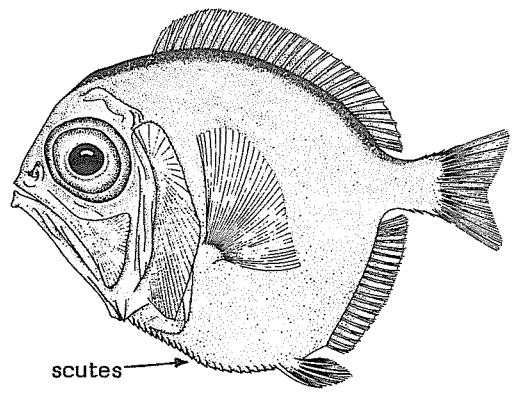
underside of head

SIZE:

Maximum: up to 70 cm; common to about 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

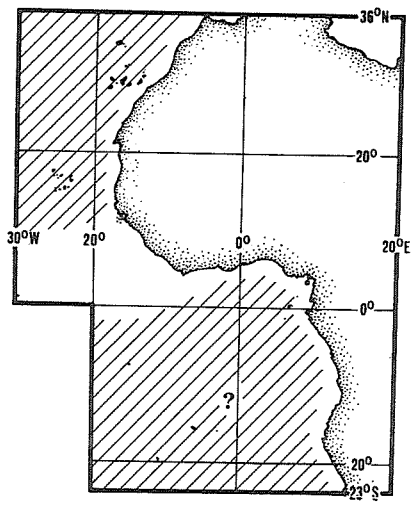
Possibly present throughout the area. This is a species of the North Atlantic also occurring in the Southern Hemisphere, usually where surface temperatures are cooler than 24°C. The southern Hemisphere distribution is very poorly known, and the accompanying distribution map is based on temperature (and thus probable occurrence) rather than actual records. Brama brama is not uncommon off the Cape of Good Hope.



Diretmus argenteus

Generally oceanic, although it may occur along the coast at times. Migratory, apparently following the seasonal isotherms; seems to travel in small schools. Depth of occurrence ranges from the surface to about 400 m, but this species is generally considered epipelagic.

Food items include pelagic amphipods, euphausiids, cephalopods, and small fishes; the commonly used bait in Spain is either Ammodytes, Sardina, or Trachurus. At times, the flesh can be heavily parasitized.



PRESENT FISHING GROUNDS:

Although there seems to be no special fishery for this species within the fishing area concerned, it is taken rather commonly in some localities, especially by offshore fleets. The largest fishery occurs around the Iberian Peninsula, the vessels follow the fish up and down the coast from La Coruna to Cadiz; catches from the Mediterranean and Canary Islands are smaller.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Fished primarily with baited floating longlines set at depths of about 100 m; also caught occasionally in pelagic and demersal trawls.

Apparently not common in local African markets, but said to be used for fishmeal and oil on offshore trawlers. Sold fresh and canned north of the area, mostly in Spain.

BRAM Tara 1

1981

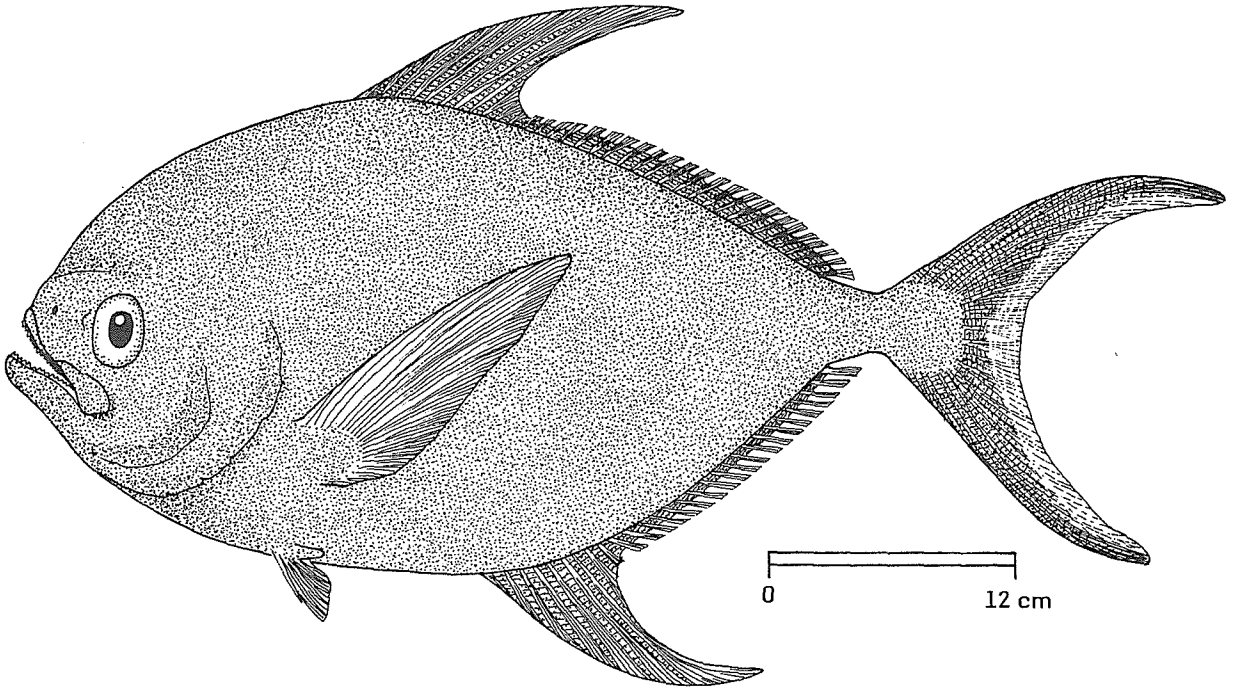
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BRAMIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Taractichthys longipinnis (Lowe, 1843)

OTHER SCIENTIFIC NAMES STILL IN USE : *Taractes longipinnis* Barnard, 1927
Taractes princeps Bigelow & Schroeder, 1929



VERNACULAR NAMES:

FAO : En - Bigscale pomfret
Fr - Castagnole fauchoir
Sp - Cangullo

NATIONAL :

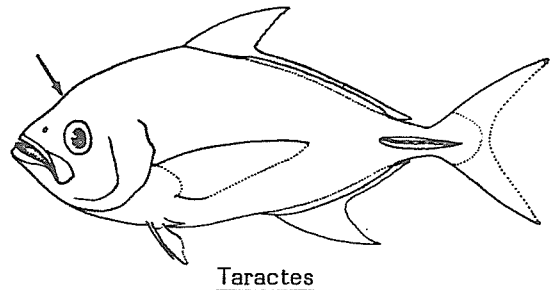
DISTINCTIVE CHARACTERS :

Body deep and robust. Lower edges of mandible not wholly touching at ventral midline, the scaled isthmus visible between them; gill rakers 8 to 12 on first arch. Dorsal fin with 33 to 38, and anal fin with 27 to 30 elements (spines and rays); both fins long-based, strongly falcate, with very long lobes; pectoral fins extending beyond anal fin lobe; pelvic fins originating under anterior half of pectoral bases or slightly further ahead; caudal peduncle with well-developed transverse grooves. Lateral line indistinct, only the anterior scales with pores; scales on body variable in shape, most armed with a prominent central spine, thus forming horizontal lines; scales on bases of median fins smooth and rather small; 39 to 46 scales in a horizontal series, the last ones on midline of caudal peduncle large and abruptly changing to the smaller scales on caudal fin. Vertebrae 44 to 47; dorsal end of thoracic ribs greatly expanded.

Colour: body uniform dark; inside of mouth unpigmented.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Taractes asper and T. rubescens (both species extremely rare in the area): head profile flat or concave; dorsal fin with 30 to 34 elements (33 to 38 in T. longipinnis); anal fin with 21 to 26 elements (27 to 30 in T. longipinnis); pectoral fin ending over anal fin lobe. Furthermore, a prominent keel present on either side of caudal peduncle in T. rubescens.

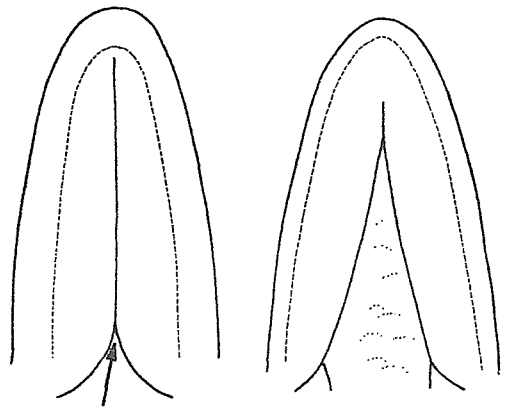


Taractes

Brama brama (usually caught in association with T. longipinnis): lower edges of mandibles wholly touching each other at ventral midline behind symphysis, isthmus not visible between them; gillrakers 15 to 18 (8 to 12 in T. longipinnis); pelvic fins originating under posterior half of pectoral fin bases or further back; scales generally smooth, 57 to 80 in a lateral series (39 to 46 in T. longipinnis); inside of mouth dark-coloured.

B. dussumieri: gill rakers on first arch 13 to 15; caudal fin usually without lobe; scales smooth, 57 to 67 in lateral series; size much smaller, usually less than 20 cm.

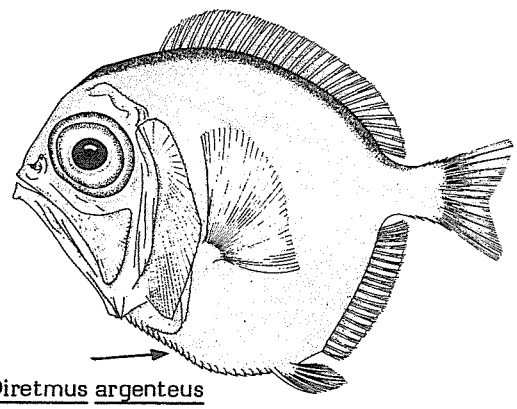
Diretmus argenteus (Family Diretmidae): ventral profile of body keeled, with a row of bony scutes anterior to pelvic fin origins; mouth very oblique, with a bony projecting knob at symphysis; dorsal fin with 26 to 29, and anal fin with 20 to 23 rays; scales armed with many spines; size small.



Brama brama — *Taractichthys longipinnis*

SIZE:

Maximum length: one of the largest pomfrets, over 100 cm.



Diretmus argenteus

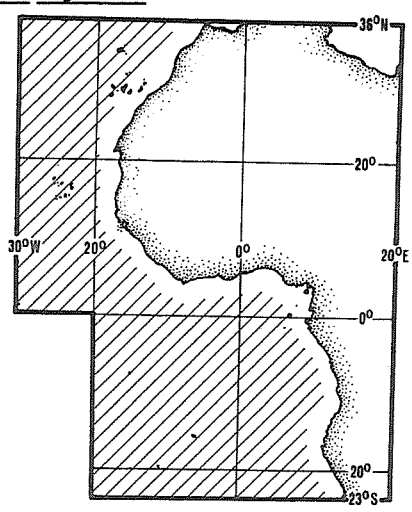
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Present throughout the area. This fish is widespread in all temperate and tropical seas, but nowhere abundant. Most records are of solitary individuals, but the unusual occurrence of a small school swimming in the surf has been noted.

It is generally oceanic and presumably epipelagic, not uncommonly taken in association with Brama brama in the fishery off Spain. Little is known of its natural history.

PRESENT FISHING GROUNDS:

It is unlikely to ever be of great commercial importance, since it is nowhere abundant enough to support a fishery; however, when captured incidentally, as in the Japanese tuna longline fishery, it is utilized.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught incidentally, mainly by longlines and trawls.

Marketed mostly fresh. The flesh is excellent.

BRAN

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

BRANCHIOSTEGIDAE

Tilefishes

A single species in the area; see species sheet for:

Branchiostegus semifasciatus (Norman, 1931) BRAN Bran 1

Prepared by J.K. Dooley, Department of Biology, Adelphi University, Garden City, Long Island, New York 11530, U.S.A.

BRAN Bran 1

1981

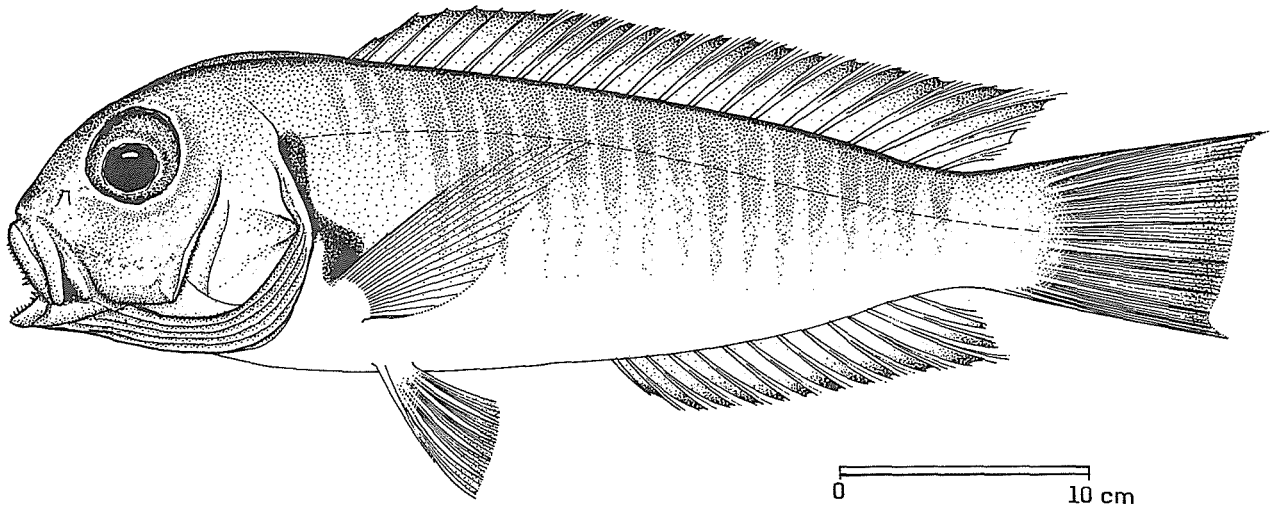
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : BRANCHIOSTEGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Branchiostegus semifasciatus (Norman, 1931)

OTHER SCIENTIFIC NAMES STILL IN USE : Latilus semifasciatus Norman, 1931



VERNACULAR NAMES:

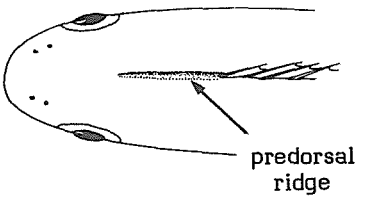
FAO : En - Zebra tilefish
Fr - Tile zèbre
Sp - Blanquillo cebra

NATIONAL :

DISTINCTIVE CHARACTERS :

Body quadriform in shape with an elevated predorsal ridge (raised seam in front of dorsal fin). Dorsal and anal fins long and continuous, the dorsal with 6 spines and 16 soft rays (rarely 15); the anal with 1 spine (rarely 2) and 13 soft rays; caudal fin truncate with tips of lateral rays slightly elongated. Pelagic prejuveniles with distinctive serrated ridges and spines on head.

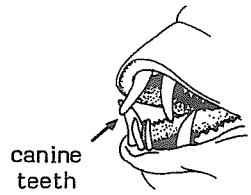
Colour: in live fish, sides yellowish golden with 16 to 20 greyish violet bars extending ventrally to a line with middle or lower position of pectoral fin base; fins pink or violet; a patch of dark pigment over pectoral fin base extending to upper edge of opercle; dark predorsal ridge.



head viewed from above

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Species of Labridae: prominent nipping canine teeth present.



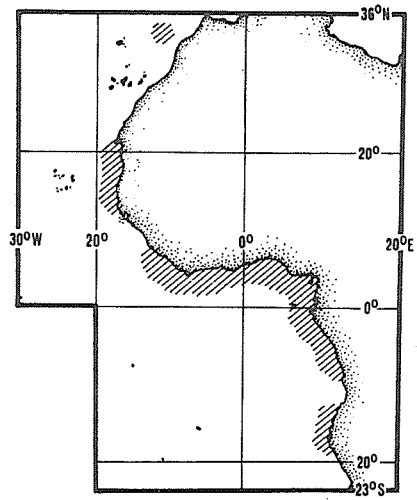
Labridae

SIZE:

Maximum: 70 cm standard length; common to 45 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known along the West African coast from Casablanca, Morocco (near 34°N), southward to Baia dos Tigres, Angola (about 16°S) near where the cold Benguela current swings westward; apparently rare north of Dakar, Senegal. Seasonally most abundant between June and October on sandy and muddy bottoms at depths between 50 and 100 m, but occasionally ranging down to 200 m. Ripe females found in September and January. Perhaps inhabits caves or crevices as do some other tilefishes.



PRESENT FISHING GROUNDS:

Offshore near the edge of the continental shelf. Apparently rather abundant in some localities; trawling surveys during September and October, off the Grand Bassam have yielded catches exceeding 25 kg per hour in 100 m depth.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught by long lines and bottom trawls; possibly also vulnerable to fish traps.

Marketed fresh and smoked, excellent quality white flesh.

CALLION

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

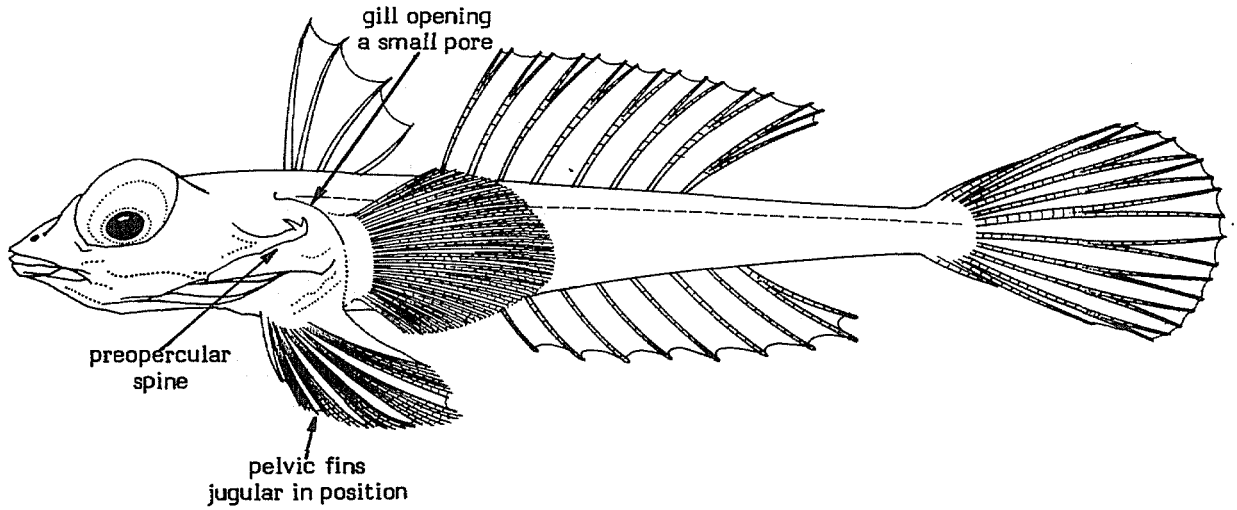
CALLIONYMIDAE*

Dragonets

Body elongate, moderately depressed. Head usually broad and depressed, the upper jaw very protrusible; usually a single row of very small, villiform teeth, restricted to the jaws; preopercle armed with a stout spine but opercle and subopercle spineless; gill opening restricted to a small dorsal or sub-lateral pore; eyes moderate to large, usually directed dorsally. Spinous and soft dorsal fins separate, consisting respectively of 3 or 4 (rarely 5) flexible spines and 8 to 10 segmented soft rays (last ray divided at base); anal fin with 8 to 10 soft rays (last ray divided at base); pelvic fins jugular in position, widely separated from each other, each with 1 spine and 5 rays. Lateral line consisting of pores. Body scaleless.

Colour: ranging from more or less uniform sand to conspicuously marked with colourful stripes and spots. Some species are sexually dichromic, mature males the most brightly coloured.

Relatively small benthic fishes (2 to 30 cm in total length) found on sandy and muddy substrates from the surf zone to depths of about 650 m. Taken as bycatch in bottom trawls, but not of commercial importance because of their small size and apparently low abundance.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Draconettidae : preopercle spineless, but one simple spine present on both opercle and subopercle; gill opening not reduced to a pore, but developed as a slit opposite pectoral fin base; soft dorsal fin rays 12 to 15 (8 to 10 in Callionymidae), anal fin rays 13 or 14 (8 to 10 in Callionymidae); lateral line consisting of a broad channel.

Other superficially similar families: none has the following combination of characters: naked body, widely separated pelvic fins, a stout preopercular spine and 3 to 5 dorsal fin spines.

* Some authors regard the Draconettidae as a subfamily within the Callionymidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Dorsal margin of lower lip with 14 to 18 fleshy fimbriae (Fig. 1); opercle with a free flap of skin; first dorsal fin with 3 short spines, the last barely discernible ..... Pogonymus

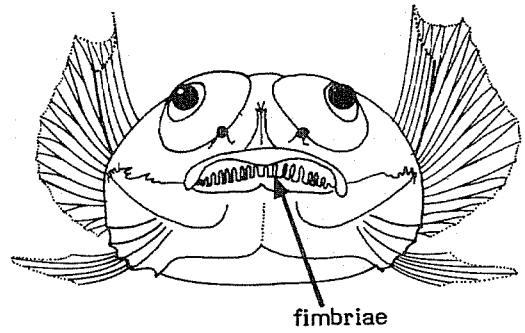
1 b. Dorsal margin of lower lip smooth; opercle without a free flap of skin; first dorsal fin with 4 (rarely 5) moderately or very long, flexible spines.

2 a. Lateral line with 31 or 32 upper and 25 or 26 lower branches; preopercular spine simple, without additional teeth on its dorsal margin (Fig. 2) ..... Paracallionymus

2 b. Lateral line unbranched; preopercular spine with 1 to 3 teeth on its dorsal margin in addition to spine tip

3 a. Membrane behind last dorsal fin spine large; rays of second dorsal fin unbranched except for the last, which is divided at base; gill opening dorsal in position; snout equal to, or longer than, eye diameter (Fig. 3) ..... Callionymus

3 b. Membrane behind last dorsal fin spine very small or absent; rays of second dorsal fin branched (in specimens longer than 3 cm total length); gill opening sublateral; snout shorter than eye diameter (Fig. 4) ..... Synchiropus



Pogonymus frontal view Fig. 1

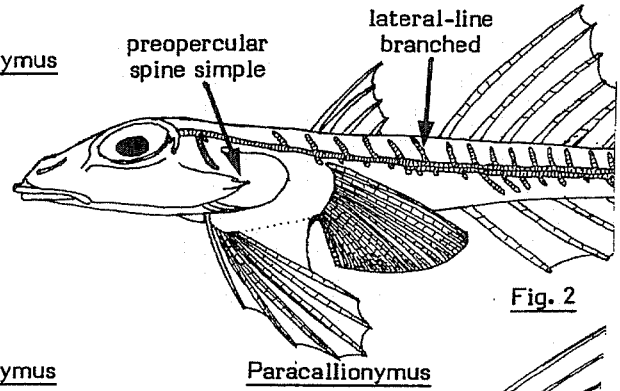
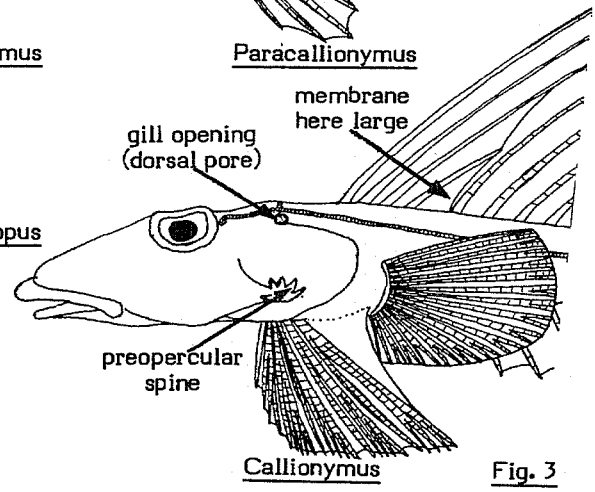
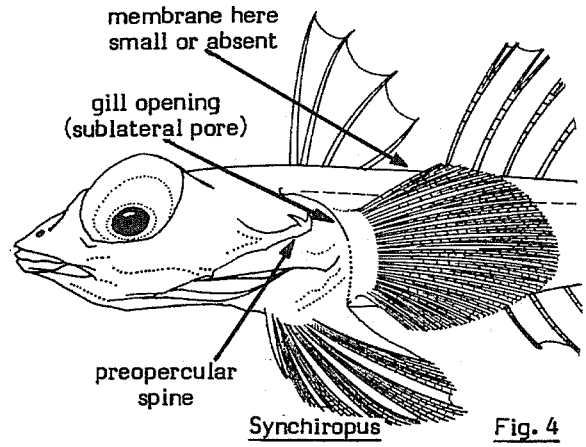


Fig. 2

Paracallionymus



Callionymus Fig. 3



Synchiropus Fig. 4

LIST OF SPECIES OCCURRING IN THE AREA:

Callionymus lyra Linnaeus, 1758
Callionymus maculatus Rafinesque-Schmaltz, 1810
Callionymus sousai Maul, 1972

Paracallionymus fowleri Poll, 1949

Pogonymus shango Davis & Robins, 1966

Synchiropus phaeton (Günther, 1861)

Prepared by R. Fricke, Braunschweig, Federal Republic of Germany and W.F. Smith-Vaniz, Department of Ichthyology, Academy of Natural Sciences, Philadelphia, Pennsylvania, U.S.A.

CARAN

1981

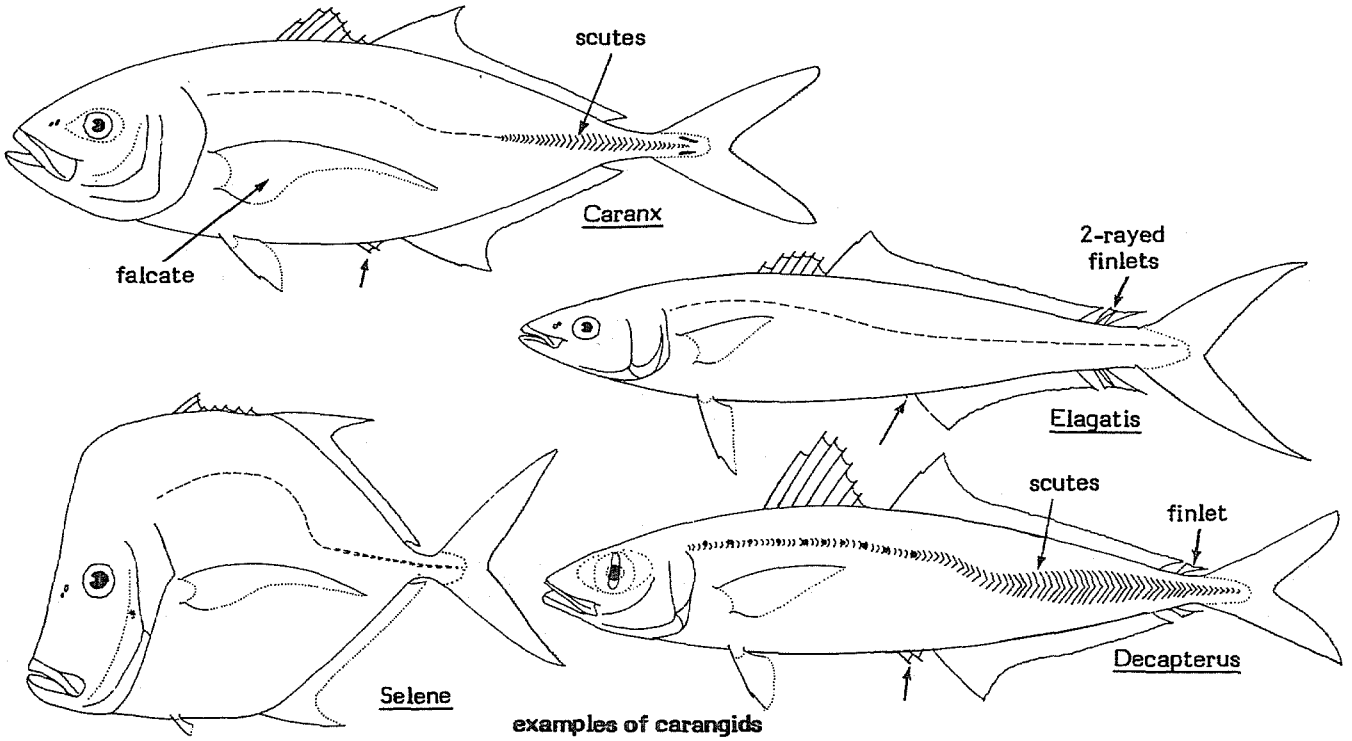
FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

CARANGIDAE

Jacks, crevalles, scads, bumpers, runners, pompanos, leerfish, vadigo, amberjacks, pilotfishes, rudderfishes, leatherjacks

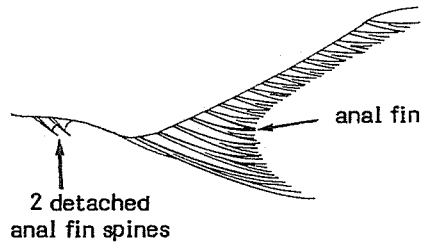
Body extremely variable in shape, ranging from elongate and fusiform to deep and strongly compressed; caudal peduncle of medium width to notably slender, in some species with a moderate lateral keel, bilateral paired keels or dorsal and ventral grooves. Head varying from moderately long and rounded to short, deep and very compressed; snout pointed to blunt; lower jaw protruding to subtended (included); eye small to large, with adipose eyelid negligible to strongly developed; teeth in jaws in rows or bands, either small to minute or an enlarged row of recurved canines present; teeth on roof of mouth (vomer, palatines) or tongue present or absent depending on species or developmental stage; gill openings large, gill membranes not united, free from isthmus; branchiostegal rays 6 to 10 (usually 7); gill rakers moderate in length and number to long and numerous, their number decreasing with growth in some species; opercular bones smooth (but with spines in larvae and small juveniles). Two dorsal fins that separate in small juveniles, the first of moderate height or very low, with 4 to 8 spines (the spines obsolete or embedded in adults of some species), the second dorsal fin with 1 spine and 18 to 37 soft rays and the anterior lobe scarcely produced to extremely long; anal fin with 2 anterior spines (but 1 spine in Elagatis) that separate from rest of fin at small sizes (becoming embedded in adults of some species) followed by 1 spine and 15 to 31 soft rays, with the anterior lobe low to elongate; pectoral fins with 1 spine and about 14 to 24 soft rays, either long and falcate or short and pointed or rounded; pelvic fins with 1 spine and 5 soft rays, moderately long in some species to becoming rudimentary in others; caudal fin forked, with the lobes equal in most species. Scales small, sometimes difficult to see, and cycloid (smooth to touch),but ctenoid (rough) in two species and strongly lanceolate on chest in Lichia, usually absent from some areas of head and usually covering whole body (but absent on certain body areas in some species) and sometimes extending onto fins; lateral line arched (curved) or elevated anteriorly and straight posteriorly, extending onto caudal fin; scutes (enlarged, thickened, and often pointed scales in lateral line) present and prominent, or reduced in some species and absent in some genera. Hyperostosis (some ribs expanded 2 to 5 times the diameter of others) present or absent. Vertebrae 10 or 11 + 14 to 17 (24 to 27 total, usually 10 + 14).



examples of carangids

Colour: darker above (green or blue to blackish) and paler below (silvery to white or yellow-golden), some species almost entirely silvery when alive, others with dark or coloured bars or stripes on head, body or fins, and some able to change patterns; the young of many species with bars or spots.

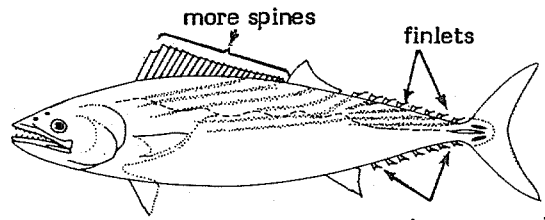
Mostly schooling species (but Alectis generally solitary); some species have largely continental distributions and occur primarily in brackish environments (especially young), others such as Elagatis and Naucrates are pelagic, usually found at or near the surface, mostly in oceanic waters, often far offshore. Caught commercially with trawls, also with purse seines, traps and on line gear. The larger species of Trachinotus, Seriola and Caranx are highly regarded as sportfish. The catch of carangids reported from Fishing Area 34 in 1977 exceeded 700 000 t, of which more than 500 000 t consisted of Trachurus species.



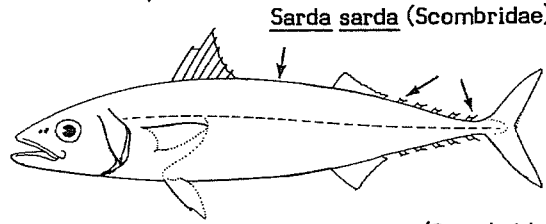
SIMILAR FAMILIES OCCURRING IN THE AREA:

Distinguished from all similar families in having the first 2 anal fin spines detached from rest of fin (caution: these spines sometimes are partially or completely embedded in large carangids, especially Seriola). The presence of enlarged, thickened scutes in the straight part of lateral line in some genera easily distinguishes them from other families. Additional distinguishing characters of similar families (especially to those carangid genera lacking scutes on the lateral line), are the following:

Scombridae: posterior rays of dorsal and anal fins forming a series of free finlets (at most only a terminal double-rayed finlet in carangids occurring in Fishing Area 34); dorsal-fin spines 9 to 27 (4 to 9 in Carangidae); also, dorsal fins widely separated in Auxis and Scomber species.

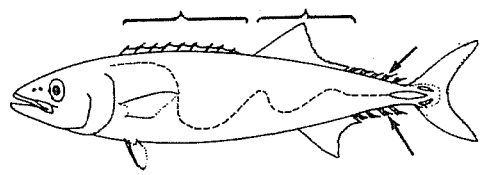


Sarda sarda (Scombridae)

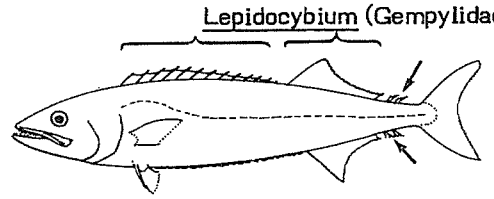


Scomber japonicus (Scombridae)

Gempylidae (especially Lepidocybium and Ruvettus species); base of first dorsal fin longer than that of second excluding finlets (shorter than second in Carangidae); a series of dorsal and anal finlets present in Lepidocybium and Ruvettus.

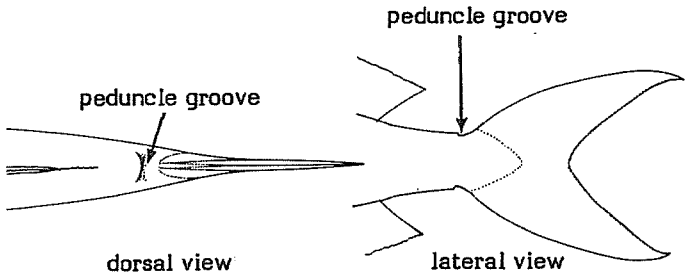


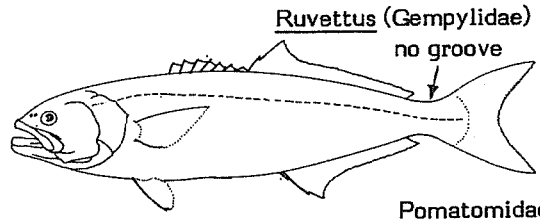
Lepidocybium (Gempylidae)



Ruvettus (Gempylidae)

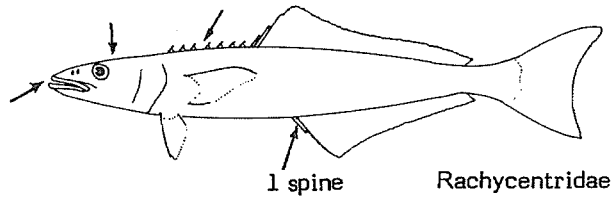
Pomatomidae: both jaws with a series of strong compressed teeth (teeth similar in Campogramma which differs in having naked cheeks); no grooves on caudal peduncle (present in Seriola which is superficially similar).





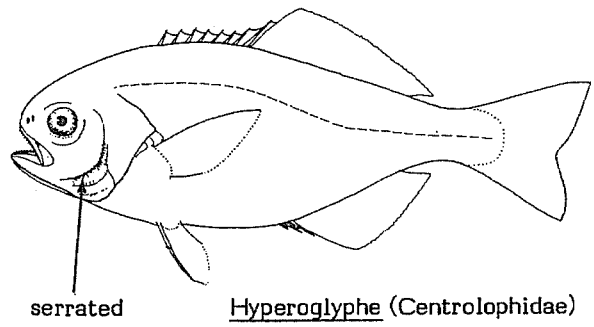
Pomatomidae

Rachycentridae: head broad and depressed, lower jaw projecting; body more slender; first dorsal fin with 8 or 9 short, free spines, each depressible in a groove; a single weak spine in anal fin.



Rachycentridae

Centrolophidae, particularly the genus Hyperoglyphe: 3 anal fin spines not detached from fin; margin or preopercle usually moderately denticulate (smooth in Carangidae); jaw teeth all conical, simple caudal fin not deeply forked.



Hyperoglyphe (Centrolophidae)

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Posterior straight part of lateral line with enlarged hardened scutes; pectoral fins long and falcate, in most genera longer than head (Figs. 1 to 4) (but about equal to head length in Selar and Trachurus, and shorter than head length in all Decapterus except D. rhonchus where they are equal to head)

2 a. Body relatively deep, maximum body depth 28 to 65 percent of fork length; in adults, pectoral fins relatively long and falcate, longer than head length (Figs. 2,3)

3 a. Body superficially naked, the scales minute and embedded where present

4 a. Pelvic fins relatively long, longer than upper jaw; in smaller fish, anterior soft rays of dorsal and anal fins filamentous (Fig. 2) ..... Alectis

4 b. Pelvic fins short, about one fourth to one third of the length of upper jaw; anterior soft rays of dorsal and anal fins never filamentous (Fig. 3) ..... Selene

3 b. Small scales present over most or all of body

5 a. Dorsal fin spines long, longest spine longer than lobe of soft dorsal fin (Fig. 4a) ..... Pseudocaranx

5 b. Dorsal fin spines shorter than lobe of soft dorsal fin (Fig.4b)

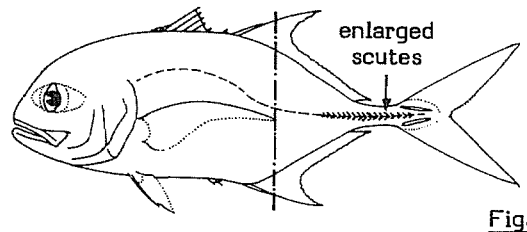


Fig. 1

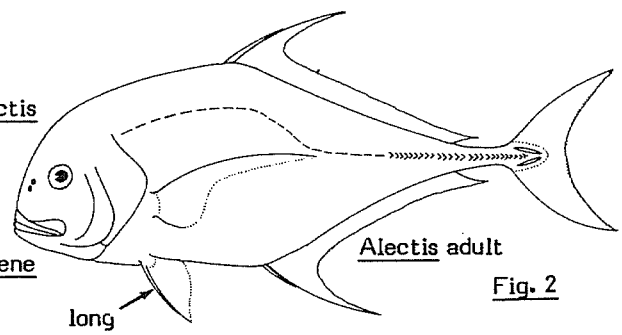
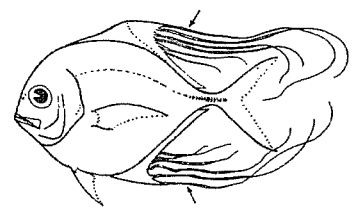


Fig. 2



Alectis young

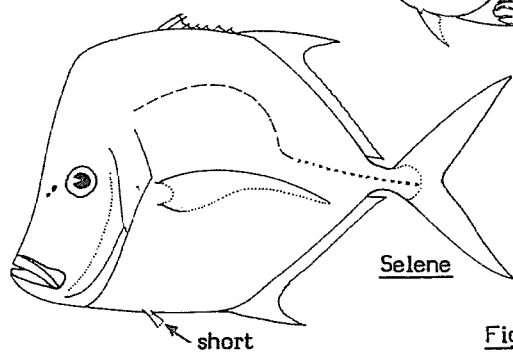
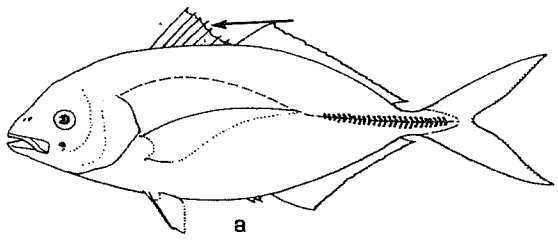


Fig. 3



Pseudocaranx Fig. 4

6 a. Tongue, roof and floor of mouth white, the rest dark (Fig. 5); anal fin spines reduced or reabsorbed ..... Uraspis

6 b. Lining of mouth not distinctly white and dark; anal fin spines normal and movable

7 a. Scutes in straight lateral line relatively small (maximum height about half pupil diameter) and few in number, 5 to 15; upper caudal fin lobe longer than lower lobe (Fig. 6a) ..... Chloroscombrus

7 b. Scutes in straight lateral line larger (maximum height at least equal to pupil diameter) and more numerous, 25 to 56; both caudal fin lobes about equal in length (Fig. 6b)

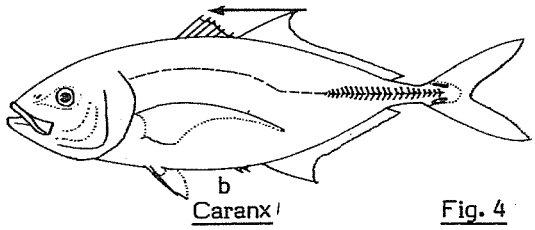
8 a. upper jaw with an outer row of moderate to strong subequal canines and an inner band of finer teeth; paired caudal keels present (Figs. 4b,6b); vomerine teeth present ..... Caranx

8 b. Upper jaw with a single row of minute teeth; no caudal keels present; no vomerine teeth ..... Hemicaranx

2 b. Body elongate, maximum body depth only 20 to 26 percent of fork length; pectoral fins relatively short, equal to or shorter than head length (Figs. 7,10)

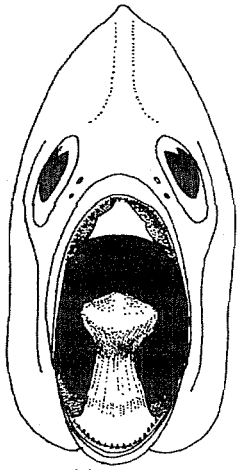
9 a. Pored scales in curved lateral line scute-like, expanded dorsoventrally (Fig. 7), (caution: in large fish may be obscured by over-growth of smaller scales); dorsal accessory lateral line normally extends posteriorly at least to below first dorsal fin spine, usually much farther posteriorly (Fig. 8a) ..... Trachurus

9 b. No enlarged scute-like scales in curved lateral line (Fig. 10); dorsal accessory lateral line terminating near end of head (Fig. 8b) or beneath origin of dorsal fin



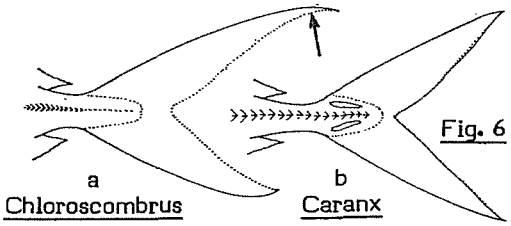
b
Caranx

Fig. 4



Uraspis

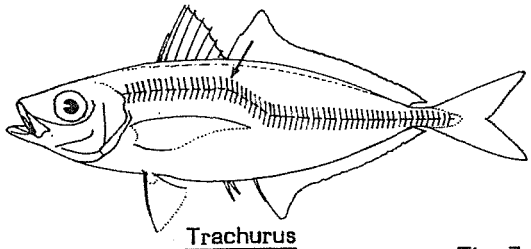
Fig. 5



a
Chloroscombrus

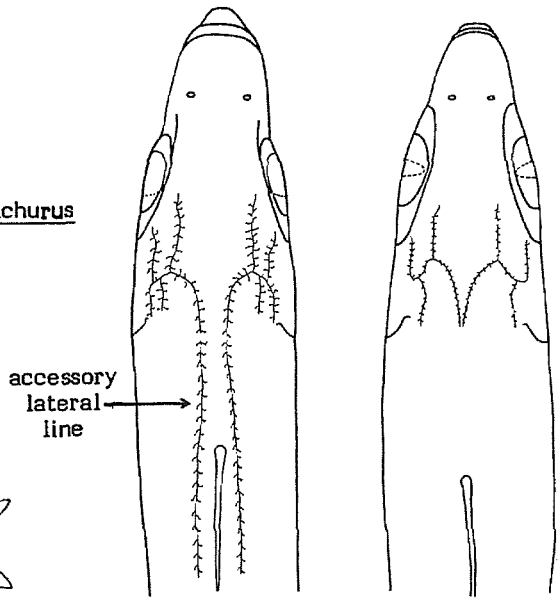
b
Caranx

Fig. 6



Trachurus

Fig. 7



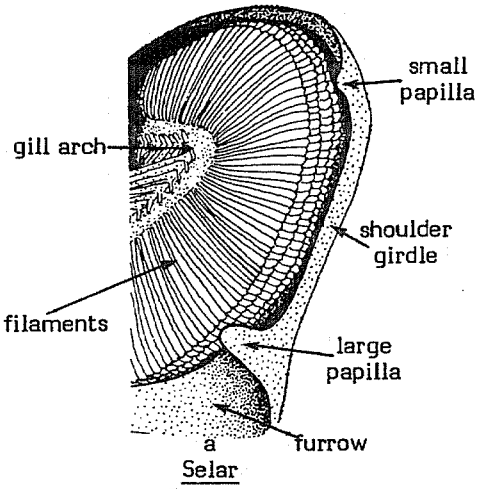
a
Trachurus

b
Decapterus

head viewed from above Fig. 8

10 a. Terminal ray of dorsal and anal fins closely positioned to adjacent ray and completely attached by interradial membrane; shoulder girdle (cleithrum) margin with a deep furrow, a large papilla immediately above it and a smaller papilla near upper edge (Fig. 9a) ..... Selar

10 b. Terminal ray of dorsal and anal fins noticeably separated from adjacent ray, and with interradial membrane absent (Fig. 10) or only basally attached; shoulder girdle margin either with 2 slight papillae and a shallow groove above and below the pair, the lower groove and papilla the larger (Fig. 9b) or margin smooth (Fig. 9c) ..... Decapterus



a Selar

1 b. No scutes in lateral line (only pored scales, not enlarged); pectoral fins relatively short, always shorter than head (ca. 50 to 90 percent of head length, Figs. 12 to 14)

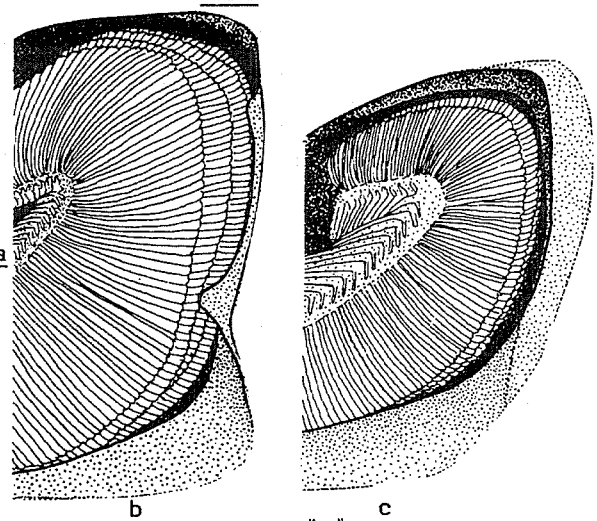
11 a. A single row of large caniniform teeth in both jaws, separated from one another by a distance greater than their length; chest partially naked ..... Campogramma

11 b. Teeth in both jaws, if present, minute and closely set in a dense band; chest completely scaled

12 a. Caudal peduncle grooves present, dorsally and ventrally (Fig. 11); bases of soft dorsal and anal fins unequal in length, anal fin base shorter and only about 45 to 70 percent of dorsal fin base length (Figs. 12 to 14)

13 a. Terminal two-rayed finlet present in dorsal and anal fins (Fig. 13) ..... Elagatis

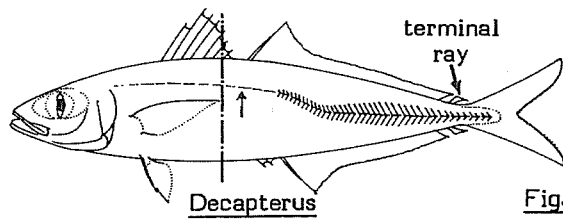
13 b. No finlets in dorsal and anal fins



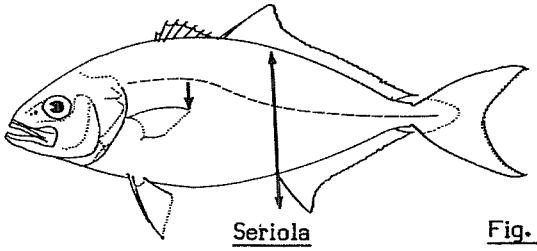
b Decapterus sp. c "D." rhonchus

gill chamber exposed after removal of gill cover

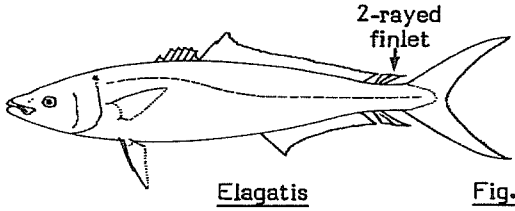
Fig. 9



Decapterus Fig. 10



Seriola Fig. 12



Elagatis Fig. 13

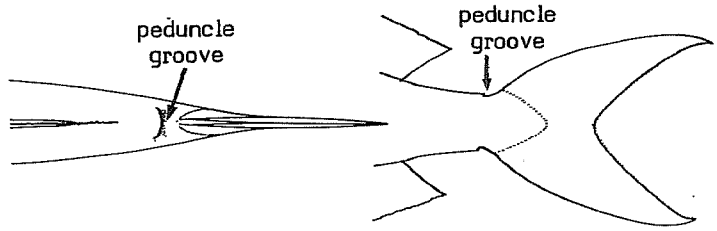
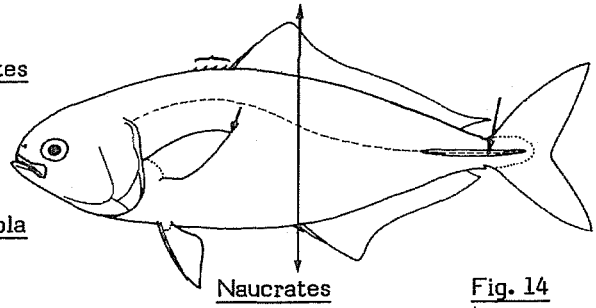


Fig. 11

14 a. First dorsal fin spines 4 or 5; soft rays in anal fin 15 to 17; a well-developed cutaneous keel laterally on caudal peduncle (Fig. 14) ..... Naucrates

14 b. First dorsal fin spines 7 or 8 (anterior spines may become completely embedded in large specimens); soft rays in anal fin 18 to 22; cutaneous keel on caudal peduncle absent or only slightly developed (Fig. 12) ..... Seriola

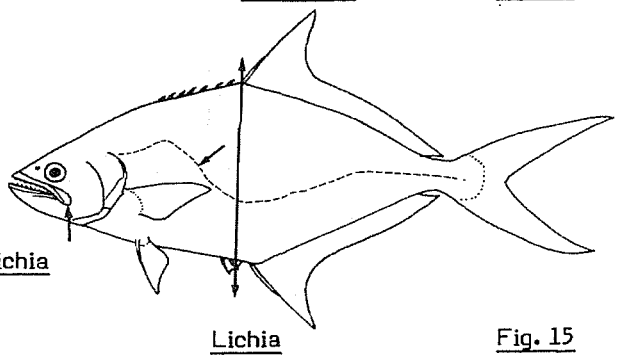


Naucrates Fig. 14

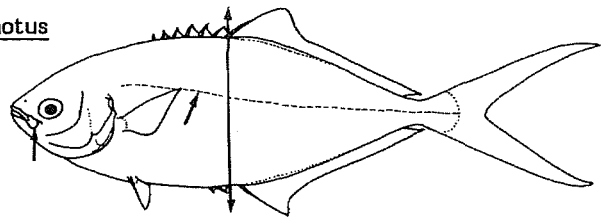
12 b. No caudal peduncle grooves; base of soft anal fin as long as, or only slightly shorter than base of soft dorsal fin (Figs 15,16)

15 a. Lateral line very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin (Fig. 15); teeth in both jaws in a broad band anteriorly and becoming narrower posteriorly; upper jaw extending beyond posterior margin of eye (Fig. 15) small supramaxilla present ..... Lichia

15 b. Lateral line only slightly irregular, weakly to moderately convex above pectoral fin, becoming straight posteriorly (Fig. 16); teeth, if present, in a narrow band in both jaws; upper jaw not extending to posterior margin of eye (Fig. 16); supramaxilla absent ..... Trachinotus



Lichia Fig. 15



Trachinotus Fig. 16

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are included

Alectis alexandrinus (Geoffroy Saint-Hilaire, 1817)	CARAN Alec 3
Alectis ciliaris (Bloch, 1788)	CARAN Alec 2
Campogramma glaycos (Lacepède, 1801)	CARAN Camp 1
Caranx crysos (Mitchill, 1815)	CARAN Caranx 6
Caranx hippos (Linnaeus, 1766)	CARAN Caranx 7
Caranx latus Agassiz, 1831	CARAN Caranx 8
Caranx lugubris Poey, 1860	CARAN Caranx 9
Caranx senegallus Cuvier, 1833	CARAN Caranx 11
Chloroscombrus chrysurus (Linnaeus, 1776)	CARAN Chlo 1

Decapterus sp.*	CARAN Deca 8
Decapterus macarellus (Cuvier, 1833)	CARAN Deca 3
Decapterus punctatus (Cuvier, 1829)	CARAN Deca 4
"Decapterus" rhonchus (Geoffroy Saint-Hilaire, 1817)**	CARAN Deca 6
Decapterus tabl (Berry, 1968)	CARAN Deca 5
Elagatis bipinnulata (Quoy & Gaimard, 1824)	CARAN Elag 1
Hemicaranx bicolor (Günther, 1860)	CARAN Hemi 2
Lichia amia (Linnaeus, 1758)	CARAN Lich 1
Naucrates ductor (Linnaeus, 1758)	CARAN Nauc 1
Pseudocaranx dentex (Bloch & Schneider, 1801)	CARAN Pseu 1
Selar boops (Cuvier, 1833)	CARAN Selar 1
Selar crumenophthalmus (Bloch, 1793)	CARAN Selar 2
Selene dorsalis (Gill, 1862)	CARAN Sele 4
Seriola carpenteri Mather, 1971	CARAN Serio 5
Seriola dumerili (Risso, 1810)	CARAN Serio 1
Seriola fasciata (Bloch, 1793)	CARAN Serio 2
Seriola lalandi Valenciennes, 1833	CARAN Serio 6
Seriola rivoliana Cuvier, 1833	CARAN Serio 3
Trachinotus goreensis Cuvier, 1832	CARAN Trachin 6
Trachinotus maxillosus Cuvier, 1832	CARAN Trachin 7
Trachinotus ovatus (Linnaeus, 1758)	CARAN Trachin 1
Trachinotus teraia Cuvier, 1832	CARAN Trachin 8
Trachurus capensis Castelnau, 1861***	CARAN Trachur 4
Trachurus mediterraneus (Steindachner, 1863)	CARAN Trachur 2
Trachurus picturatus (Bowdich, 1825)	CARAN Trachur 5
Trachurus trachurus (Linnaeus, 1758)	CARAN Trachur 1
Trachurus trecae Cadenat, 1949	CARAN Trachur 6
Uraspis helvola (Forster, 1801)	
Uraspis secunda (Poey, 1860)	CARAN Uras 1

Prepared by W.F. Smith-Vaniz, the Academy of Natural Sciences, Philadelphia, Pennsylvania 19103, U.S.A and F.H. Berry, NMFS Southeast Fisheries Center, Miami, Florida 33149, U.S.A.

*This Decapterus species is undescribed

**"Decapterus" rhonchus, originally described as a species of Caranx, is here assigned to Decapterus for convenience but probably should be put in a separate monotypic genus

***Probably only a subspecies of Trachurus trachurus as suggested by Nekrassov (1978, J. Ichthyol.)

CARAN Alec 2

1981

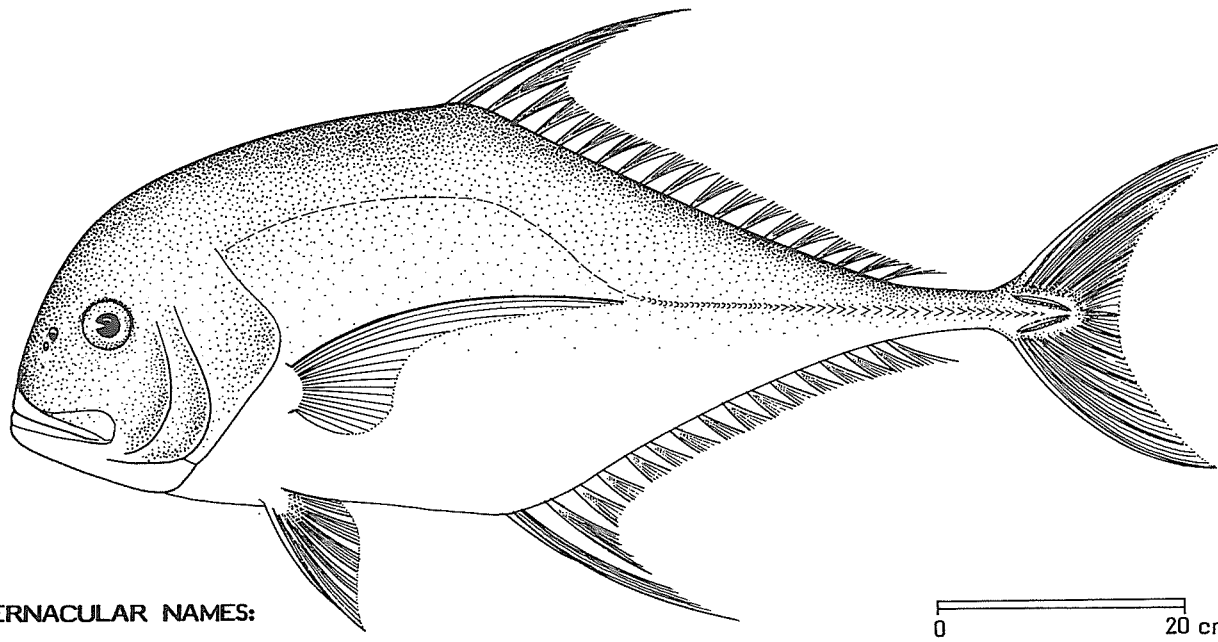
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Alectis ciliaris (Bloch, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : Alectis crinitus (Mitchill, 1826)
Blepharis crinitus (Mitchill, 1826)



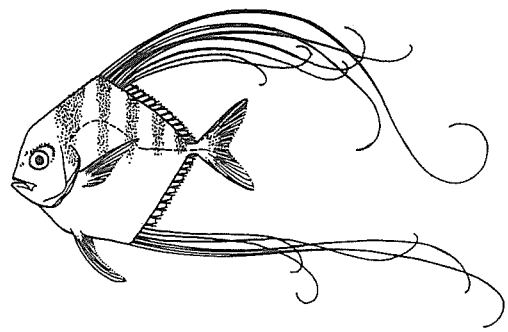
VERNACULAR NAMES:

FAO : En - African pompano
Fr - Cordonnier fil
Sp - Pámpano de hebra

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep, becoming more elongate with growth (its depth contained about 2 to 2.8 times in fork length), and very compressed. Snout bluntly pointed; eye moderately large (its diameter contained 4 to 4.7 times in head length), with a weak adipose eyelid; gill rakers 4 to 6 upper, 13 to 17 lower on first gill arch; mouth large; end of upper jaw extending to under anterior part of eye; teeth in jaws in bands. Dorsal fin with 7 spines (reabsorbing and not apparent at about 17 cm fork length) followed by 1 spine and 18 or 19 soft rays; anal fin with 2 spines (reabsorbing and not apparent with growth) followed by 1 spine and 15 to 17 soft rays; dorsal and anal fin lobes extremely long and filamentous in young, reabsorbing and less elongate (dorsal lobe about 5 or more times in fork length at 80 cm fork length); pectoral fins falcate, longer than head; pelvic fins elongate in young. Scales very small and cycloid (smooth to touch), difficult to see, parts of head and body scaleless; lateral line with a strong and moderately long anterior arch, its posterior (straight) part with 12 to 30 scutes; bilateral paired caudal keels present. Vertebrae 10 + 14; no hyperostosis.



young of 13 cm
standard length

Colour: mostly silvery with a light metallic bluish tinge on upper third of body and head; juveniles with 5 chevron-shaped dark bars on body.

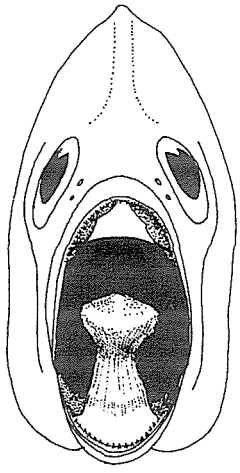
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Alectis alexandrinus: more gill rakers (25 to 28) on lower limb of first gill arch (13 to 17 in A. ciliaris) and more soft rays (20 to 22) in dorsal fin (18 to 19 in A. ciliaris).

All other carangid species with scutes on straight part of lateral line: anterior dorsal fin spines retained in adults; dorsal and anal fin lobes not extremely long and filamentous in young; anterior 2 anal fin spines retained in adults of all other genera except Selene and Uraspis. Additional distinguishing characters of these latter 2 genera are the following:

Selene dorsalis: pelvic fins becoming rudimentary in adults.

Uraspis species: tongue, roof and floor or mouth white, the rest dark; some of the lateral line scutes usually recurved forward; small scales present over most or all of body.



Uraspis

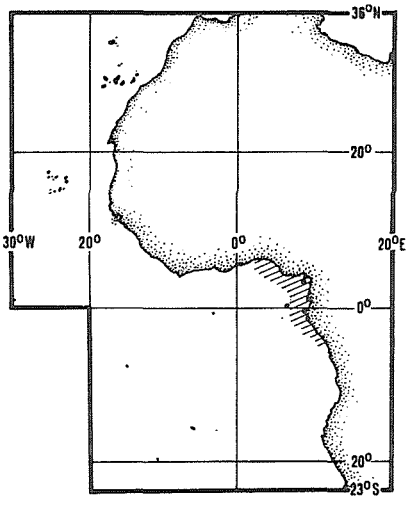
SIZE:

Maximum: reliable data not available; possibly grows to 130 or 150 cm total length; common to 99 cm fork length; a specimen of 84.5 cm fork length weighed 7.9 kg; one of 109 cm fork length, 16.5 kg.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Eastern Atlantic distribution not well established, definitely known from the Gulf of Guinea to Congo. Circumtropical in marine waters.

Generally solitary. The young are usually pelagic and drifting; adults generally near the bottom (to depths of at least 60 m) and strong swimmers.



PRESENT FISHING GROUNDS:

Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom and pelagic trawls, boat seines and on line.

Utilized fresh, dried salted, smoked and for fishmeal.

CARAN *Alec 3*

1981

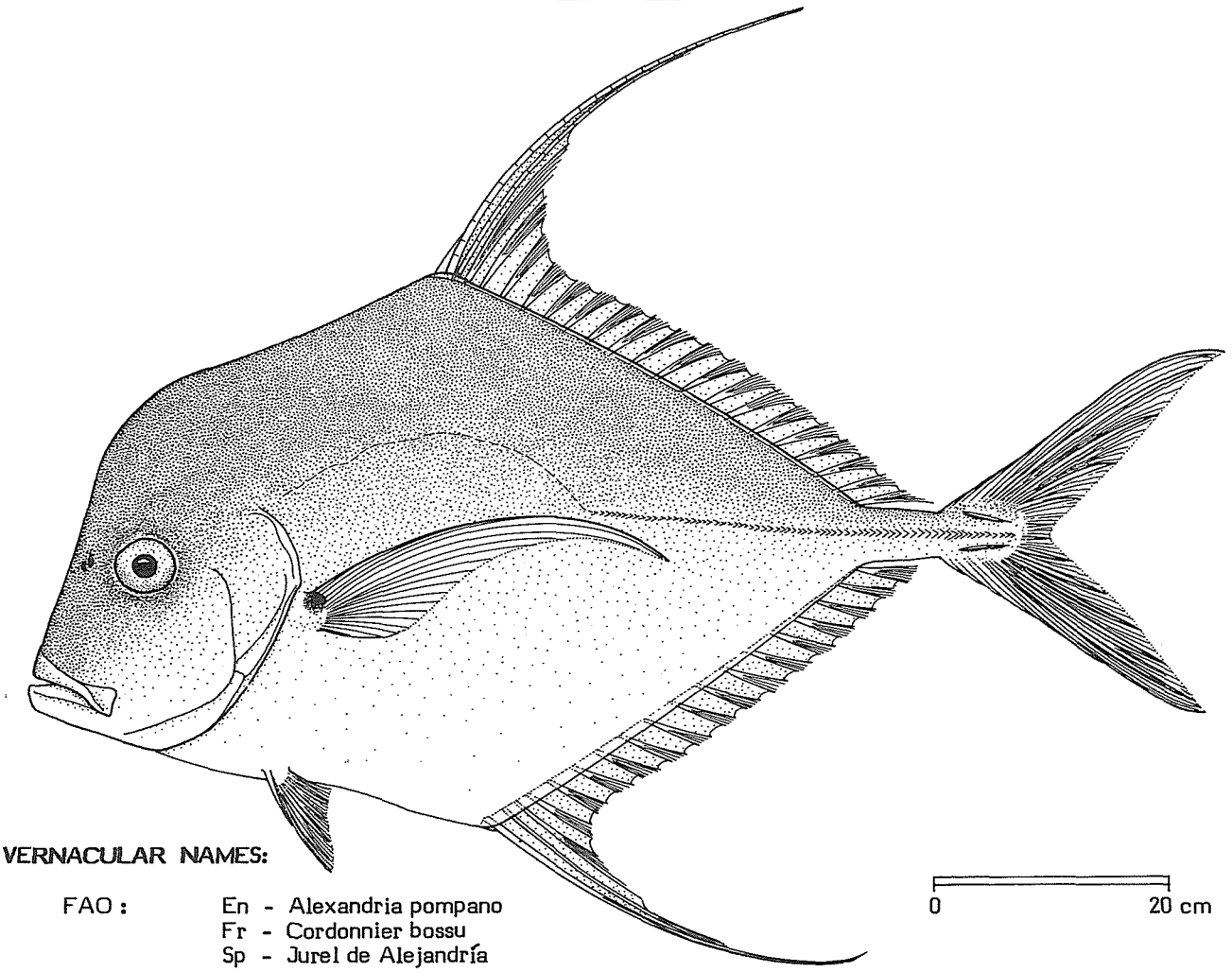
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Alectis alexandrinus (Geoffroy Saint-Hilaire, 1817)

OTHER SCIENTIFIC NAMES STILL IN USE : Scyris alexandrinus (Geoffroy Saint-Hilaire, 1817)
Hynnis goreensis Cuvier, 1833



0 20 cm

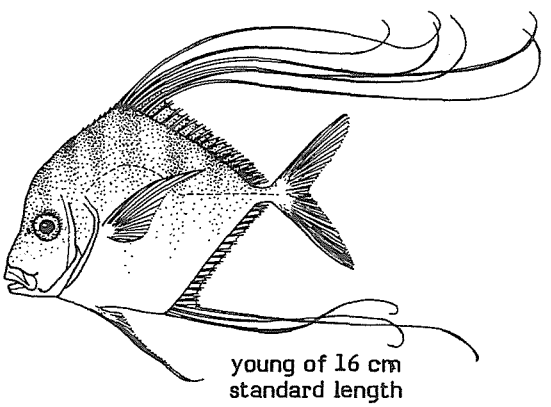
VERNACULAR NAMES:

FAO : En - Alexandria pompano
Fr - Cordonnier bossu
Sp - Jurel de Alejandría

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep, becoming more elongate with growth (its depth contained about 1.3 to 1.8 times in fork length), and very compressed. Snout bluntly pointed; eye moderately large (its diameter contained 3.4 times in head length), with a weak adipose eyelid; gill rakers 7 to 11 upper, 25 to 28 lower on first gill arch; mouth large; end of upper jaw extending to under anterior part of eye; teeth in jaws in bands. Dorsal fin with 7 spines (reabsorbing and not apparent by about 15 cm fork length) followed by 1 spine and 20 to 22 soft rays; anal fin with 2 spines (reabsorbing and not apparent with growth) followed by 1 spine and 18 to 20 soft rays;



young of 16 cm
standard length

dorsal and anal fin lobes extremely long and filamentous in young, reabsorbing and less elongate in adults (dorsal lobe about 1.3 times in fork length at 80 cm fork length); pectoral fins falcate, longer than head; pelvic fins elongate in young. Scales very small and cycloid (smooth to touch), difficult to see, parts of head and body scaleless; lateral line with a strong and moderately long anterior arch, its posterior (straight) part with 4 to 20 scutes; bilateral paired caudal keels present. Vertebrae 10 + 16; hyperostosis present in enlarged predorsal interneurals.

Colour: mostly silvery with a light metallic bluish tinge on upper third of body and head; juveniles with 5 chevron-shaped bars on body.

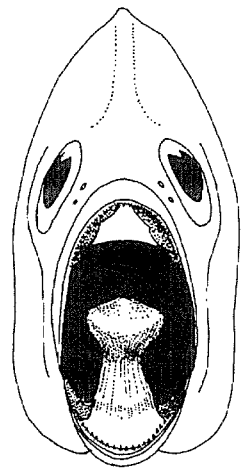
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Alectis ciliaris: fewer gill rakers (13 to 17) on lower limb of first gill arch (25 to 28 in A. alexandrinus) and fewer soft rays (18 or 19) in dorsal fin (20 to 22 in A. alexandrinus).

All other carangid species with scutes on straight part of lateral line: anterior dorsal fin spines retained in adults; dorsal and anal fin lobes not extremely long and filamentous in young; anterior 2 anal fin spines retained in adults of all other genera except Selene and Uraspis. Additional distinguishing characters of these latter 2 genera are the following:

Selene dorsalis: pelvic fins becoming rudimentary in adults.

Uraspis species: tongue, roof and floor of mouth white, the rest dark; some of the lateral line scutes usually recurved forward; small scales present over most or all of body.



Uraspis

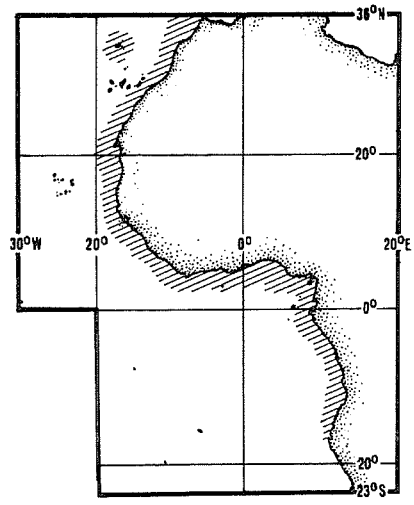
SIZE:

Maximum: unknown, reported to attain at least 70 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Morocco to southern Angola; warmer areas of Mediterranean, Israel, Syria, Malta, southern Spain, Morocco.

Generally solitary. The young are usually pelagic and drifting; adults generally near the bottom (to depths of at least 50 m) and strong swimmers.



PRESENT FISHING GROUNDS:

Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom and pelagic trawls, boat seines and on line.

Utilized fresh, dried salted, smoked and for fishmeal.

CARAN Camp 1

1981

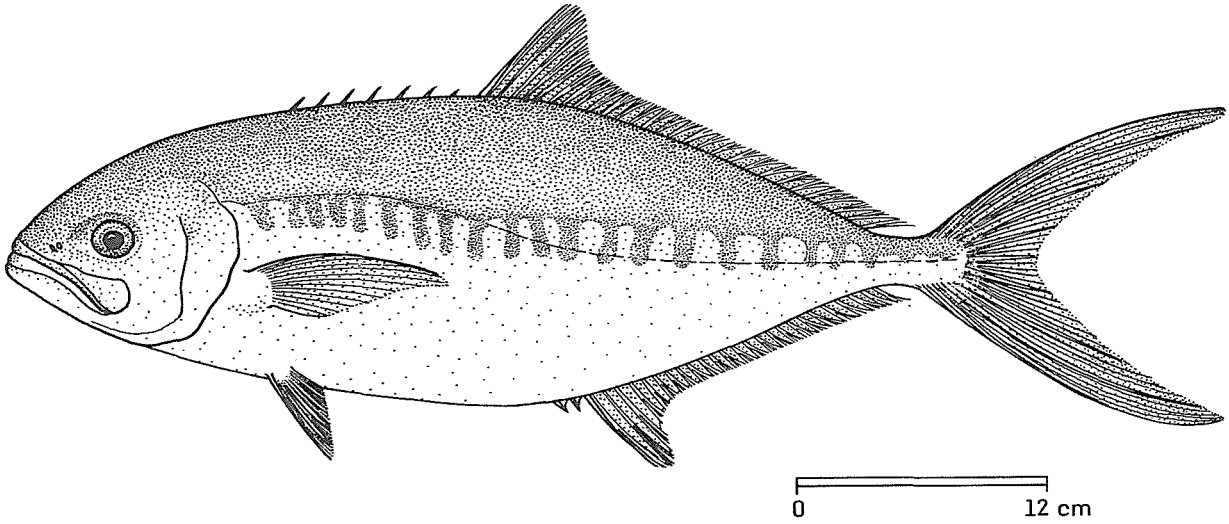
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Campogramma glaycos (Lacepède, 1801)

OTHER SCIENTIFIC NAMES STILL IN USE : Campogramma lirio Dollfus, 1955
Campogramma vadigo (Risso, 1810)
Solagmedens africana (Delsman, 1941)



VERNACULAR NAMES:

FAO : En - Vadigo
Fr - Liche lirio
Sp - Lirio

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately deep (its depth contained 3.3 to 4.2 times in fork length) and slightly compressed, with upper profile slightly more convex than lower; eye moderately small, its diameter contained 4.2 to 6.0 times in head length; upper jaw broad and rounded at end, extending to below posterior margin of eye or beyond; a single row of large, widely spaced canines in each jaw, with a series of smaller teeth anteriorly in upper jaw; gill rakers (including rudiments) 4 to 6 upper, 9 to 12 lower on first gill arch. Dorsal fin with 6 or 7 (typically 7) spines, followed by 1 spine and 26 to 28 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 23 to 25 soft rays; anal fin base long, contained 1.1 to 1.3 times in second dorsal fin base; pectoral fins short, contained 1.2 to 1.5 times in head length. Scales small and cycloid (smooth); chest naked, except for a small patch of scales immediately in front of pelvic fins; no scutes. Vertebrae 10 + 14. No caudal peduncle grooves.

Colour: in fresh adults, greenish-grey dorsally, extending on sides to lateral line in a series of prominent zig-zag lobes; *ventrally white with a rose tint on flanks; fins greyish.*

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other species of Carangidae without lateral line scutes: teeth in both jaws absent or small and arranged in narrow to wide bands (a single row of large widely-spaced canines in Campogramma) and chest completely scaled (chest naked except for a small prepelvic patch of scales in Campogramma).

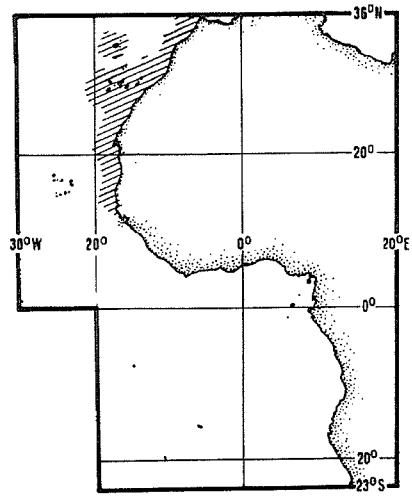
Other species of Carangidae: straight part of lateral-line with obvious scutes and/or pectoral fin distinctly longer than head.

SIZE:

Maximum: unknown, attains at least 60 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Morocco to Senegal including Madeira and the Canary Islands; northward extending to the Mediterranean (common) and the Bay of Biscay.



Adults are pelagic or epibenthic, mostly in shallow waters (15 to 30 m).

Feeds primarily on schooling fishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with bottom and pelagic trawls.

Utilized fresh, frozen, dried salted, and for fish-meal and oil.

CARAN Caranx 6

1981

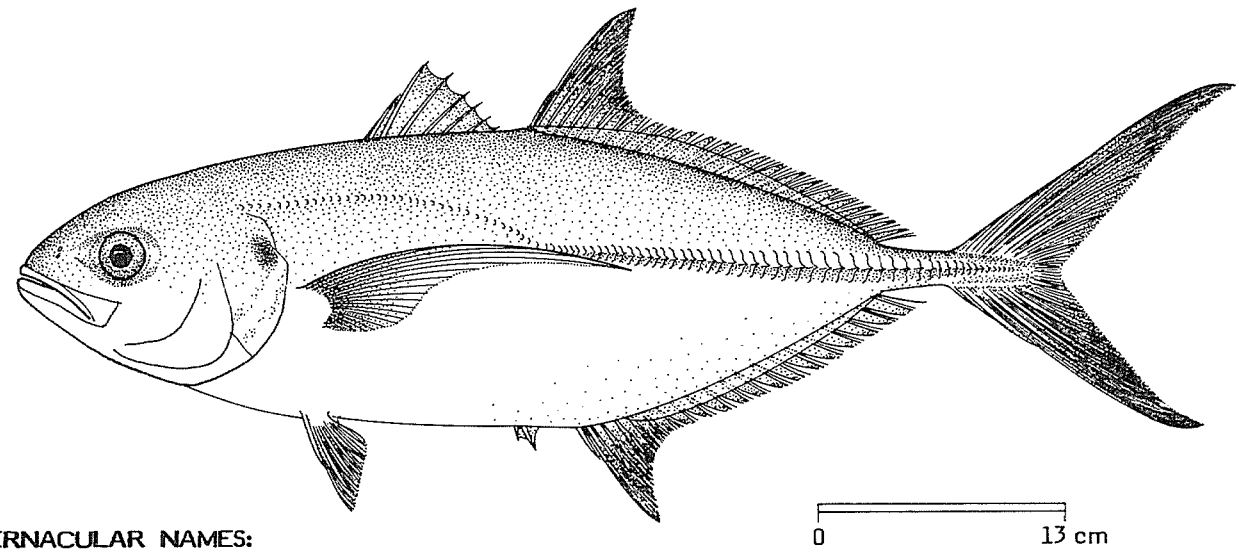
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Caranx crysos (Mitchill, 1815)

OTHER SCIENTIFIC NAMES STILL IN USE : Caranx fusus Geoffroy Saint-Hilaire, 1817



VERNACULAR NAMES:

FAO : En - Blue runner
Fr - Carangue coubali
Sp - Cojinua negra

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately deep (its depth contained about 3.2 to 3.5 times in fork length), and moderately compressed. Snout slightly pointed; eye medium-sized (its diameter contained about 4 or 5 times in head length) with a moderate adipose eyelid; gill rakers 10 to 14 upper, 25 to 28 lower on first gill arch; end of upper jaw extending to under mid-eye; upper jaw with an irregular series of moderate canines flanked by an inner band; teeth in lower jaw in a single band. Dorsal fin with 8 spines followed by 1 spine and 22 to 25 soft rays; anal fin with 2 spines followed by 1 spine and 19 to 21 soft rays; dorsal and anal fin lobes slightly elongate, dorsal lobe shorter than head length, contained about 6.4 to 7.6 times in fork length; pectoral fins falcate, longer than head. Scales small and cycloid (smooth to touch); chest completely scaled; lateral line with a strong and short anterior arch, its posterior (straight) portion with 46 to 56 scutes; bilateral paired caudal keels present. Vertebrae 10 + 15; no hyperostosis.

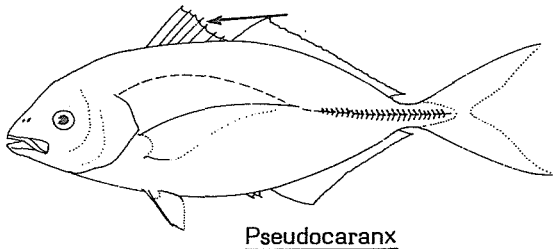
Colour: body light olive to dark bluish green above, silvery grey to golden below; juveniles with about 7 dark body bars.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Caranx latus and C. lugubris: gill rakers on lower limb of first gill arch 16 to 21 (25 to 28 in C. crysos) and lateral line scutes 26 to 39 (46 to 56 in C. crysos).

Caranx hippos, C. senegallus and Uraspis secunda: chest completely naked or with only a small median patch of scales in front of pelvic fins.

Pseudocaranx, Decapterus, Selar and Trachurus species: largest spine of first dorsal fin longer than second dorsal fin lobe and no caudal keel. Also, pectoral fins short and detached dorsal and anal finlets present in Decapterus; scutes present also in curved part of lateral line in Trachurus.

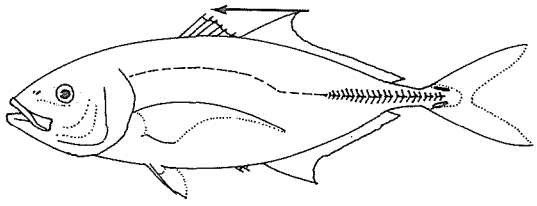


Pseudocaranx

Chloroscombrus chrysurus: black saddle spot on upper part of caudal peduncle and with only 6 to 12 weak lateral line scutes (46 to 56 in C. crysos); no caudal keels.

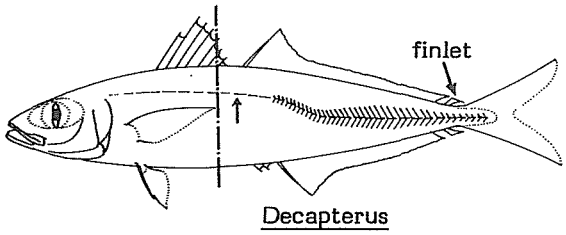
Hemicaranx bicolor: upper jaw with a single row of minute teeth and no caudal keels present.

Selene dorsalis and Alectis species: body superficially naked, the scales minute and embedded; pelvic fins rudimentary, about 1/4 to 1/3 upper jaw length in Selene; anterior soft rays of dorsal and anal fins filamentous in smaller fish and anterior dorsal fin spines not visible in larger individuals of Alectis.



Caranx

Other species of Carangidae: no scutes in straight part of lateral line.



Decapterus

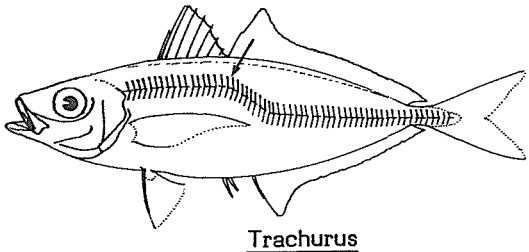
SIZE :

Maximum: at least to 55 cm fork length but said to reach over 100 cm; common to 35 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, along the African coast, from Senegal to Angola and around Ascension Island. Also, in the Mediterranean (common only in southern part), and in the Western Atlantic.

A schooling species found usually close inshore, but also in deeper waters (over 100 m depth); moves rapidly over open bottoms, not common around reefs.

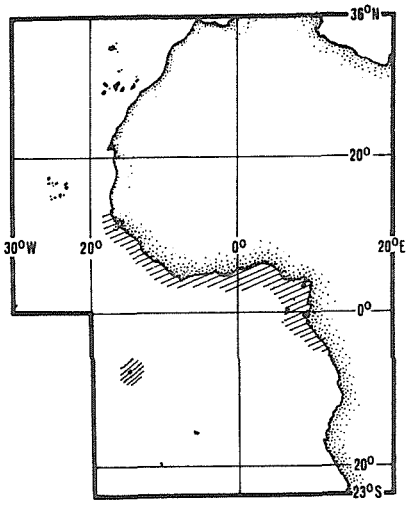


Trachurus

Feeds primarily on fish (usually silvery species); also on shrimps, crabs, and other invertebrates.

PRESENT FISHING GROUNDS :

Continental shelf throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species. The catch of unsorted Caranx species reported from the area in 1977 totalled about 67 000 tons.

Caught with pelagic and bottom trawls, set and ringnets, seines and on line gear.

Utilized fresh, dried salted, smoked and for fishmeal and oil.

CARAN Caranx 7

1981

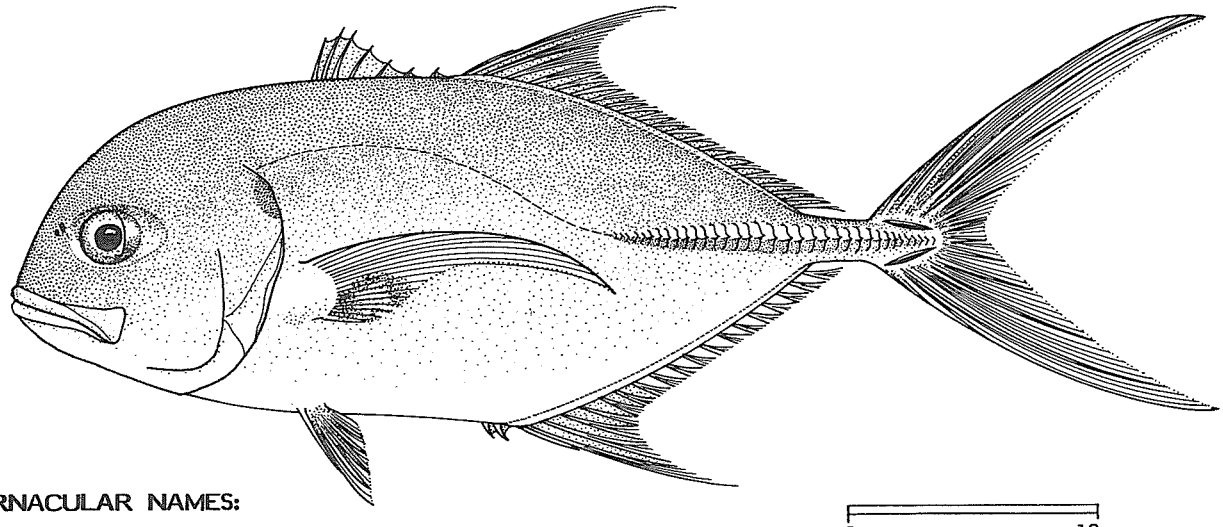
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Caranx hippos (Linnaeus, 1766)

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 12 cm

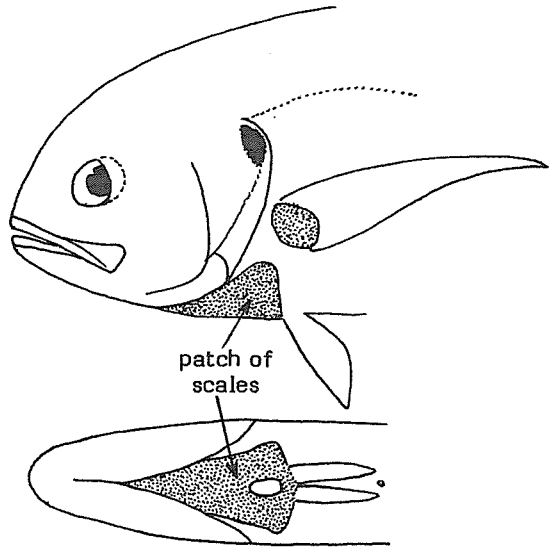
VERNACULAR NAMES:

FAO : En - Crevalle jack
Fr - Carangue crevalle
Sp - Jurel común

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, deep (its depth contained about 2.8 to 3.2 times in fork length), and moderately compressed. Snout bluntly pointed; eye moderately large (its diameter contained 3.8 to 4.2 times in head length) with a strong adipose eyelid; gill rakers 3 to 6 upper, 15 to 17 lower on first gill arch; in adults, end of upper jaw extending to under posterior margin of eye or beyond; upper jaw with an irregular series of strong canines flanked by an inner band; teeth in lower jaw in a single band. Dorsal fin with 8 spines followed by 1 spine and 19 to 22 soft rays; anal fin with 2 spines followed by 1 spine and 16 to 18 soft rays; dorsal and anal fin lobes elongate (dorsal lobe shorter than head length, contained about 4.4 to 5.7 times in fork length); pectoral fins falcate, longer than head. Scales small and cycloid (smooth to touch); chest scaleless except for a small median patch of scales in front of pelvic fins; lateral line with a strong moderately long anterior arch; its posterior (straight) part with 23 to 37 scutes; bilateral paired caudal keels present. Vertebrae 10 + 14; hyperostosis present in enlarged predorsal interneurals and other bones.



Colour: body greenish to bluish or bluish-black above and silvery-white to yellowish or golden below; in adults, a black blotch on pectoral fins; juveniles with about 5 dark bars on body.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

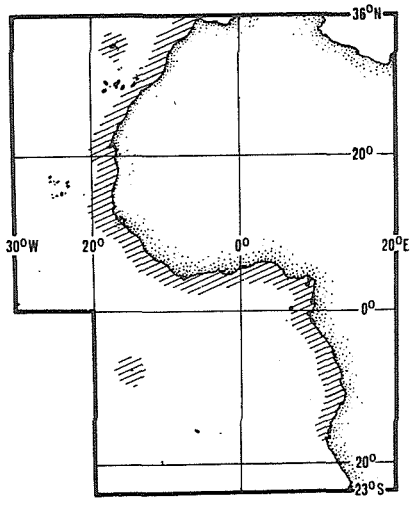
Other species of Carangidae: no black blotch on pectoral fins and no median patch of small pre-pelvic scales on an otherwise naked chest.

SIZE:

Maximum: total lengths of 101 cm and weights of 25 kg (from different fish) have been recorded; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the African coast southward to southern Angola; northward extending into the Mediterranean. Also, in the Western Atlantic from Nova Scotia throughout the Gulf of Mexico and the Caribbean to off Uruguay; the eastern Pacific Caranx caninus may also be referable to this species, but more study is required to determine its true taxonomic status.



Occurs in moderate to large, usually fast-moving schools, although larger fish may be solitary. Common on shallow flats, but larger fish may be in deep offshore water to about 350 m depth. Often found in brackish water and occasionally ascending rivers. Grunts or croaks when caught.

Feeds primarily on fish, also on shrimps and other invertebrates.

PRESENT FISHING GROUNDS:

Fished throughout its range, especially along continental coasts.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported by the U.S.S.R. only (1977: 106 tons off Angola). Kwil (1978, J.Nat.Hist.) reported a total annual catch of 4 500 tons taken in beach seines and set nets from Keta, Ghana to Togo and Benin between 1944 and 1953. Annual purse seiner landings of C. hippos off Ghana from 1961 to 1967 ranged from 72 to 1 000 tons. The catch of unsorted Caranx species reported from the area in 1977 totalled about 67 000 tons.

Caught with trawls, seines, set nets and on line gear.

Utilized fresh, frozen, smoked, dried salted and for oil and fishmeal. Edibility variously rated poor to good; bleeding immediately after catching improves flavour.

CARAN Caranx 8

1981

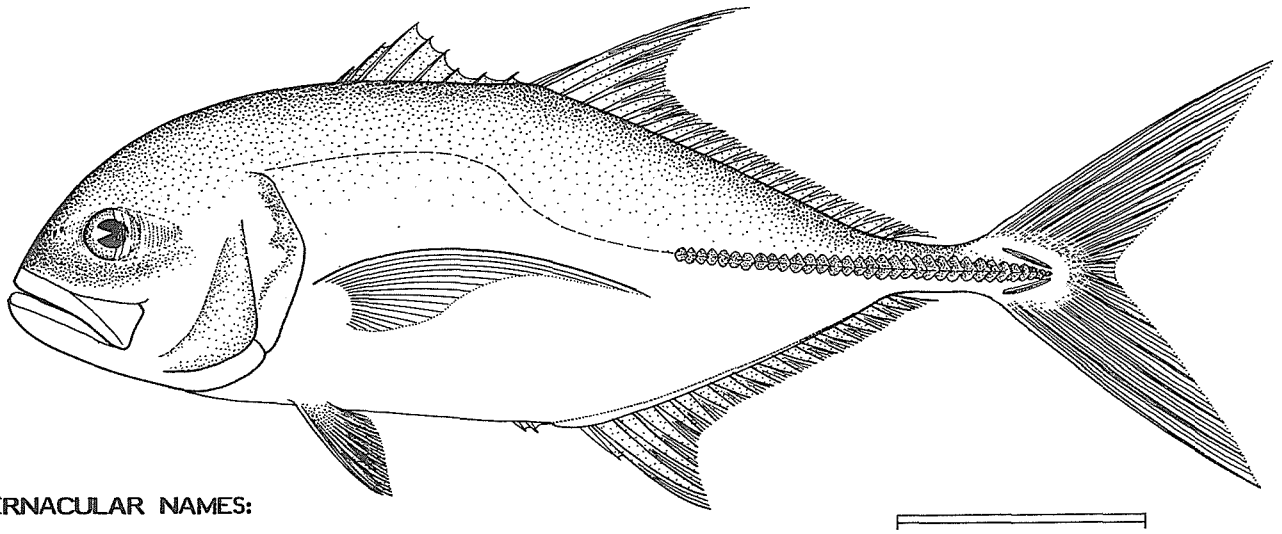
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Caranx latus Agassiz, 1831

OTHER SCIENTIFIC NAMES STILL IN USE: None



0 11 cm

VERNACULAR NAMES:

FAO: En - Horse-eye jack
Fr - Carangue mayole
Sp - Jurel ojón

NATIONAL:

DISTINCTIVE CHARACTERS:

Body elongate, deep (its depth contained about 2.8 to 3.2 times in fork length), and moderately compressed. Snout bluntly pointed; eye large (its diameter contained about 3.8 to 4.2 times in head length) with a strong adipose eyelid; gill rakers 6 to 7 upper, 16 to 18 lower on first gill arch; in adults, end of upper jaw extending to under posterior margin of eye; upper jaw with an irregular series of strong canines flanked by an inner band; teeth in lower jaw in a single band. Dorsal fin with 8 spines followed by 1 spine and 19 to 22 soft rays; anal fin with 2 spines followed by 1 spine and 16 to 18 soft rays; dorsal and anal fin lobes elongate, dorsal lobe shorter than head length, contained about 5.6 to 6.0 times in fork length; pectoral fins falcate, longer than head. Scales small and cycloid (smooth to touch); chest completely scaled; lateral line with a strong, moderately long anterior arch, its posterior (straight) part with 32 to 39 scutes; bilateral paired caudal keels present. Vertebrae 10 + 14; no hyperostosis.

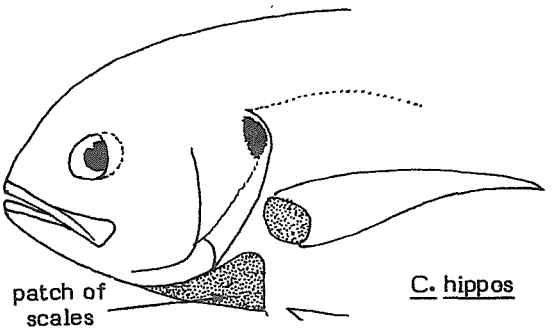
Colour: body dark blue to bluish grey above, silvery white or golden below, with dorsal fin lobe and sometimes posterior scutes black or dark; juveniles with about 5 dark bars on body.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

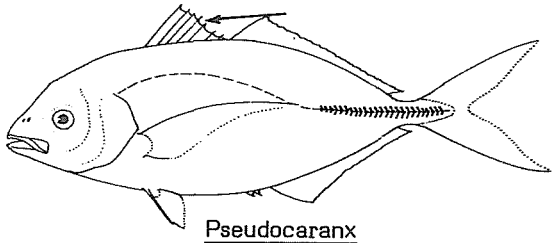
Caranx hippos, C. senegallus and Uraspis secunda: chest completely naked or with only a small median patch of scales in front of pelvic fins.

Caranx crysos: more lateral line scutes, 46 to 56 (32 to 39 in C. latus) and upper jaw ending under middle of eye.

Caranx lugubris: lobe of second dorsal fin longer than head, contained about 3.2 to 5.1 times in fork length (shorter than head length, about 5.6 to 6.0 times in fork length in C. latus).



Pseudocaranx, Decapterus, Selar and Trachurus species: largest spine of first dorsal fin longer than second dorsal fin lobe and no caudal keels. Also, pectoral fins short and detached dorsal and anal finlets present in Decapterus; scutes present also in curved part of lateral line in Trachurus.

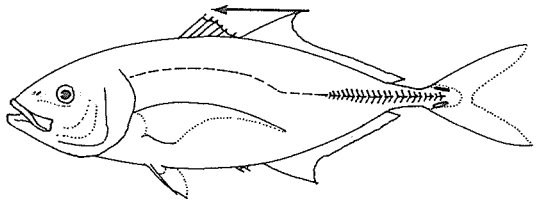


Pseudocaranx

Chloroscombrus chrysurus: black saddle spot on upper part of caudal peduncle and with only 6 to 12 weak lateral-line scutes (32 to 39 scutes in C. latus).

Hemicaranx bicolor: upper jaw with a single row of minute teeth and no caudal keels present.

Selene dorsalis and Alectis species: body superficially naked, the scales minute and embedded; pelvic fins rudimentary, about 1/4 to 1/3 upper jaw length in Selene; anterior soft rays of dorsal and anal fins filamentous in smaller fish and anterior dorsal-fin spines not visible in larger individuals of Alectis.

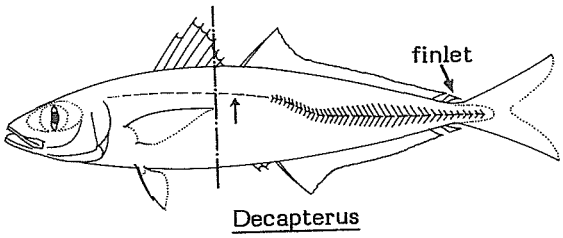


Caranx

Other species of Carangidae: no scutes in straight part of lateral line.

SIZE :

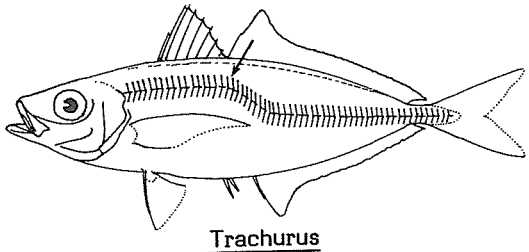
Maximum: uncertain, but at least to 80 cm total length, possibly to 16 kg; common to 50 cm fork length.



Decapterus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Eastern Atlantic distribution poorly known, one definite record from the Gulf of Guinea. In the Western Atlantic, known from New Jersey to Rio de Janeiro, Brazil. A literature record of Caranx sexfasciatus (an Indo-Pacific species) from Madeira is probably based on a misidentification of Caranx latus.



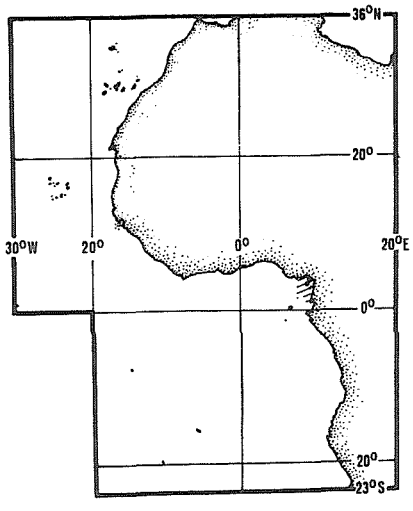
Trachurus

Usually occurs in small schools, most common around islands, offshore and along sandy beaches in the tropics; enters brackish waters and ascends rivers.

Feeds primarily on fish; also on shrimps and other invertebrates (including pteropods).

PRESENT FISHING GROUNDS :

Poorly known.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species, which is probably confused with other Caranx representatives. The catch of unsorted Caranx species reported from the Area in 1977 totalled about 67 000 tons.

CARAN Caranx 9

1981

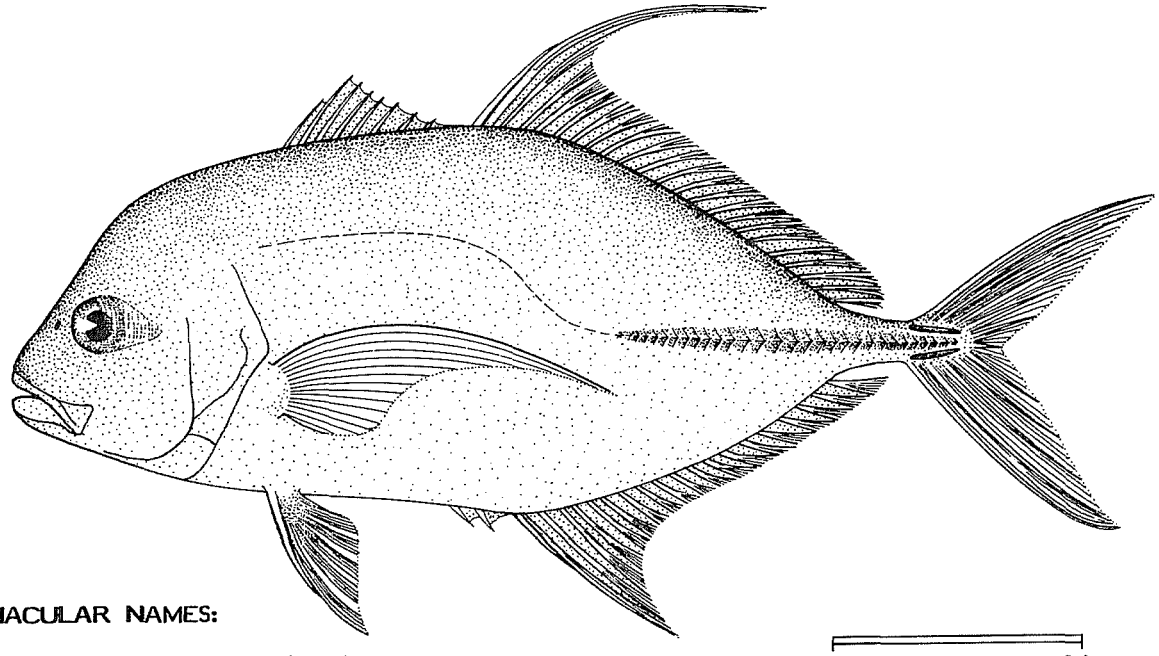
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Caranx lugubris Poey, 1860

OTHER SCIENTIFIC NAMES STILL IN USE : Caranx ascensionis [not Osbeck] (Bloch and Schneider, 1801)



0 16 cm

VERNACULAR NAMES:

FAO : En - Black jack
Fr - Carangue noire
Sp - Jurel negro

NATIONAL :

DISTINCTIVE CHARACTERS :

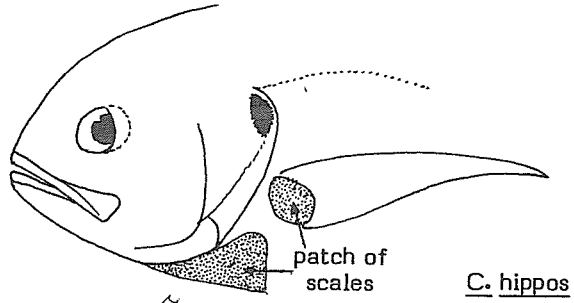
Body elongate, deep (its depth contained about 2.4 to 2.9 times in fork length), and moderately compressed. Snout bluntly pointed; eye somewhat large (its diameter contained 4.0 to 4.9 times in head length) with a strong adipose eyelid; gill rakers 6 to 8 upper, 18 to 21 lower on first gill arch; end of upper jaw extending to under anterior half or middle of eye; upper jaw with an irregular series of strong canines flanked by an inner band; teeth in lower jaw in a single band. Dorsal fin with 8 spines followed by 1 spine and 20 to 23 soft rays; anal fin with 2 spines followed by 1 spine and 17 to 20 soft rays; dorsal and anal fin lobes elongate, dorsal lobe longer than head length, contained about 3.2 to 5.1 times in fork length; pectoral fins falcate, longer than head. Scales small and cycloid (smooth to touch); chest completely scaled; lateral line with a strong, moderately long anterior arch, its posterior (straight) part with 26 to 32 scutes; bilateral paired caudal keels present. Vertebrae 10 + 14; no hyperostosis.

Colour: body and head dark brown to black with fins and posterior scutes black; juvenile pigment pattern unknown.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

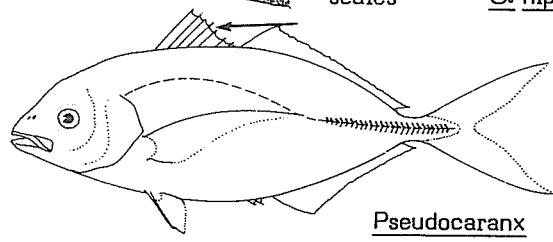
Caranx latus and C. crysos: lobe of second dorsal fin shorter than head length, contained 5.6 times in fork length (lobe longer than head length, contained 3.2 to 4.7 times in fork length in C. lugubris).

Caranx hippos, C. senegallus and Uraspis secunda: chest completely naked or with only a small median patch of scales in front of pelvic fins; also second dorsal fin lobe shorter than head length in C. hippos and Uraspis secunda, and dark blotch on pectoral fin in C. hippos.



C. hippos

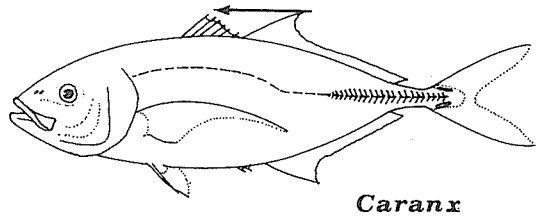
Pseudocaranx, Decapterus, Selar and Trachurus species: largest spine of first dorsal fin longer than second dorsal fin lobe; and no caudal keels. Also, pectoral fins short and detached dorsal and anal finlets present in Decapterus; scutes present also in curve part of lateral line in Trachurus.


Pseudocaranx

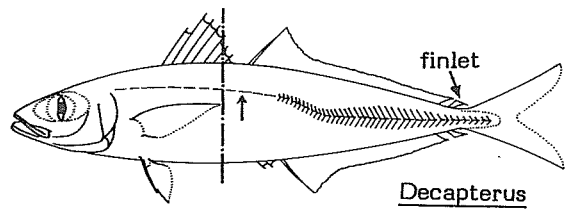
Chloroscombrus chrysurus: black saddle spot on upper part of caudal peduncle and with only 6 to 12 weak lateral line scutes (26 to 32 in C. lugubris).

Hemicaranx bicolor: upper jaw with a single row of minute teeth and no caudal keels present.

Selene dorsalis and Alectis species: body superficially naked, the scales minute and embedded; pelvic fins rudimentary, about 1/4 to 1/3 upper jaw length in Selene; anterior soft rays of dorsal and anal fins filamentous in smaller fish and anterior dorsal fin spines not visible in larger individuals of Alectis.


Caranx

Other species of Carangidae: no scutes in straight part of lateral line.

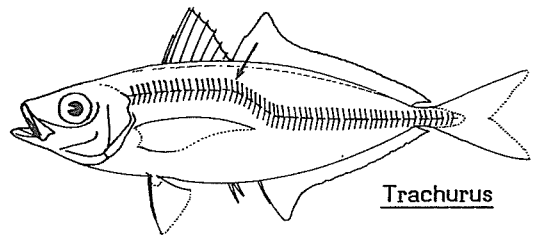


Decapterus

SIZE :

Maximum: about 89 cm fork length (99.1 cm total length) reported; maximum weight of 7 kg reported. Common to 70 cm fork length.

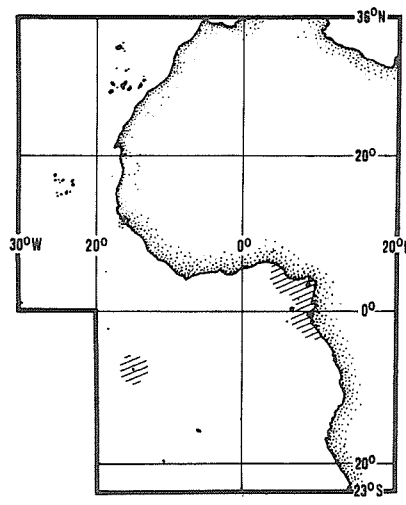
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :


Trachurus

Eastern Atlantic distribution not well established, definitely known from the Azores, Ascension Island and the Gulf of Guinea. Worldwide in tropical marine waters.

Uncommon in shoal areas, usually at depths of 25 to 65 m and deeper, especially in clear water. Its early life history is unknown.

Feeds primarily on fish.



PRESENT FISHING GROUNDS :

Poorly known.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species. The catch of unsorted Caranx species reported from the area in 1977 totalled about 67 000 tons.

Caught with trawls and possibly several types of artisanal gear.

Utilized fresh, dried salted and for fishmeal and oil.

CARAN Caranx 11

1981

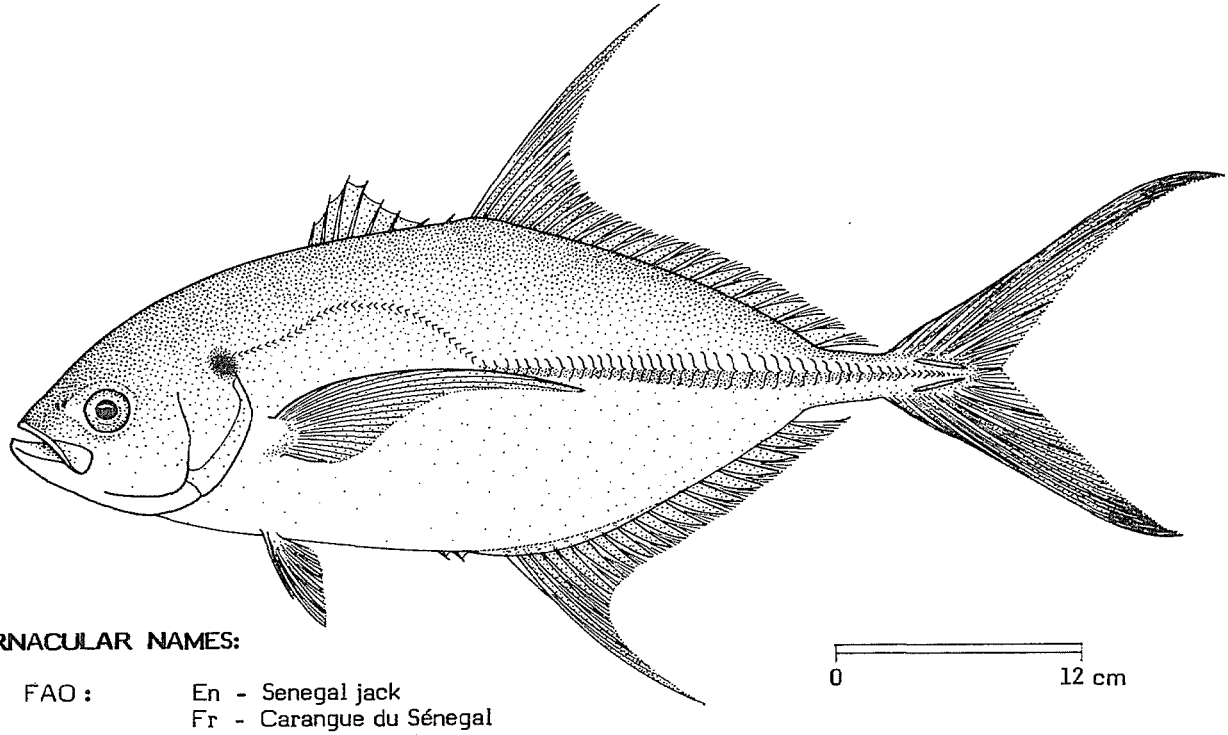
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Caranx senegallus Cuvier, 1833

OTHER SCIENTIFIC NAMES STILL IN USE : Caranx africanus Steindachner, 1883



VERNACULAR NAMES:

FAO : En - Senegal jack
Fr - Carangue du Sénegal
Sp - Jurel senegalés

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, deep (its depth contained about 2.4 to 3.2 times in fork length), and moderately compressed. Snout bluntly pointed; eye large (its diameter contained about 3.0 to 4.1 times in head length) with a weak adipose eyelid; gill rakers 11 to 13 upper, 27 to 29 lower on first gill arch; end of upper jaw extending to under middle of eye; upper jaw with an irregular series of moderate canines flanked by an inner band; teeth in lower jaw in a single band. Dorsal fin with 8 spines followed by 1 spine and 20 or 21 soft rays; anal fin with 2 spines followed by 1 spine and 17 or 18 soft rays; dorsal and anal fin lobes elongate, dorsal lobe longer than head, contained about 2.1 to 3.4 times in fork length; pectoral fins falcate, longer than head. Scales small and cycloid (smooth to touch); chest naked; lateral line with a strong and moderately short anterior arch, its posterior (straight) portion with 40 to 45 scutes; bilateral caudal keels present. Vertebrae 10 + 14; no hyperostosis.

Colour: body and head light to dark brown above, white or yellowish below; dorsal fin brown, caudal and anal fins yellow in young, brown at larger sizes.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Caranx crysos, C. latus and C. lugubris: chest completely scaled.

C. hippos and Uraspis secunda: gill rakers on lower limb of first gill arch 13 to 17 (27 to 29 in C. senegallus) and lobe of second dorsal fin shorter than head length; also, a dark blotch on pectoral fins in C. hippos.

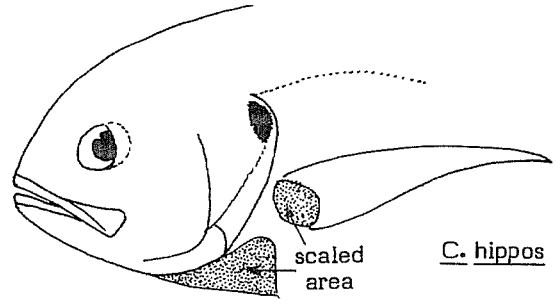
Pseudocaranx, Decapterus, Selar and Trachurus species: largest spine of first dorsal fin longer than second dorsal fin lobe and no caudal keels. Also, pectoral fins short and detached dorsal and anal finlets present in Decapterus; scutes present also in curved part of lateral line in Trachurus.

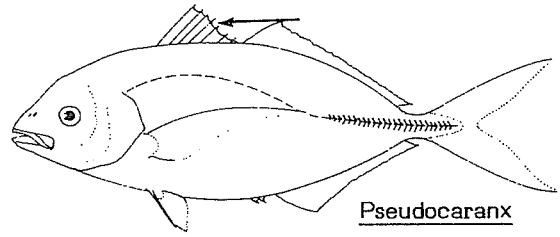
Chloroscombrus chrysurus: black saddle spot on upper part of caudal peduncle and with only 6 to 12 weak lateral line scutes (40 to 45 in C. senegallus).

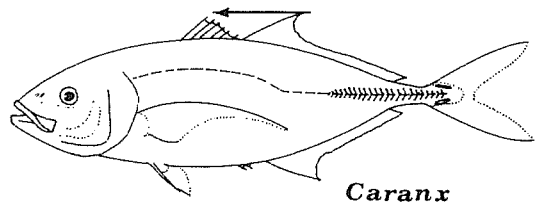
Hemicaranx bicolor: upper jaw with a single row of minute teeth and no caudal keels present.

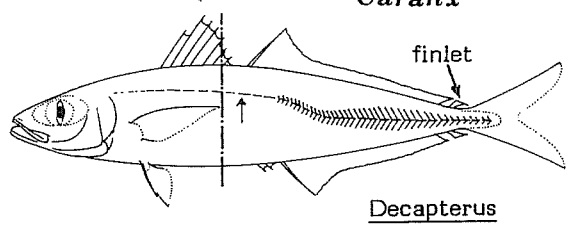
Selene dorsalis and Alectis species: body superficially naked, the scales minute and embedded; pelvic fins rudimentary, about 1/4 to 1/3 upper jaw length in Selene; anterior soft rays of dorsal and anal fins filamentous in smaller fish and anterior dorsal fin spines not visible in larger individuals of Alectis.

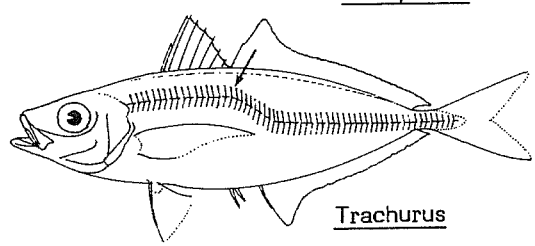
Other species of Carangidae: no scutes in straight part of lateral line.











SIZE :

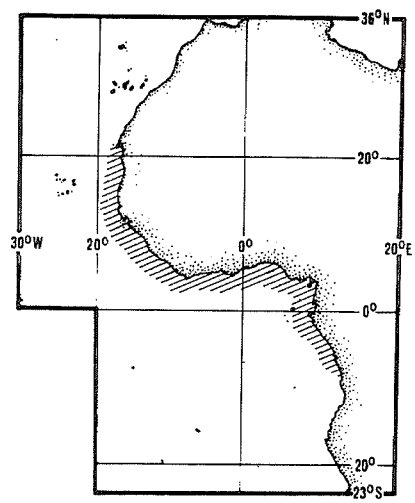
Maximum: unknown, attains at least 50 cm fork length, but reported to reach 100 cm total length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

African coast from Mauritania to southern Angola.

An inshore species occurring from the surface to at least 90 m depth (perhaps even to 200 m).

Feeds primarily on fish.



PRESENT FISHING GROUNDS :

Continental shelf throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species. The catch of unsorted Caranx species reported from the area in 1977 totalled about 67 000 tons.

Caught with trawls, purse seines and on line gear.

Utilized fresh, frozen, smoked, dried salted and for fishmeal and oil.

CARAN Chlo 1

1981

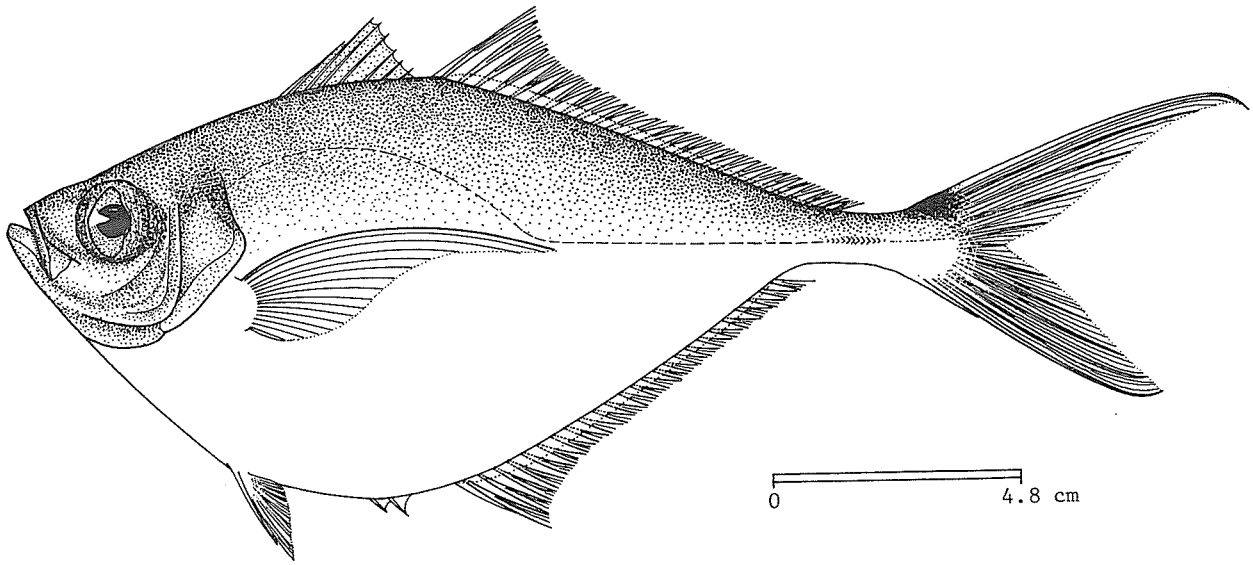
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Chloroscombrus chrysurus (Linnaeus, 1776)

OTHER SCIENTIFIC NAMES STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Atlantic bumper
Fr - Sapater
Sp - Casabe

NATIONAL:

DISTINCTIVE CHARACTERS:

Body ovate with ventral profile more convex than dorsal, deep (depth contained 2.3 to 2.8 times in fork length), and very compressed. Snout short and bluntly pointed; eye small (its diameter contained 3.0 to 3.4 times in head), with a slight adipose eyelid; gill rakers 9 to 12 upper, 30 to 37 lower on first gill arch; mouth small and oblique; end of upper jaw extending nearly to below anterior eye margin; teeth in narrow bands in jaws (grading into 2 irregular rows on sides of lower jaw). Two scarcely separated dorsal fins, the first with 8 spines, the second with 1 spine and 25 to 28 soft rays; anal fin with 2 spines followed by 1 spine and 25 to 28 soft rays; dorsal and anal fin lobes slightly elongated, dorsal lobe contained about 6.9 to 8.7 times in fork length; upper caudal fin lobe elongate (about 1.2 times longer than lower lobe). Scales small and cycloid (smooth to touch); chest scaled; lateral line with a strong, short anterior arch, its posterior (straight) part with about 6 to 12 weak scutes, mainly over caudal peduncle; no bilateral paired caudal keels. Vertebrae 10 + 14; no hyperostosis.

Colour: body and head dark above (metallic blue) and silvery on sides and belly; a black saddle spot on upper part of caudal peduncle.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

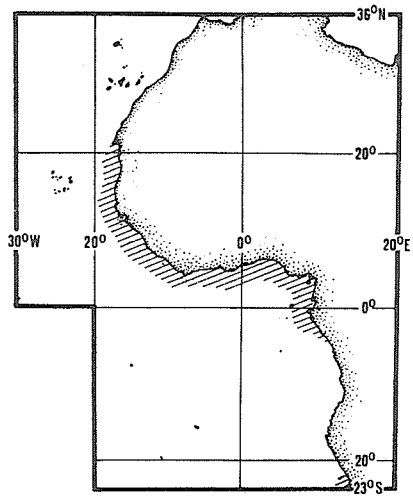
Other carangid species: no black saddle spot on upper part of caudal peduncle.

SIZE :

Maximum: reported in the literature to reach about 26 cm fork length (30.5 cm total length) but said (by fishery workers in the area) to attain at least 65 cm total length; common to 20 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the Eastern Atlantic definitely known to occur along the African coast from Mauritania to Angola; also broadly distributed in the Western Atlantic from Massachusetts to Uruguay.



A schooling species, usually found in shallow water, both marine and estuarine, including mangrove-lined lagoons. Often gives a grunting sound when caught. The young occur at times far offshore, frequently in association with jellyfish.

PRESENT FISHING GROUNDS :

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trawls, seines and set nets.

Utilized fresh, frozen, smoked, dried salted and for fishmeal and oil.

CARAN Deca 3

1981

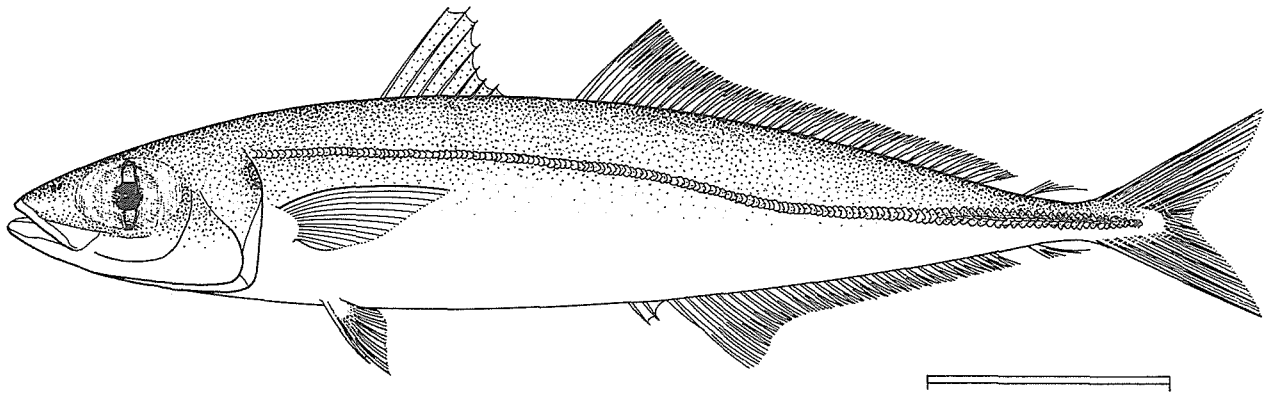
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Decapterus macarellus (Cuvier, 1833)

OTHER SCIENTIFIC NAMES STILL IN USE : None in the Atlantic
Decapterus pinnulatus Eydoux and Souleyet, 1841, in the Central Pacific and Indian Ocean



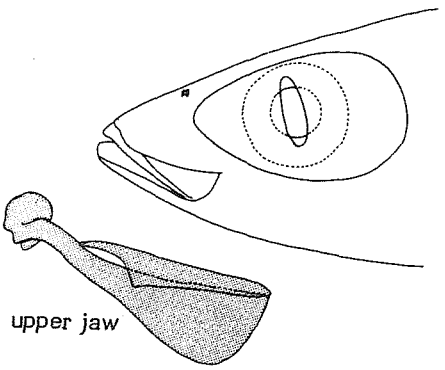
VERNACULAR NAMES:

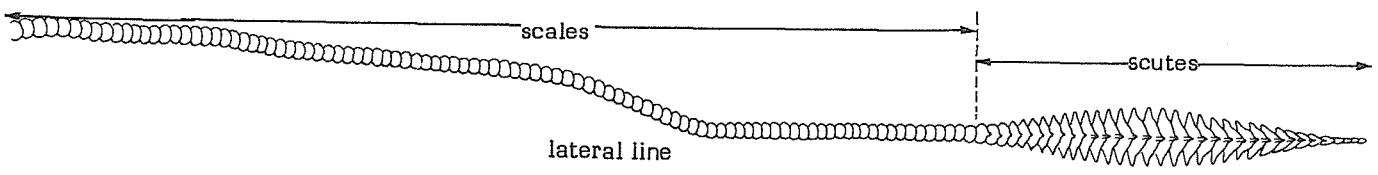
FAO : En - Mackerel scad
Fr - Comète maquereau
Sp - *Macarela caballa*

NATIONAL :

DISTINCTIVE CHARACTERS :

Body very elongate and slender (its depth contained 5.6 to 6.3 times in fork length) and nearly rounded. Eye moderate (its diameter contained 3.8 to 4.9 times in head length) with a well-developed adipose eyelid; end of upper jaw straight, slanting upward and backward; gill rakers (including rudiments) 9 to 13 upper, 31 to 39 lower on first gill arch; teeth minute, in a single row in both jaws, reducing in number and extent with growth. Two well separated dorsal fins, the first with 8 spines, the second with 1 spine and 31 to 37 soft rays (including finlet); anal fin with 2 detached spines followed by 1 spine and 27 to 31 soft rays (including finlet); terminal dorsal and anal soft rays each consisting of a widely detached finlet; pectoral fins very short (contained 1.5 to 2.0 times in head length). Scales small and cycloid (smooth to touch); the chord of the curved part of lateral line contained 0.8 to 1.0 times into straight part (to caudal fin base). Scales in curved part of lateral line 68 to 79; no scutes in curved part; anterior scales in straight part 19 to 33; scutes in straight part 23 to 32; total scales and scutes in lateral line 119 to 133. Dorsal accessory lateral line short, terminating near end of head. Shoulder girdle with 2 slight papillae and a shallow groove above and below the pair, the lower papilla and groove the larger. Vertebrae 10 + 14





Colour: metallic blue to bluish-black above, silvery to white below; a small black spot on margin of opercle near upper edge; no small black spots spaced on pored scales of curved lateral line.

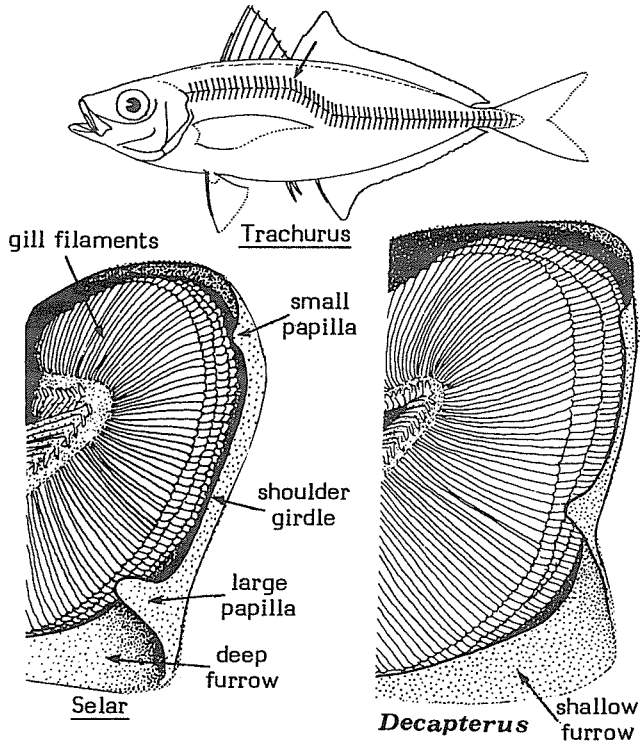
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Decapterus species: fewer anterior scales (0 to 10) in straight part of lateral line (19 to 33 in D. macarellus) and fewer total scales and scutes (75 to 119) in lateral line (119 to 133 in D. macarellus).

Trachurus species: scales in curved lateral line scute-like, expanded dorso-ventrally; no distinctly terminal finlet in the dorsal and anal fins.

Selar species: no terminal finlet in the dorsal and anal fins; a deep furrow on the shoulder girdle (cleithrum) margin, a large papilla above it and a smaller papilla near upper edge.

Other species of Carangidae: either without scutes in straight part of lateral line or no terminal finlet in the dorsal and anal fins and pectoral fins longer than head, at least in adults.



gill chamber exposed after removal of gill cover

SIZE:

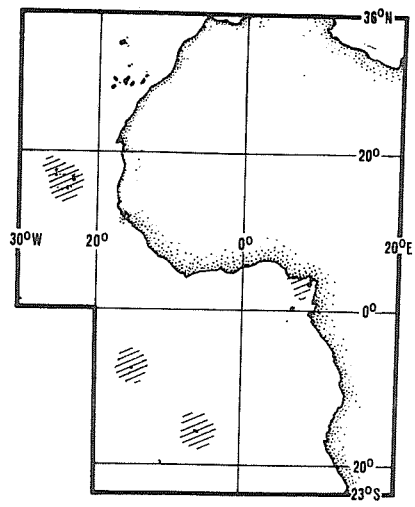
Reported to attain about 35 cm standard length; common to 20 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

A circumtropical species. Eastern Atlantic distribution not well established, but definitely known from St. Helena, Ascension and the Cape Verde Islands, and the Gulf of Guinea.

A schooling species, occurring mostly in open water, between 40 and 200 m; occasionally over outer reefs.

Feeds chiefly on smaller planktonic invertebrates.



PRESENT FISHING GROUNDS:

Mainly open waters around islands.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls.

Utilized dried salted, for fishmeal and oil.

CARAN Deca 4

1981

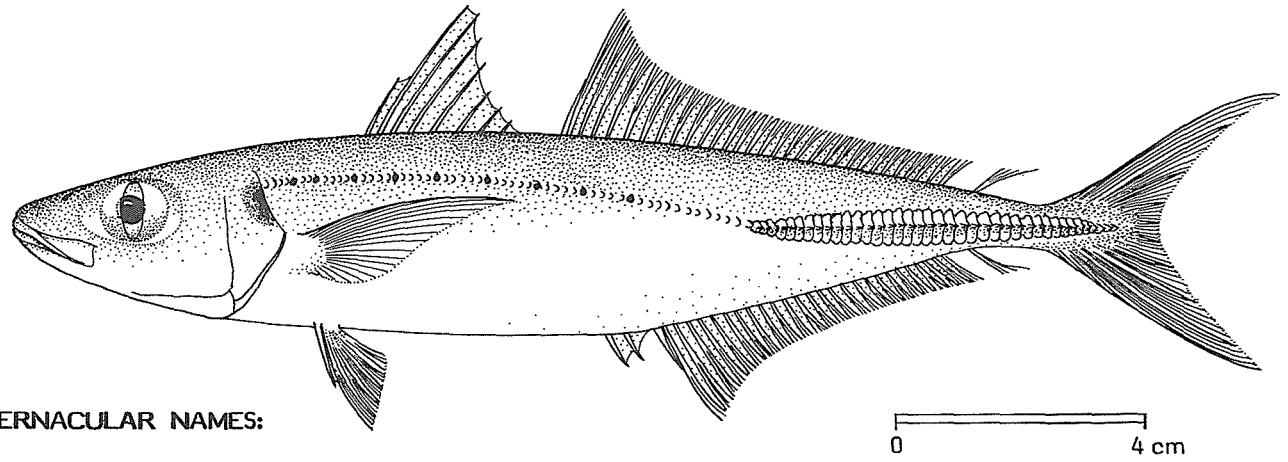
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Decapterus punctatus (Cuvier, 1829)

OTHER SCIENTIFIC NAMES STILL IN USE : Decapterus sanctaehelenae (Cuvier, 1833)*



VERNACULAR NAMES:

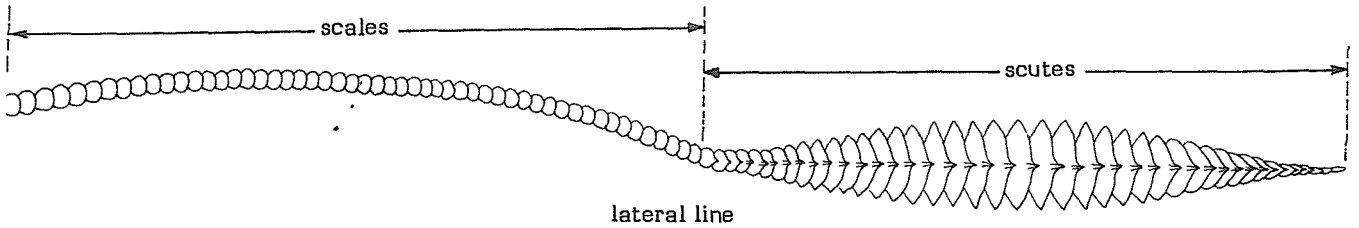
FAO : En - Round scad
Fr - Comète quiaquia
Sp - Macarela chuparaco (= Surela)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body very elongate and slender (its depth contained 5.2 to 6.0 times in fork length) and nearly rounded. Eye moderate (its diameter contained 3.4 to 3.9 times in head length) with a well developed adipose eyelid; end of upper jaw slightly concave dorsally, rounded and expanded posterioventrally; gill rakers (including rudiments) 11 to 13 upper, 32 to 37 lower on first gill arch; teeth minute, in a single row in both jaws, reducing in number and extent with growth. Two well separated dorsal fins, the first with 8 spines, the second with 1 spine and 29 to 34 soft rays (including finlet); anal fin with 2 detached spines followed by 1 spine and 26 to 28 soft rays (including finlet); terminal dorsal and anal soft rays each consisting of a widely detached finlet; *pectoral fins short* (contained 1.1 to 1.5 times in head length). Scales small and cycloid (smooth to touch); chord of curved part of lateral line contained 0.71 to 0.94 times in straight part (to caudal fin base); scales in curved part of lateral line 48 to 62; scutes in curved part 0 to 8; anterior scales in straight part usually 0, rarely 1 or 2; scutes in straight part 30 to 38; total scales and scutes in lateral line 87 to 99. Dorsal accessory lateral line short, terminating near end of head. Shoulder girdle with 2 slight papillae and a shallow groove above and below the pair, the lower papilla and groove the larger. Vertebrae 10 + 15

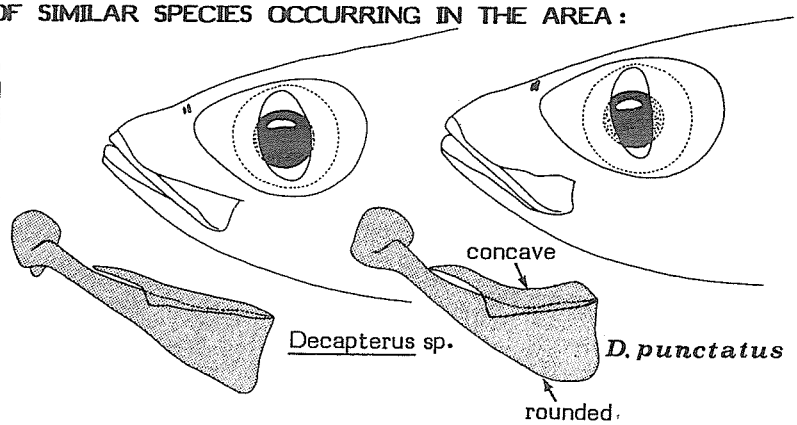
Colour: greenish to greyish-green above, dusky through silvery to whitish below; a small blackish spot on margin near upper edge of opercle; small black spots, 3 to 14, spaced on pored scales of curved lateral line (formed at about 10 cm fork length).



*May be a subspecies of D. punctatus but more study is required to clarify its status

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

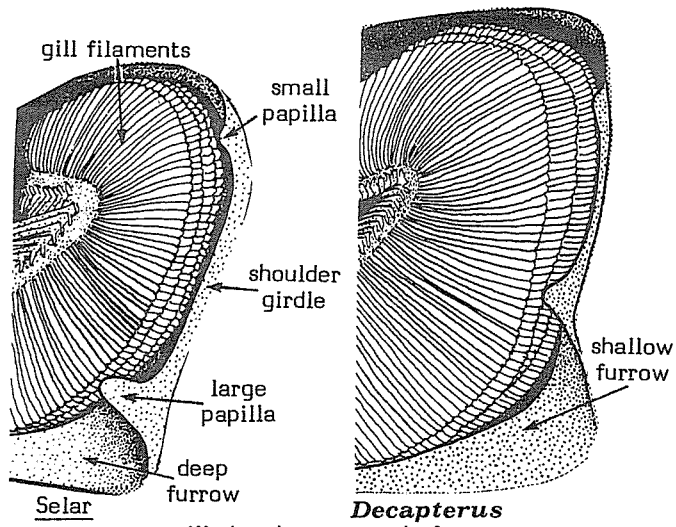
Other Decapterus species: no small black spots spaced on pored scales of curved lateral line and end of upper jaw straight or slightly concave (slightly concave dorsally, rounded and expanded posterio-ventrally in D. punctatus). Furthermore, Decapterus tabl usually has more scales (61 to 78) in the curved part of lateral line (56 to 64 in D. punctatus) and fewer gill rakers (30 to 33) on the lower limb of the first gill arch (32 to 37 in D. punctatus), and Decapterus sp. has more gill rakers (41 to 44) on the lower limb of the first gill arch.



Trachurus species: scales in curved lateral line scutelike, expanded dorsoventrally; no distinctly detached terminal finlet in the dorsal and anal fins.

Selar species: no terminal finlet in the dorsal and anal fins; deep furrow on the shoulder girdle (cleithrum) margin, a large papilla above it and a small papilla near upper edge.

Other species of Carangidae: either without scutes in straight part of lateral line or no terminal finlet in the dorsal and anal fins and pectoral fins longer than head, at least in adults.



SIZE:

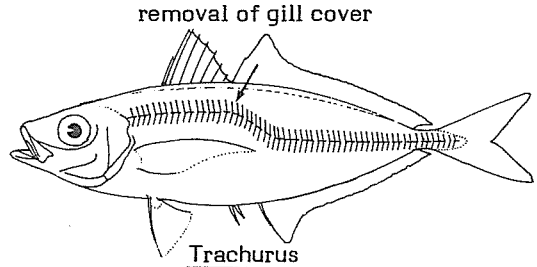
Maximum: to at least 25 cm total length; common to about 15 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic from Madeira to Walvis Bay, South Africa. Also, in the Western Atlantic including Bermuda, St. Helena and Ascension Islands.

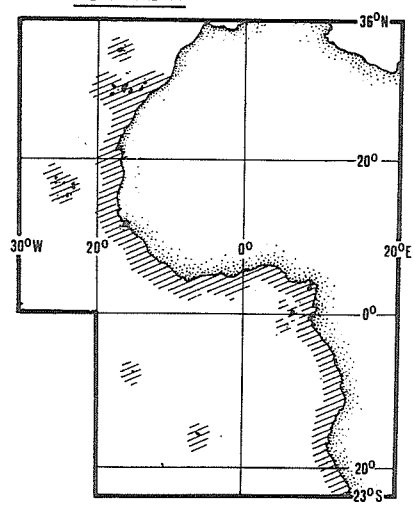
A schooling species, primarily in mid-water or near the bottom in shallow water to about 100 m depth, but also pelagic and near surface, especially as small juveniles. Spawns offshore and apparently year-round with a peak in spring.

Feeds on smaller planktonic invertebrates, primarily copepods, but also on gastropod larvae, ostracods and pteropods.



PRESENT FISHING GROUNDS:

Shelf waters throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trawls and seines.

Utilized fresh, smoked, dried salted and for fishmeal and oil.

CARAN Deca 5

1981

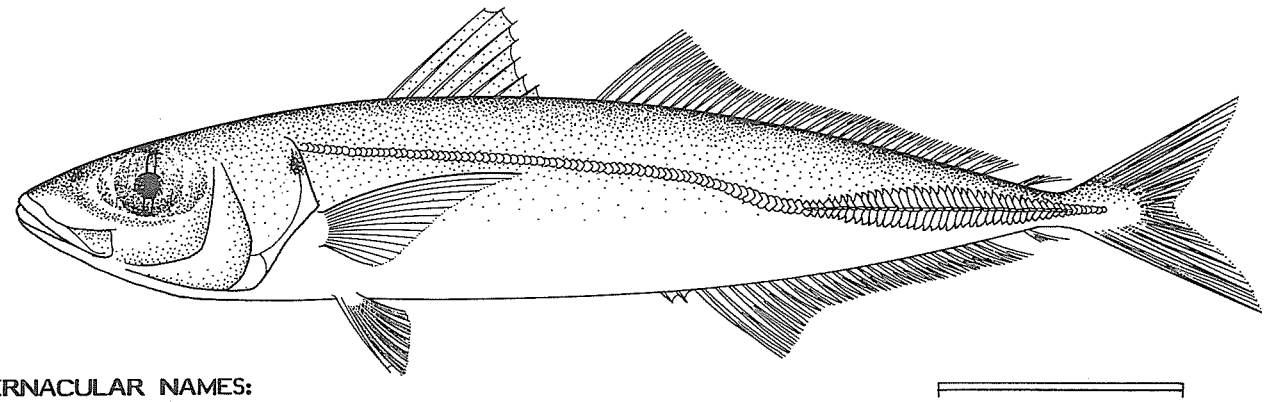
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Decapterus tabl Berry, 1968

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 5 cm

VERNACULAR NAMES:

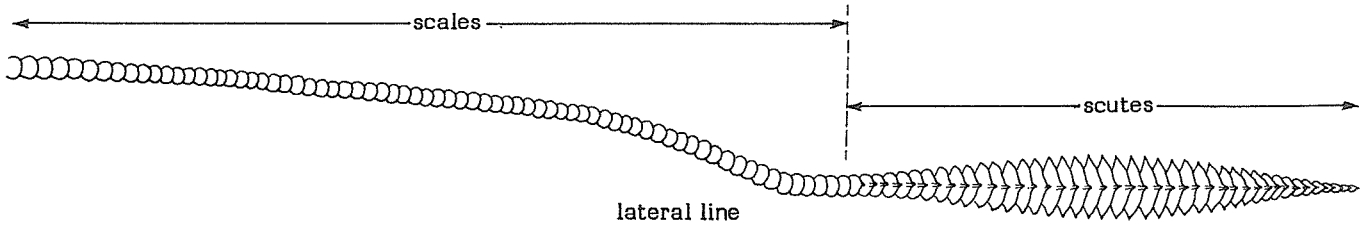
FAO : En - Redtail scad
Fr - Comète queue rouge
Sp - Macarela rabo colorado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body very elongate and slender (its depth contained 5.3 to 6.2 times in fork length) and nearly rounded. Eye moderate (its diameter contained 3.8 to 4.8 times in head length) with a well developed adipose eyelid; end of upper jaw straight, slightly slanting upward and backward; gill rakers (including rudiments) 10 to 12 upper, 30 to 33 lower on first gill arch; teeth minute, in a single row in both jaws, reducing in number and extent with growth. Two well separated dorsal fins, the first with 8 spines, the second with 1 spine and 29 to 34 soft rays (including finlet); anal fin with 2 detached spines followed by 1 spine and 24 to 27 soft rays (including finlet); terminal dorsal and anal soft rays each consisting of a widely detached finlet; pectoral fins short (contained 1.4 to 1.8 times in head length). Scales small and cycloid (smooth to touch); chord of curved part of lateral line contained 0.6 to 0.9 times in straight part (to caudal fin base); scales in curved part of lateral line 61 to 78; no scutes in curved part; anterior scales in straight part 0 to 8; scutes in straight part 34 to 44; total scales and scutes in lateral line 103 to 119. Dorsal accessory lateral line short, terminating near end of head. Shoulder girdle with 2 slight papillae and a shallow groove above and below the pair, the lower papilla and groove the larger. Vertebrae 10 + 14.

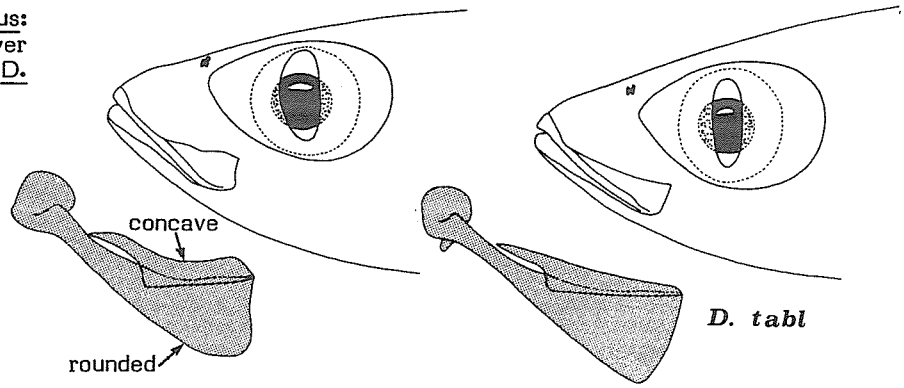
Colour: metallic blue to bluish-black above, silvery to white below; a small black spot on margin of opercle near upper edge; no small black spots spaced on pored scales of curved lateral line.



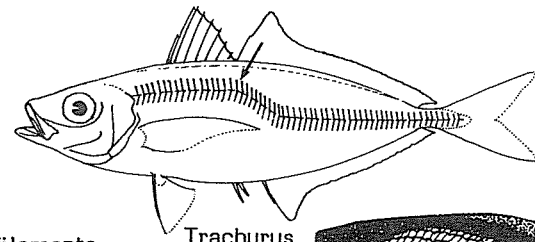
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Decapterus sp. and "D." rhonchus: more gill rakers (36 to 44) on lower limb of first gill arch (30 to 33 in D. tabl).

Decapterus punctatus: fewer total scales and scutes (87 to 99) in lateral line (103 to 119 in D. tabl), end of upper jaw slightly concave dorsally, rounded and expanded posterioventrally and in fish larger than about 10 cm fork length, 3 to 14 small black spots spaced on pored scales of curved part of lateral line.



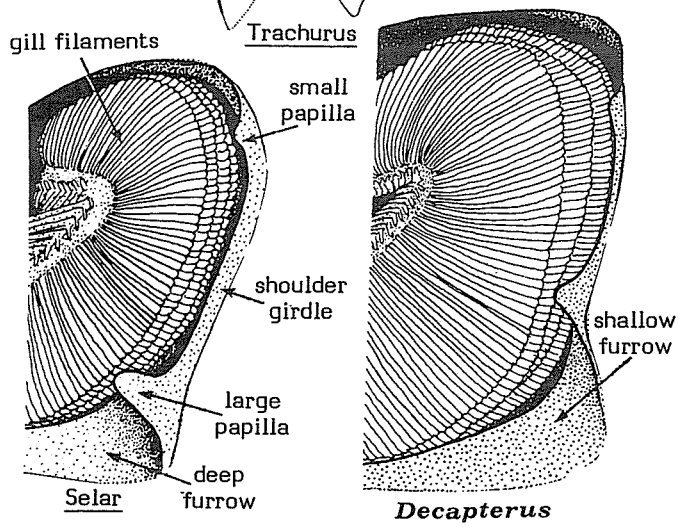
Decapterus macarellus: more anterior scales (19 to 33) in straight part of lateral line (0 to 8 in D. tabl) and fewer scutes (23 to 32) in straight part of lateral line (34 to 44 in D. tabl).


Trachurus

Trachurus species: scales in curved lateral line scutelike, expanded dorsoventrally; no distinctly detached terminal finlet in the dorsal and anal fins.

Selar species: no terminal finlet in the dorsal and anal fins; deep furrow on shoulder girdle (cleithrum) margin, a large papilla above it and a small papilla near upper edge.

Other species of Carangidae: either without scutes in straight part of lateral line or no terminal finlet in the dorsal and anal fins and pectoral fins longer than head, at least in adults.



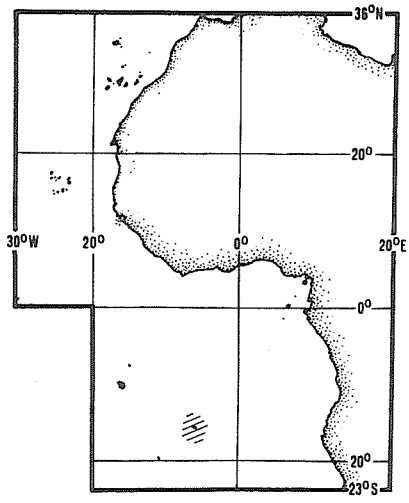
gill chamber exposed after removal of gill cover

SIZE:

Maximum: 41 cm total length (38 cm fork length); weight 0.56 kg; common to 20 cm standard length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic only known from St. Helena Island. Also occurs in the Western Atlantic at Bermuda, east coast of America off North Carolina and southern Florida, and in the southern Caribbean off Colombia and Venezula.



A schooling species; in mid-water or near bottom; at depths of about 150 to 220 m.

Feeds generally on smaller planktonic invertebrates, primarily copepods.

PRESENT FISHING GROUNDS:

Waters around St. Helena.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

CARAN Deca 6

1981

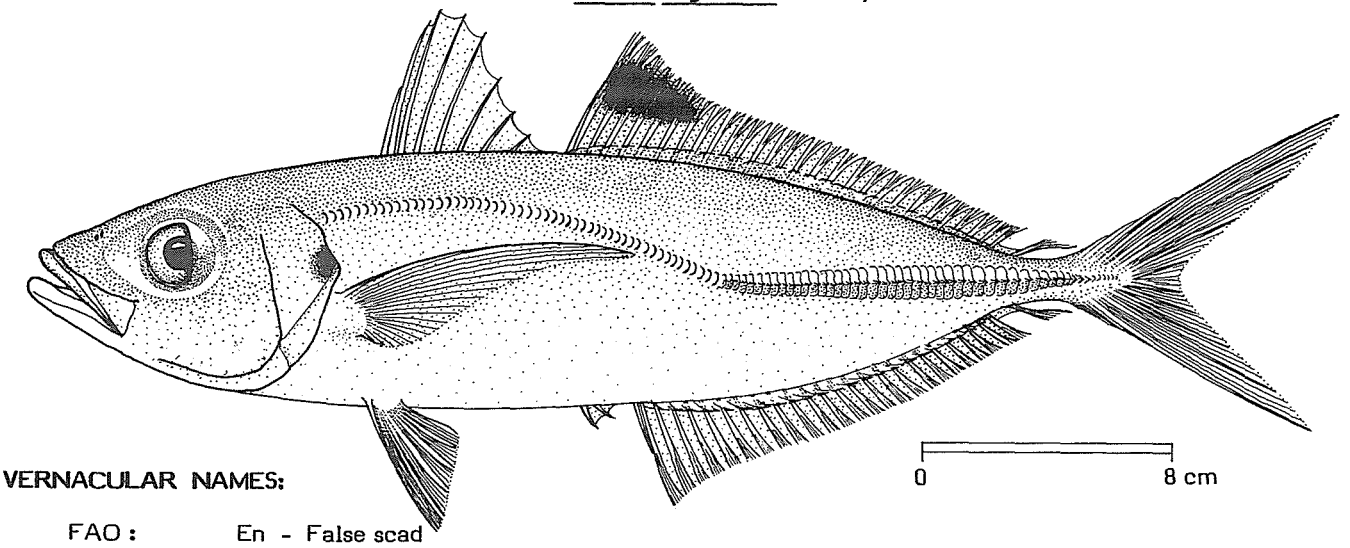
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

"Decapterus" rhonchus (Geoffroy Saint-Hilaire, 1817)*

OTHER SCIENTIFIC NAMES STILL IN USE : Caranx rhonchus Geoffroy Saint-Hilaire, 1817
Caranx angolensis Fowler, 1919

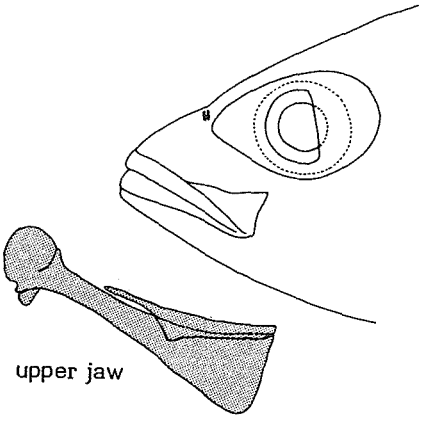


VERNACULAR NAMES:

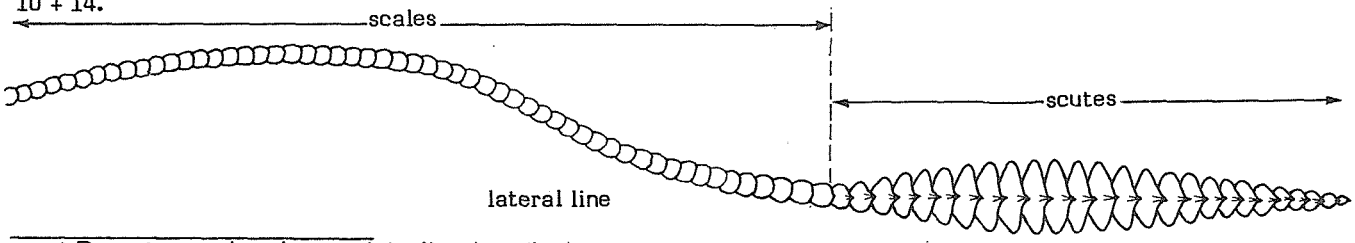
FAO : En - False scad
Fr - Comète coussut
Sp - Macarela real (= Jurel real)

NATIONAL :

DISTINCTIVE CHARACTERS :



Body elongate (its depth contained 3.8 to 4.4 times in fork length) and slightly compressed with upper and lower profiles about equal. Eye moderate (its diameter contained 3.3 to 4.6 times in head length) with a well-developed adipose eyelid, more extensive posteriorly; end of upper jaw straight, slightly slanting upward and backward and covered with small scales; gill rakers (including rudiments) 14 to 18 upper, 36 to 40 lower, on first gill arch; teeth in both jaws in a narrow, irregular band, widest anteriorly; outer teeth slightly enlarged. Two well separated dorsal fins, the first with 8 spines, the second with 1 spine and 28 to 32 soft rays (including finlet); anal fin with 2 detached spines followed by 1 spine and 25 to 28 soft rays (including finlet); terminal dorsal and anal soft rays each consisting of a partially detached finlet joined only basally by interradial membrane; pectoral fins short (contained 1.0 to 1.2 times in head length). Scales small and cycloid (smooth to touch); chord of curved part of lateral line 0.7 to 0.9 times into straight part (to caudal fin base); scales in curved part of lateral line 45 to 55; scutes in curved part 0 to 3; anterior scales in straight part 0 to 8; scutes in straight part 24 to 32; total scales and scutes in lateral line 75 to 86. Dorsal accessory lateral line short, terminating near end of head. Shoulder girdle (cleithrum) margin smooth, without papillae. Vertebrae 10 + 14.



* Decapterus rhonchus, originally described as a species of Caranx, is here assigned to Decapterus for convenience, but probably should be put in a separate monotypic genus

Colour: brownish to olive above and light olive to whitish below; narrow yellowish stripe sometimes present from head to base of caudal fin; black spot on margin of opercle near upper edge; lobe of second dorsal fin with black blotch and narrow pale border distally

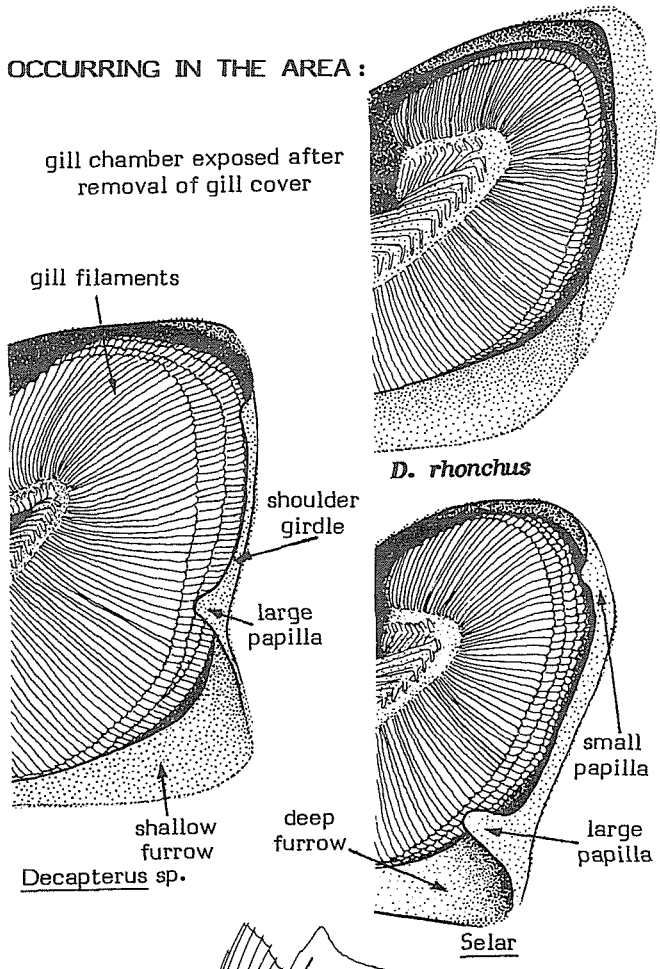
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Decapterus species: second dorsal fin lobe not distinctly pigmented, more total scales and scutes (87 to 133) in lateral line (75 to 86 in "D." rhonchus) and shoulder girdle (cleithrum) margin with 2 slight papillae and a shallow groove above and below the pair, the lower papilla and groove the larger.

Trachurus species: scales in curved lateral line scute-like, expanded dorso-ventrally; no distinctly detached terminal finlet in the dorsal and anal fins.

Selar species: no terminal finlet in the dorsal and anal fins; a deep furrow on shoulder girdle (cleithrum) margin, a large papilla above it and a smaller papilla nead upper edge.

Other species of Carangidae: either without scutes in straight part of lateral line or no terminal finlet in the dorsal and anal fins and pectoral fins longer than head, at least in adults.



SIZE:

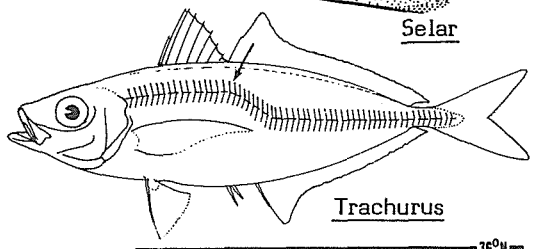
Maximum: to at least 60 cm total length; common to 35 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, from Morocco to southern Angola; northward extending to Spain. Abundant in the eastern Mediterranean, off Morocco and Senegal.

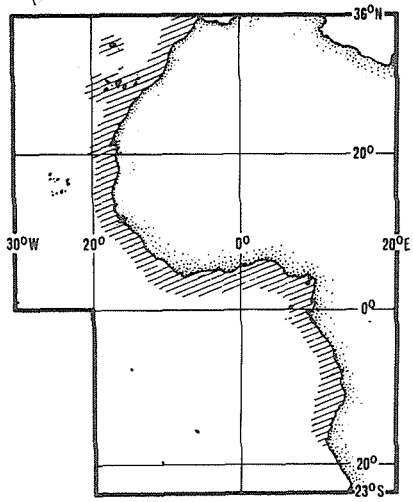
A schooling species, found frequently near the bottom, mostly in depths of 30 to 50 m; but reportedly also occurring in deeper waters (over 200 m); also pelagic and near the surface at times.

Feeds on small fish and invertebrates.



PRESENT FISHING GROUNDS:

Shallow coastal waters, especially from Morocco to Senegal.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are reported only by Bermuda (1977: 3 700 t) and Ghana (1977: about 300 t). Other countries include the catches of the species in larger statistical categories, either in Caranx or Decapterus.

Caught with trawls, purse seines, and gillnets.

Utilized fresh, frozen, smoked, dried salted and for fishmeal and oil.

CARAN Deca 8

1981

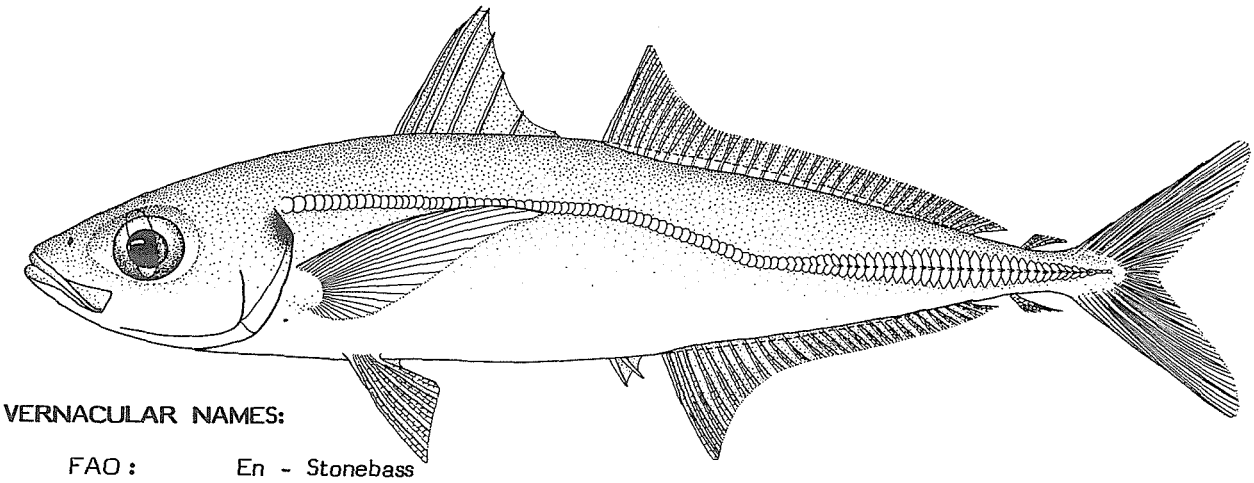
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Decapterus sp.*

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

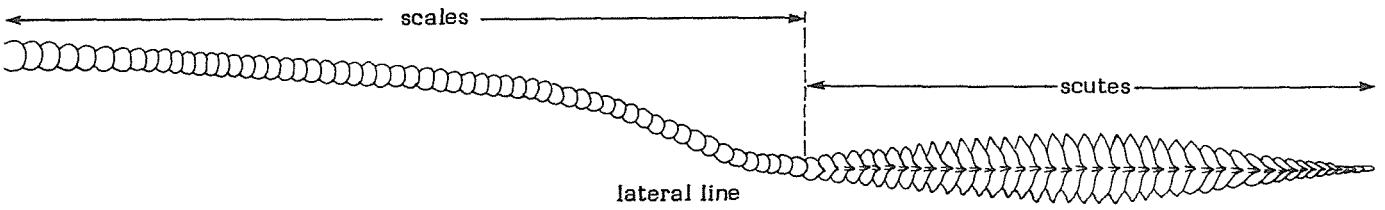
FAO : En - *Stonebass*
Fr - Comète de roche
Sp - Macarela de roca

0 5 cm

NATIONAL :

DISTINCTIVE CHARACTERS :

Body very elongate and slender (its depth contained 5.1 to 5.9 times in fork length) and nearly rounded. Eye moderate (its diameter contained 3.3 to 3.5 times in head length) with a well developed adipose eyelid; end of upper jaw slightly concave, slanting upward and backward; gill rakers (including rudiments) 14 to 16 upper, 41 to 44 lower on first gill arch; teeth minute, in a single row in both jaws, reducing in number and extent with growth. Two well separated dorsal fins, the first with 8 spines, the second with 1 spine and 33 to 34 soft rays (including finlet); anal fin with 2 detached spines followed by 1 spine and 28 or 29 soft rays (including finlet); terminal dorsal and anal soft rays each consisting of a widely detached finlet; pectoral fin moderately short (contained 1.1 or 1.2 times in head length). Scales small and cycloid (smooth to touch); the chord of the curved part of lateral line contained 0.7 or 0.8 times in straight part (to caudal fin base). Scales in curved part of lateral line 54 to 62; no scutes in curved part; anterior scales in straight part 5 to 10; scutes in straight part 34 to 37; total scales and scutes in lateral line 94 to 104. Dorsal accessory lateral line short, terminating near end of head. Shoulder girdle with 2 slight papillae and a shallow groove above and below the pair, the lower papilla and groove the larger. Vertebrae 10 + 14.



* New species yet to be described by author

Colour: preserved, dusky above, lighter below; a small black spot on margin of opercle near upper edge; no small black spots spaced on pored scales of curved lateral line.

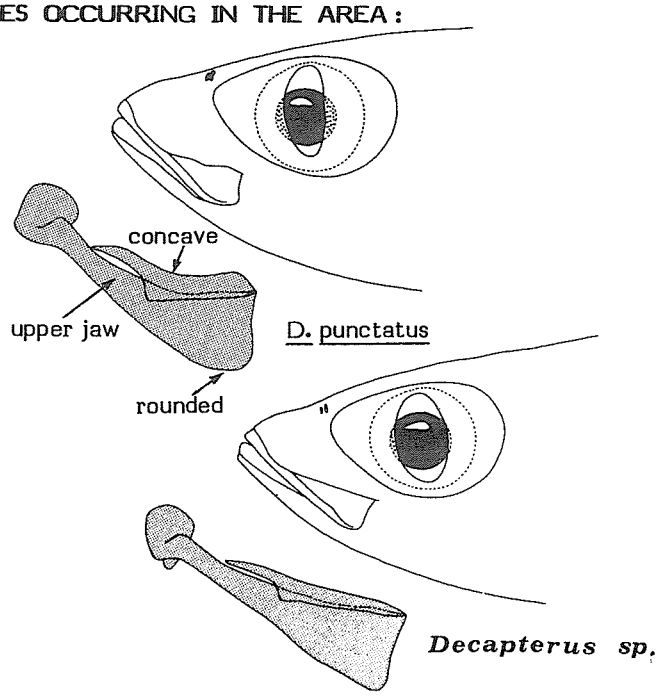
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Decapterus species: fewer gill rakers on lower limb of first gill arch 30 to 39 (41 to 44 in Decapterus sp.). Furthermore, D. punctatus has the end of upper jaw slightly concave dorsally, rounded and expanded posterioventrally (slightly concave in Decapterus sp.) and, in fish larger than about 10 cm fork length, 3 to 14 small black spots spaced on pored scales of curved lateral line.

Trachurus species: scales in curved lateral line scute like, expanded dorso-ventrally; distinctly detached terminal finlet in the dorsal and anal fins.

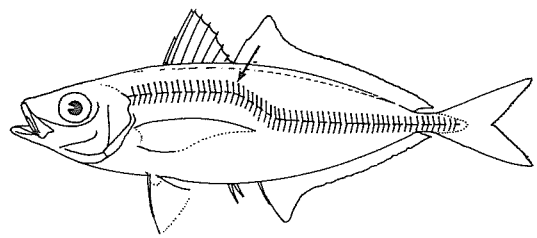
Selar species: no terminal finlet in the dorsal and anal fins; a deep furrow on the shoulder girdle (cleithrum) margin, a large papilla above it and a smaller papilla near upper edge.

Other species of Carangidae: either without scutes in straight part of lateral line or no terminal finlet in the dorsal and anal fins, and pectoral fins longer than head, at least in adults.



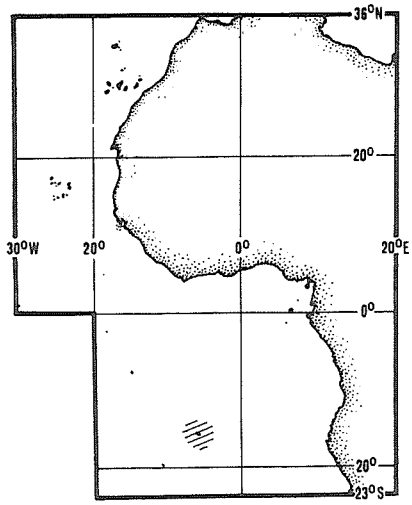
SIZE:

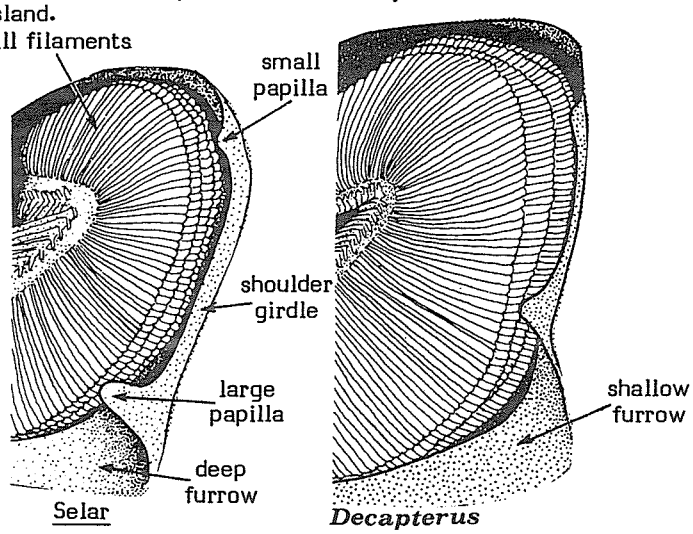
Maximum: 23 cm fork length, but probably attains a larger size.


Trachurus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

An undescribed species known only from St. Helena Island.





gill chamber exposed after removal of gill cover

CARAN Elag 1

1981

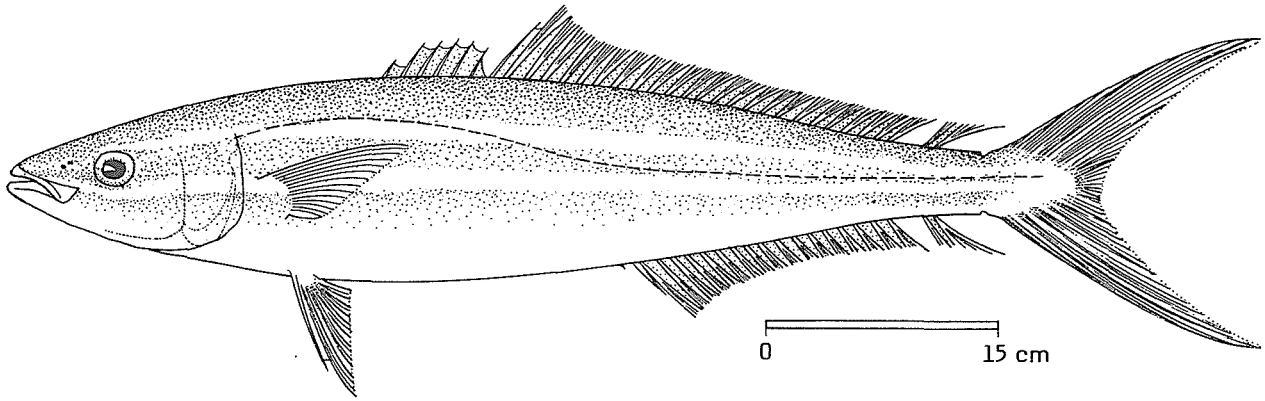
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Elagatis bipinnulata (Quoy & Gaimard, 1824)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Rainbow runner
Fr - Comète saumon
Sp - Macarela salmón

NATIONAL :

DISTINCTIVE CHARACTERS :

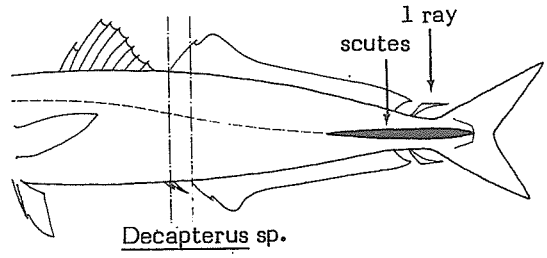
Body greatly elongate, almost fusiform. Head and snout pointed; mouth small, upper jaw not reaching to below eye; teeth in jaws in villiform bands, minute teeth also on roof of mouth and on tongue. Two dorsal fins, the first with 6 spines, the second with 1 spine and 25 to 30 soft rays, including the detached terminal 2-rayed finlet; anal fin comparatively short (its base about 1.5 times in second dorsal fin base) with only 2 spines, the first becoming detached from rest of fin and covered by skin in fish of larger sizes, the second spine continuous with the following 18 to 22 soft rays, including the detached 2-rayed finlet; pectoral fins short, about 2 times in head length and about as long as pelvic fins; caudal fin deeply forked. Lateral line with a slight anterior arch. Body scales ctenoid, covering breast, parts of opercle, cheek and pectoral, pelvic and caudal fins. Dorsal and ventral-peduncle grooves present.

Colour: dark olive-blue or green above and white below; 2 narrow light blue or bluish-white stripes along each side, with a broader olive or yellowish stripe between them; fins dark with an olive or yellow tint.

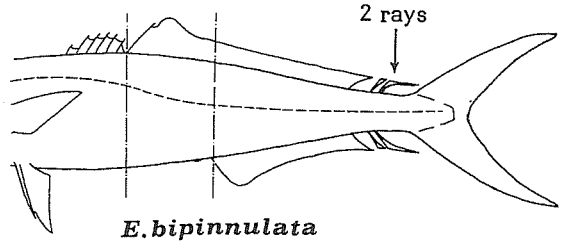
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Decapterus species: terminal finlets in second dorsal and anal fins with a single ray (2 rays in E. bipinnulata); scutes present on straight posterior part of lateral line; anal fin longer (more than 1.5 times in second dorsal fin base).

All other carangid species: body clearly deeper, and never single, terminal finlets in second dorsal and anal fins.



Decapterus sp.



E. bipinnulata

SIZE:

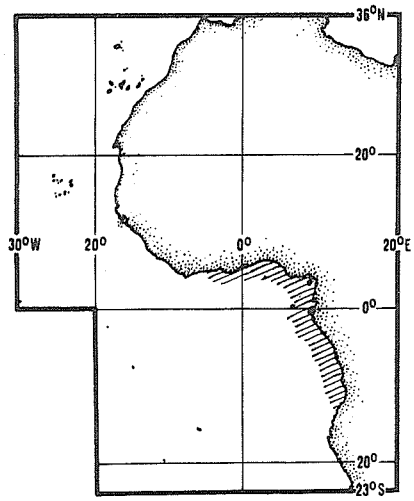
Maximum: 107 cm (possibly to 120 cm) fork length and 10.5 kg; common to 80 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Eastern Atlantic distribution not well established, definitely known only from the Ivory Coast to Angola. Circumtropical in marine waters.

A pelagic fish, usually found at or near the surface, over reefs or sometimes far offshore; may form sizeable schools.

Feeds on invertebrates and small fishes.



PRESENT FISHING GROUNDS:

Surface waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistical are not reported for this species.

Caught with purse seines, on trolling lines and other line gear.

Utilized mainly fresh and smoked.

CARAN Hemi 2

1981

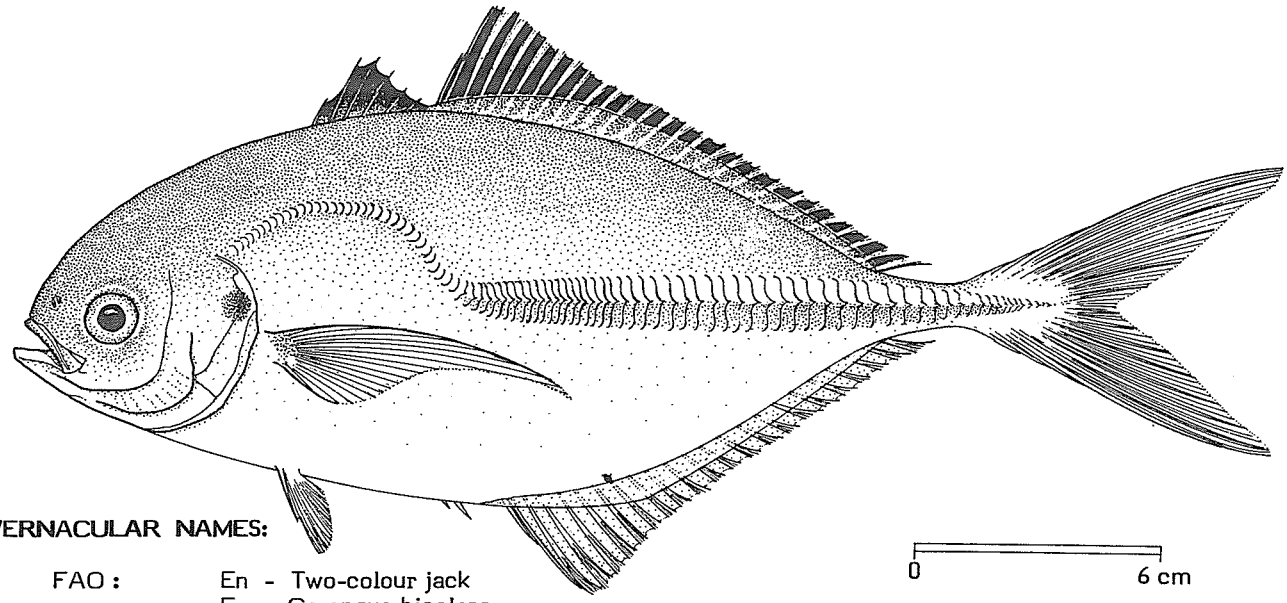
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Hemicaranx bicolor (Günther, 1860)

OTHER SCIENTIFIC NAMES STILL IN USE : Hemicaranx amblyrhynchus (Cuvier, 1833) = misidentification



VERNACULAR NAMES:

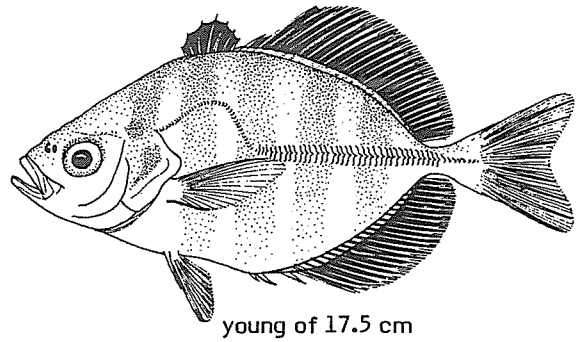
FAO : En - Two-colour jack
Fr - Carangue bicolore
Sp - Casabe bicolor

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, deep (its depth contained 2.4 to 3.1 times in fork length), and strongly compressed. Snout bluntly rounded; eye small (its diameter contained 3.2 to 4.3 times in head length), with a weak adipose eyelid; gill rakers 8 to 10 upper, 19 to 32 lower on first gill arch; mouth small; end of upper jaw extending to below anterior margin of eye; teeth in a single row in both jaws. Dorsal fin with 7 spines followed by 1 spine and 24 to 28 soft rays; anal fin with 2 spines followed by 1 spine and 21 to 24 soft rays; dorsal and anal fin lobes short (dorsal lobe contained about 6.6 to 8.7 times in fork length); pectoral fins moderately falcate, longer than head. Scales small and cycloid (smooth to touch); chest completely scaled; lateral line with a short strong anterior arch, the chord of curved part of lateral line contained 2.4 to 3.1 times in straight part (to caudal fin base), scutes in straight part 41 to 53; no bilateral caudal keels. Vertebrae 10 + 16.

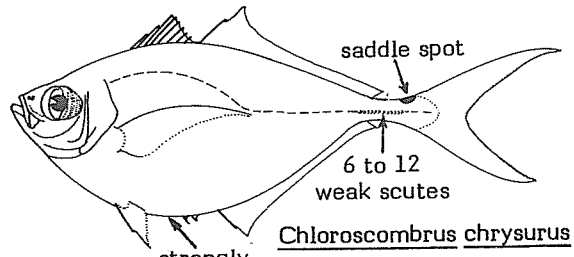
Colour: body dark bluish green above, silvery below; a large black opercular blotch; dorsal fin margin and upper caudal fin lobe tips black, other fins clear; juveniles with 4 or 5 dark body bars.



young of 17.5 cm
standard length

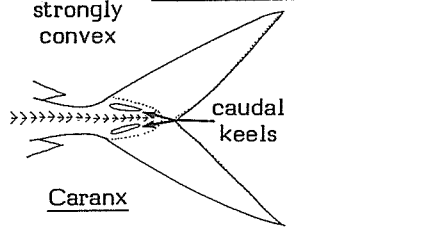
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Chloroscombrus chrysurus: ventral body profile more convex than dorsal profile; a black saddle spot on caudal peduncle and with only 6 to 12 weak lateral line scutes (41 to 53 in Hemicaranx).



Chloroscombrus chrysurus

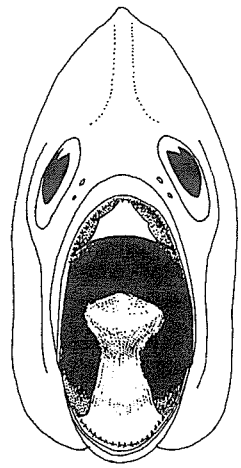
Selene dorsalis and Alectis species: body superficially naked, the scales minute and embedded; pelvic fins rudimentary, about 1/4 to 1/3 of upper jaw length in Selene; anterior soft rays of dorsal and anal fins filamentous in smaller fish and anterior dorsal fin spines not visible in larger fish in Alectis.



Caranx species: upper jaw with an irregular series of strong canines flanked by an inner band; bilateral caudal keels present.

Caranx

Uraspis secunda: tongue, roof and floor of mouth white, the rest dark and chest naked.


Uraspis secunda

Pseudocaranx, Decapterus, Selar and Trachurus species: largest spine of first dorsal fin longer than second dorsal fin lobe; detached dorsal and anal finlets in Decapterus; scutes present also in curved part of lateral line in Trachurus.

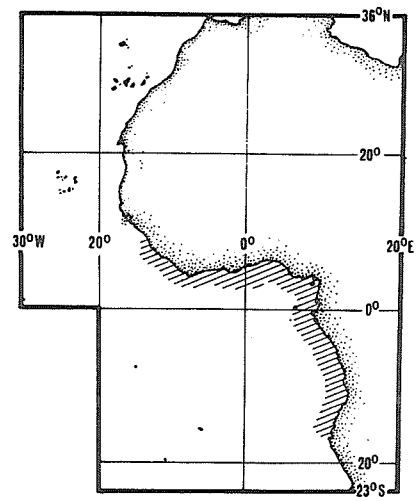
Other species of Carangidae: no scutes in straight part of lateral line.

SIZE:

Maximum: reported to attain 70 cm total length; common to 25 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Along the African coast from at least Sierra Leone to Angola. A geminate species, Hemicaranx amblyrhynchus occurs in the Western Atlantic.



Primarily an inshore species, entering brackish water; apparently more midwater - or bottom-related than at the surface and not forming large schools. The young are found in association with jellyfishes.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trawls, fixed bottom nets, seines and on line gear.

Utilized fresh and dried salted.

CARAN Lich 1

1981

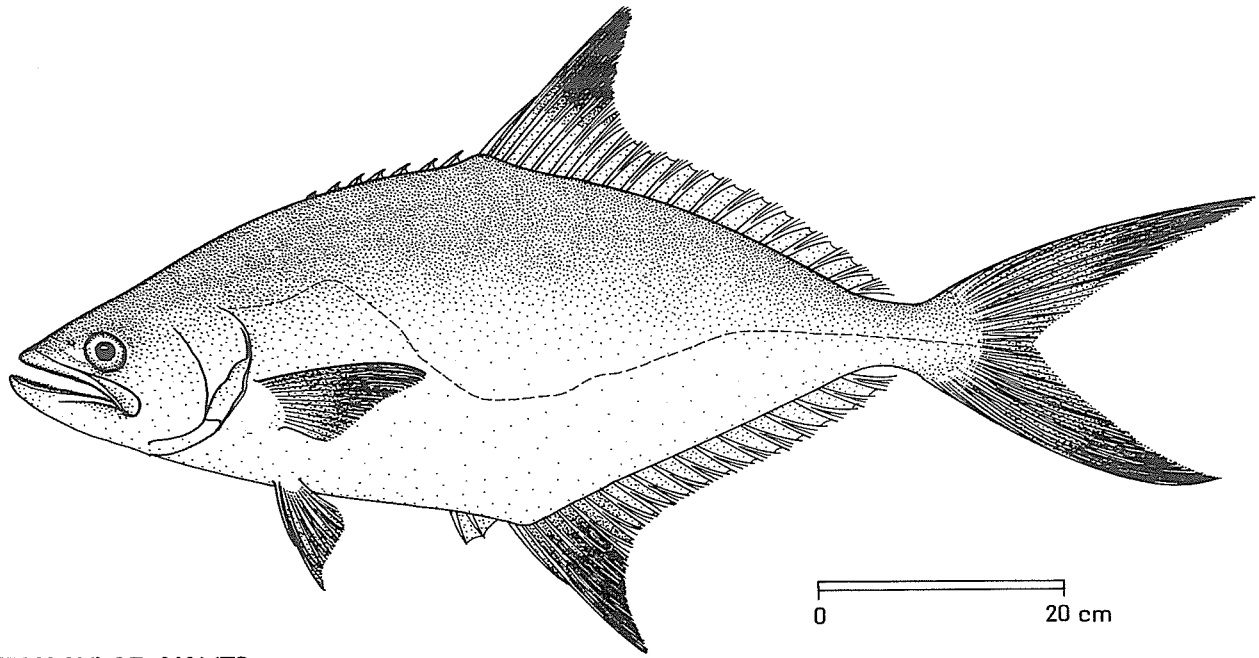
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Lichia amia (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Hypacanthus amia (Linnaeus, 1758)



VERNACULAR NAMES:

FAO : En - Leerfish
Fr - Liche
Sp - Palometón

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately deep (its depth contained 2.7 to 3.4 times in fork length) and compressed, with upper and lower profiles similar; head profile nearly straight dorsally ending in an acute snout; eye moderately small, its diameter contained 3.5 to 5.2 times in head length; upper jaw narrow and rounded at end, extending to below posterior margin of eye or beyond; a broad band of teeth, widest anteriorly, in both jaws; gill rakers (including rudiments) 2 to 5 upper, 7 to 11 lower on first gill arch. Dorsal fin with 7 spines, connected by a membrane at their bases only, and followed by 1 spine and 19 to 21 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 17 to 21 soft rays; bases of anal and second dorsal fins about equal in length; pectoral fins short, contained 1.5 to 1.8 times in head length. Scales small, oval-shaped to strongly lanceolate on breast and partially embedded. Lateral line very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin; no scutes. Vertebrae 10 + 14. No hyperostosis or caudal peduncle grooves.

Colour: in life, adults brown dorsally, silvery white below the lateral line; fins pale brown, lobes of dorsal and anal fins black distally. Juveniles, to at least 12 cm fork length, with brownish-black bands on sides.

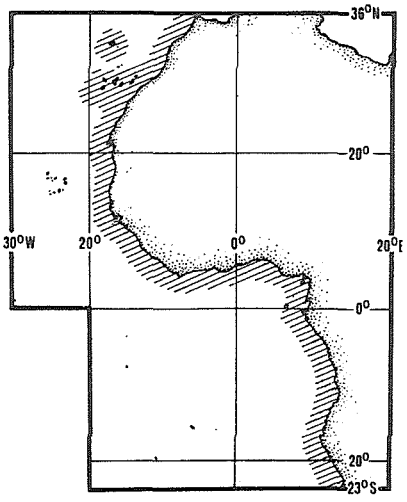
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other carangid species lateral line not very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin.

SIZE:

Maximum: reported to attain at least 180 cm total length; common to 100 cm total length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:



In the area, along the African coast southward to Angola; northward exending into the Mediterranean (common) and to Portugal. Also occurs along the East African coast northward to Delagoa Bay, Lourenço Marques.

An inshore or estuarine species found in surface waters to a depth of at least 50 m.

Feeds primarily on other fish; prefers live or moving bait, and may often be seen in pursuit of mullets on the surface.

PRESENT FISHING GROUNDS:

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trawls, purse seines, set nets and on line gear.

Utilized fresh, frozen, smoked, dried salted and for fishmeal and oil.

CARAN Nauc 1

1981

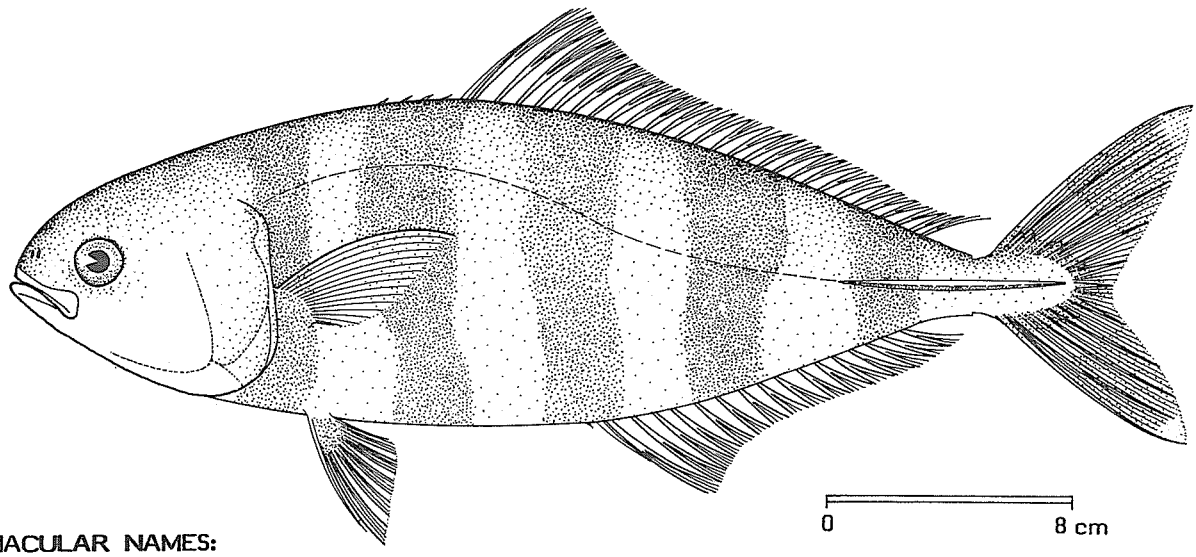
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Naucrates ductor (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



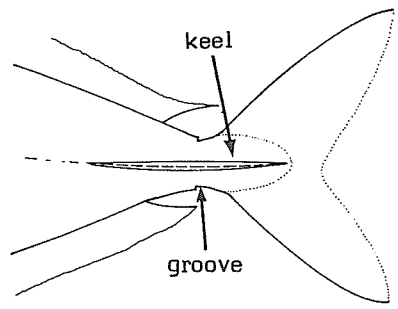
VERNACULAR NAMES:

FAO : En - Pilotfish
Fr - Poisson pilote
Sp - Pez piloto

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, shallow (its depth contained 4 to 4.4 times in fork length) and barely compressed, with nearly equal upper and lower profiles, but head profile tapering sharply above anterior half of upper jaw to produce a nearly blunt snout; upper jaw very narrow at end and extending to about below anterior margin of eye; teeth minute, in a band in upper and lower jaws; gill rakers (including rudiments) 6 to 7 upper, 15 to 20 lower and 21 to 27 total on first gill arch. Dorsal fin with 4 or 5 spines (first spine may be minute and/or last spine may be reduced and skin-covered in fish larger than 20 cm fork length), followed by 1 spine and 25 to 29 soft rays; anal fin with 2 spines separated from rest of fin (first spine may be reduced and skin-covered) followed by 1 spine and 15 to 17 soft rays; second dorsal fin lobe short, contained 7.1 to 8.2 times in fork length; anal fin base short, contained 1.6 to 1.9 times in second dorsal fin base. Scales very small and ctenoid (rough); no scutes. Vertebrae 10 + 15. Caudal peduncle with a well developed lateral, fleshy keel on each side and dorsal and ventral peduncle grooves.



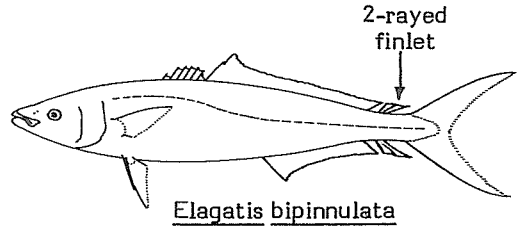
Colour: in live fish, 6 to 7 black bars against a light silvery background, but there also is a transient colouration (possibly aggressive display) with bars disappearing and most of fish silvery-white with 3 broad blue patches in tandem across back. In fresh or preserved fish, head dark, 5 or 6 dark broad body bars and a similar bar at end of caudal peduncle, bars 3 to 6 extending through soft dorsal and anal fin membranes, and the bars persistent at all sizes; rest of body bluish (fresh) or light or dusky; white tips prominent on upper and lower caudal fin lobes and smaller white tips on second dorsal and anal fin lobes; most of fins dusky to dark.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Seriola species: more spines in first dorsal fin, usually 7 or 8 (rarely 6 with overgrowth in very large individuals of N. ductor); more anal fin rays, 18 to 22 (very rarely 17 in N. ductor).

Elagatis bipinnulata: the only carangid species with terminal 2-rayed dorsal and anal finlets.

Other carangid genera: lack caudal peduncle grooves.



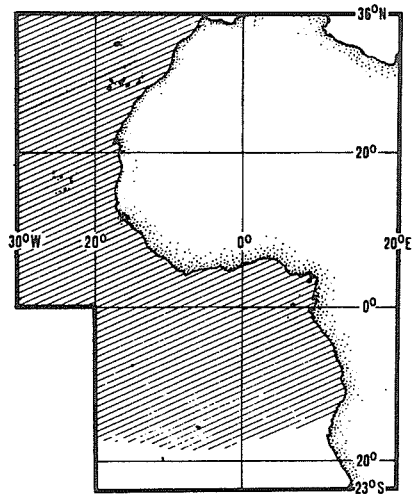
Elagatis bipinnulata

SIZE:

Maximum: 70 cm total length (63 cm fork length) reported; common to 35 cm fork length; weight 0.5 kg at 33 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Circumtropical in marine waters. In the area, it occurs from the Straits of Gibraltar to southern Angola; also found in the Mediterranean, but rare in northern European waters.



Primarily pelagic in oceanic water. This species has a semi-obligate commensal relationship with large sharks, rays, and other fishes, turtles, ships and drift-wood. Juveniles are frequently found in association with seaweeds and jellyfish; the larval forms are wide-spread in epipelagic oceanic waters. Maturity is reached at least by 23 cm fork length.

Feeds on scraps of the host's food and on small fishes and invertebrates and possibly ectoparasites of the host.

PRESENT FISHING GROUNDS:

Oceanic waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic trawls.

Marketed fresh and utilized for fishmeal and oil.

CARAN *Pseu* 1

1981

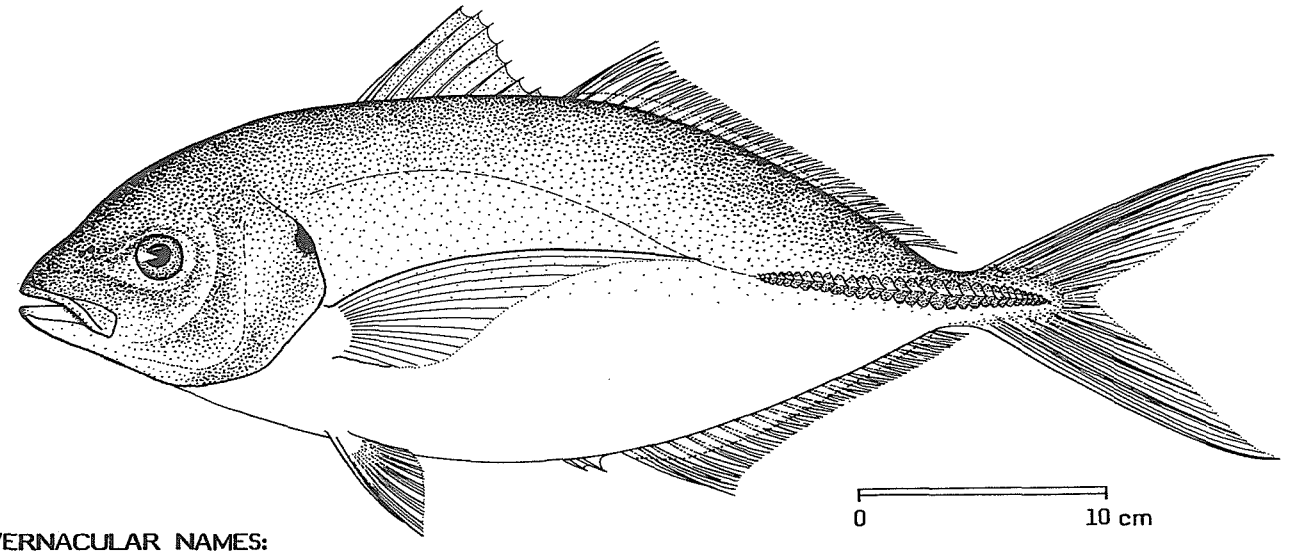
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Pseudocaranx dentex (Bloch & Schneider, 1801)

OTHER SCIENTIFIC NAMES STILL IN USE : Caranx adscensionis (Osbeck, 1771) = non valid
Caranx dentex (Bloch & Schneider, 1801)
Caranx guara (Bonnaterre, 1788)
Caranx georgianus Cuvier, 1833



VERNACULAR NAMES:

FAO : En - Guelly jack
Fr - Carangue dentue
Sp - Jurel dentón

NATIONAL :

DISTINCTIVE CHARACTERS :

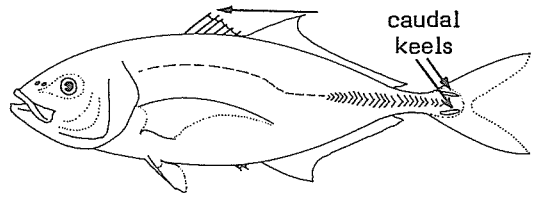
Body elongate, deep (its depth contained about 2.8 to 3.2 times in fork length), and moderately compressed. Snout elongate, moderately pointed; eye medium-sized (its diameter contained 4.4 to 5.3 times in head length) with a weak adipose eyelid; gill rakers 11 to 14 upper, 23 to 28 lower on first gill arch; mouth moderately large; end of upper jaw not reaching anterior margin of eye; a single row of blunt conical teeth in both jaws, an inner series of conical teeth anteriorly in upper jaw of young. Two scarcely separated dorsal fins, the first with 8 spines, the second with 1 spine and 25 to 27 soft rays; dorsal-fin spines long, longest spine longer than lobe of soft dorsal fin; pectoral fins falcate (longer than head). Scales small and cycloid (smooth to touch); chest completely scaled or with a small naked spot anteroventrally; lateral line with a weak and extended anterior arch; its posterior (straight) portion with 25 to 31 scutes; bilateral paired caudal keels absent. Vertebrae 10 + 15.

Colour: pale greenish blue above, silvery below; a yellow stripe along sides (wider posteriorly) and at base of soft dorsal and anal fins; caudal and soft dorsal fins dusky yellow; a black spot on posterodorsal margin of opercle.

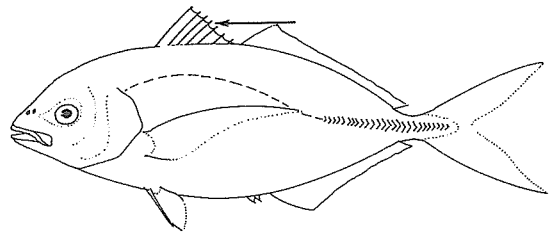
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Caranx, Uraspis, Chloroscombrus and Hemicaranx: may be superficially similar but differ in having first dorsal fin spines shorter than the second dorsal fin lobe. Furthermore, in Caranx the upper jaw teeth, if large, are canine-like and followed by an inner band of smaller teeth and bilateral caudal keels are present.

Other carangid genera with largest spine of first dorsal fin longer than height of second dorsal fin lobe (Decapterus, Selar and Trachurus): well developed adipose eyelids and pectoral fins equal to or shorter than head.



Caranx


P. dentex

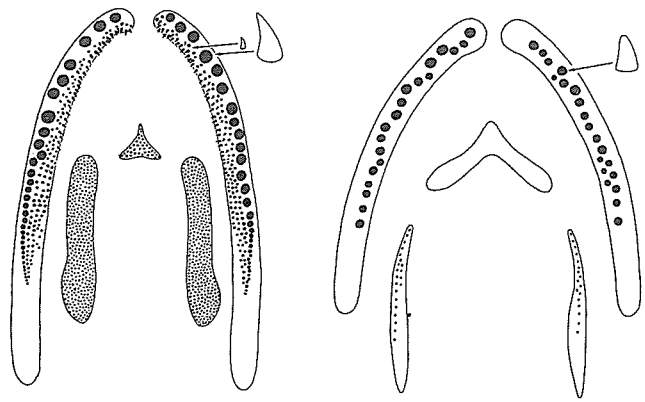
SIZE:

Maximum: about 80 cm total length (68 cm fork length) and 4.5 kg; common to 40 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area around the Azores, Madeira, Canary, Cape Verde, Ascension and St. Helena Islands. Also in the Mediterranean and in temperate or subtropical waters of Bermuda, southern Brazil, South Africa, Japan and Australia.

A schooling species, usually inshore, feeds on the bottom.


Caranx

Pseudocaranx

PRESENT FISHING GROUNDS:

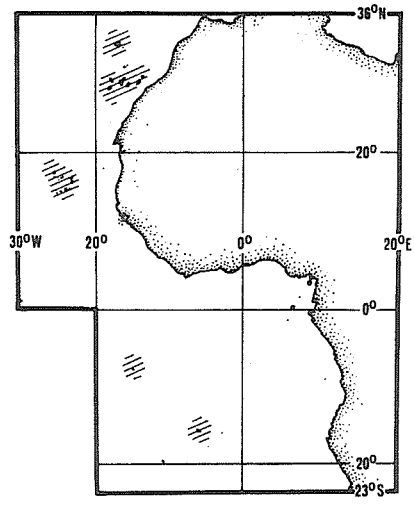
Around offlying islands.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls.

Utilized fresh, dried salted and for fishmeal and oil.



CARAN Selar 1

1981

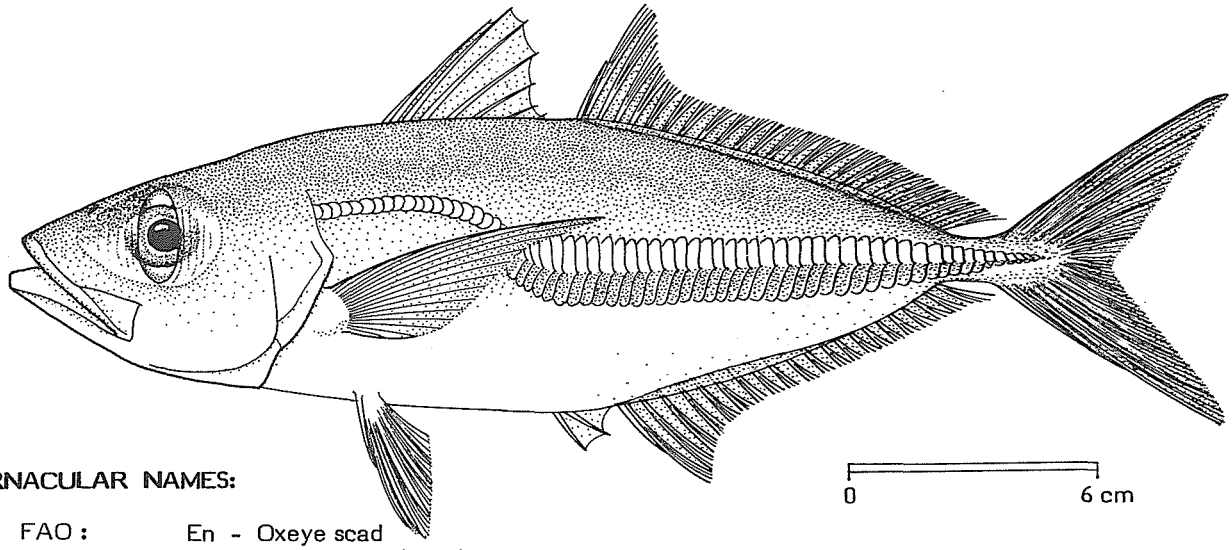
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Selar boops (Cuvier, 1833)

OTHER SCIENTIFIC NAMES STILL IN USE : None



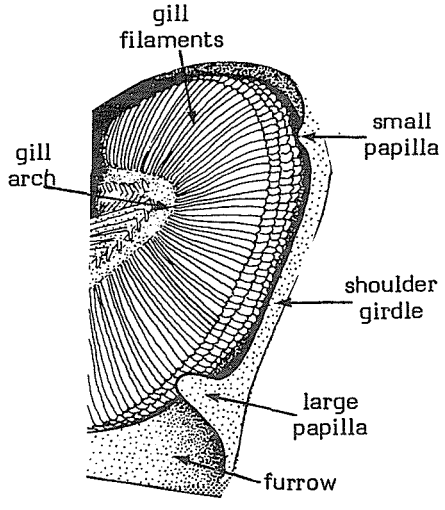
VERNACULAR NAMES:

FAO : En - Oxeye scad
Fr - Selar oeil de boeuf
Sp - Chicharro ojo de buey

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 3.4 to 3.8 times in fork length) and moderately compressed, with lower profile slightly more convex than upper; eye very large (its diameter contained 2.8 to 3.1 times in head length), with a well developed adipose eyelid; upper jaw moderately broad at end and extending to below anterior margin of pupil; teeth small and recurved; upper jaw with a narrow band, tapering posteriorly; lower jaw with an irregular single row; gill rakers (including rudiments) 8 to 10 upper, 25 to 29 lower on first gill arch. Shoulder girdle (cleithrum) margin with a deep furrow, a large papilla immediately above it and a smaller papilla near upper edge. Dorsal fin with 8 spines, followed by 1 spine and 23 to 25 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 19 to 21 soft rays; pectoral fins shorter than head. Scales moderately small and cycloid (smooth to touch), covering body except for a small area behind pectoral fins, scutes relatively large, maximum height contained 1.3 to 1.6 times in eye diameter; chord of the curved part of lateral line contained 2.1 to 3.0 times in straight part (to caudal fin base); curved part of lateral line with 21 to 24 pored scales and 0 to 4 scutes, straight part of lateral line with 37 to 46 scutes (to caudal fin base), total scales and scutes in lateral line 62 to 69. Dorsal accessory lateral line extending posteriorly to below origin of dorsal fin. Vertebrae 10 + 14.

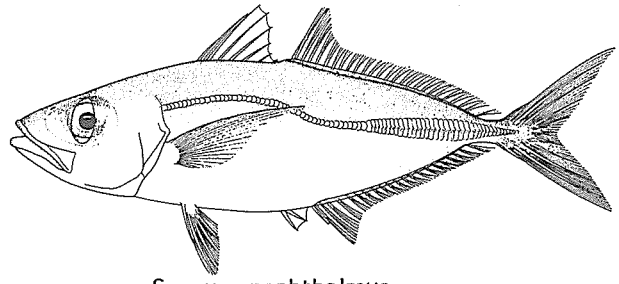


gill chamber exposed after removal of gill cover

Colour: live colouration not recorded.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Selar crumenophthalmus: curved part of lateral line with 48 to 56 pored scales (21 to 24 pored scales in S. boops), chord of curved part of lateral line contained 0.7 to 1.2 times in straight part (2.1 to 3.0 times in S. boops) and scutes smaller, maximum height contained 2.1 to 2.9 times in eye diameter (1.3 to 1.6 times in S. boops).

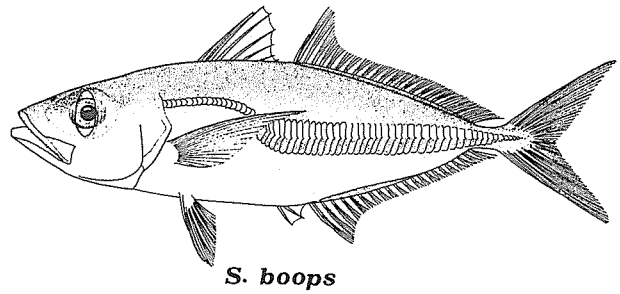


S. crumenophthalmus

Decapterus species: a detached terminal finlet in dorsal and anal fins; no deep furrow on shoulder girdle (cleithrum) margin.

Trachurus species: scales in curved lateral line scutelike, expanded dorsoventrally; no deep furrow on shoulder girdle (cleithrum) margin.

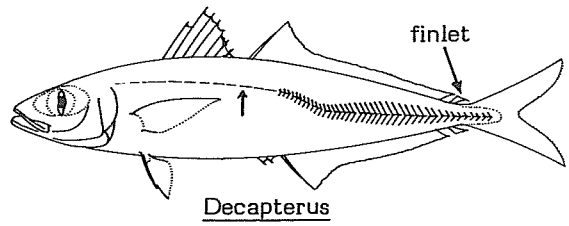
Other species of Carangidae: no deep furrow on shoulder girdle (cleithrum) margin; either without scutes in straight part of lateral line or with pectoral fins longer than head, at least in adults.



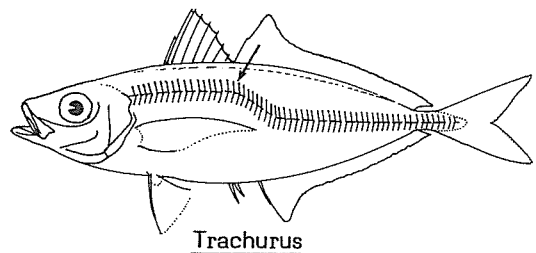
S. boops

SIZE:

Maximum: unknown, attains at least 24 cm fork length.



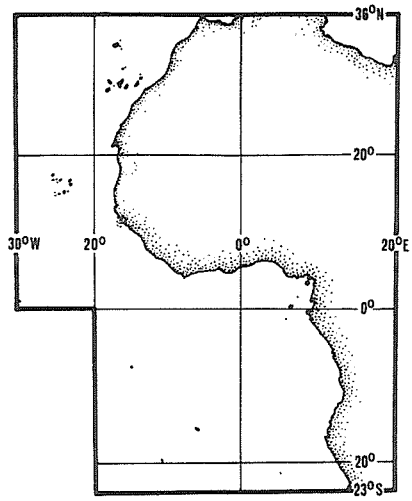
Decapterus



Trachurus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic known only from Sezimbra Bay, Portugal, where the species was taken in 366 to 439 m depth; it should be watched for in Fishing Area 34, as it is likely to occur there as well. Elsewhere known only from the Indian and Western Pacific Oceans.



CARAN Selar 2

1981

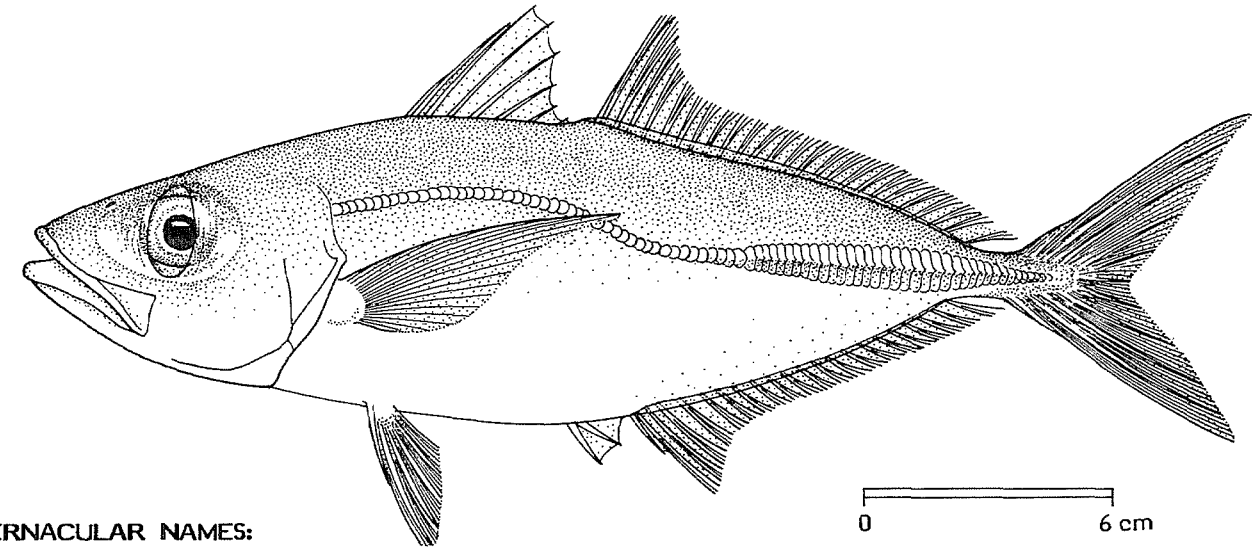
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Selar crumenophthalmus (Bloch, 1793)

OTHER SCIENTIFIC NAMES STILL IN USE : Trachurops crumenophthalmus (Bloch, 1793)



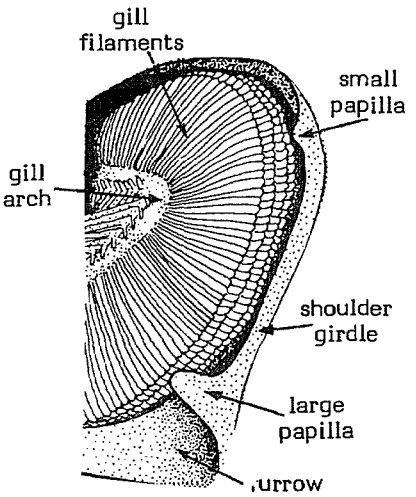
VERNACULAR NAMES:

FAO : En - Bigeye scad
Fr - Selar coulisou
Sp - Chicharro ojón

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 3.7 to 4.1 times in fork length) and moderately compressed, with lower profile slightly more convex than upper; eye very large (its diameter contained 2.7 to 3.2 times in head length), with a well developed adipose eyelid; upper jaw moderately broad at end and extending to below anterior margin of pupil; teeth small and recurved; upper jaw with a narrow band, tapering posteriorly; lower jaw with an irregular single row; gill rakers (including rudiments) 9 to 12 upper, 27 to 31 lower on first gill arch. Shoulder girdle (cleithrum) margin with a deep furrow, a large papilla immediately above it and a smaller papilla near upper edge. Dorsal fin with 8 spines, followed by 1 spine and 24 to 27 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 21 to 23 soft rays; pectoral fins shorter than head. *Scales moderately small and cycloid* (smooth to touch), covering body except for a small area behind pectoral fins, scutes relatively small, maximum height contained 2.1 to 2.9 times in eye diameter; chord of the curved part of lateral line contained 0.7 to 1.2 times in straight part (to caudal fin base); curved part of lateral line with 48 to 56 pored scales and 0 to 4 scutes, total 48 to 58 scales and scutes, straight part with 0 to 11 anterior pored scales and 29 to 42 scutes (to caudal fin base) total 30 to 43 *scales and scutes; total number of scales and scutes in lateral line* 83 to 94. Dorsal accessory lateral line extending posteriorly to below origin of dorsal fin. Vertebrae 10+ 14.



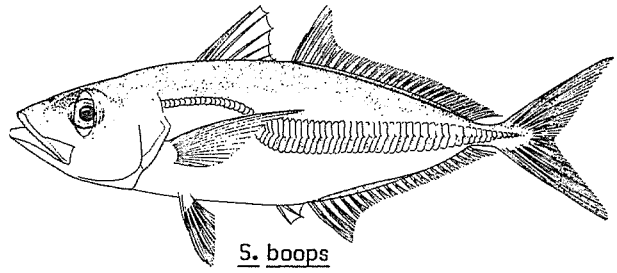
gill chamber exposed after removal of gill cover

Colour: in fresh fish, upper third of body and top of head metallic blue or bluish-green; tip of snout dusky or blackish; lower two thirds of body and head silvery or whitish; a narrow, yellowish stripe may be present from edge of opercle to upper part of caudal peduncle; blackish areas above and below pupil with a reddish area

sometimes present; a small elongated, blackish opercular spot on edge near upper margin. First dorsal fin dusky on margins with rest of fin clear; second dorsal fin dusky over most of fin with dorsal lobe blackish; anal fin clear or slightly dusky along base; caudal fin dusky with tip of upper lobe dark; pectoral fins clear or slightly dusky near base and with a yellowish tint sometimes present; pelvic fins clear.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Selar boops: curved part of lateral line with 21 to 24 pored scales (48 to 56 pored scales in S. crumenophthalmus), chord of curved part of lateral line contained 2.1 to 3.0 times in straight part (0.7 to 1.2 times in S. crumenophthalmus) and scutes larger, maximum height contained 1.3 to 1.6 times in eye diameter (2.1 to 2.9 times in S. crumenophthalmus).

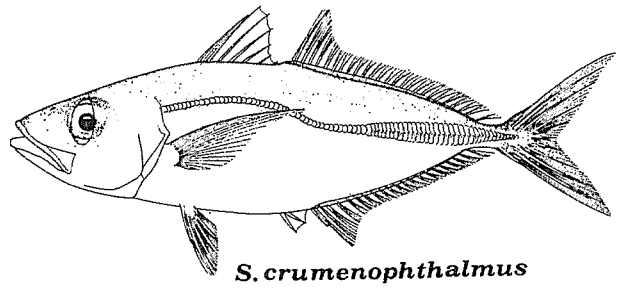


S. boops

Decapterus species: a detached terminal finlet in dorsal and anal fins; no deep furrow on shoulder girdle (cleithrum) margin.

Trachurus species: scales in curved lateral line scutelike, expanded dorsoventrally; no deep furrow on shoulder girdle (cleithrum) margin.

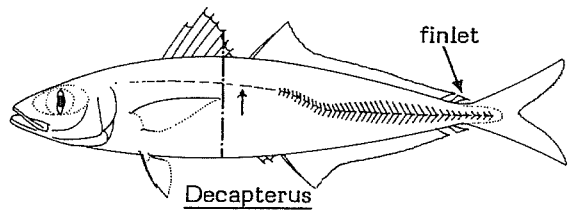
Other species of Carangidae: no deep furrow on shoulder girdle (cleithrum) margin; either without scutes in straight part of lateral line or with pectoral fins longer than head, at least in adults.



S. crumenophthalmus

SIZE:

Maximum: unsubstantial report of 60 cm standard length; documented record of 27 cm standard length; common to about 24 cm fork length at weights of about 0.23 kg.

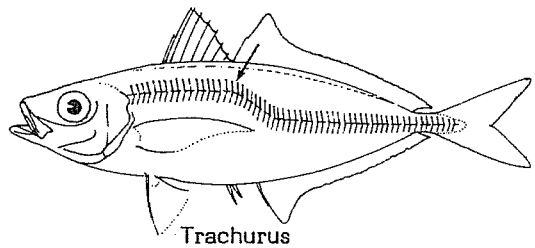


Decapterus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

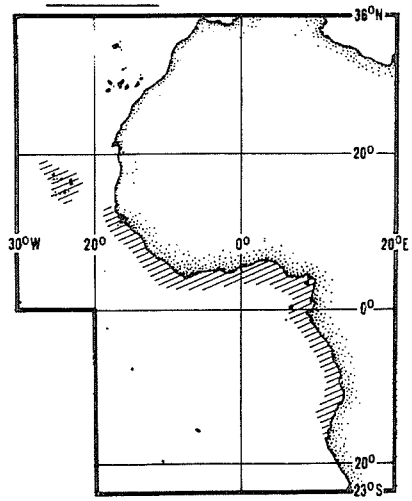
Cape Verde Islands southward to southern Angola. Worldwide in tropical and subtropical marine waters.

Found in small or large schools, mainly inshore or in shallow water, at times over shallow reefs and in turbid water, but ranging in depth to about 170 m.



Trachurus

Feeds primarily on planktonic or benthic invertebrates, including shrimps, crabs and foraminifera; also on fish.



PRESENT FISHING GROUNDS:

Shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with trawls, purse seines, set nets and on line gear.

Utilized fresh, smoked and for fishmeal and oil.

CARAN Sele 4

1981

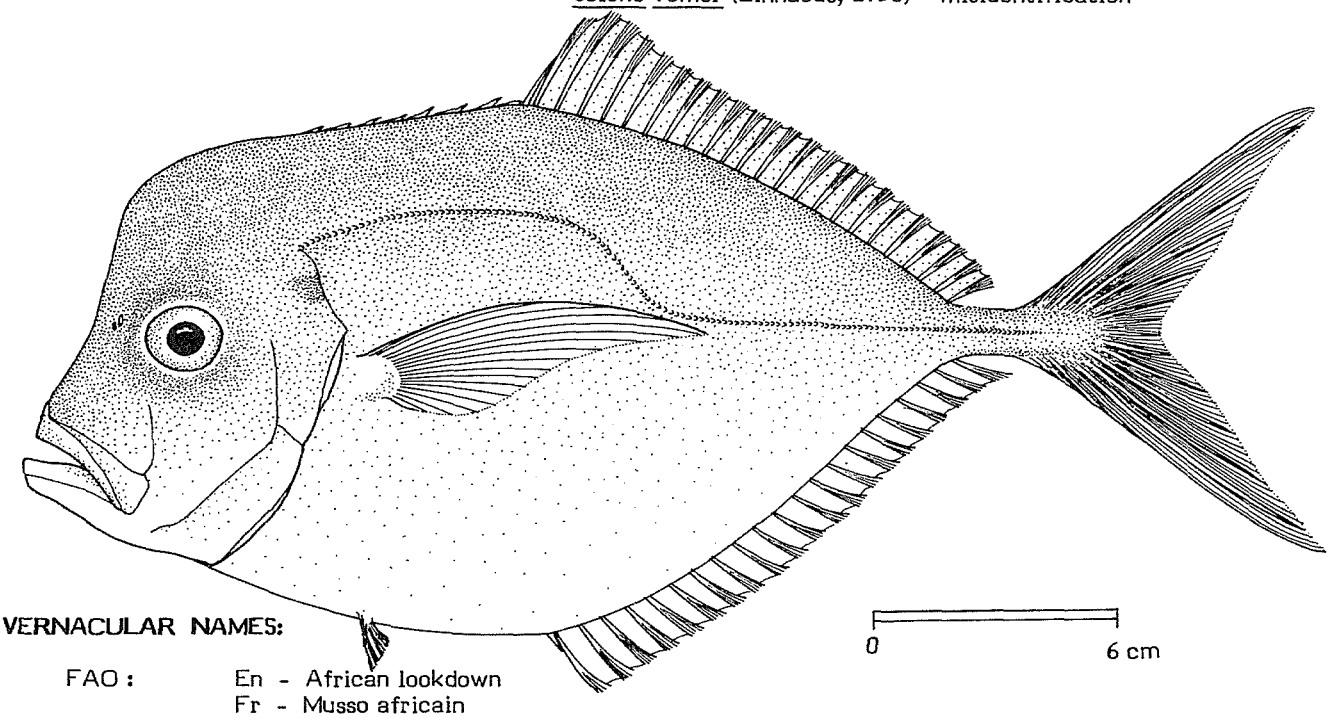
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (*in part*)
(E.C. Atlantic)

Selene dorsalis (Gill, 1862)

OTHER SCIENTIFIC NAMES STILL IN USE : Vomer setapinnis (Mitchill, 1815) = misidentification
Vomer gibbiceps Gilchrist & Thompson, 1914
Selene vomer (Linnaeus, 1758) = misidentification

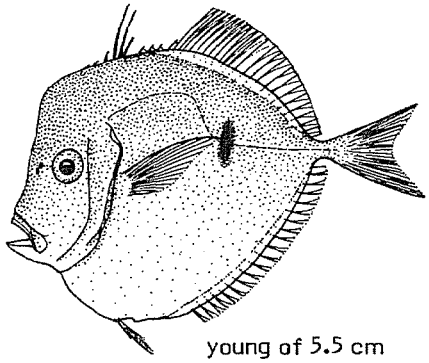


VERNACULAR NAMES:

FAO : En - African lookdown
Fr - Musso africain
Sp - Jorobado africano

NATIONAL :

DISTINCTIVE CHARACTERS :


young of 5.5 cm standard length

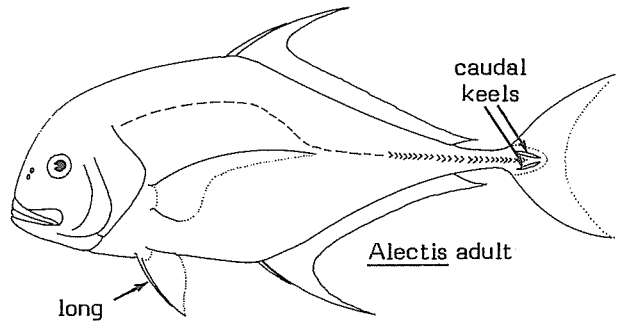
Body short, very deep (its depth contained 1.7 to 2.3 times in fork length) and extremely compressed, with ventral profile more convex than dorsal; head profile rounded at top and sharply sloping through a slight concavity in front of eye to a blunt snout with lower jaw protruding; eye moderately small, its diameter contained 3.3 to 4.2 times in head length; upper jaw short, expanded at posterior end, and ending far below and about under anterior margin of eye; teeth relatively small; upper jaw with a narrow irregular band; lower jaw with a narrow irregular band tapering to an irregular row posteriorly; gill rakers (including rudiments) 7 to 9 upper, 31 to 34 lower and 38 to 43 total. Dorsal fin with 8 spines, followed by 1 spine and 23 or 24 soft rays; anal fin with 2 spines (reabsorbed and not apparent at about 13 cm fork length) separated from rest of fin, followed by 1 spine and 18 to 20 soft rays; first 4 dorsal fin spines elongated in fish shorter than 6 cm fork length, with the longest (second) spine about equal in length to body depth, these spines becoming very short and nearly reabsorbed at 30 cm fork length; second dorsal fin lobe only slightly elongated, contained 7.2 to 10.1 times in fork length; pelvic fins relatively short at all sizes, becoming nearly rudimentary. Scales small and cycloid (smooth to touch), covering most of lower half of body but absent anteriorly on most of area from pelvic fin base to junction of curved and straight parts of lateral line; scutes in straight part of lateral line weak, scarcely differentiated, numbering from 8 to 17 over caudal peduncle. Vertebrae 10 + 14.

Colour: in life, body and head silvery, sometimes with a metallic bluish cast, more pronounced on upper body, head and snout; a faint dark spot on edge of opercle near upper margin; a narrow black area on top of caudal peduncle; fins clear or hyaline, with dusky or olive yellow tints on second dorsal and caudal fin lobes in some. Juveniles (about 7 to 9 cm fork length) generally silvery with an oval black spot over straight part of lateral line.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

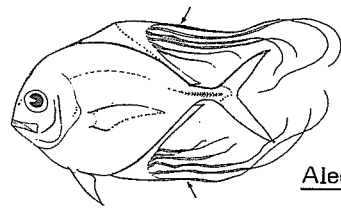
Alectis species: pelvic fins relatively long, longer than upper jaw (about 1/4 to 1/3 of upper jaw length in Selene); and bilateral caudal keels present; anterior soft rays of dorsal and anal fins filamentous in small fish.

Other species of Carangidae: scales covering more of body and more apparent. Furthermore, either anterior 2 anal fin spines normal and movable (except in Uraspis), or caudal peduncle grooves present.



SIZE:

Maximum: unknown, largest examined 32.5 cm fork length (36 cm total length), 0.4 kg; common to 24 cm fork length.

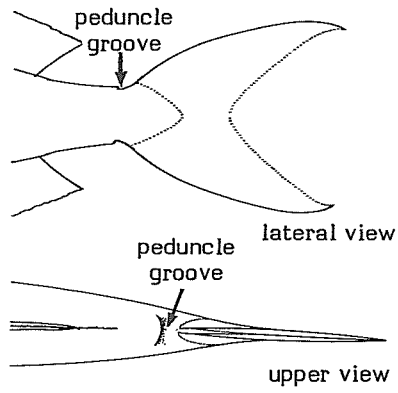


GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Eastern Atlantic distribution not well established; definitely known from the Cape Verde Islands and along the African coast from Senegal to Walvis Bay, South Africa; also reported from Portugal and Madeira. A geminate species, Selene setapinnis, occurs in the Western Atlantic.

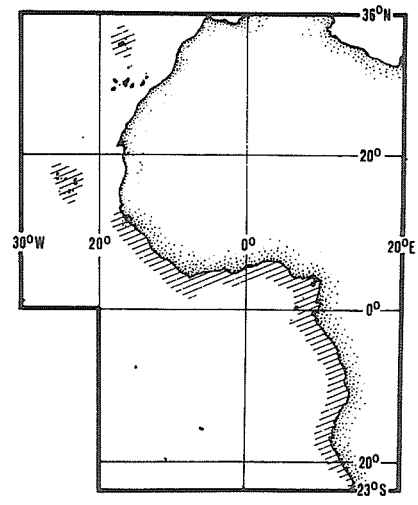
A schooling species, usually found near the bottom from inshore waters to at least 60 m depth. The young of less than 3 cm fork length occur near the surface, and juveniles may be found in bays and river mouths.

Feeds on small fishes and crustaceans.



PRESENT FISHING GROUNDS:

Shelf waters throughout its range.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls.

Utilized fresh and for fishmeal and oil.

CARAN Serio 1

1981

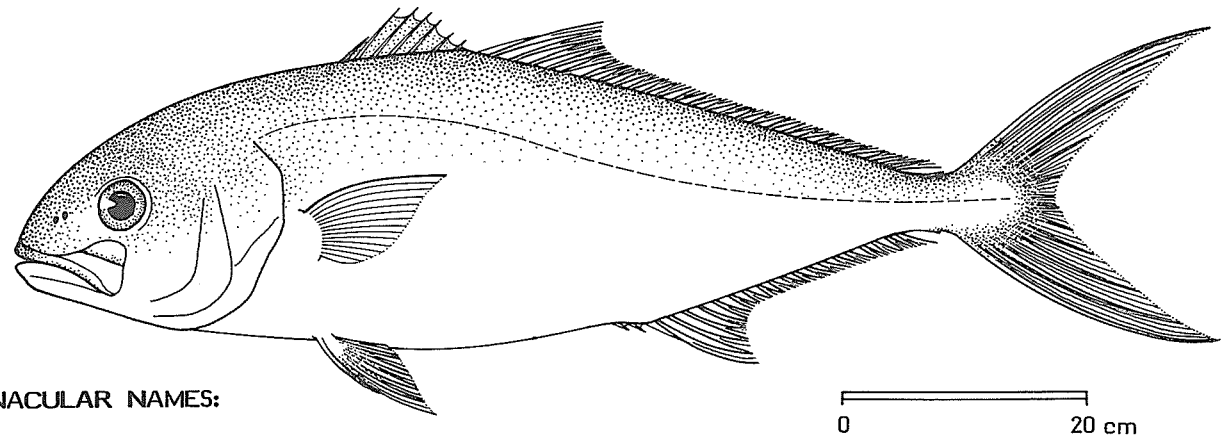
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Seriola dumerili (Risso, 1810)

OTHER SCIENTIFIC NAMES STILL IN USE : South Africa, Seriola rhombica Smith, 1959; Australia, Seriola simplex Ramsey & Ogilby, 1886; Japan, Seriola purpurescens Temminck & Schlegel, 1844; Indonesia, Seriola tapeinometapon Bleeker, 1853



VERNACULAR NAMES:

FAO : En - Greater amberjack
Fr - Sériole couronnée
Sp - Pez de limón (= Medregal coronado, Area 31)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately shallow (its depth contained 3.8 to 4.4 times in fork length) and slightly compressed, with upper profile slightly more convex than lower; eye relatively small, its diameter contained 3.6 to 6.6 times in head length; upper jaw very broad at end (with broad supramaxilla), extending to below about middle of eye; teeth minute, in a broad band in upper and lower jaws; gill rakers (including rudiments) decreasing in number with growth; at 1.3 to 1.5 cm fork length, 5 or 6 upper, 15 or 16 lower gill rakers; at 2 to 20 cm fork length, 18 to 24 total gill rakers; at sizes larger than 20 cm fork length, about 11 to 19 total gill rakers. Dorsal fin with 7 spines (seventh spine becoming reduced and skin-covered in fish larger than 60 cm fork length), followed by 1 spine and 29 to 35 soft rays; anal fin with 2 spines separated from rest of fin (the spines becoming reduced and in some fish larger than 80 cm fork length, skin-covered), followed by 1 spine and 18 to 22 soft rays; second dorsal fin lobe relatively short, contained 7.2 to 7.7 times in fork length; anal fin base moderately short, contained 1.4 to 1.7 times in second dorsal fin base; pelvic fins longer than pectorals. Scales small and cycloid (smooth to touch); no scutes. Vertebrae 10 + 14; first pterygiophore of anal fin with distinctly concave anterior margin. Caudal peduncle grooves present.

Colour: in fresh adults, dorsally (including snout) usually blue or olivaceous, sides and belly silver to white, sometimes brownish or with a pinkish tinge; usually a darker nuchal bar through eye to dorsal fin origin; often an amber stripe from eye along middle of body; first dorsal fin dusky to dark, or membranes clear and anterior margins of spines dark; second dorsal fin entirely dark; anal fin dark over most of fin with white on anterior margin and tip of lobe, on distal margin of entire fin, and irregularly along fin base; pectoral fins clear to dusky with a central darker area or fins uniformly dark; pelvic fins white ventrally and along lateral edge and on tip of dorsal surface, remainder of dorsal surface irregularly dusky to dark; caudal fin dark or dusky with a lighter narrow posterior margin, extreme tip of lower caudal-fin lobe sometimes light or white. Juveniles from 18 to 23 cm fork length generally have more yellow, olive or amber on the fins and suffused on the body, and the dorsal surface of the pelvic fins may be orange with irregular black areas. Smaller juveniles (2 to 17 cm fork length) with a prominent dark nuchal bar extending from the eye to the dorsal fin origin; 5 dark body bars, becoming irregularly split vertically, that do not extend into the membranes of the second dorsal and anal fins, and a 6th bar at end of caudal peduncle; interradial membranes of second dorsal and anal fins lightly pigmented.

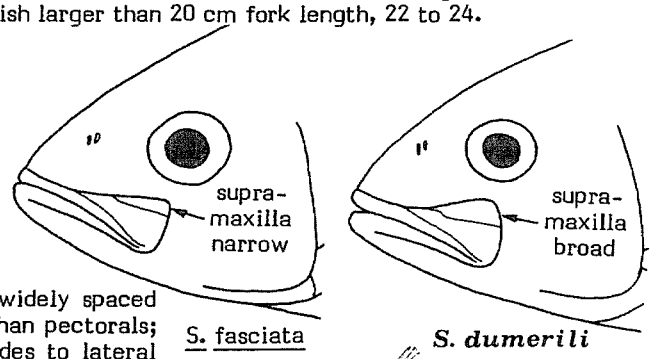
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Seriola carpenteri: gill rakers (including rudiments) relatively constant in number with growth, total 22 or 23 (gill rakers decreasing in number with growth, total 18 to 24, only 11 to 19 in fish larger than 20 cm fork length in S. dumerili); interradial membranes of second dorsal and anal fins predominantly dark in juveniles.

Seriola rivoliana: second dorsal fin lobe longer, contained 4.5 to 5.2 times in fork length (7.2 to 7.7 times in S. dumerili); total gill rakers (including rudiments in fish larger than 20 cm fork length, 22 to 24.

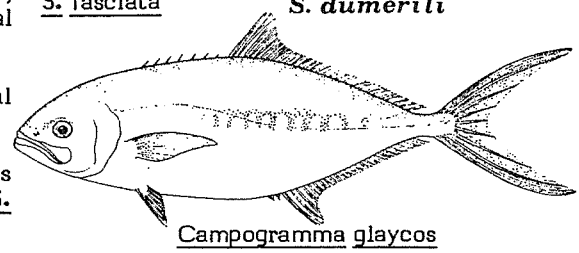
Seriola fasciata: end of upper jaw, especially supramaxilla, narrow (broad in S. dumerili); total gill rakers (including rudiments) 23 to 26.

Seriola lalandi: caudal fin yellow (dark to dusky in S. dumerili); end of upper jaw, especially supramaxilla, narrow (broad in S. dumerili); total gill rakers 23 to 29.

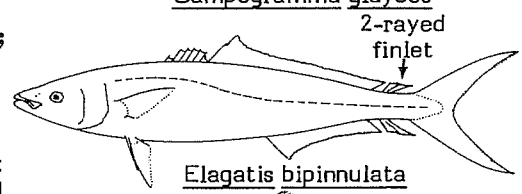


S. fasciata *S. dumerili*

Campogramma glaycos: single row of large, widely spaced caniniform teeth in both jaws; pelvic fins shorter than pectorals; in fresh adults, dark colour of back extending on sides to lateral line in a series of prominent zig-zag lobes.


Campogramma glaycos

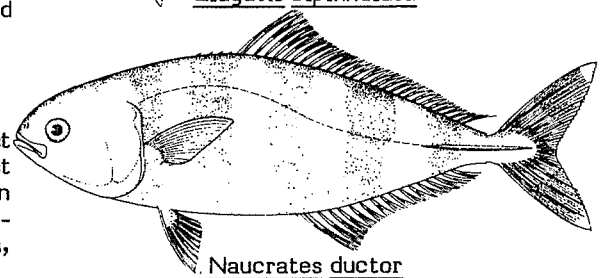
Elagatis bipinnulata: the only carangid species with terminal 2-rayed dorsal and anal finlets.



Elagatis bipinnulata

Naucrates ductor: first dorsal fin with 4 or 5 spines (7 spines in S. dumerili); anal fin with 15 to 17 soft rays (18 to 22 in S. dumerili); usually 6 or 7 black bars against a silvery background.

Other species of Carangidae: no caudal peduncle grooves; also, many with scutes on lateral line.

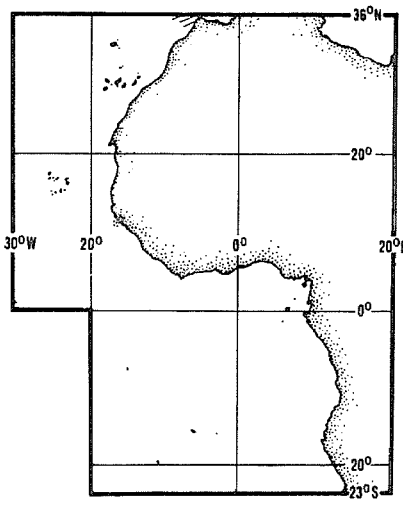

Naucrates ductor

SIZE:

Maximum: 80.3 kg; a hook and line record of 150 cm fork length and 67.6 kg (Bermuda); common to 110 cm fork length and 8 kg.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Eastern Atlantic distribution not well established due to past confusion with S. carpenteri; probably occurring along the West African coast but definitely known only from the Mediterranean and from southern England where it is exceptionally rare. Elsewhere it is known from Nova Scotia to Brazil, South Africa, Australia, Japan and the Hawaiian Islands.



Occurs both epibenthically and pelagically. Smaller fish (less than 3 kg) may be taken in shallow water (less than 10 m). Larger fish usually occur in 18 to 72 m and have been taken as deep as 360 m; they are often found on reefs or at deep offshore holes or drop-offs, usually in small or moderate-sized schools, but may be solitary. Small juveniles associate with floating plants or debris in oceanic and offshore neritic waters.

Known to feed primarily on fish and also invertebrates, and to take live, dead and artificial bait.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species

Said to be caught with pelagic and bottom trawls as well as on line gear and utilized fresh, smoked, dried salted and for fishmeal and oil.

CARAN Serio 2

1981

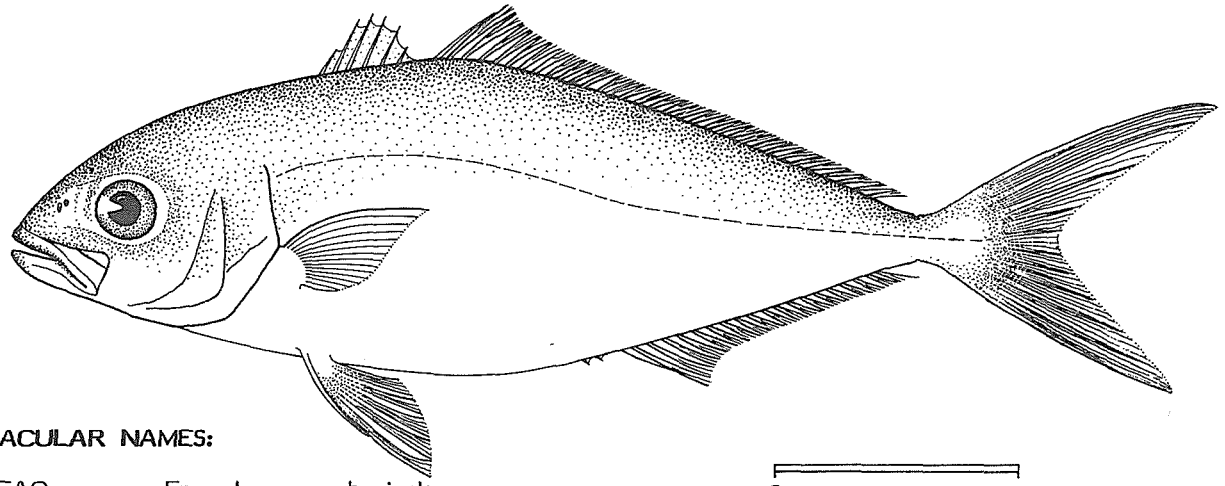
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Seriola fasciata (Bloch, 1793)

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 11 cm

VERNACULAR NAMES:

FAO : En - Lesser amberjack
Fr - Sériole babiane
Sp - Medregal listado

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately deep (its depth contained 3.0 to 4.1 times in fork length) and slightly compressed, with upper profile slightly more convex than lower; eye moderate-sized, its diameter contained 3.1 to 4.8 times in head length; upper jaw moderately broad at end (with narrow supramaxilla), extending to below about mid-point of pupil; teeth minute, in a band in upper and lower jaws; gill rakers (including rudiments) remaining constant in number with growth; 6 to 8 upper, 17 or 18 lower and 23 to 26 total gill rakers. Dorsal fin with 8 spines (first or eighth spine may be minute in large fish), followed by 1 spine and 28 to 33 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 17 to 20 soft rays; second dorsal fin lobe short, contained about 6.5 to 8.5 times in fork length; anal fin base moderately short, contained about 1.6 to 1.9 times in second dorsal fin base; pelvic fins longer than pectorals. Scales small and cycloid (smooth to touch); no scutes. Vertebrae 10 + 14; first pterygiophore of anal fin with distinctly concave anterior margin. Caudal peduncle with a slight lateral, fleshy keel on each side and dorsal and ventral grooves.

Colour: in fresh adults, dorsally dark (pinkish or violet), sides lighter, and belly white or silvery; a faint, dark nuchal band, and a faint narrow lateral amber stripe extending backward from eye sometimes present. Dorsal fin dusky (olive); tip of second dorsal fin lobe may be clear to whitish; anal fin lobe white, rest of fin dusky to dark; pectoral fins nearly clear to dusky (olive); pelvic fins white with most of dorsal surface dark (olive); caudal fin dusky to dark with lighter, narrow posterior margin. Juveniles (about 4 to 26 cm fork length) with a dark nuchal bar from eye to nape (ending well anterior to dorsal fin origin); 7 dark body bars, irregular and broken, 3rd through 7th extending into the membranes of the second dorsal and anal fins, and an 8th bar small and dark, at end of caudal peduncle; a dark, rounded spot on median caudal fin rays; caudal fin otherwise clear; interradial membranes of second dorsal and anal fins lightly pigmented.

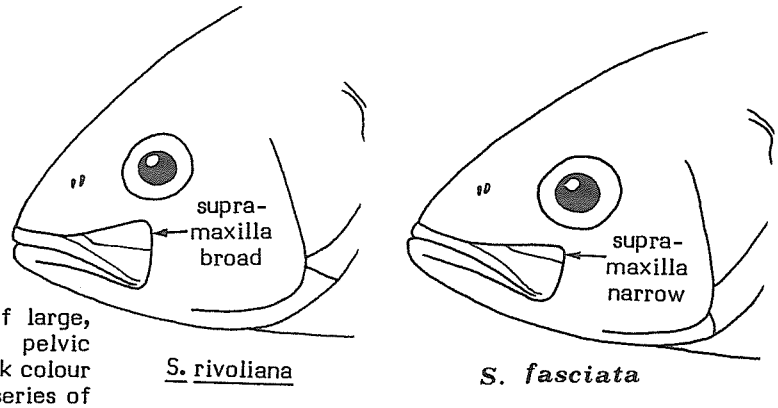
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Seriola lalandi: caudal fin bright yellow; eye smaller, contained 5.0 to 7.9 times in head length (eye 3.1 to 4.8 in S. fasciata); vertebrae 11 + 14 (10 + 14 in S. fasciata).

Seriola carpenteri: interradial membranes of second dorsal and anal fins predominantly dark (light pigmented in young of S. fasciata); total gill rakers (including rudiments) 22 or 23 (23 to 26 in S. fasciata); supramaxilla moderately broad.

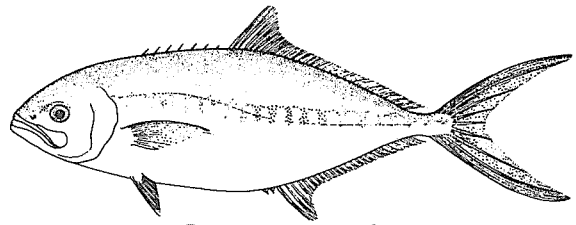
Seriola rivoliana: second dorsal fin lobe longer, contained 4.5 to 5.2 times in fork length (6.5 to 8.5 times in S. fasciata); supramaxilla broad.

Seriola dumerili: gill rakers (including rudiments) decreasing in number with growth, total 18 to 24, only 11 to 19 in fish larger than 20 cm fork length; supramaxilla broad (narrow in S. fasciata).



S. rivoliana — *S. fasciata*

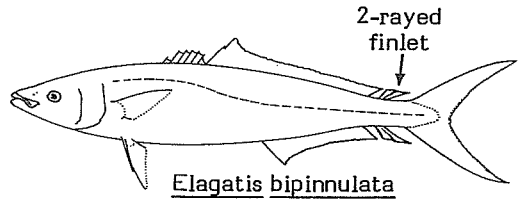
Campogramma glaycos: a single row of large, widely spaced caniniform teeth in both jaws; pelvic fins shorter than pectorals; in fresh adults, dark colour of back extending on sides to lateral line in a series of prominent zig-zag lobes.


Campogramma glaycos

Elagatis bipinnulata: the only carangid species with terminal 2-rayed dorsal and anal finlets.

Naucrates ductor: firt dorsal fin with 4 or 5 spines (8 spines in S. fasciata); anal fin with 15 to 17 soft rays (17 to 20 in S. fasciata); usually 6 or 7 black bars against a silvery background.

Other species of Carangidae; no caudal-peduncle grooves; also, many with scutes on lateral line.



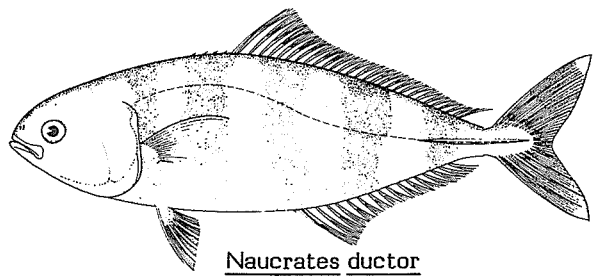
Elagatis bipinnulata

SIZE :

Maximum: 67.5 cm fork length and 4.6 kg.

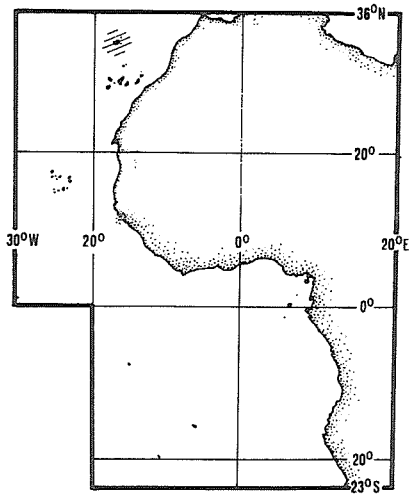
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Eastern Atlantic distribution uncertain due to past confusion with Seriola carpenteri; definitely known only from Madeira, where the species is locally abundant. In the Western Atlantic known from Massachusetts into the Gulf of Mexico, Cuba and Bermuda.


Naucrates ductor

Adults apparently occur near to, or on the bottom in 55 to 130 m depth. Fish are at or near maturity by 43 to 47 cm fork length. Larger juveniles are pelagic or benthic in shelf waters; smaller juveniles epipelagic in oceanic or offshore neritic waters.

Known to eat squid and to take dead bait.



PRESENT FISHING GROUNDS :

Poorly known.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trawls and on line gear.

Utilized fresh and dried salted.

CARAN Serio 3

1981

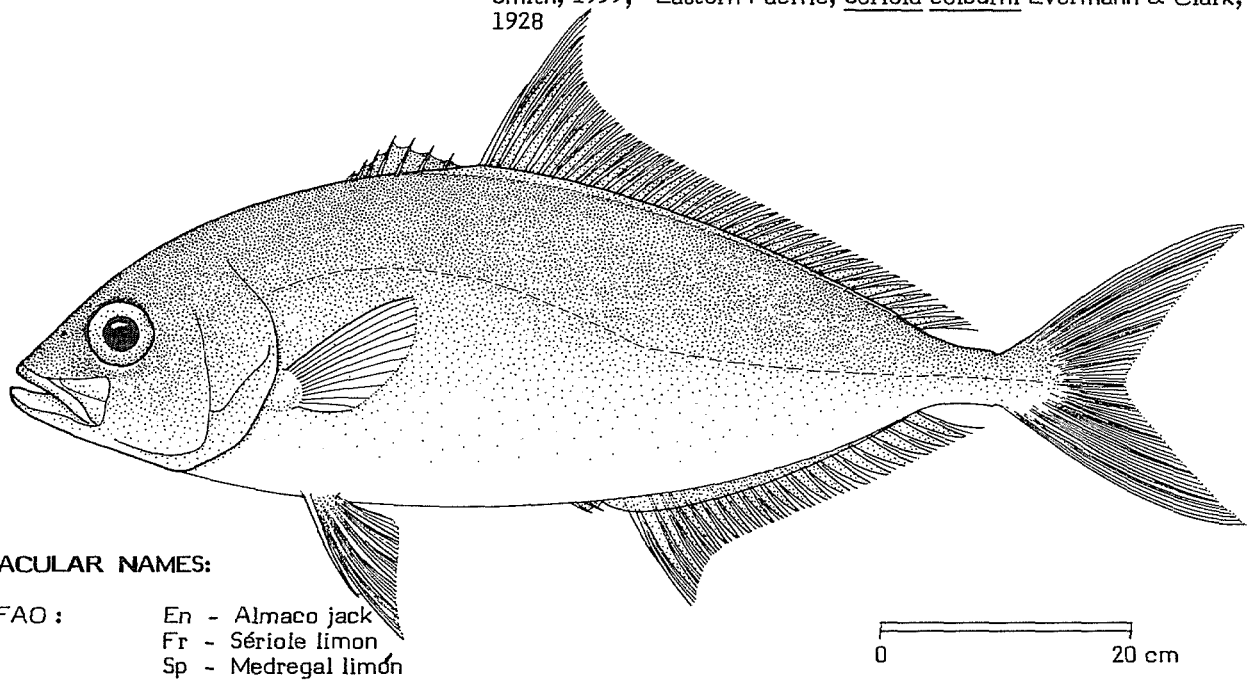
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Seriola rivoliana Cuvier, 1833

OTHER SCIENTIFIC NAMES STILL IN USE : Western Atlantic, Seriola falcata Cuvier; 1833; South Africa, Seriola songoro Smith, 1959; Mozambique, Seriola bovinoculata Smith, 1959; Eastern Pacific, Seriola colburni Evermann & Clark, 1928



VERNACULAR NAMES:

FAO : En - Almaco jack
Fr - Sériole limon
Sp - Medregal limón

NATIONAL :

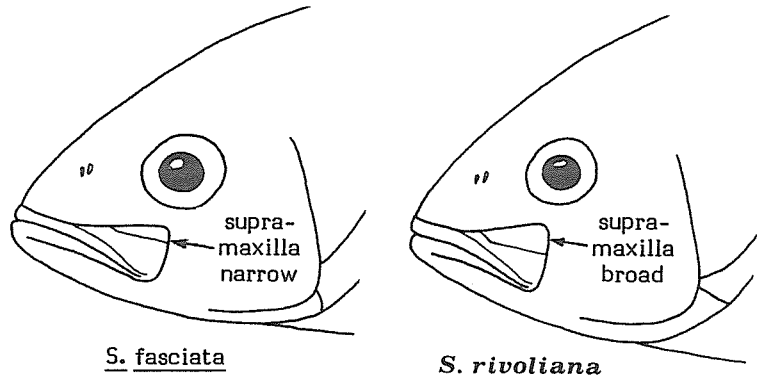
DISTINCTIVE CHARACTERS :

Body elongate, moderately deep (its depth contained 3 to 3.5 times in fork length) and slightly compressed, with upper profile more convex than lower; eye moderately small, its diameter contained 4.3 to 5.8 times in head length; upper jaw very broad at end (with very broad supramaxilla), extending to below about midpoint of pupil; teeth minute, in a broad band in both jaws; gill rakers (including rudiments) decreasing slightly in number with growth; 6 to 9 upper, 18 to 20 lower and 24 to 29 total gill rakers at sizes 2 to 7 cm fork length; 22 to 24 total gill rakers at larger sizes. Dorsal fin with 7 spines (first spine minute or missing in large fish), followed by 1 spine and 27 to 33 soft rays; anal fin with 2 spines separated from rest of fin (these spines reduced and may be skin-covered in fish larger than 75 cm fork length), followed by 1 spine and 18 to 22 soft rays; second dorsal fin lobe long, contained 4.5 to 5.2 times in fork length; anal fin base moderately long, contained 1.5 to 1.6 times in second dorsal fin base; pelvic fins longer than pectorals. Scales small and cycloid (smooth to touch); no scutes. Vertebrae 10 + 14; at sizes larger than about 9 cm fork length, first pterygiophore of anal fin with straight anterior margin. Caudal peduncle grooves present.

Colour: in fresh fish variable, dorsally brown or olivaceous or bluish green with sides and belly lighter, sometimes with brassy or lavender reflections; the nuchal bar often persistent in adults, and a faint amber lateral stripe extending backward from eye frequently present; first dorsal fin dusky; second dorsal fin dark; anal fin mostly dark, usually with the lobe white, often with a narrow distal white margin, and sometimes with the anterior edge of lobe white and a few white spots along fin base; pectoral fins entirely dark, or dark with the margins dusky; pelvic fins white ventrally and laterally with a dark dorsal surface, or sometimes entirely dark; caudal fin dark with a lighter narrow posterior margin. Juveniles (ca 2. to 18 cm fork length) with a dark nuchal bar extending from the eye to the dorsal fin origin; 6 dark body bars, each with a light narrow irregular area through their center vertically, that do not extend into the membranes of the second dorsal and anal fins, and a 7th bar at the end of caudal peduncle; interradial membranes of second dorsal and anal fins lightly pigmented; tip of anal fin white; pectoral, pelvic and caudal fins dusky.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Seriola species: second dorsal fin lobe shorter at sizes greater than 30 cm fork length, contained 5.6 to 8.8 times in fork length (4.5 to 5.2 times in S. rivoliana) and shaft of vomerine tooth patch long, longer than width of vomer head (shaft equal or shorter than width of vomer head in S. rivoliana). Furthermore, supramaxilla narrow in S. lalandi and S. fasciata.



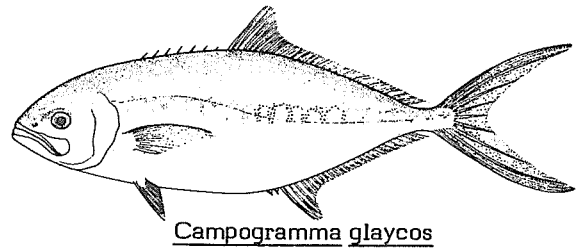
S. fasciata *S. rivoliana*

Campogramma glaycos: a single row of large, widely spaced caniniform teeth in both jaws; pelvic fin shorter than pectoral fin; in fresh adults, colour of back extending on sides to lateral line in a series of prominent zig-zag lobes.

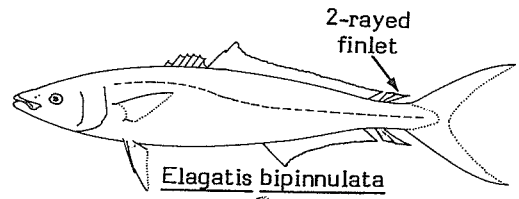
Elagatis bipinnulata: the only carangid species with terminal 2-rayed dorsal and anal finlets.

Naucrates ductor: caudal peduncle with a well developed lateral, fleshy keel on each side (fleshy keel absent in S. rivoliana); first dorsal fin with 4 or 5 spines (7 spines in S. rivoliana); anal fin with only 15 to 17 soft rays (18 to 22 in S. rivoliana); usually 6 or 7 black bars against a silvery back ground.

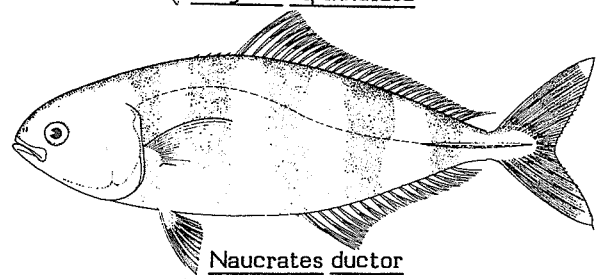
Other species of Carangidae: no caudal peduncle grooves; also, many with scutes on lateral line.



Campogramma glaycos



Elagatis bipinnulata



Naucrates ductor

SIZE:

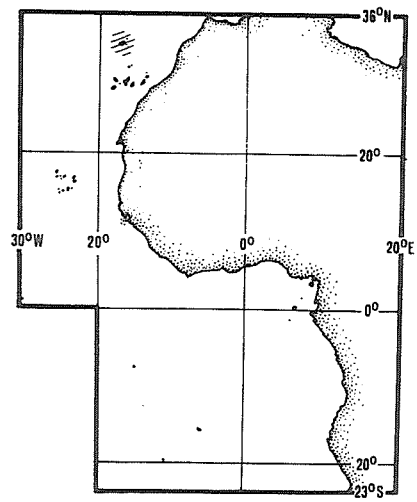
Maximum: possibly to 24 kg (recorded at Bermuda as "horse-eye bonito"); individual of 97 cm fork length recorded in Florida.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Eastern Atlantic distribution not well established, definitely known only from the Azores, Portugal and Madeira. Circumtropical in marine waters, entering temperate waters in some areas.

Adults are pelagic and epibenthic, possibly more oceanic than other Seriola species, and rarely caught in inshore waters. Juveniles are pelagic and occurring off-shore, under floating plants and debris when small.

Known to feed on fish, to strike trolled artificial bait and bottom fished dead bait.



PRESENT FISHING GROUNDS:

Around Madeira.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls and on line gear.

Utilized fresh, dried salted and for fishmeal and oil.

CARAN Serio 5

1981

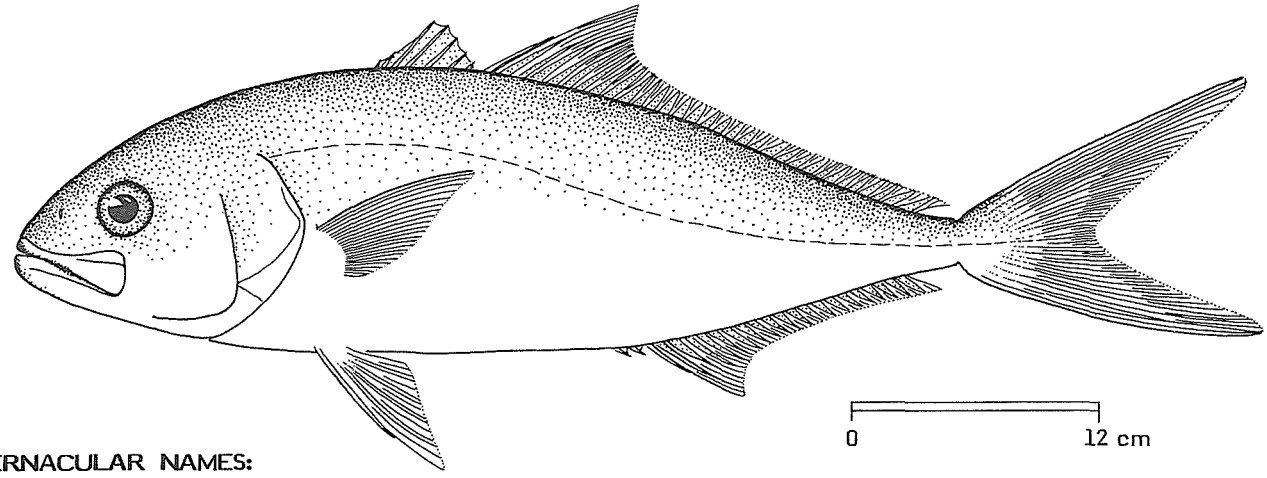
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Seriola carpenteri Mather, 1971

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Guinean amberjack
Fr - *Sériole guinéenne*
Sp - Medregal de Guinea

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately shallow (its depth contained 3.2 to 4.5 times in fork length) and slightly compressed, with upper profile slightly more convex than lower; eye relatively small, its diameter contained 4.2 to 5.8 times in head length; upper jaw moderately broad at end (with a moderately broad supramaxilla), extending to below anterior margin of pupil; teeth minute, in a band in upper and lower jaws; gill rakers (including rudiments) relatively constant in number with growth; at sizes larger than about 1.5 cm fork length, 5 to 7 upper, 14 to 17 lower and 22 or 23 total gill rakers. Dorsal fin with 7 or 8 spines (first and last spine becoming reduced and skin-covered in some large fish), followed by 1 spine and 28 to 33 soft rays; anal fin with 2 spines separated from rest of fin (the spines becoming reduced and skin-covered in some large fish), followed by 1 spine and 19 or 20 soft rays; second dorsal fin lobe relatively short, contained 5.6 to 7.4 times in fork length; anal fin base moderately short, contained 1.5 to 1.7 times in second dorsal fin base; pelvic fins longer than pectorals. Scales small and cycloid (smooth to touch); no scutes. Vertebrae 10 + 14; first pterygiophore of anal fin with distinctly concave anterior margin. Caudal peduncle grooves present.

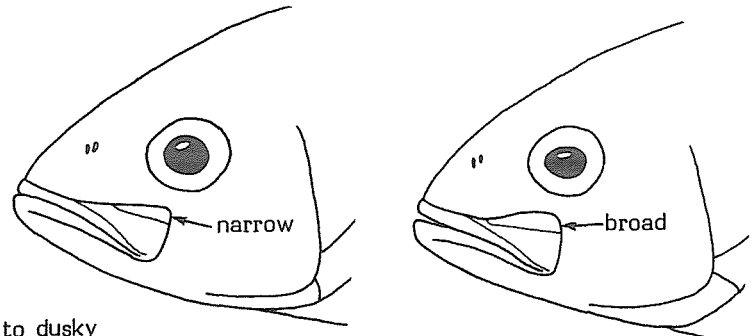
Colour: in fresh adults, not well established, large fish reported to be "old rose" coloured. Juveniles (about 9 to 13 cm fork length) with a dark nuchal bar, variable in position, extending from the eye to the dorsal fin origin or curving toward a point nearer the nape; 5 dark body bars, becoming irregularly split vertically, that do not extend into the membranes of the second dorsal and anal fins, and a 6th bar at end of caudal peduncle; interradial membranes of second dorsal and anal fins predominantly dark.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Seriola dumerili: gill rakers (including rudiments) decreasing in number with growth, total 18 to 24 in young individuals, but only 11 to 19 in fish larger than 20 cm fork length (gill rakers relatively constant in number with growth, total 22 to 23 in S. carpenteri); interradial membranes of second dorsal and anal fins lightly pigmented in juveniles up to 17 cm fork length.

Seriola fasciata: interradial membranes of second dorsal and anal fins lightly pigmented; total gill rakers (including rudiments) 23 to 26; supra-maxilla narrow (moderately broad in S. carpenteri).

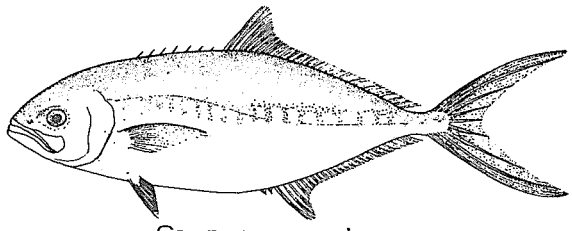
Seriola rivoliana: second dorsal fin lobe longer, contained 4.5 to 5.2 times in fork length (5.6 to 7.4 times in S. carpenteri); interradial membranes of second dorsal and anal fins lightly pigmented.



S. fasciata S. *carpenteri*

Seriola lalandi: caudal fin yellow (dark to dusky in S. carpenteri); total gill rakers (including rudiments) 23 to 29.

Campogramma glaycos: a single row of large, widely spaced caniniform teeth in both jaws; pelvic fins shorter than pectorals in fresh adults, dark colour of back extending on sides to lateral line in a series of prominent zig-zag lobes.

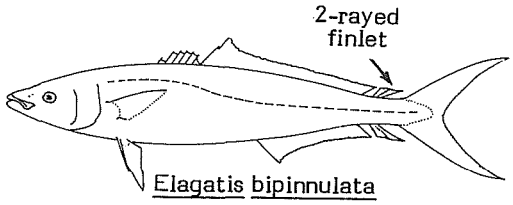


Campogramma glaycos

Elagatis bipinnulata: the only carangid species with terminal 2-rayed dorsal and anal finlets.

Naucrates ductor: first dorsal fin with 4 or 5 spines (7 or 8 spines in S. carpenteri); anal fin with 15 to 17 soft rays (19 or 20 in S. carpenteri); usually 6 or 7 black bars against a silvery background.

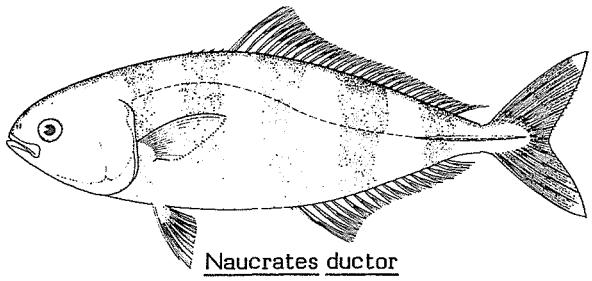
Other species of Carangidae: no caudal peduncle grooves; also, many with scutes on lateral line.



Elagatis bipinnulata

SIZE :

Maximum: uncertain, due to past confusion with the larger S. dumerili; at least to 48 cm fork length, but probably attains a much larger size.

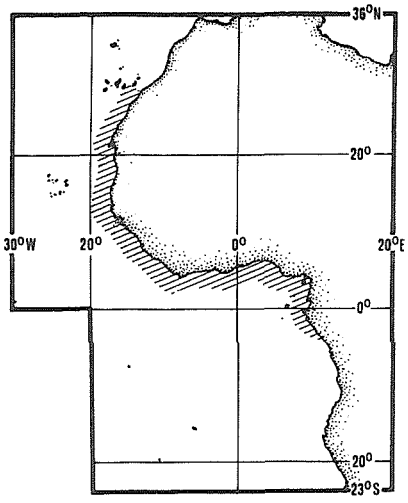


Naucrates ductor

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Eastern Atlantic from Agadir, Morocco to Angola.

Generally confined to areas where surface temperatures exceed 25°C. Its distribution may be influenced by seasonal movements of the 18° to 27°C water mass existing along the African coast. Adults are pelagic of epibenthic; generally restricted to coastal waters over the continental shelf, from the surface to at least 200 m depth.



PRESENT FISHING GROUNDS :

Shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Data on fishing gear and utilization uncertain due to past confusion of this species with other representatives of Seriola.

CARAN Serio 6

1981

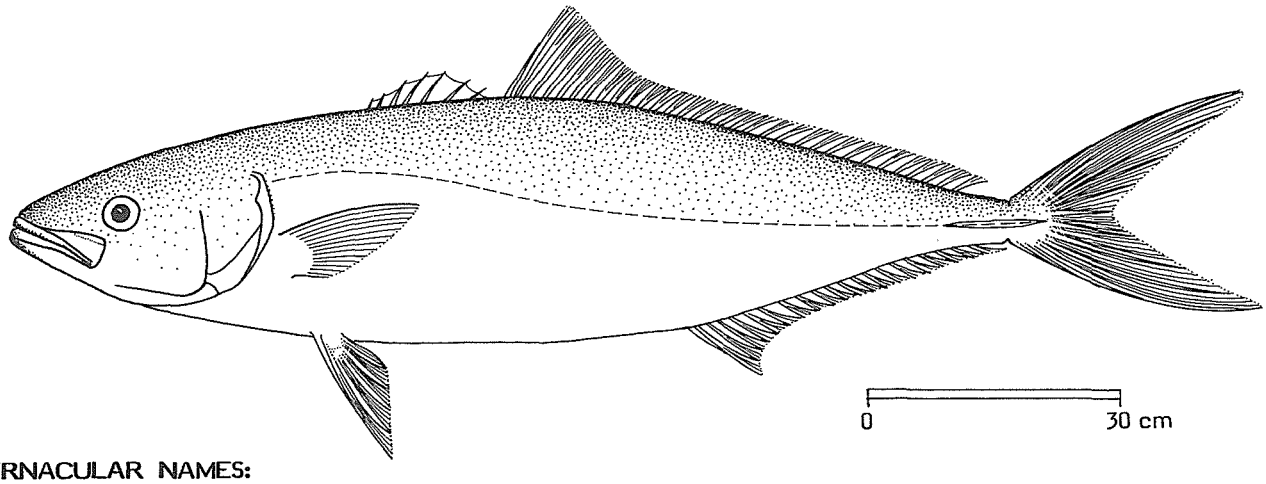
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Seriola lalandi Valenciennes, 1833

OTHER SCIENTIFIC NAMES STILL IN USE : South Africa, Seriola pappei (Castelnau, 1861) and Seriola banisteri Smith, 1959; Japan, Seriola aureovittata Temminck & Schlegel, 1844; Australia, Seriola grandis Castelnau, 1872; Eastern Pacific, Seriola dorsalis (Gill, 1864)



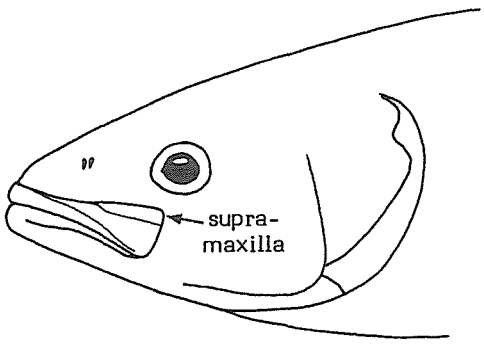
VERNACULAR NAMES:

FAO : En - Yellowtail amberjack
Fr - Sériole chicard
Sp - Medregal rabo amarillo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate, moderately slender (its depth contained 3.8 to 5.3 times in fork length) and slightly compressed, with upper and lower profiles similar; eye relatively small, its diameter contained 5.0 to 7.9 times in head length; upper jaw moderately slender at end (with moderately slender supramaxilla), extending to below about middle of eye; teeth minute, in a broad band in upper and lower jaws; gill rakers (including rudiments) 7 to 10 upper, 15 to 20 lower and 23 to 29 total gill rakers. Dorsal fin with 7 spines (seventh spine becoming reduced or skin-covered in large fish), followed by 1 spine and 30 to 34 soft rays; anal fin with 2 spines separated from rest of fin (these spines reduced and may be skin-covered in large fish), followed by 1 spine and 19 to 22 soft rays; second dorsal fin lobe short, 7.0 to 8.8 times in fork length; anal fin base moderately short, contained 1.6 to 1.8 times in second dorsal fin base; pelvic fins longer than pectorals. Scales small and cycloid (smooth to touch); no scutes. Vertebrae 11 + 14; first pterygiophore of anal fin with distinctly concave anterior margin. Caudal peduncle with a slight lateral, fleshy keel on each side and dorsal and ventral grooves.

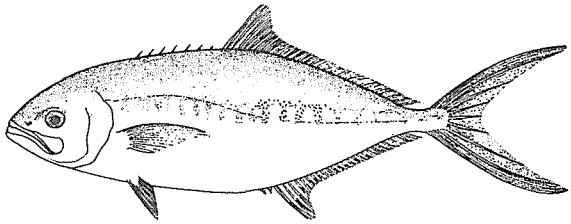


Colour: in fresh adults, dorsally usually blue or olivaceous, sides and belly silver to white, sometimes with a rosy tinge; a narrow lateral stripe from snout extending through eye and along midside of body, darker on head becoming yellow posteriorly; first dorsal fin dusky; second dorsal fin and anal fin dusky olive basally, yellow distally; pectoral and pelvic fins yellowish and caudal fin yellow.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

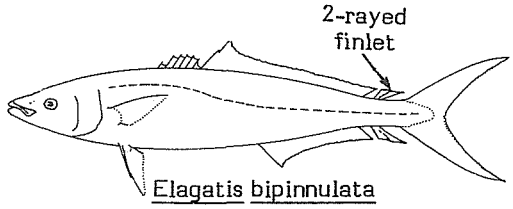
Other Seriola species: caudal fin dark to dusky, with a lighter posterior margin (caudal fin yellow in S. lalandi); vertebrae 10 + 14 (11 + 14 in S. lalandi). Furthermore, Seriola fasciata has a larger eye contained 3.1 to 4.8 times in head length (5.0 to 7.9 times in S. lalandi).

Campogramma glaycos: a single row of large, widely spaced caniniform teeth in both jaws; pelvic fins shorter than pectorals; in fresh adults, dark colour of back extending on sides to lateral line in a series of prominent zig-zag lobes.



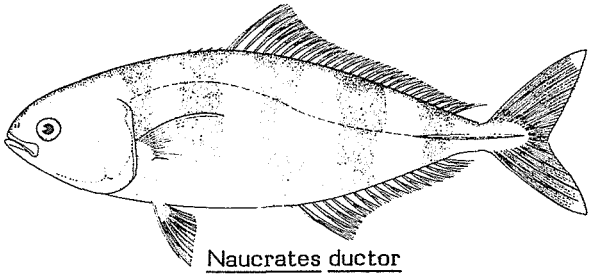
Campogramma glaycos

Elagatis bipinnulata: the only carangid species with terminal 2-rayed dorsal and anal finlets.



Elagatis bipinnulata

Naucrates ductor: caudal fin banded and lobes white tipped (caudal fin yellow in S. lalandi); anal fin with 15 to 17 soft rays (19 to 22 in S. lalandi); usually 6 or 7 black bars against a silvery background.



Naucrates ductor

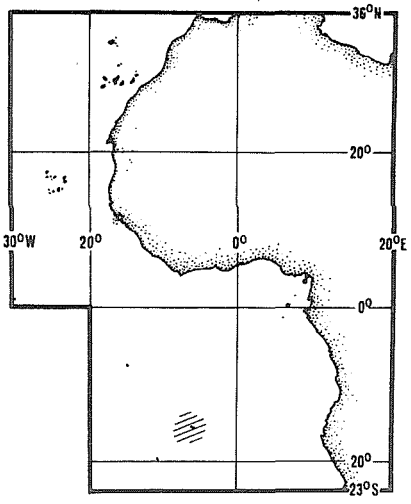
Other species of Carangidae: no caudal peduncle grooves; also, many with scutes on lateral line.

SIZE:

Maximum: not well established but known to attain at least 150 cm standard length and 46 kg.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic known only from St. Helena Island and South Africa. A circumglobal species restricted to subtropical waters of Africa, Japan, Australia, Brazil and the west coast of the United States.



Adults are pelagic or epibenthic, sometimes occur in large schools and prefer cooler waters. In South Africa, ripe fish are reported from January to March. An excellent sportfish.

PRESENT FISHING GROUNDS:

Around St. Helena.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls and on line gear.

Utilized fresh, and for fishmeal and oil.

CARAN Trachin 1

1981

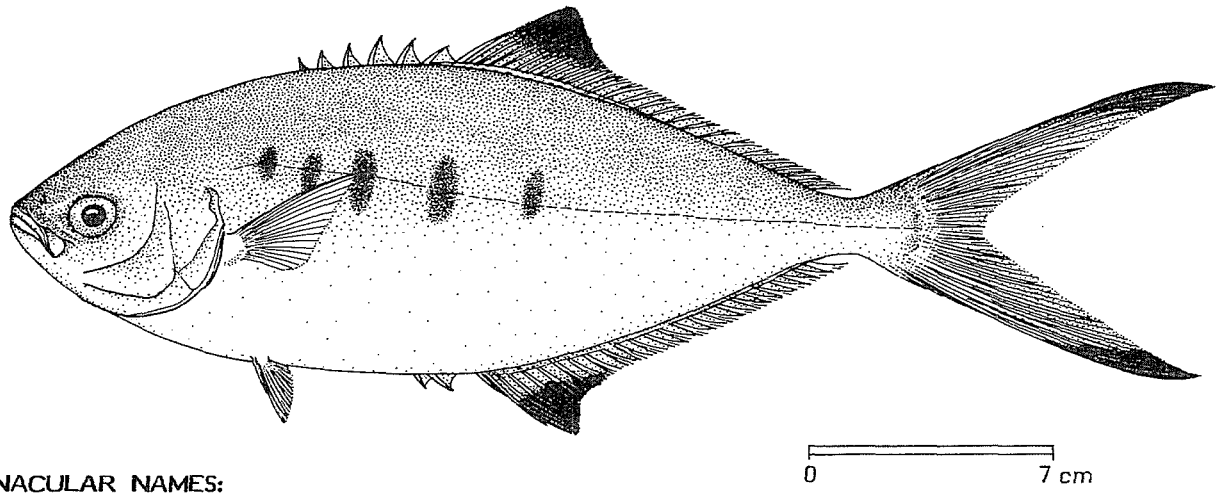
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachinotus ovatus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Trachinotus glaucus (Linnaeus, 1758) = misidentification
Lichia glaucus Cuvier, in Cuv. & Val., 1832
Caesiomorus glaucus Fowler, 1936



VERNACULAR NAMES:

FAO : En - Pompano
Fr - Palomine
Sp - Pámpano blanco

NATIONAL :

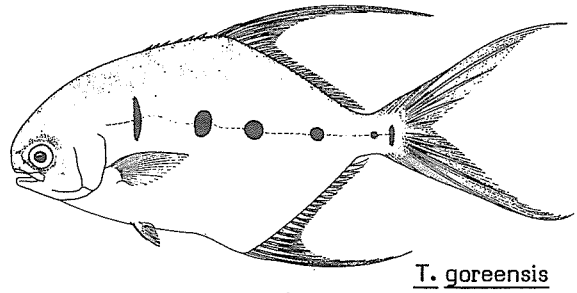
DISTINCTIVE CHARACTERS :

Body moderately elongate (its depth contained 2.6 to 3.5 times in fork length) and compressed, with upper and lower profiles similar and head profile sloping to a bluntly pointed snout; eye small, its diameter contained 3.4 to 4.1 times in head length; upper jaw very narrow at end and extending only to below anterior third of eye; lower jaw included; teeth in jaws small, conical and recurved, consisting of a broad band anteriorly, tapering posteriorly; tongue with a narrow band of teeth, broader posteriorly; gill rakers (including rudiments) 10 to 19 upper, 22 to 32 lower. Dorsal fin with 6 spines, followed by 1 spine and 23 to 27 soft rays; anal fin with 2 short spines separated from rest of fin, followed by 1 spine and 22 to 25 soft rays; bases of anal and second dorsal fins about equal in length; second dorsal fin lobe shorter than head contained 6.5 to 8.3 times in fork length; pectoral fins short, contained 1.3 to 1.6 times in head length. Scales small, cycloid (smooth to touch) and partially embedded; lateral line slightly arched above pectoral fins and straight thereafter; no scutes. Vertebrae 10 + 14. No hyperostosis or caudal peduncle grooves.

Colour: 3 to 5 dark blotches on sides; the anterior 3 or 4 blotches below the spinous dorsal fin vertically elongate and extending ventrally for about 1/3 their length or more below the lateral line; dorsal and anal fin lobes black distally; remainder of dorsal fin clear to slightly dusky and anal fin usually clear; caudal fin lobes becoming black near tips.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

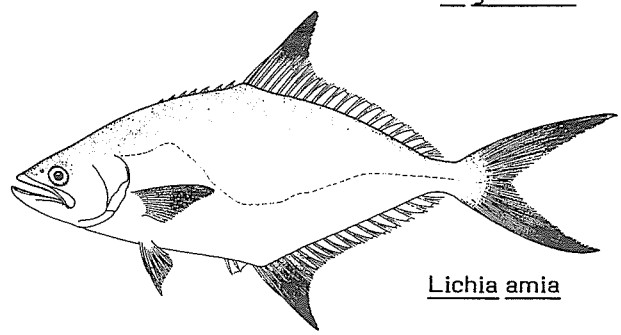
Other Trachinotus species: fewer gill rakers (11 to 13) on lower limb of first gill arch (22 to 32 in T. ovatus) and second dorsal fin lobe longer, contained 1.8 to 5.6 times in fork length (6.5 to 8.3 times in T. ovatus). Furthermore, body deeper in all other Trachinotus species and no dark blotches on sides in T. maxillosus and T. teraia.



T. goreensis

Lichia amia: lateral line very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin.

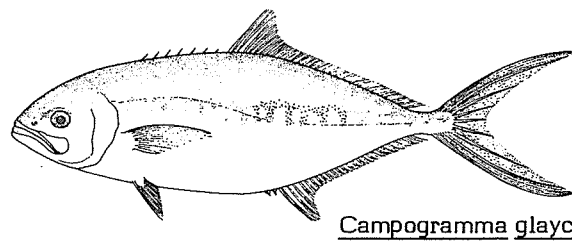
Campogramma glaycos: a single row of large, caniniform teeth in both jaws; chest partially naked (completely scaled in Trachinotus); in fresh adults, dark colour of back extending to lateral line in series of prominent zig-zag lobes.



Lichia amia

Elagatis, Naucrates and Seriola species: with caudal peduncle grooves and supramaxilla present, and relatively short anal fin bases.

Other species of Carangidae: with scutes present in straight part of lateral line.

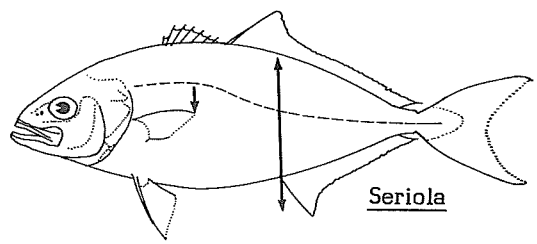


Campogramma glaycos

SIZE:

Maximum: to about 70 cm total length, common to 35 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

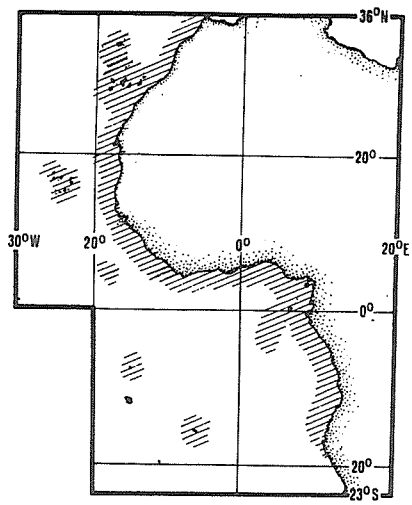


Seriola

In the area, along the African coast, including offshore islands, to southern Angola; also common in the Mediterranean and occasionally taken in northern European waters.

Adults and juveniles usually occur in schools in the surf zone and clear water along sandy beaches.

Known to eat small invertebrates and fishes.



PRESENT FISHING GROUNDS:

Shelf waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls, purse seines, set nets and on line gear.

Utilized fresh, frozen, smoked, dried salted and for fishmeal and oil.

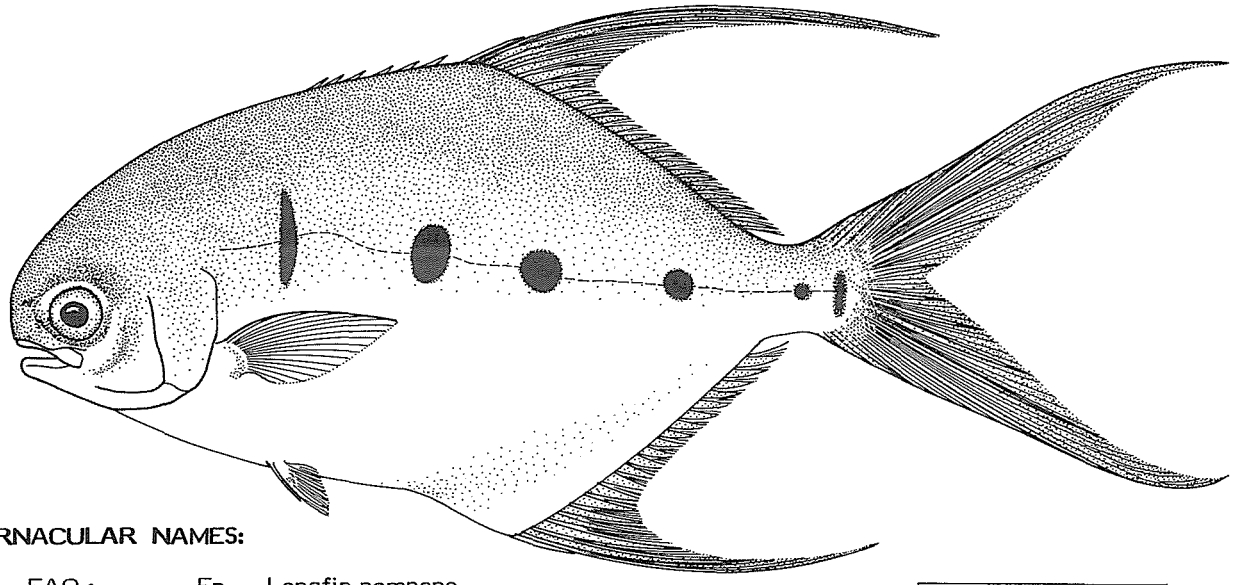
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

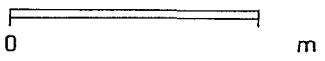
Trachinotus goreensis Cuvier, 1832

OTHER SCIENTIFIC NAMES STILL IN USE : Trachinotus myrias Cuvier, 1832



VERNACULAR NAMES:

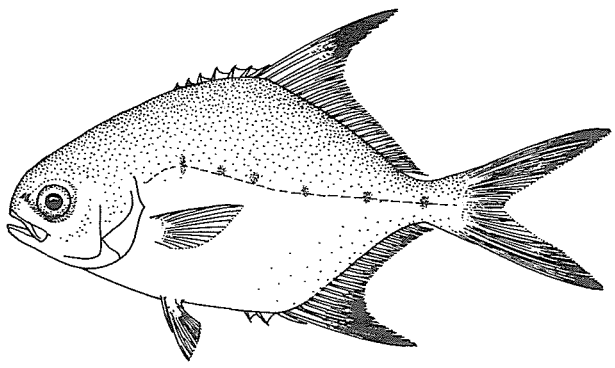
FAO : En - Longfin pompano
Fr - Pompaneau tacheté
Sp - Pámpano cojonovo



NATIONAL :

DISTINCTIVE CHARACTERS :

Body short and deep (its depth contained 1.8 to 2.6 times in fork length) and compressed with upper and lower profiles similar but slightly asymmetrical and head profile sloping to a blunt snout; eye small, its diameter contained 3.1 to 3.9 times in head length; upper jaw very narrow at end and extending to below posterior margin of pupil; lower jaw included; teeth in jaws small, conical and recurved, consisting of a broad band anteriorly, tapering posteriorly; no teeth on tongue at any size; gill rakers (including rudiments) 6 to 8 upper, 11 to 13 lower. Dorsal fin with 6 spines, followed by 1 spine and 20 to 23 soft rays; anal fin with 2 short spines separated from rest of fin, followed by 1 spine and 18 to 21 soft rays; bases of anal and soft dorsal fins about equal in length; second dorsal fin lobe longer than head at sizes larger than about 10 cm fork length, contained 1.8 to 3.2 times in fork length; pectoral fins short, contained 1.2 to 1.5 times in head length. Scales small, cycloid (smooth to touch) and partially embedded; lateral line slightly arched to below middle of second dorsal fin and straight thereafter; no scutes. Vertebrae 10 + 14. No hyperostosis or caudal peduncle grooves.



young of 13.0 cm
standard length

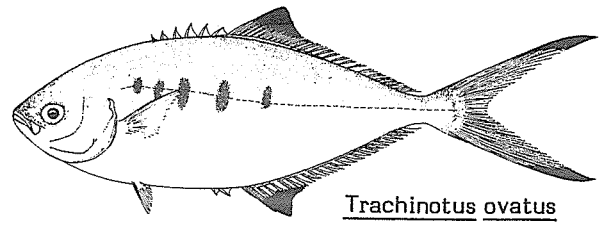
Colour: 4 to 6, usually 5, dark blotches on sides forming at about 7 to 9 cm fork length; the anterior blotch a vertically elongate bar, the second oval, and the remainder more rounded and progressively smaller; dorsal, anal, and caudal fin lobes dark with a light distal margin.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

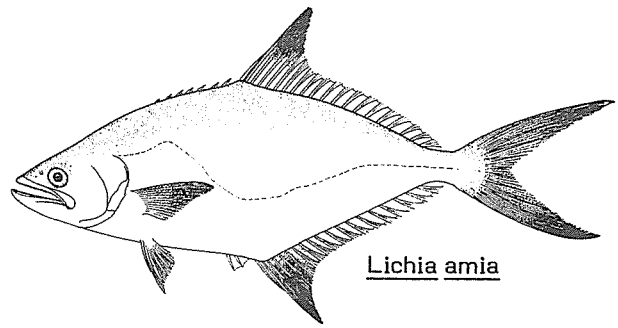
Trachinotus teraia: second dorsal fin lobe shorter than head, contained 3.9 to 5.6 times in fork length (usually longer than head, contained 1.8 to 3.2 times in fork length in T. goreensis larger than about 10 cm), no distinctive markings on body at any size and frequently fewer (16 to 18) soft anal fin rays (18 to 21 in T. goreensis).

Trachinotus maxillosus: young with a narrow, median band of teeth on tongue, absent at about 35 cm fork length and no distinctive markings on body at any size.

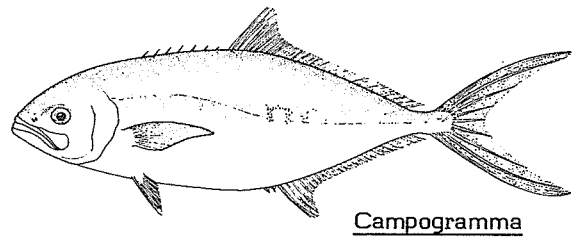
Trachinotus ovatus: also with 3 to 5 dark blotches on sides, but more gill rakers (22 to 32) on lower limb of first gill arch (11 to 13 in T. goreensis) and second dorsal fin lobe shorter than head, contained 6.5 to 8.3 times in fork length.


Trachinotus ovatus

Lichia amia: lateral line very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin.

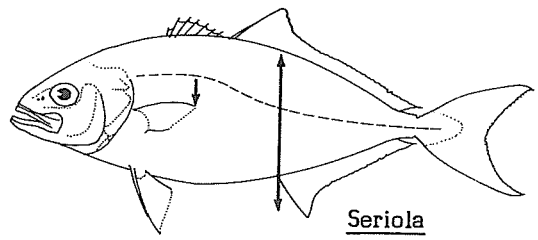

Lichia amia

Campogramma glaycos: a single row of large caniniform teeth in both jaws; chest partially naked (completely scaled in Trachinotus); in fresh adults, dark colour of back extending to lateral line in a series of prominent zig-zag lobes.


Campogramma

Elagatis, Naucrates and Seriola species: with caudal peduncle grooves and supramaxilla present, and relatively short anal fin bases. Furthermore, a detached 2-rayed dorsal and anal finlet in Elagatis.

Other species of Carangidae: with scutes present in straight part of lateral line.


Seriola

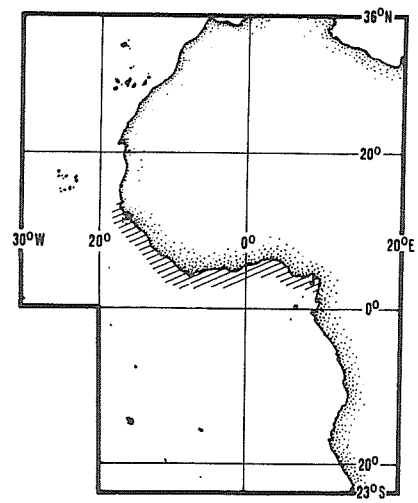
SIZE:

Maximum: unknown, largest individual examined by author 26 cm fork length but undoubtedly attains a much larger size (unpublished records of 100 cm total length).

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Not well established, occurs at least from Dakar, Senegal, to the Gulf of Guinea.

Inhabits mostly shallow coastal waters, but may also occur at depths of about 100 m



PRESENT FISHING GROUNDS:

Shelf waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls and seines.

Utilized fresh, dried salted and for fishmeal and oil.

CARAN Trachin 7

1981

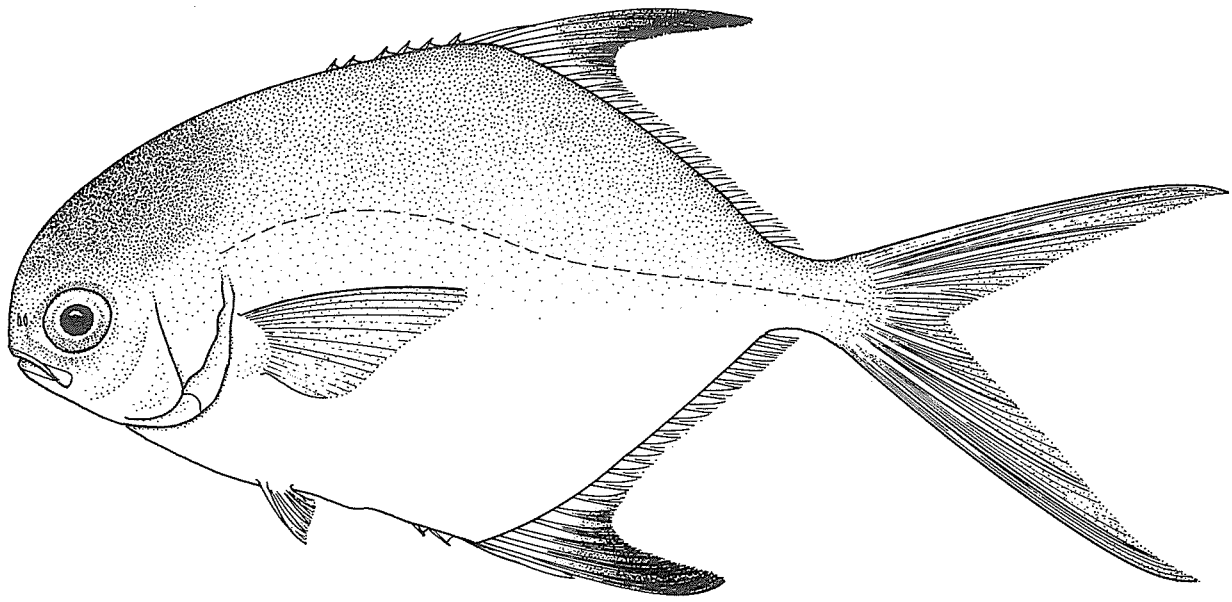
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachinotus maxillosus Cuvier, 1832

OTHER SCIENTIFIC NAMES STILL IN USE : None



0 10 cm

VERNACULAR NAMES:

FAO : En - Galloon pompano
Fr - Pompaneau chévron
Sp - Pámpano galonero

NATIONAL :

DISTINCTIVE CHARACTERS :

Body short and deep (its depth contained 1.7 to 2.7 times in fork length) and compressed with upper and lower profiles similar and head profile sloping to a blunt snout; eye small its diameter contained 2.7 to 3.8 times in head length; upper jaw very narrow at end and extending to below mid-point of eye; lower jaw included; teeth in jaws small, conical and slightly recurved, disappearing completely at about 30 cm fork length; tongue with narrow, median band of teeth in young, reabsorbing in large fish and completely absent at about 35 cm fork length; gill rakers (including rudiments) 5 to 8 upper, 9 to 11 lower. Dorsal fin with 6 spines, followed by 1 spine and 20 or 21 soft rays; anal fin with 2 short spines separated from rest of fin, followed by 1 spine and 17 to 20 soft rays; bases of anal fin and soft dorsal fins about equal in length; second dorsal fin lobe usually longer than head at sizes larger than about 10 cm fork length, contained 2.5 to 4.3 times in fork length; pectoral fins short contained 1.1 to 1.2 times in head length. Scales small, cycloid (smooth to touch) and partially embedded; lateral line slightly arched to below middle of second dorsal fin and straight thereafter; no scutes. Vertebrae 10 + 14; hyperostosis present in expanded third and fourth pleural ribs at about 35 cm fork length. No caudal peduncle grooves.

Colour: no distinctive markings on body; pelvic fins pale, other fins dusky to dark, dorsal and anal fin lobe darkest; upper third of head and body dark and silvery-white to yellowish below.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

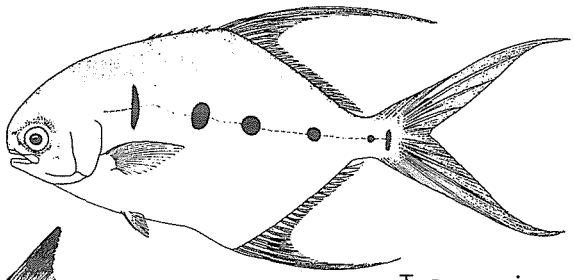
Trachinotus teraia: no teeth on tongue at any size and second dorsal fin lobe shorter than head, contained 3.9 to 5.6 times in fork length (usually longer than head, contained 2.5 to 4.3 times in fork length in T. maxillosus larger than about 10 cm).



T. teraia — *T. maxillosus*

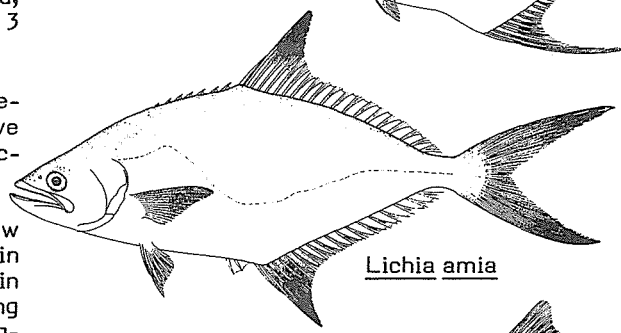
Trachinotus goreensis: no teeth on tongue at any size and 4 to 6 dark blotches on sides forming at about 7 to 9 cm fork length.

Trachinotus ovatus: body less deep; more gill rakers (22 to 32) on lower limb of first gill arch (9 to 11 in T. maxillosus) and second dorsal fin lobe shorter than head, contained 6.5 to 8.3 times in fork length; 3 to 5 dark blotches on sides.



T. goreensis

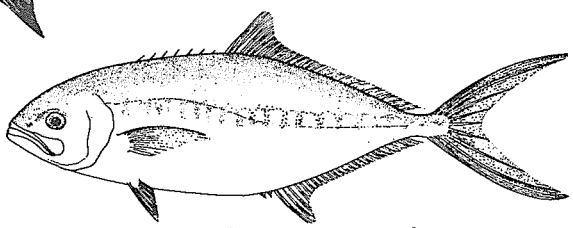
Lichia amia: lateral line very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin.



Lichia amia

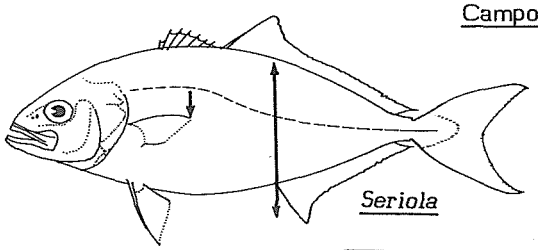
Campogramma glaycos: a single row of large widely-spaced caniniform teeth in both jaws and chest partially naked; in fresh adults, dark colour of back extending to lateral line in a series of prominent zig-zag lobes.

Elagatis, Naucrates and Seriola species: with caudal peduncle grooves and supramaxilla present, and relatively short anal fin bases.



Campogramma glaycos

Other species of Carangidae: with scutes present in straight part of lateral line.



Seriola

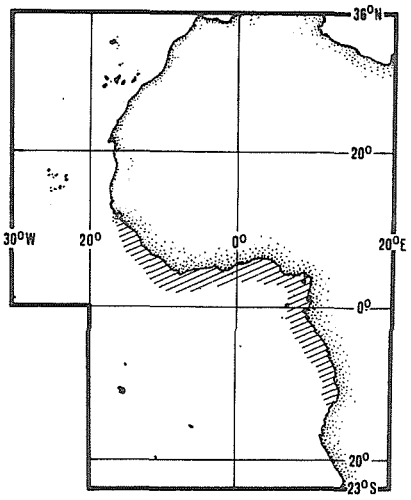
SIZE:

Maximum: largest individual examined by author 39 cm fork length (51 cm total length), but said to reach to at least 80 cm total length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Not well established, occurs at least from Sierra Leone to Angola.

Inhabiting shallow coastal waters.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls and with purse seines.

Utilized fresh, dried salted and for fishmeal and oil.

CARAN Trachin 8

1981

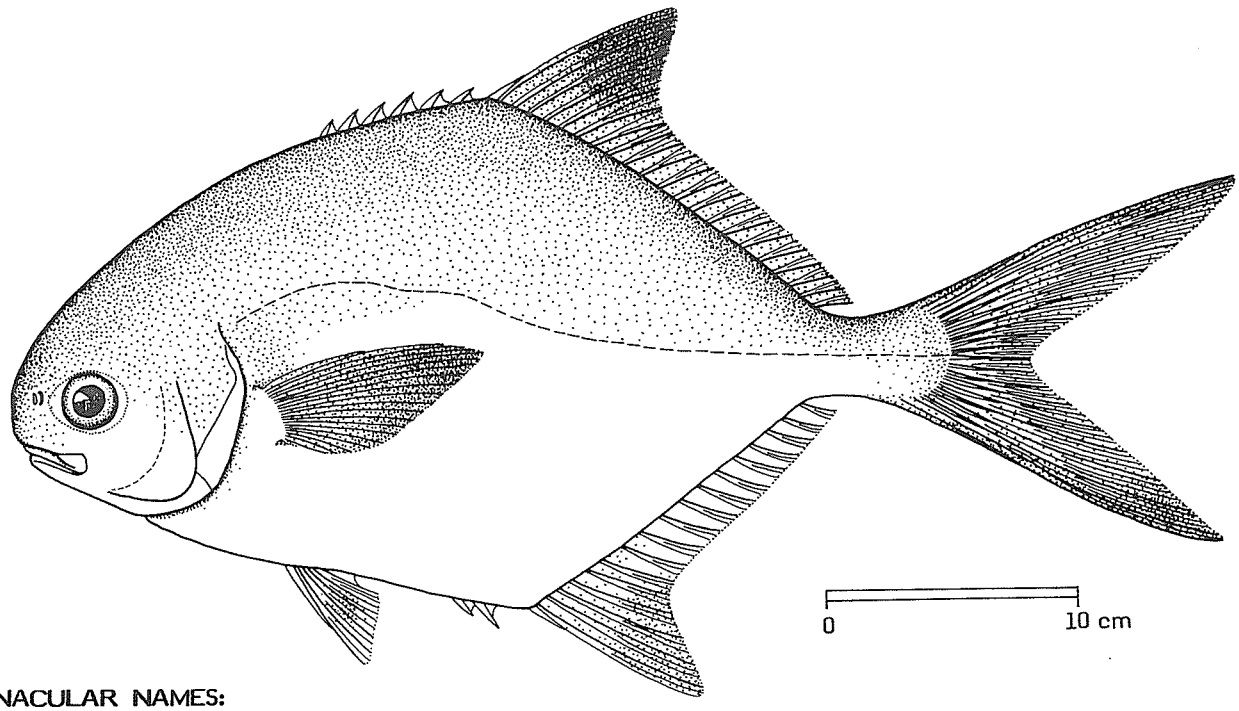
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachinotus teraia Cuvier, 1832

OTHER SCIENTIFIC NAMES STILL IN USE : Trachinotus falcatus (Linnaeus, 1758) = misidentification



VERNACULAR NAMES:

FAO : En - Terai pompano
Fr - Pompaneau né-bé
Sp - Pámpano terayo

NATIONAL :

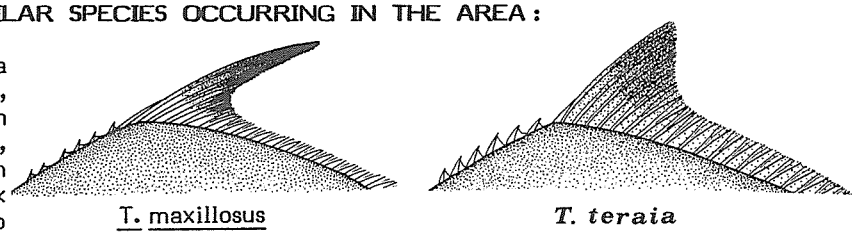
DISTINCTIVE CHARACTERS :

Body short and deep (its depth contained 1.8 to 2.5 times in fork length) and compressed with upper and lower profiles similar and head profile sloping to a blunt snout; eye small, its diameter contained 2.8 to 4.6 times in head length; upper jaw very narrow at end and extending to below posterior margin of pupil; lower jaw included; teeth in jaws small, conical and recurved, consisting of a band anteriorly, tapering posteriorly; no teeth on tongue at any size; gill rakers (including rudiments) 5 to 7 upper, 9 to 13 lower. Dorsal fin with 6 spines, followed by 1 spine and 19 to 21 soft rays; anal fin with 2 short spines separated from rest of fin, followed by 1 spine and 16 to 18 soft rays; bases of anal fin and soft dorsal fin about equal in length; second dorsal fin lobe shorter than head, contained 3.9 to 5.6 times in fork length; pectoral fins short, contained 1.1 to 1.5 times in head length. Scales small, cycloid (smooth to touch) and partially embedded; lateral line slightly arched to below middle of second dorsal fin and straight thereafter; no scutes. Vertebrae 10 + 14. No hyperostosis or caudal peduncle grooves.

Colour: no distinctive markings on body; dark on upper third of head and body (bluish-grey through irredescent blue to blue green) and silvery below; pectoral, caudal and, to a lesser extent, pelvic fins dusky; lobes of dorsal, anal and caudal fins dusky to black.

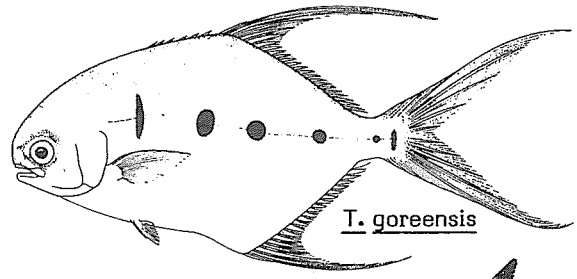
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Trachinotus maxillosus: young with a narrow, median band of teeth on tongue, absent at about 35 cm fork length and, in fish larger than about 10 cm fork length, second dorsal fin lobe usually longer than head contained 2.5 to 4.3 times in fork length (shorter than head, contained 3.9 to 5.6 times in fork length in T. teraia).



T. maxillosus *T. teraia*

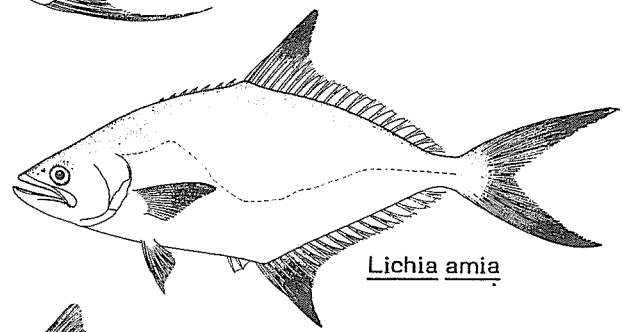
Trachinotus goreensis: in fish larger than about 10 cm fork length, second dorsal fin lobe usually longer than head, contained 1.8 to 3.2 times in fork length (shorter than head, contained 3.9 to 5.6 times in fork length in T. teraia) and 4 to 6 dark blotches on sides forming at about 7 to 9 cm fork length.



T. goreensis

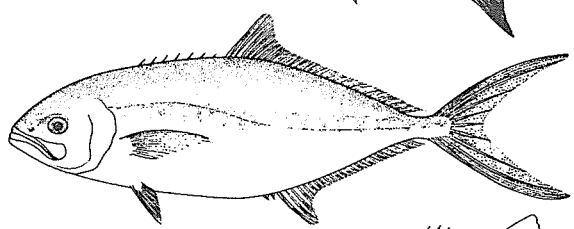
Trachinotus ovatus: body less deep, more gill rakers 22 to 32 on lower limb of first gill arch (9 to 13 in T. teraia) and more soft anal fin rays (22 to 25) (16 to 18 in T. teraia).

Lichia amia: lateral line very irregular and sinuous, describing a convex curve above and a concave curve behind the pectoral fin.



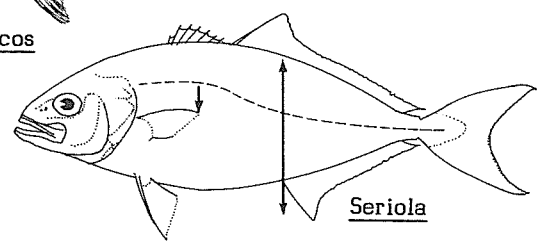
Lichia amia

Campogramma glaycos: a single row of large caniniform teeth in both jaws; chest partially naked (completely scaled in Trachinotus); in fresh adults, dark colour of back extending to lateral line in a series of prominent zig-zag lobes.



Campogramma glaycos

Elagatis, Naucrates and Seriola species: with caudal peduncle grooves and supramaxilla present, and relatively short anal fin base.

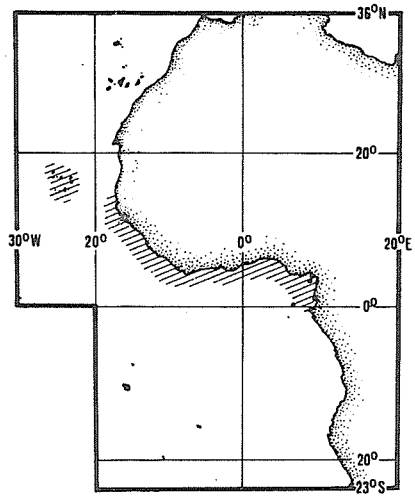


Seriola

Other species of Carangidae: with scutes present in straight part of lateral line.

SIZE:

Maximum: 61 cm fork length (68 cm total length) and 7.9 kg.



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From the Cape Verde Islands southward to Gabon.

An inshore species often present in estuaries and occasionally found in rivers well inland.

Feeds on molluscs, crustaceans, other invertebrates and small fish.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls and with purse seines.

Utilized fresh, dried salted and for fishmeal and oil.

CARAN Trachur 1

1981

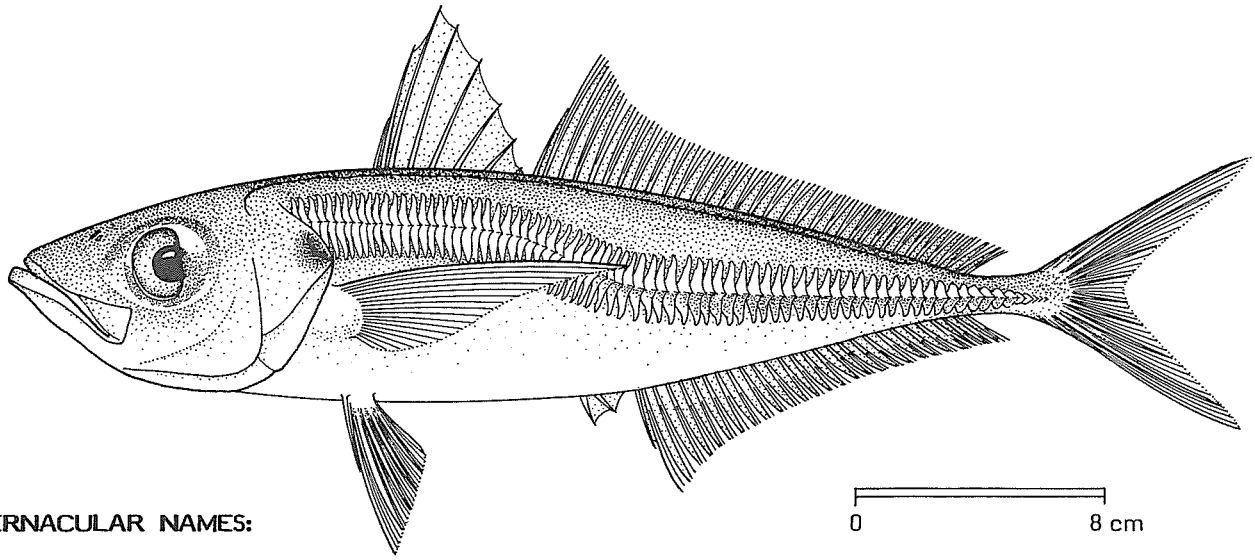
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachurus trachurus (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

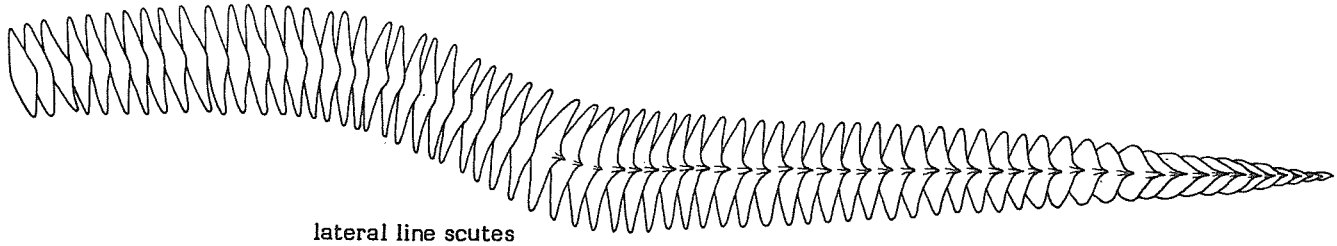
FAO : En - Atlantic horse mackerel
Fr - Chinchard d'Europe
Sp - Jurel

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 4.5 to 5.3 times in fork length) and slightly compressed, with upper and lower profiles about equal; eye large (its diameter contained 3.2 to 3.8 times in head length) with a well developed adipose eyelid; upper jaw moderately broad and extending to below anterior margin of eye; teeth small, in a single row in upper and lower jaws; gill rakers (including rudiments) 15 to 18 upper, 41 to 48 lower on first gill arch; shoulder girdle (cleithrum) margin with a small furrow at upper end, but no papillae present. Dorsal fin with 8 spines, followed by 1 spine and 29 to 33 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 24 to 29 soft rays; terminal soft ray of dorsal and anal fins connected by a membrane to rest of fin, but spaced about 50 percent farther apart than other rays; pectoral fins about equal head length. Scales moderately small and cycloid (smooth to touch) covering body except for small area behind pectoral fins; scales in curved as well as straight part of lateral line enlarged and scute-like; maximum height of scales in curved part of lateral line 6.3 to 8.2 percent of standard length; scales and scutes in curved part 33 to 40, in straight part 31 to 36; total scales and scutes in lateral line 66 to 75; dorsal accessory lateral line terminating below soft rays 23 to 31 of dorsal fin. Vertebrae 10 + 14.

Colour: no distinctive markings except for a small, black opercular spot on edge near upper angle. Upper part of body and top of head dusky to nearly black or grey to bluish green; lower two thirds of body and head usually paler, whitish to silvery.



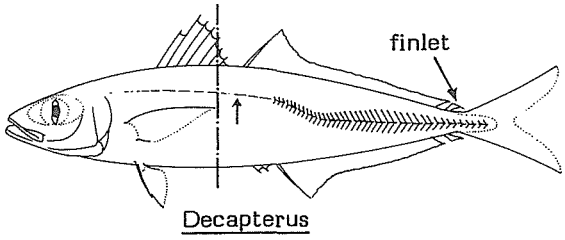
lateral line scutes

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

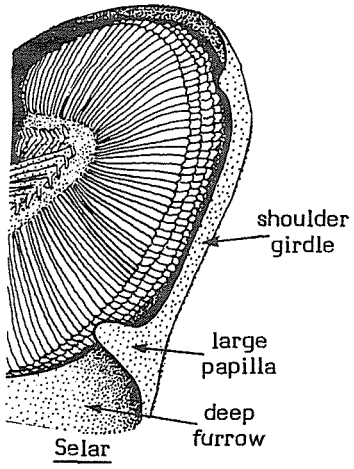
Trachurus capensis: more gill rakers (49 to 56) on lower limb of first gill arch (41 to 48 in T. trachurus) and smaller scales in curved part of lateral line, maximum height 4.8 to 5.2 percent of standard length (6.3 to 8.2 percent in T. trachurus).

Other species of Trachurus: dorsal accessory lateral line terminates more anteriorly, before 11th soft ray of dorsal fin (below 23rd to 31st soft ray of dorsal fin in T. trachurus); also, scutes in curved part of lateral line smaller (maximum height less than 4.4 percent of standard length) in T. mediterraneaus and T. trecae.

Other species of Carangidae: scales in curved *lateral line not scute-like, or expanded dorsoventrally.* Furthermore, terminal soft ray of the dorsal and anal fins consisting of an isolated or nearly detached finlet and the dorsal accessory lateral line terminating before the dorsal fin origin in Decapterus; shoulder girdle (cleithrum) margin with a deep furrow near ventral edge bordered above by a large papilla in Selar (shoulder girdle margin smooth in Trachurus).



Decapterus



Selar

gill chamber exposed after removal of gill cover

SIZE:

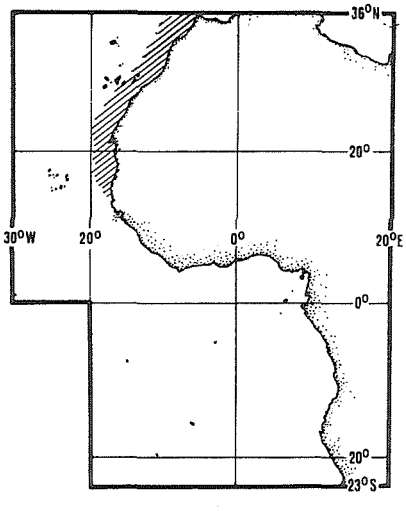
Maximum: about 60 cm fork length; common to 30 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area from the Straits of Gibraltar to Senegal; northward extending into the Mediterranean and along the Atlantic coasts of Europe up to Norway. Rare in the Black Sea. The more southerly distributed Trachurus capensis is considered by some authors to be only subspecifically distinct but more study is required before its true taxonomic status can be established.

A schooling species, found frequently over sandy bottom localities at 100 to 200 m depth, but may occur in deeper water (to about 500 m); also pelagic and near surface at times. The young sometimes seek shelter under jellyfishes and often occur with shoals of juvenile herrings.

Juveniles and adults feed on a wide variety of pelagic and even benthic fishes, crustaceans and squids.



PRESENT FISHING GROUNDS:

Mainly the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The statistics reported for this species in the area totalled about 30 000 t in 1977. However, it is likely that the catch of unidentified Trachurus species (about 500 000 t in 1977) also includes this species.

Caught with trawls and purse seines (using light); also with longlines.

Utilized fresh, frozen, dried salted, smoked and canned.

CARAN Trachur 2

1981

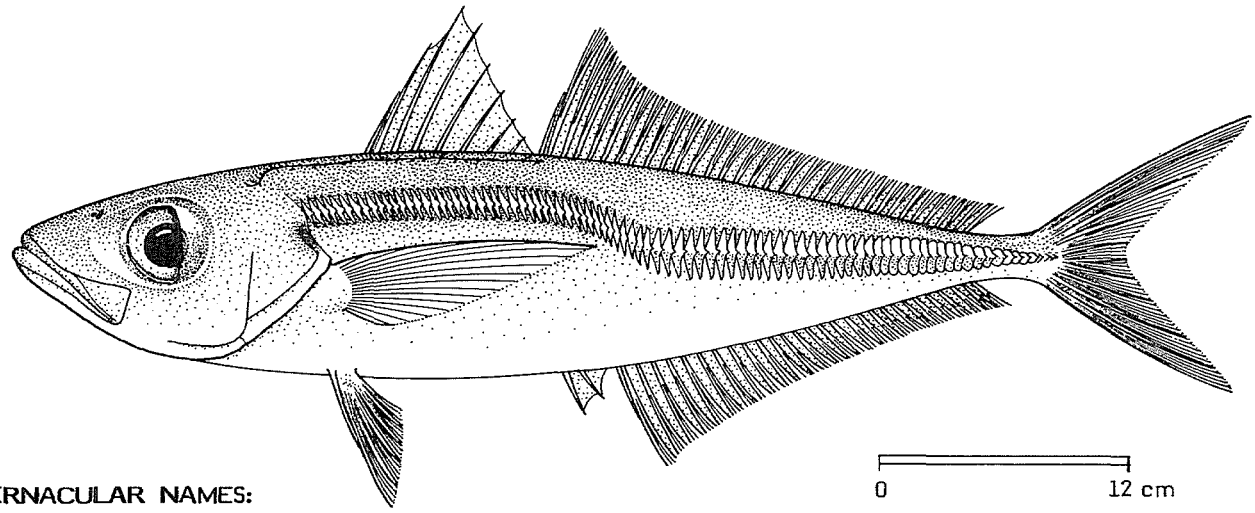
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachurus mediterraneus (Steindachner, 1863)

OTHER SCIENTIFIC NAMES STILL IN USE : Trachurus mediterraneus ponticus Aleev, 1956
Suareus furnestini Dardignac & Vincent, 1958



VERNACULAR NAMES:

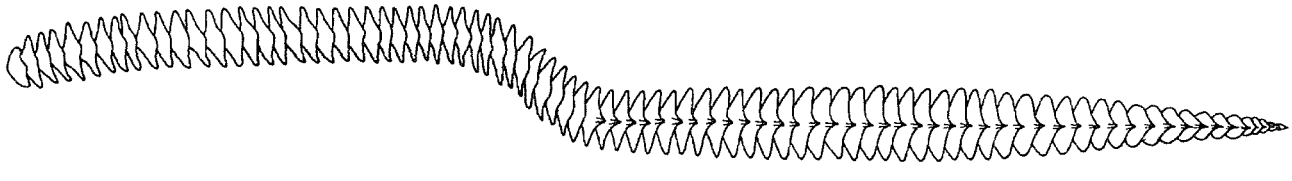
FAO : En - Mediterranean horse mackerel
Fr - Chinchard à queue jaune (= Chinchard de la Méditerranée, Area 37)
Sp - Jurel mediterráneo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 4.3 to 5.2 times in fork length) and slightly compressed, with upper and lower profiles about equal; eye large (its diameter contained 3.2 to 4.1 times in head length) with a well developed adipose eyelid; upper jaw moderately broad and extending to below anterior margin of eye; teeth small, in a single row in upper and lower jaws; gill rakers (including rudiments) 13 to 17 upper, 36 to 41 lower on first gill arch; shoulder girdle (cleithrum) margin with a small furrow at upper end, but no papillae present. Dorsal fin with 8 spines, followed by 1 spine and 29 to 35 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 26 to 39 soft rays; terminal soft ray of dorsal and anal fins connected by a membrane to rest of fin, but spaced about 50 percent farther apart than other rays; pectoral fins about equal to head length. Scales moderately small and cycloid (smooth to touch) covering body except for small area behind pectoral fins; scales in curved as well as straight part of lateral line enlarged and scute-like; maximum height of scales in curved lateral line 3.3 to 4.3 percent of standard length; scales and scutes in curved part 39 to 48, in straight part 35 to 44; total scales and scutes in lateral line 75 to 89. Dorsal accessory lateral line terminating below 8th spine to 3rd soft ray of dorsal fin. Vertebrae 10+ 14.

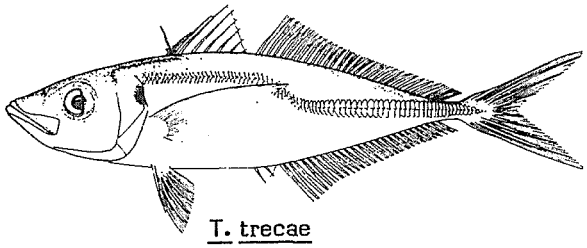
Colour: no distinctive markings except for a small, black opercular spot on edge near upper angle. Upper part of body and top of head dusky to nearly black or grey to bluish green; lower two thirds of body and head usually paler, whitish to silvery.



lateral line scutes

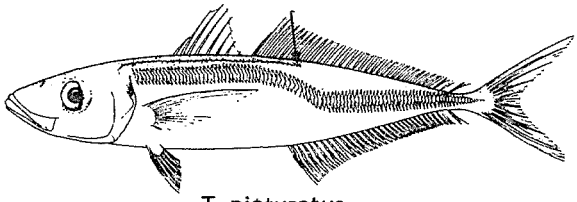
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Trachurus trecae: dorsal accessory lateral line terminates more anteriorly, below 1st to 6th spine of dorsal fin (below 8th spine to 3rd soft rays of dorsal fin in T. mediterraneus) and smaller scales in curved part of lateral line, maximum height 2.0 to 2.9 percent of standard length (3.3 to 4.3 percent in T. mediterraneus).



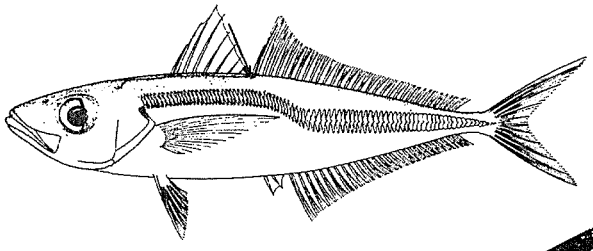
T. trecae

Trachurus picturatus: dorsal accessory lateral line terminates more posteriorly, below 6th to 10th soft ray of dorsal fin and more total scales and scutes (52 to 58) in curved lateral line (39 to 48 in T. mediterraneus).



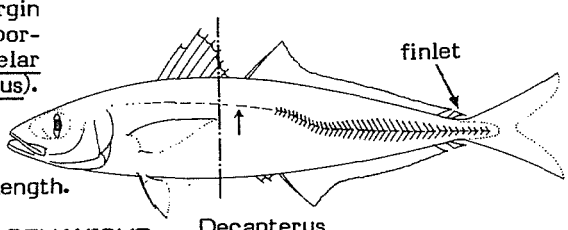
T. picturatus

Trachurus trachurus and T. capensis: dorsal accessory lateral line terminates more posteriorly, below 19th and 31st soft ray of dorsal fin and larger scales in curved lateral line, maximum height 4.8 to 8.2 percent of standard length.

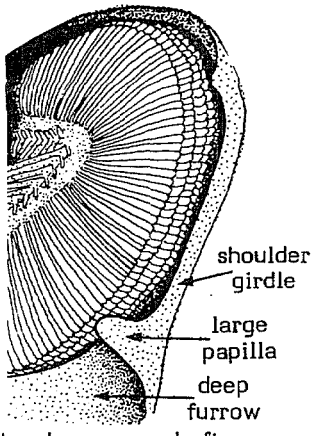


T. mediterraneus

Other species of Carangidae: scales in curved lateral line not scute-like or expanded dorso-ventrally. Furthermore, terminal soft ray of dorsal and anal fins consisting of an isolated or nearly detached finlet and dorsal accessory lateral line terminating before dorsal fin origin in Decapterus; shoulder girdle (cleithrum) margin with a deep furrow near ventral edge bordered above by a large papilla in Selar (shoulder girdle margin smooth in Trachurus).



Decapterus



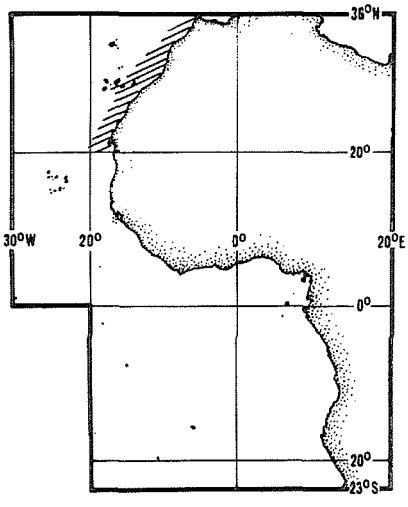
gill chamber exposed after removal of gill cover

SIZE:

Maximum: to at least 50 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Mediterranean; common in the Marmara and Black Seas, and in the southern and western regions of the Azov Sea; probably also occurring along the West African coast; southward to Mauritania and extending northward into the Bay of Biscay.



Pelagic and migratory, living in large schools from the surface to about 500 m depth.

Feeds mainly on small fish and on crustaceans (shrimps and mysids).

PRESENT FISHING GROUNDS:

Continental shelf and upper parts of slope.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with pelagic and bottom trawls, longlines and purse seines (using light)

Utilized fresh, canned and for fishmeal.

CARAN Trachur 4

1981

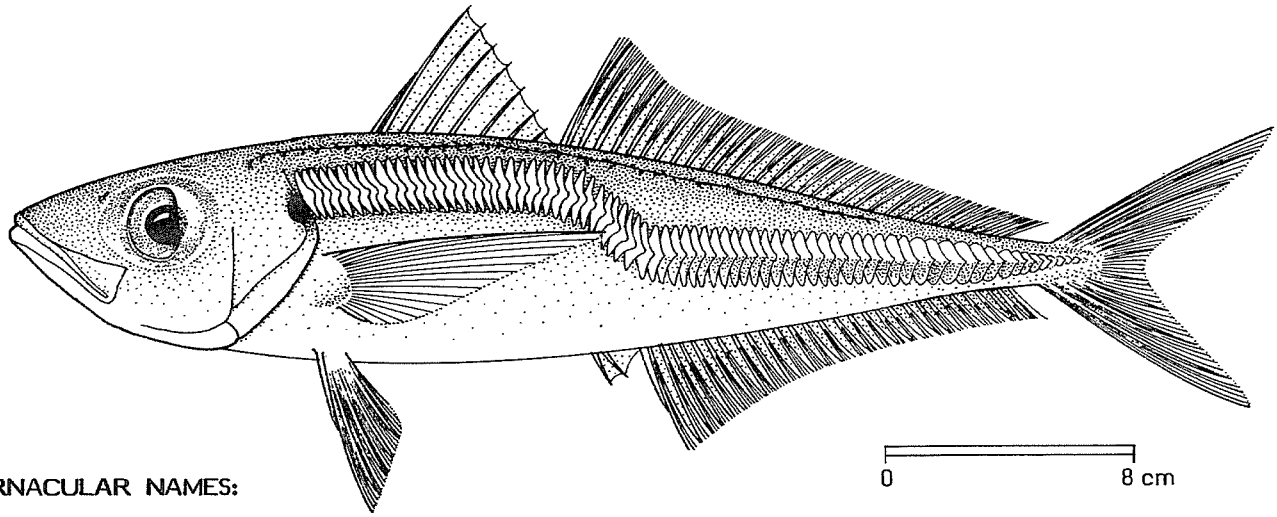
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachurus capensis Castelnau, 1861

OTHER SCIENTIFIC NAMES STILL IN USE : Selar tabulae Barnard, 1927



VERNACULAR NAMES:

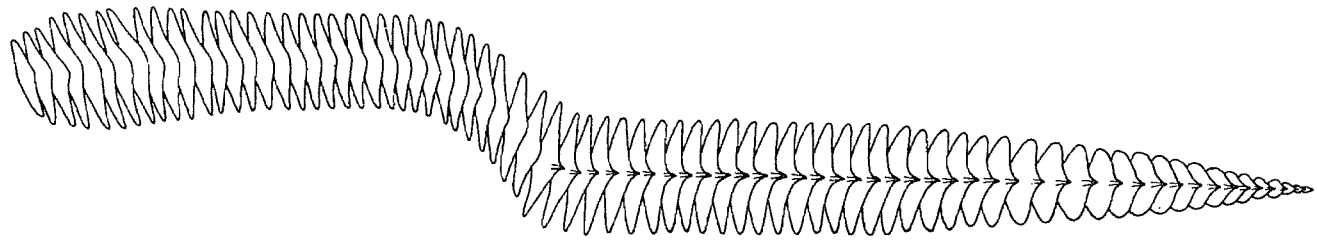
FAO : En - Cape horse mackerel
Fr - Chinchard du Cap
Sp - Jurel del Cabo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 4.1 to 5.0 times in fork length) and slightly compressed, with upper and lower profiles about equal; eye large (its diameter contained 3.3 to 4.0 times in head length) with a well developed adipose eyelid; upper jaw moderately broad and extending to below anterior margin of eye; teeth small, in a single row in upper and lower jaws; gill rakers (including rudiments) 16 to 20 upper, 49 to 56 lower on first gill arch; shoulder girdle (cleithrum) margin with a small furrow at upper end, but no papillae present. Dorsal fin with 8 spines, followed by 1 spine and 27 to 31 soft rays; terminal soft ray of dorsal and anal fins connected by a membrane to rest of fin, but spaced about 50 percent farther apart than other rays; pectoral fins about equal to head length. Scales moderately small and cycloid (smooth to touch) covering body except for small area behind pectoral fins; scales in curved as well as straight part of lateral line enlarged and scute-like; maximum height of scales in curved lateral line 4.8 to 5.2 percent of standard length; scales and scutes in curved part 34 to 45, in straight part 33 to 39; total scales and scutes in lateral line 70 to 78. Dorsal accessory lateral line terminating below soft rays 19 to 27 of dorsal fin. Vertebrae 10 + 14.

Colour: no distinctive markings except for a small black opercular spot on edge near upper angle. Upper part of body and top of head dusky to nearly black or grey to bluish green; lower two thirds of body and head usually paler, whitish to silvery.



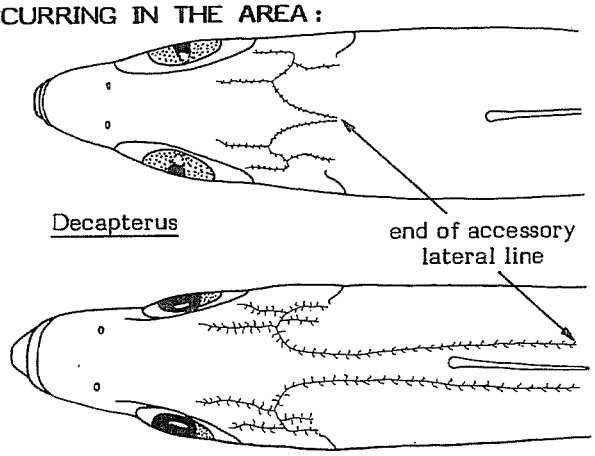
lateral line scutes

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

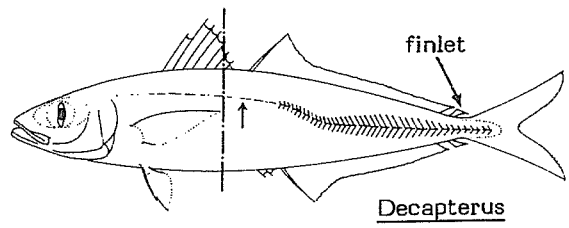
Trachurus trachurus: fewer gill rakers (41 to 48) on lower limb of first gill arch (49 to 56 in T. capensis) and larger scales in curved lateral line, their maximum height 6.3 to 8.2 percent of standard length (4.8 to 5.2 percent in T. capensis).

Other species of Trachurus: dorsal accessory lateral line terminates more anteriorly, before 11th soft ray of dorsal fin (below 19th to 27th soft ray of dorsal fin in T. capensis); also, scutes in curved part of lateral line smaller (maximum height less than 4.4 percent of standard length) in T. mediterraneus and T. trecae.

Other species of Carangidae: scales in curved part of lateral line not scute-like or expanded dorso-ventrally. Furthermore, terminal soft ray of dorsal and anal fins consisting of an isolated or nearly detached finlet and dorsal accessory lateral line terminating before dorsal fin origin in Decapterus; shoulder girdle (cleithrum) margin with a deep furrow near ventral edge bordered above by a large papilla in Selar (shoulder girdle margin smooth in Trachurus).

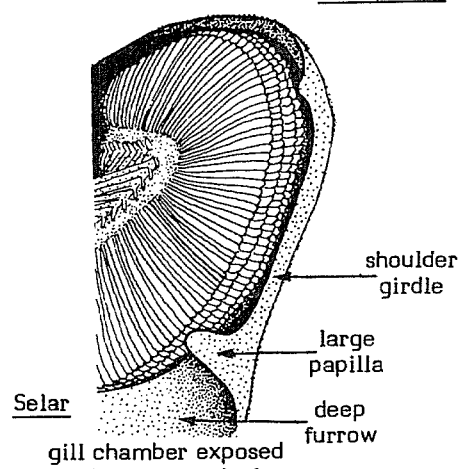


Trachurus



SIZE:

Maximum: about 60 cm fork length; common to 30 cm fork length.

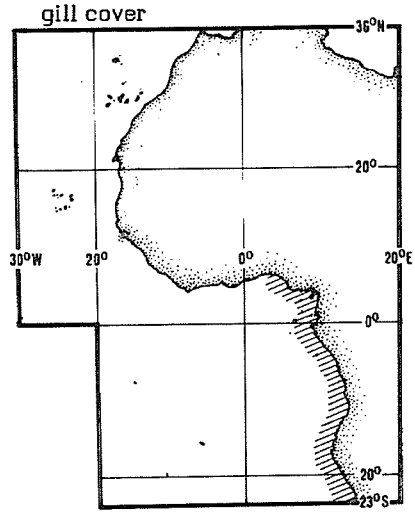


GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic from the Gulf of Guinea to South Africa. The more northerly distributed Trachurus trachurus is considered by some authors to be only subspecifically distinct but more study is required before its true taxonomic status can be established.

PRESENT FISHING GROUNDS:

Mainly over the continental shelf.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch reported for this species within the area in 1977 totalled about 13 300 tons (U.S.S.R. only)

Caught with pelagic and bottom trawls.

Utilized mostly fresh.

CARAN Trachur 5

1981

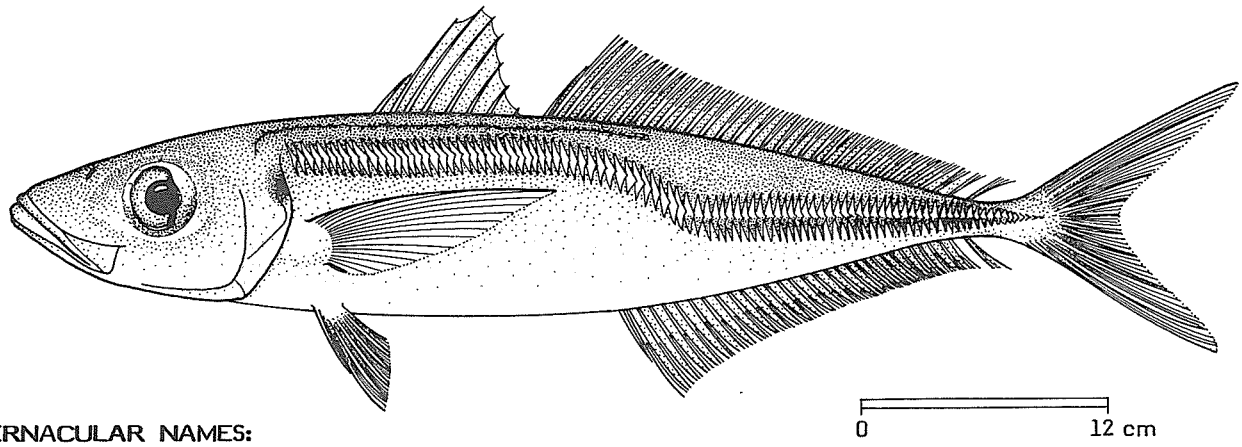
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachurus picturatus (Bowdich, 1825)

OTHER SCIENTIFIC NAMES STILL IN USE : Trachurus suareus (Risso, 1833)



VERNACULAR NAMES:

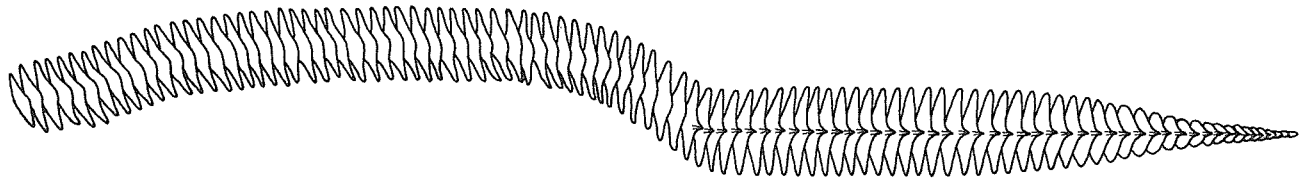
FAO : En - Blue jack mackerel
Fr - Chinchard du large
Sp - Jurel de altura (= Chicharro)

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 4.8 to 5.3 times in fork length) and slightly compressed, with upper and lower profiles about equal; eye large (its diameter contained 3.1 to 3.9 times in head length) with a well developed adipose eyelid; upper jaw moderately broad and extending to below anterior margin of eye; teeth small, in a single row in upper and lower jaws; gill rakers (including rudiments) 14 to 17 upper, 41 to 44 lower on first gill arch; shoulder girdle (cleithrum) margin with a small furrow at upper end, but no papillae present. Dorsal fin with 8 spines, followed by 1 spine and 30 to 35 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 27 to 30 soft rays; terminal soft ray of dorsal and anal fins connected by a membrane to rest of fin, but spaced about 50 percent farther apart than other rays; pectoral fins about equal head length. Scales moderately small and cycloid (smooth to touch) covering body except for small area behind pectoral fins; scales in curved as well as straight part of lateral line enlarged and scute like; maximum height of scales in curved part of lateral line 3.6 to 5.1 percent of standard length; scales and scutes in curved part 52 to 58, in straight part 39 to 46; total scales and scutes in lateral line 93 to 100; dorsal accessory lateral line terminating below soft rays 6 to 10 of dorsal fin. Vertebrae 10 + 14.

Colour: no distinctive markings except for a small, black opercular spot on edge near upper angle. Upper part of body and top of head dusky to nearly black or grey to bluish green; lower two thirds of body and head usually paler, whitish to silvery.



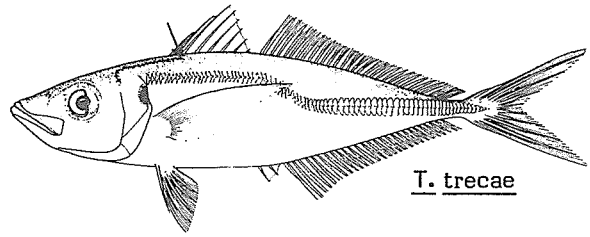
lateral line scutes

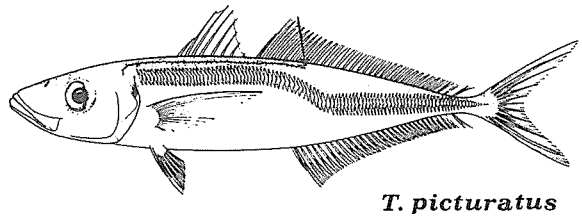
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

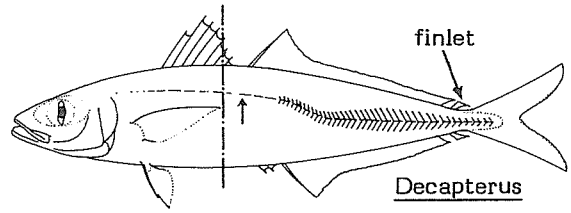
Trachurus trecae and T. mediterraneus: dorsal accessory lateral line terminates more anteriorly, below first spine to 3rd soft ray of dorsal fin (terminates below 6th to 10th soft ray in T. picturatus) and fewer total scales and scutes (36 to 48) in curved part of lateral line (52 to 58 in T. picturatus).

Trachurus trachurus and T. capensis: dorsal accessory lateral line terminates more posteriorly, below 19th to 31 st soft ray of dorsal fin.

Other species of Carangidae: scales in curved lateral line not scute-like, or expanded dorsoventrally. Furthermore, terminal soft ray of dorsal and anal fins consisting of an isolated or nearly detached finlet and the dorsal accessory lateral line terminating before dorsal fin origin, in Decapterus; shoulder girdle (cleithrum) margin with a deep furrow near ventral edge bordered above by a large papilla in Selar (shoulder girdle margin smooth in Trachurus).







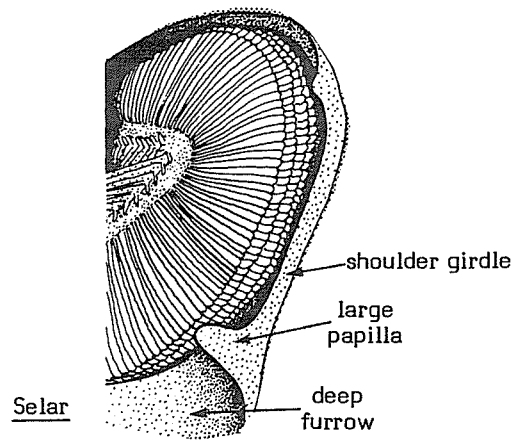
SIZE:

Reliable date unavailable, but said to attain at least 60 cm total length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Around the Azores, Madeira and Canary Islands, and along the Moroccan coast. Northward extending into the Mediterranean (at least the western part) and to Portugal.

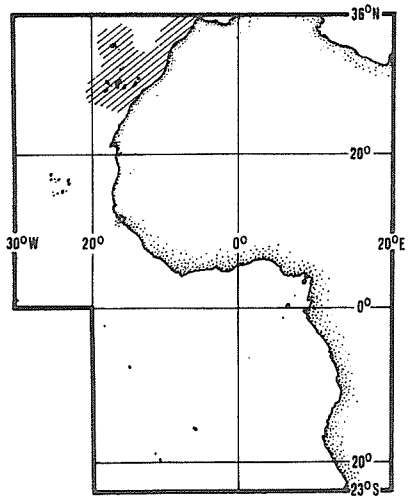
A pelagic-demersal species ranging in depth to at least 370 m.



gill chamber exposed after removal of gill cover

PRESENT FISHING GROUNDS:

Continental shelf, upper parts of slope and open waters around islands.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species but the combined catch of non identified Trachurus species from the area totalled about 500 000 tons in 1977.

Caught mostly with pelagic and bottom trawls.

Utilized fresh, dried salted, frozen and for fish-meal.

CARAN Trachur 6

1981

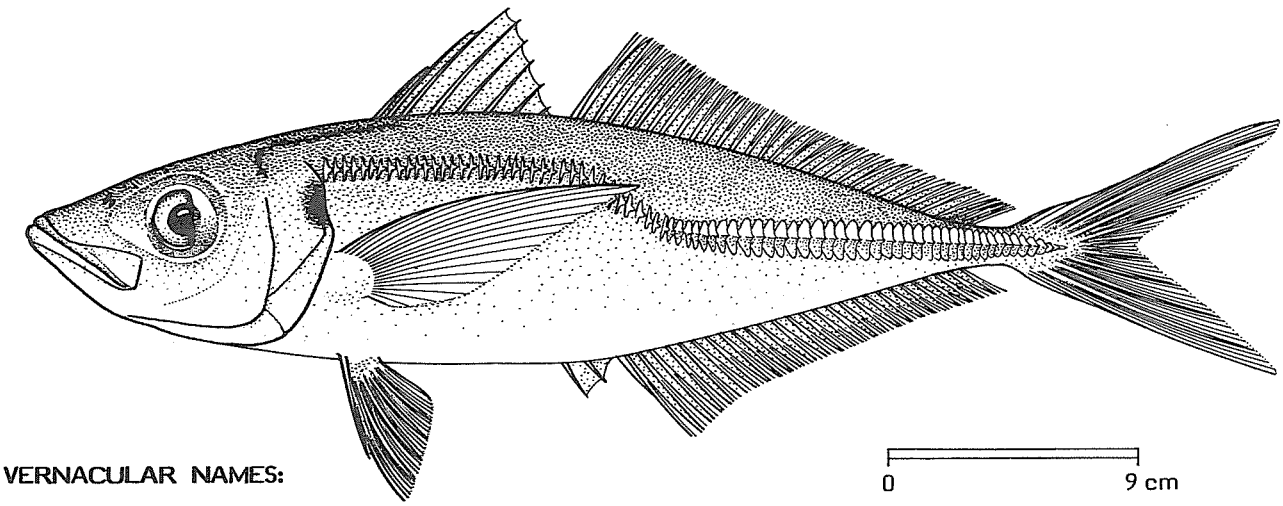
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Trachurus trecae Cadenat, 1949

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

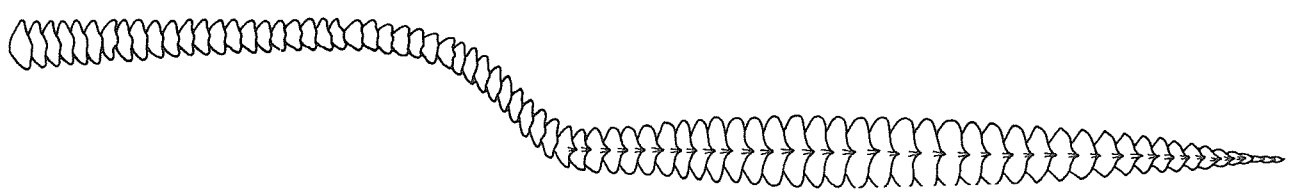
FAO : En - Cunene horse mackerel
Fr - Chinchard cunène
Sp - Jurel cunene

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate (its depth contained 4.2 to 4.8 times in fork length) and slightly compressed, with upper and lower profiles about equal; eye large (its diameter contained 3.0 to 3.9 times in head length) with a well developed adipose eyelid; upper jaw moderately broad and extending to below anterior margin of eye; teeth small, in a single row in upper and lower jaws; gill rakers (including rudiments) 13 to 16 upper, 37 to 45 lower on first gill arch; shoulder girdle (cleithrum) margin with a small furrow at upper end, but no papillae present. Dorsal fin with 8 spines, followed by 1 spine and 28 to 33 soft rays; anal fin with 2 spines separated from rest of fin, followed by 1 spine and 25 to 29 soft rays; terminal soft ray of dorsal and anal fins connected by a membrane to rest of fin, but spaced 50 percent farther apart than other rays; pectoral fins about equal to head length. Scales moderately small and cycloid (smooth to touch) covering body except for a small area behind pectoral fins; scales in curved as well as straight part of lateral line enlarged and scute like; maximum height of scales in curved lateral line 2.0 to 2.9 percent of standard length; scales and scutes in curved part 35 to 43, in straight part 33 to 38; total scales and scutes in lateral line 71 to 78; dorsal accessory lateral line terminating below 1st to 6th dorsal fin spines. Vertebrae 10 + 14.

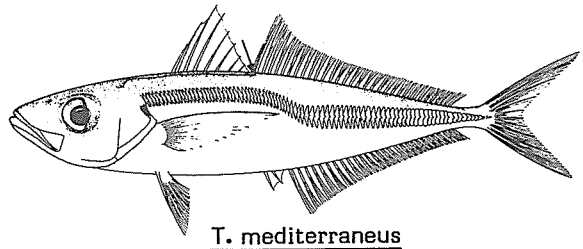
Colour: no distinctive markings except for a small black opercular spot on edge near upper angle. Upper part of body and top of head dusky to nearly black or grey to bluish green; lower two thirds of body and head usually paler, whitish to silvery.



lateral line scutes

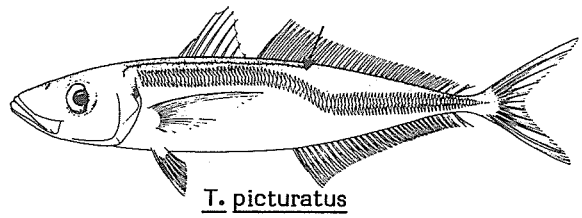
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Trachurus mediterraneus: dorsal accessory lateral line terminates more posteriorly, below 8th spine to 3rd soft ray of dorsal fin (terminates below 1st to 6th spine of dorsal fin in T. trecae) and larger scales in curved lateral line, maximum height 3.3 to 4.3 percent of standard length (2.0 to 2.9 percent in T. trecae).



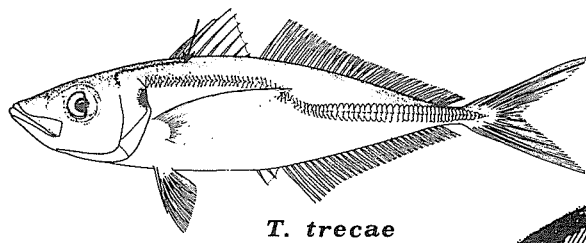
T. mediterraneus

Trachurus picturatus: dorsal accessory lateral line terminates more posteriorly, below 6th to 10th soft ray of dorsal fin and more total scales and scutes (52 to 58) in curved lateral line (35 to 43 in T. trecae).



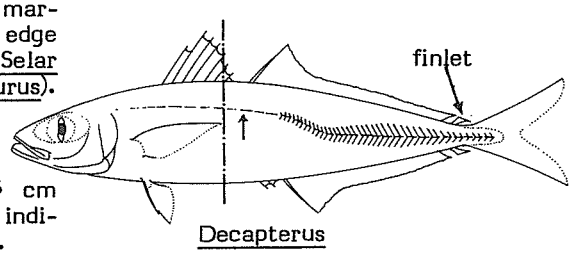
T. picturatus

Trachurus trachurus and T. capensis: dorsal accessory lateral line terminates more posteriorly, below 19th to 31st soft ray of dorsal fin and larger scales in curved lateral line, maximum height 4.8 to 8.2 percent of standard length.

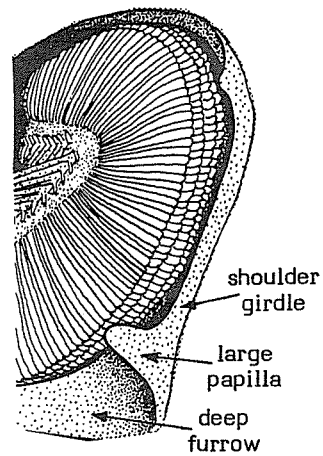


T. trecae

Other species of Carangidae: scales in curved lateral line not scute-like, or expanded dorsoventrally. Furthermore, terminal soft ray of dorsal and anal fins consisting of an isolated or nearly detached finlet and the dorsal accessory lateral line terminating before dorsal fin origin in Trachurus; shoulder girdle (cleithrum) margin with a deep furrow near ventral edge bordered above by a large papilla, in Selar (shoulder girdle margin smooth in Trachurus).



Decapterus



Selar

gill chamber exposed after removal of gill cover

SIZE:

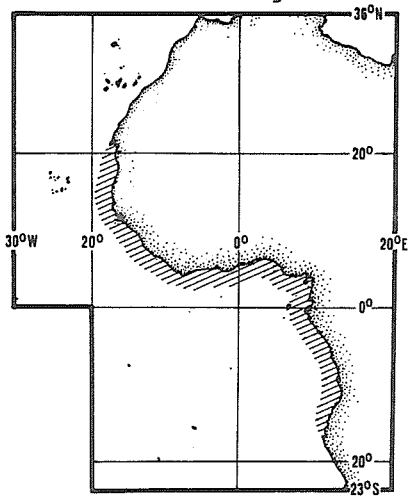
Maximum: attains, at least 35 cm fork length; but unconfirmed reports indicate maximum total length up to 80 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic along the African coast from Mauritania to southern Angola.

A schooling species, usually occurring near the bottom between 20 and 100 m depths; also sometimes pelagic and near surface at times.

Feeds primarily on crustaceans.



PRESENT FISHING GROUNDS:

Mainly over the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

The catch of this species reported from the area in 1977 totalled about 207 000 tons (U.S.S.R. only).

Caught with pelagic and bottom trawls and with purse seines.

Utilized fresh, frozen, dried salted, canned and smoked.

CARAN Uras 1

1981

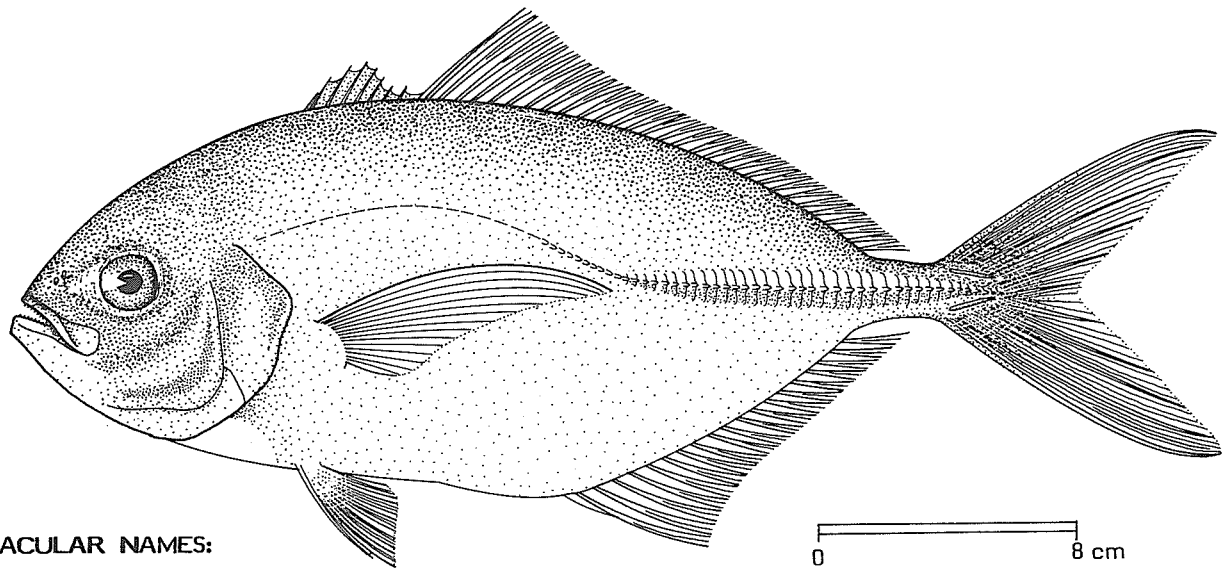
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CARANGIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Uraspis secunda (Poey, 1860)

OTHER SCIENTIFIC NAMES STILL IN USE : Uraspis heidi Fowler, 1938
Uraspis cadenati Blache & Rossignol, 1962

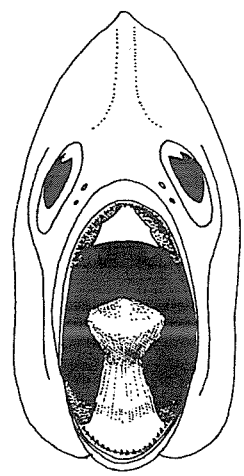


VERNACULAR NAMES:

FAO : En - Cottonmouth jack
Fr - Carangue-coton
Sp - Jurel volantín

NATIONAL :

DISTINCTIVE CHARACTERS :



Body elongate-ovoid, deep (its depth contained 2.5 to 2.8 times in fork length), and moderately compressed. Snout short and bluntly pointed; eye relatively small (its diameter contained 4.4 to 4.7 times in head length), with a weak adipose eyelid; gill rakers 3 to 8 upper, 13 to 16 lower on first gill arch; mouth moderate and oblique; end of upper jaw extending to below anterior margin or to middle of eye; teeth in jaws in 2 to 4 irregular rows in smaller fish, becoming a single row at about 28 cm fork length. Dorsal fin with 8 spines (normally) followed by 1 spine and 27 to 32 soft rays; anal fin with 2 spines (reabsorbing and apparently absent above 15 cm fork length) followed by 1 spine and 19 to 23 soft rays; dorsal and anal fin lobes scarcely produced in larger fish; pectoral fins falcate (longer than head) only in larger fish; pelvic fins elongate in individuals to about 25 cm fork length and relatively short fish; pelvic fins elongate in individuals to about 25 cm fork length and relatively short in larger fish. Scales small and cycloid (smooth to touch); chest scaleless half-way up to pectoral fin bases; lateral line with a moderate arch, its posterior (straight) part with 26 to 40 scutes some usually antrorse (recurved forward); bilateral paired caudal keels only moderately developed at larger sizes. Vertebrae 10 + 14; no hyperostosis.

Colour: body and head very dark (leaden, blue-black, or dusky) in fish of 30 cm fork length and larger; juveniles with 6 or 7 dark bars persisting to about 30 cm; tongue, roof and floor of mouth white or cream-coloured, the rest blue-black.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Uraspis helvola: juveniles differ in having longer pelvic fins but the adults are exceedingly difficult to distinguish from U. secunda; in Fishing Area 34, known only from St. Helena and Ascension Islands, where U. secunda apparently does not occur.

No other carangid species has the tongue, roof and floor of mouth white and the rest dark, and usually some of the lateral-line scutes recurved.

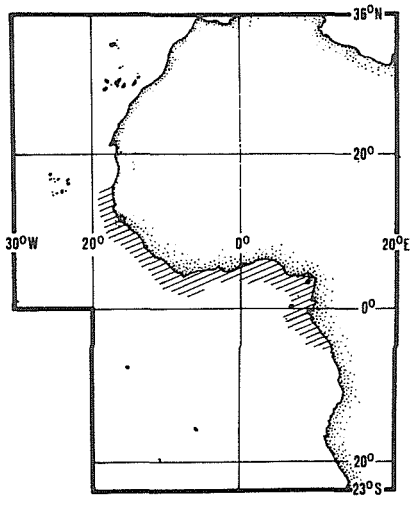
SIZE:

Maximum: 43.5 cm fork length; common to 35 cm fork length.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the Eastern Atlantic it occurs along the continental shelf from Mauritania to Angola. Also known from scattered localities in the Western Atlantic, Indian, Central and Western Pacific Oceans. including Hawaii, and from offshore islands in the Northeastern tropical Pacific Ocean.

Apparently an oceanic species; at surface, pelagic and benthic; solitary and in small schools. Can give a grunting sound when caught.



PRESENT FISHING GROUNDS:

Mainly open waters over the outer parts of the continental shelf and the slope.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

CENTRA

1981

FAO SPECIES IDENTIFICATION SHEETS

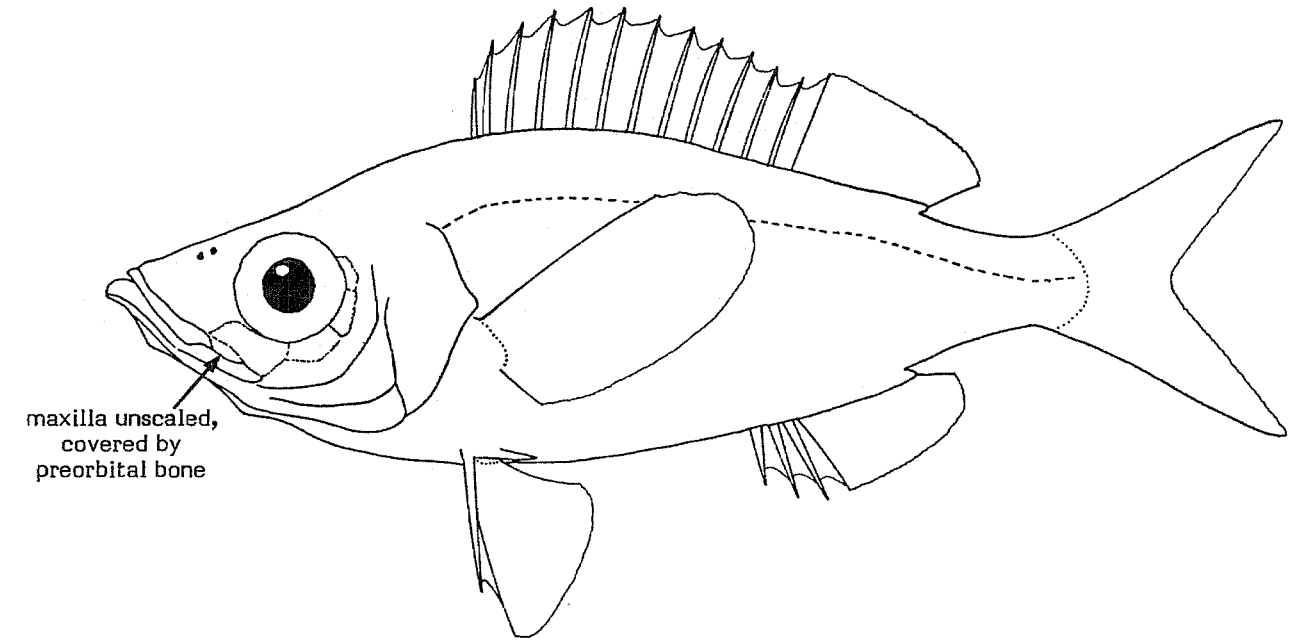
FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

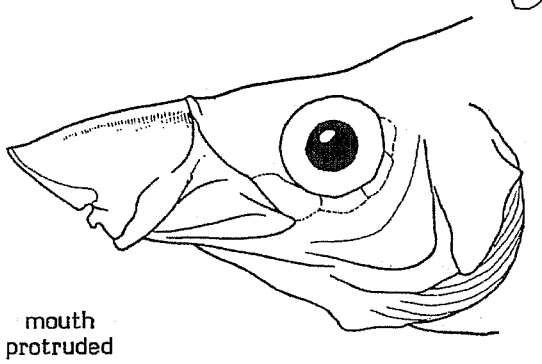
CENTRACANTHIDAE

Picarels

Body oblong, somewhat compressed or elongate-subcylindrical. Upper jaw very protrusible; no supramaxilla; maxilla without scales and covered by preorbital bone when mouth is closed; jaws with cardiform teeth; vomer and palatines (roof of mouth) with or without small teeth; edge of preopercle thin, broadly rounded, smooth; no spines on opercle; gill membranes separate, free from isthmus; branchiostegal rays 6; gillrakers long, 14 to 22 on lower limb of first arch. Dorsal fin continuous, with 11 to 13 spines and 9 to 18 segmented rays; anal fin with 3 spines and 8 to 16 segmented rays; pelvic fins with 1 spine and 5 rays, and a well developed axillary process of fused scales at its base; caudal fin forked; branched rays 15. Lateral line single, continuous, smoothly curved. Snout and interorbital region naked, rest of head and body covered with weakly ctenoid scales. Vertebrae 10 + 14. Swimbladder present.

Colour: reddish or brownish green dorsally, silvery below. Some species with a conspicuous black blotch either on midbody or on caudal peduncle.



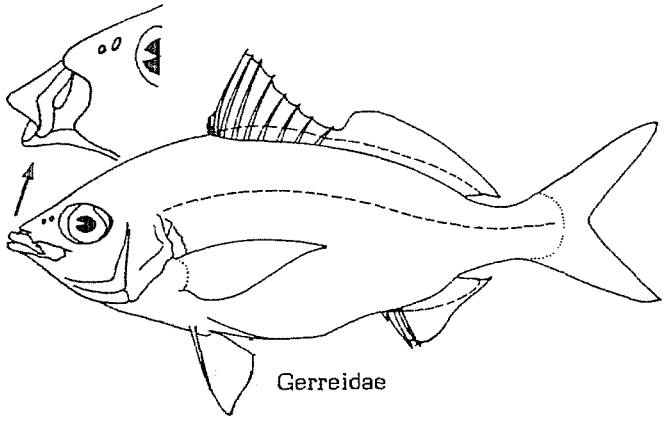


SIMILAR FAMILIES OCCURRING IN THE AREA:

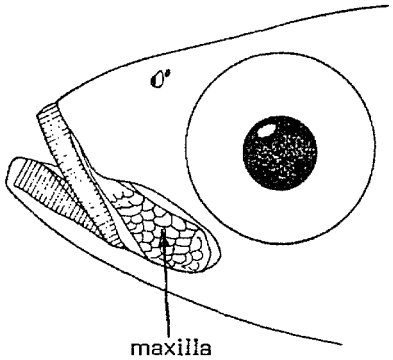
Emmelichthyidae: maxilla broad and scaly, exposed when mouth is closed; supramaxilla well developed. Also, none of the East African species with large dark blotches and one, Emmelichthys ruber, with 2 separate dorsal fins.

Gerreidae: dorsal fin spines 9 (11 to 13 in Centracanthidae); maxilla not covered by pre-orbital bone when mouth is closed; mouth pointing downward when protracted.

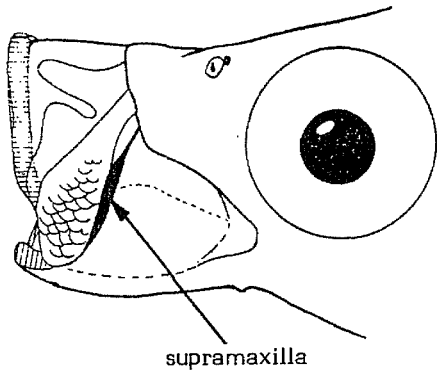
Other superficially similar percoid fishes (some Sparidae, Pomadasyidae, Serranidae): *mouth not strongly protrusible.*



Gerreidae



maxilla
scaly and
fully exposed



supramaxilla

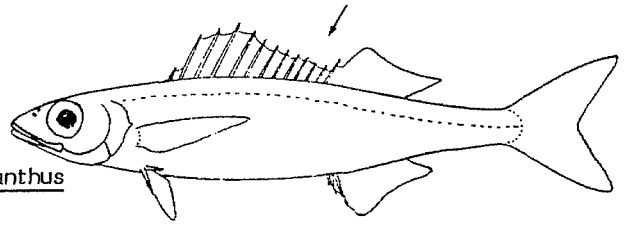
mouth protruded

Emmelichthyidae

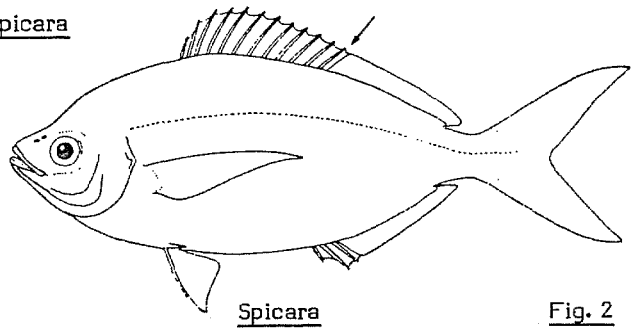
KEY TO GENERA OCCURRING IN THE AREA:

1 a. Body elongate; depth less than head length and contained 5.0 to 5.6 times in standard length; lateral line scales 86 to 89; dorsal fin margin notched before soft-rayed portion (*Fig.* 1)..... Centracanthus

1 b. Body depth greater than head length, contained 2.4 to 4.7 times in standard length; lateral line scales 48 to 81; dorsal fin margin continuous, or only slightly notched (Fig. 2) ..... Spicara



Centracanthus Fig. 1



Spicara Fig. 2

LIST OF SPECIES OCCURRING IN THE AREA*:

Code numbers are given for those species for which Identification Sheets are included

Centracanthus cirrus Rafinesque, 1810	CENTRA Cent 1 (= EMMEL Centc 1)
Spicara alta (Osorio, 1917)	CENTRA Spic 1
Spicara maena (Linnaeus, 1758)	CENTRA Spic 2 (= EMMEL Maen 1)
Spicara melanurus (Valenciennes, 1830)	CENTRA Spic 3
Spicara nigricauda (Norman, 1931)	CENTRA Spic 4
Spicara smaris (Linnaeus, 1758)	CENTRA Spic 5 (= EMMEL Maen 2)

Prepared by P.C. Heemstra, J.L.B. Smith Institute of Ichthyology, Rhodes University, Grahamstown, South Africa

* S. maena and S. smaris are congeneric, but the other three species here allocated to Spicara might more properly be placed in some other genera

CENTRA Cent 1

1981

(= EMMEL Centc 1)
(Fishing Area 37)

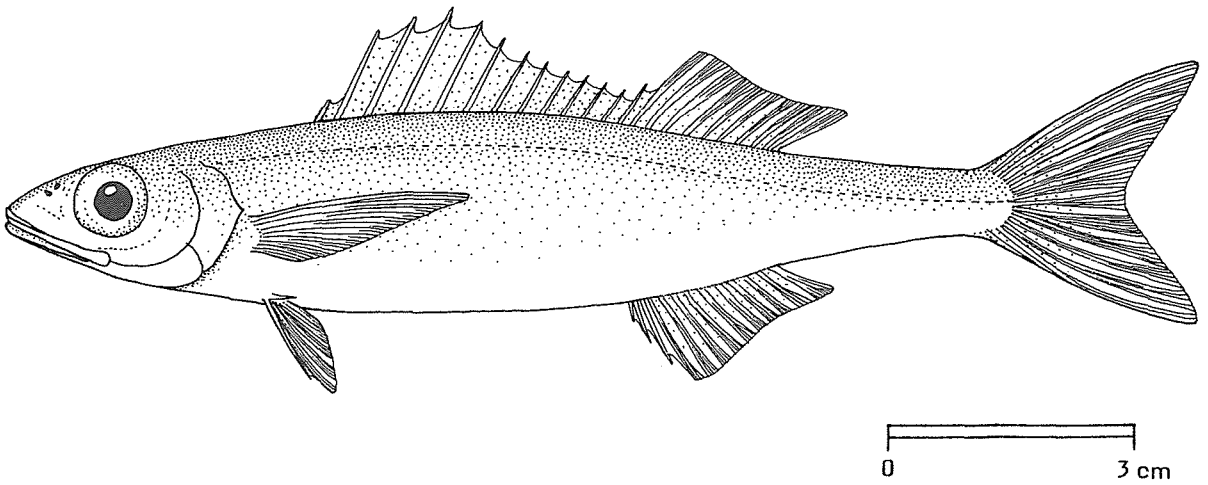
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTRACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Centracanthus cirrus Rafinesque, 1810

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Curled picarel
Fr - Picarel guetteur
Sp - Jerret imperial (= Serret imperial, Area 37)

NATIONAL :

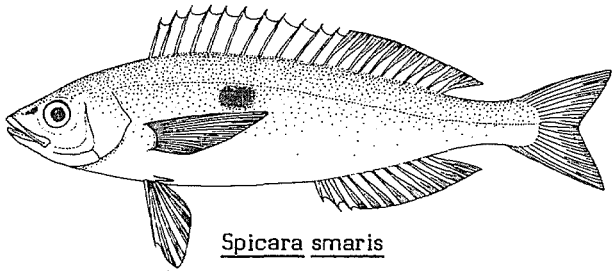
DISTINCTIVE CHARACTERS :

Body elongate, subcylindrical, its depth 5.0 to 5.6 times in standard length. Upper jaw very protrusible; maxilla unscaled, covered by the preorbital bone; gillrakers 8 to 10 on upper and 16 to 20 on lower limb of first arch; jaws with minute teeth, none on vomer or palatines. Dorsal fin margin notched before soft-rayed portion; penultimate spine shortest, about 1/3 of length of fourth spine; dorsal spines 13, soft rays 10; anal fin with 3 spines and 10 soft rays. Lateral-line scales 86 to 89 to base of caudal fin. Swimbladder not bifurcate.

Colour: brownish dorsally, silvery below.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

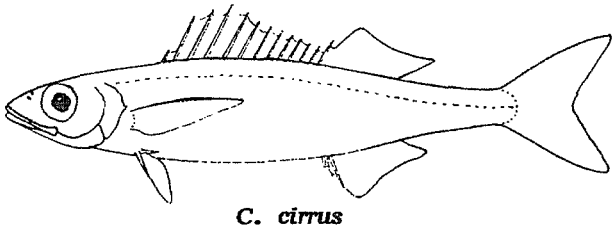
Spicara species: body deeper (depth 2.4 to 4.7 times in standard length (5 to 5.6 times in C. cirrus); dorsal fin margin not deeply notched before soft rays, its posterior spines subequal to the fourth spine; scales larger, 48 to 81 in lateral line (86 to 89 in C. cirrus). Also, a prominent black blotch usually present either on midbody below lateral line or on caudal peduncle in all species except S. alta.



Spicara smaris

SIZE :

Maximum: 20 cm; common to 15 cm.



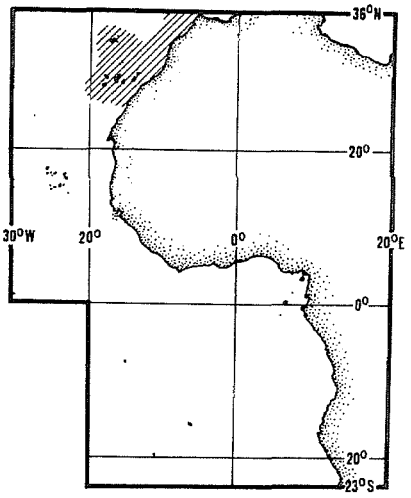
C. cirrus

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

In the area, from the Straits of Gibraltar to southern Morocco, including Madeira and the Canary Islands. Northward extending into the Mediterranean and in the Eastern Atlantic to Portugal and the Azores.

Over the continental shelf down to 200 m depth.

Feeds on small fishes and crustaceans.



PRESENT FISHING GROUNDS :

Trawlable bottoms in depth of 10 to 200 m. Not of much commercial importance, but locally rather abundant.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trammel nets and bottom trawls.

Probably marketed fresh or dried salted, but its flesh is not highly esteemed; also reduced to fishmeal and oil.

CENTRA *Spic 1*

1981

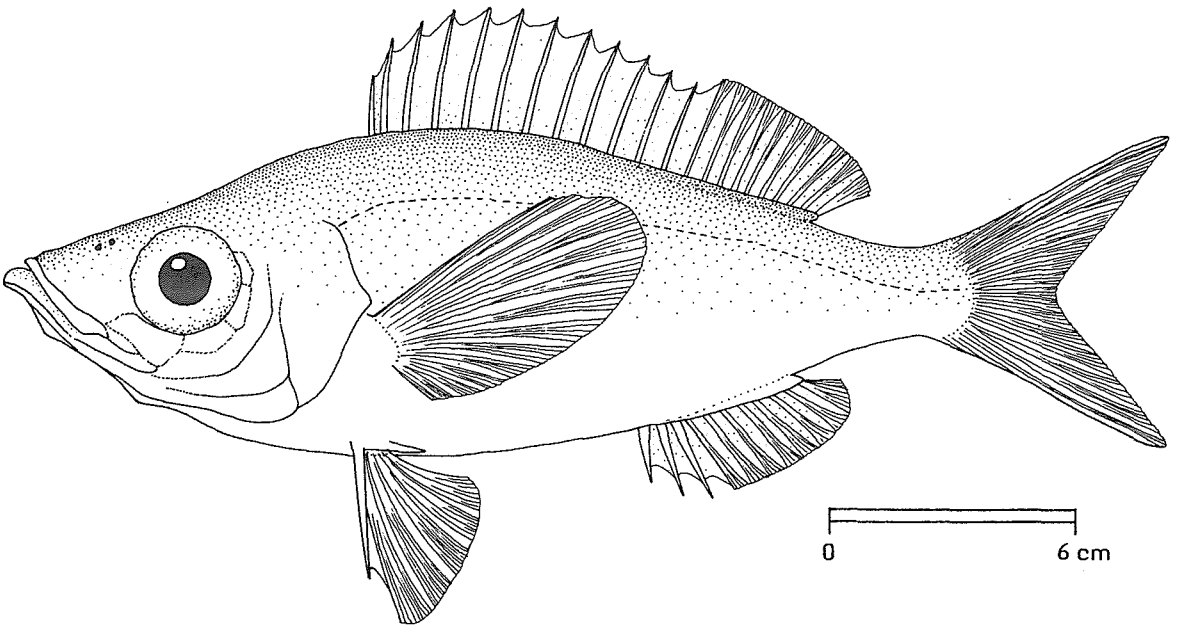
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTRACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Spicara alta (Osorio, 1917)

OTHER SCIENTIFIC NAMES STILL IN USE : Smaris macrophthalmus Cadenat, 1937



VERNACULAR NAMES:

FAO : En - Bigeye picarel
Fr - Picarel à gros yeux
Sp - Chucla ojona

NATIONAL :

DISTINCTIVE CHARACTERS :

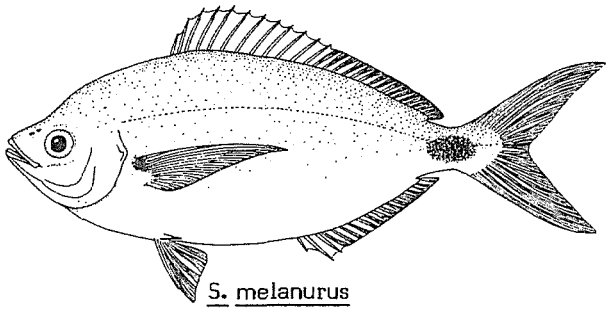
Body oblong, somewhat compressed, its depth contained 2.7 to 3.1 times in standard length. Eyes large; upper jaw greatly protrusible; jaws with bands of villiform teeth, none on vomer or palatines (roof of mouth); lower limb of first gill arch with 19 or 20 gillrakers. Dorsal fin not deeply notched, with 12 spines and 10 soft rays; anal fin with 3 spines and 8 soft rays. Lateral-line scales 48 to 50.

Colour: silvery, reddish dorsally; no distinct dark markings.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other Spicara species: scales smaller, 64 to 81 in lateral line (48 to 50 in S. alta). Also, a prominent black blotch either on midbody or on caudal peduncle.

Centracanthus cirrus: body more slender; dorsal fin margin deeply notched before the soft rays.



S. melanurus

SIZE:

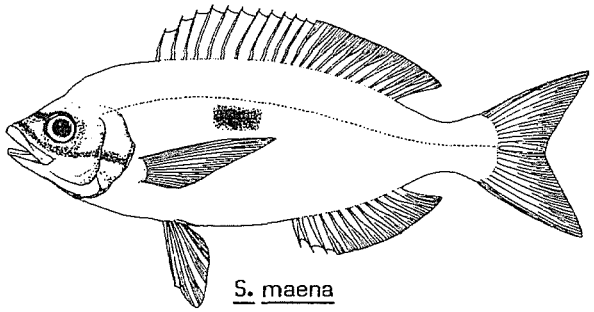
Maximum: at least to 26 cm (possibly to 35 cm); common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

From Senegal to southern Angola.

Found on the continental shelf in depths of 100 to 250 m; most abundant between 150 to 200 m.

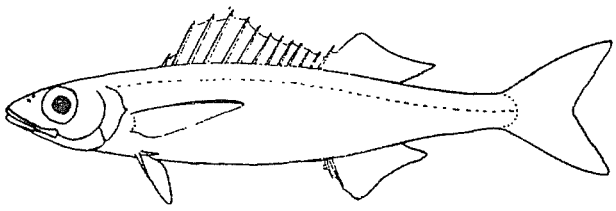
Feeds on the larger zooplankton organisms.



S. maena

PRESENT FISHING GROUNDS:

Trawlable bottoms in depths of 100 to 200 m. Of minor commercial importance at present, but sometimes occurs in great concentrations off Cape Blanc, Senegal; often taken as bycatch by offshore trawling fleets.



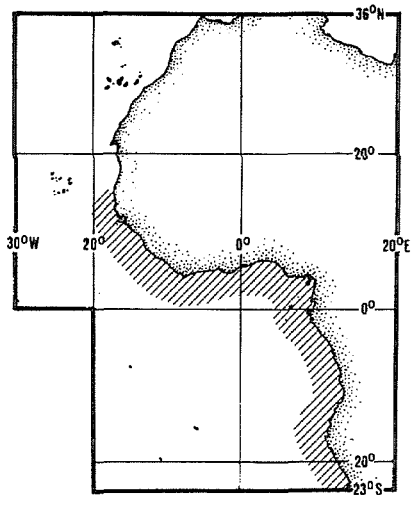
Centracanthus cirrus

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with bottom trawls.

Marketed fresh (refrigerated) or reduced to fishmeal and oil.



CENTRA Spic 2

1981

(= EMMEL Maen 1)
(Fishing Area 37)

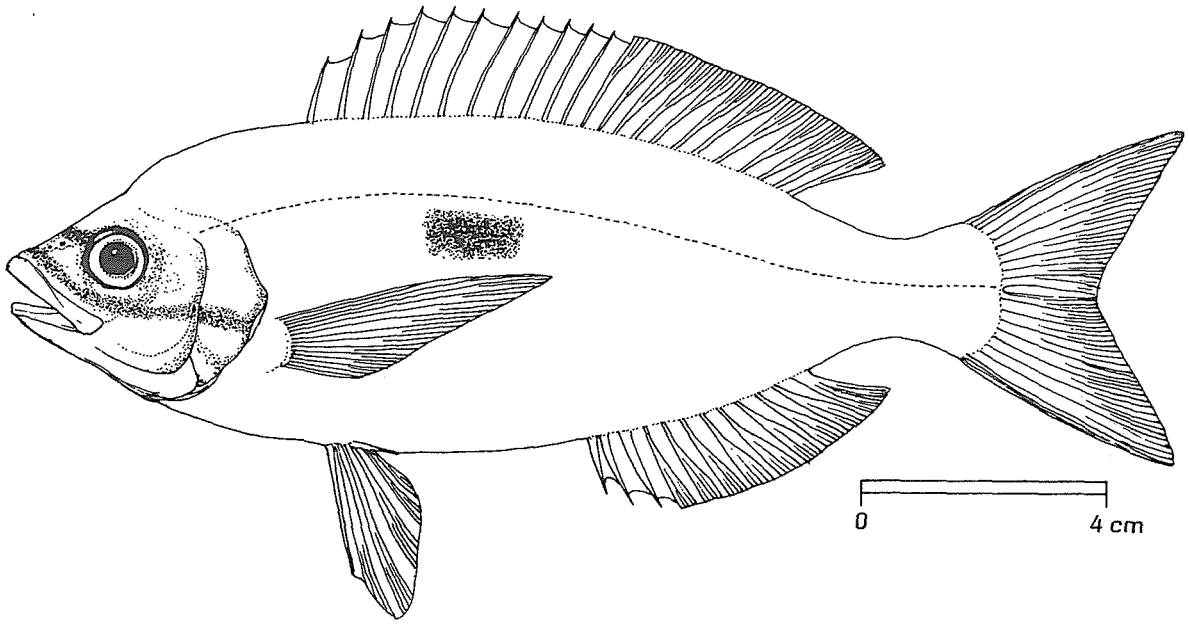
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTRACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Spicara maena (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Spicara flexuosa Rafinesque, 1810
Maena chryselis (Valenciennes, 1830)
Maena maena (Linnaeus, 1758)



VERNACULAR NAMES:

FAO : En - Blotched picarel
Fr - Mendole (= Picarel, Area 37)
Sp - Chucla

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong, somewhat compressed, its depth 2.9 to 3.5 times in standard length. Upper jaw very protrusible; jaws with bands of villiform teeth, the outer series larger, with a few small canines at front of jaws; vomerine teeth small or absent. Lower limb of first arch with 20 to 22 gillrakers. Dorsal fin unnotched, with 11 spines and 10 to 12 soft rays; anal fin with 3 spines and 9 or 10 rays. Lateral-line scales 68 to 73. Swimbladder bifurcate posteriorly.

Colour: variable with age and sex; always a dusky black blotch close below lateral line and above end of pectoral fin.

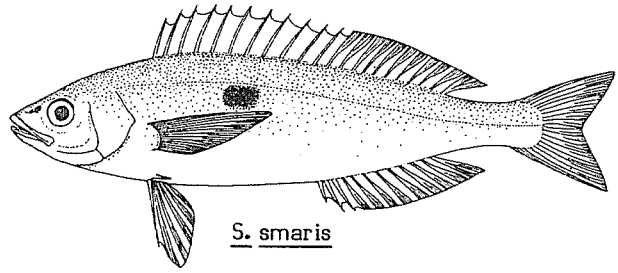
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Spicara smaris: lateral-line scales 75 to 81 (63 to 73 in S. maena); body more slender, its depth contained 3.7 to 4.7 times in standard length (2.9 to 3.5 times in S. maena).

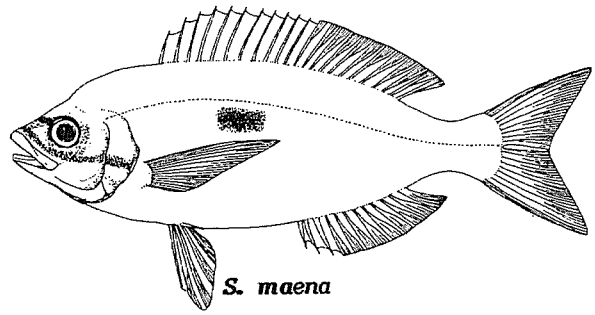
S. alta: scales larger, 48 to 50 in lateral line (68 to 73 in S. maena); no black blotch on body.

S. melanurus and S. nigricauda: a black blotch on caudal peduncle, none on midbody; dorsal fin with 12 spines and 16 or 17 soft rays (11 spines and 10 to 12 soft rays in S. maena); anal fin with 15 or 16 soft rays (9 or 10 in S. maena).

Centracanthus cirri: body more slender; dorsal fin margin deeply notched before the soft rays.



S. smaris



S. maena

SIZE:

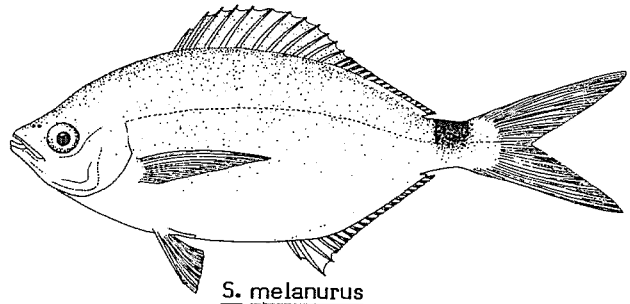
Maximum: 25 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

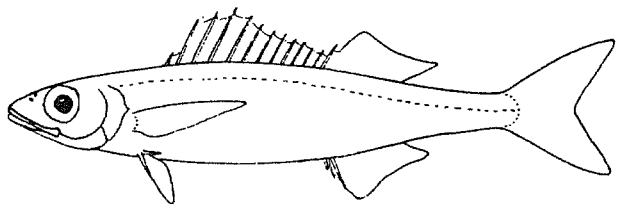
In the area, from the Straits of Gibraltar to southern Morocco, including the Canary Islands. Northward extending into the Mediterranean and in the Eastern Atlantic to Portugal and the Azores.

Over the continental shelf in depths of 100 to 200 m.

Feeds mainly on small crustaceans.



S. melanurus



Centracanthus cirrus

PRESENT FISHING GROUNDS:

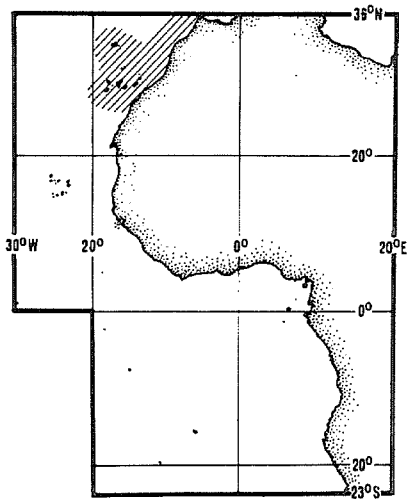
Trawlable bottoms in depths of 100 to 200 m; of minor commercial importance.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics for this species are not collected within the area.

Caught with bottom trawls.

Marketed fresh.



CENTRA Spic 3

1981

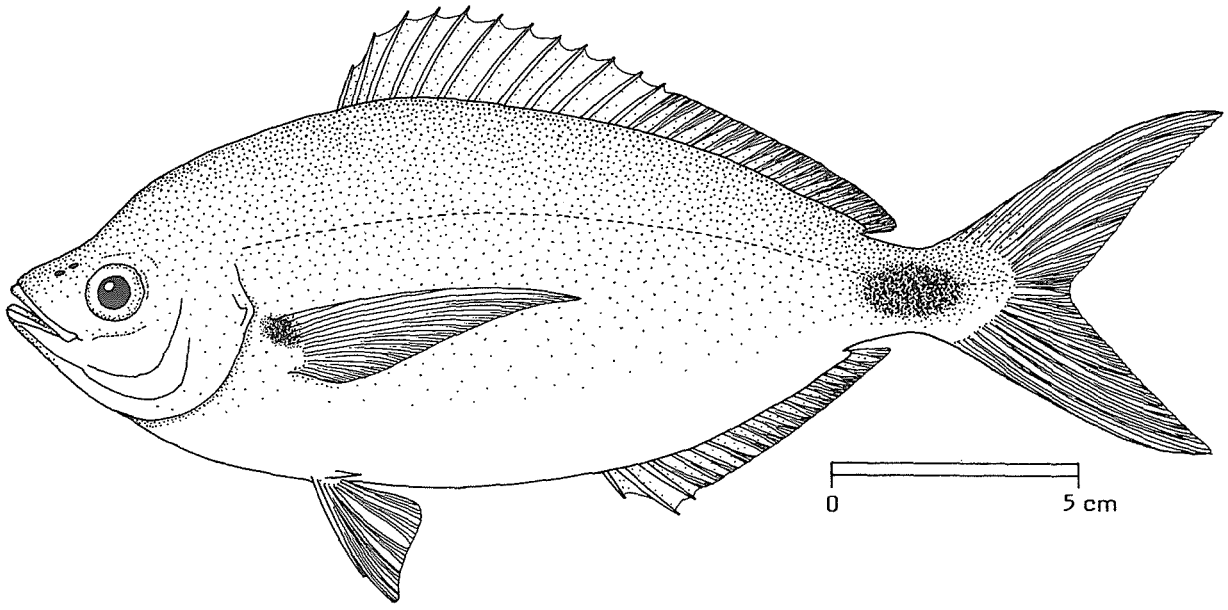
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTRACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Spicara melanurus (Valenciennes, 1830)

OTHER SCIENTIFIC NAMES STILL IN USE : None



VERNACULAR NAMES:

FAO : En - Blackspot picarel
Fr - Picarel de l'Atlantique Sud-est
Sp - Sucla

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong, somewhat compressed; its depth 2.3 to 3 times in standard length. Upper jaw very protrusible; jaws with a narrow band of fine, pointed teeth; lower limb of first arch with 14 to 17 gillrakers. Dorsal fin unnotched, with 12 spines and 15 to 18 soft rays; anal fin with 3 spines and 15 to 17 soft rays; a low scaly sheath at base of soft dorsal and anal fins. Lateral-line scales 72 to 74, plus several on base of caudal fin.

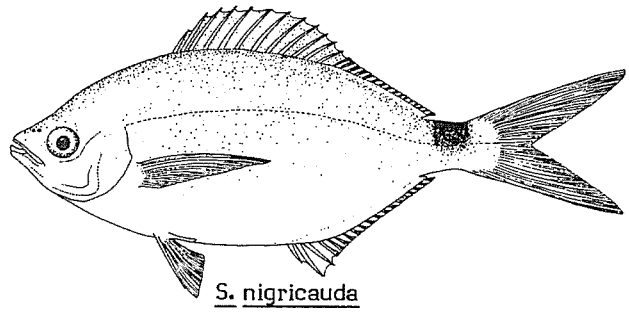
Colour: body bluish silvery grey dorsally, silvery white below; a large oval blackish blotch laterally on caudal peduncle; pectoral fin bases blackish dorsally; a median golden streak along each row of dorsal body scales.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

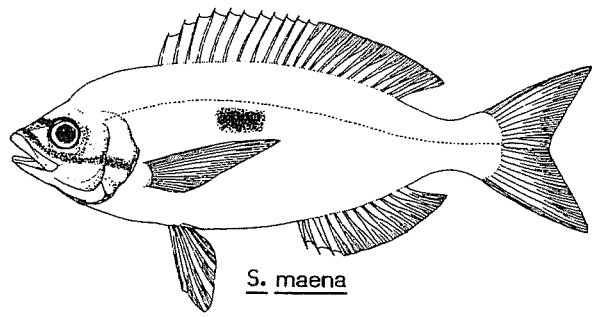
Spicara nigricauda: black saddle-like blotch covering dorsal two-thirds of caudal peduncle; a scaly sheath present along base of soft dorsal and anal fins covering basal half of fins.

Other species of Spicara: soft dorsal rays 10 to 12 and soft anal rays 8 to 10 (15 to 18 and 15 to 17 respectively, in S. melanurus). Also, no blotch on peduncle in S. alta and prominent blotch on midbody rather than on caudal peduncle in S. maena and S. smaris.

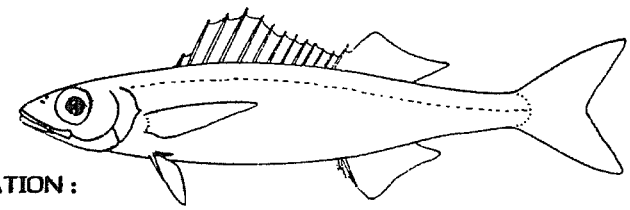
Centracanthus cirrus: body more slender; dorsal fin notched before the soft rays.



S. nigricauda



S. maena



Centracanthus cirrus

SIZE :

Maximum: 30 cm; common to 25 cm.

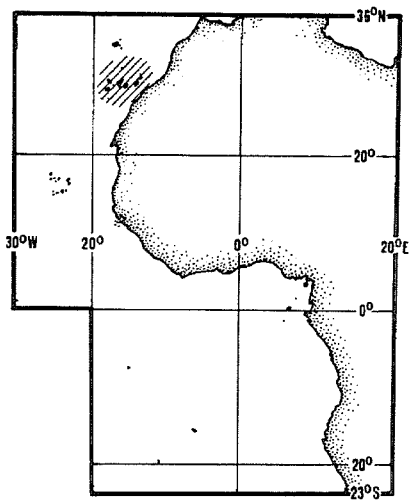
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

Cape Verde Islands and off Senegal; possibly extends to Angola, but records south of Senegal need verification, because of confusion with S. nigricauda.

Neritic over the continental shelf.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.



CENTRA Spic 4

1981

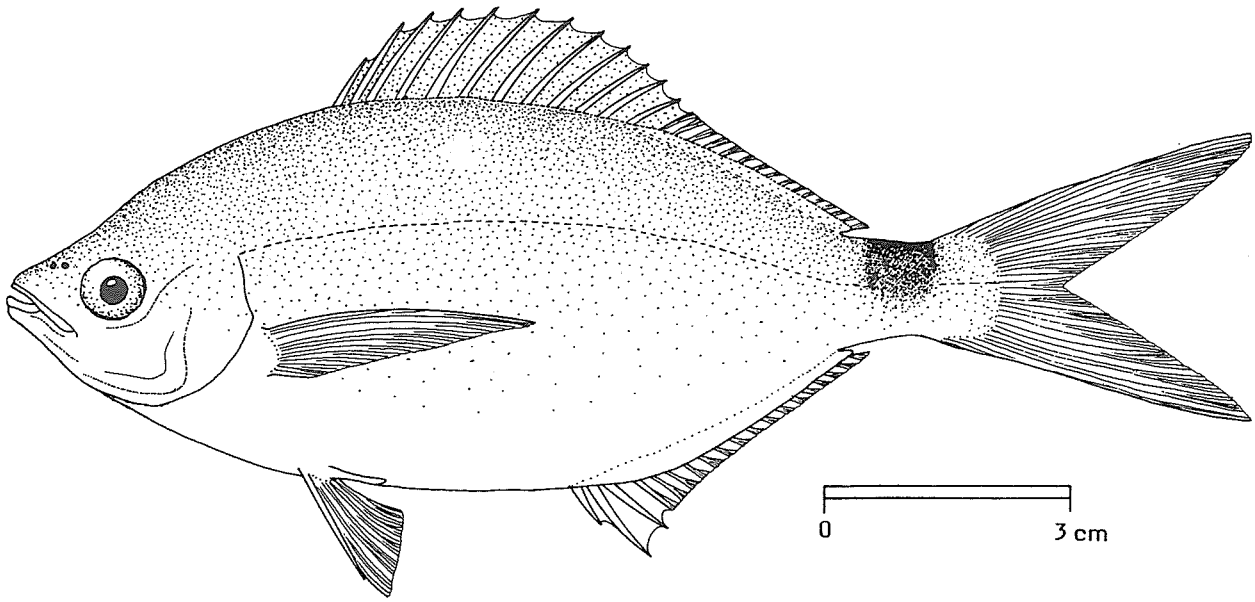
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTRACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Spicara nigricauda (Norman, 1931)

OTHER SCIENTIFIC NAMES STILL IN USE : Coleosmaris nigricauda Norman, 1931



VERNACULAR NAMES:

FAO : En - Blacktail picarel
Fr - Picarel queue noire
Sp - Chucla rabo negro

NATIONAL :

DISTINCTIVE CHARACTERS :

Body oblong, somewhat compressed, its depth contained 2.3 to 2.9 times in standard length. Upper jaw very protrusible; jaws with a narrow band of fine, pointed teeth. Lower limb of first gill arch with 14 to 16 gillrakers. Dorsal fin unnotched, with 12 spines and 15 to 17 soft rays; anal fin with 3 spines and 15 or 16 soft rays; a well developed scaly sheath covering basal half of soft dorsal and anal fins. Lateral-line scales 64 to 74 to base of caudal fin.

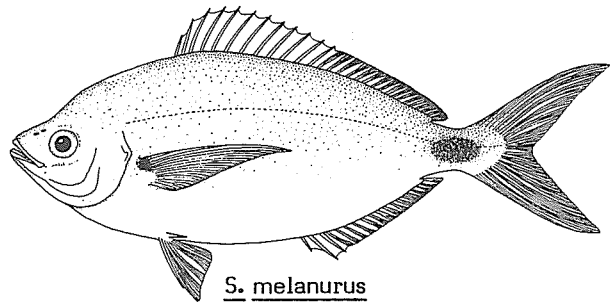
Colour: body dark dorsally, silvery below; a black, saddle-like blotch covering dorsal two-thirds of caudal peduncle.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Spicara melanurus: black blotch not extending onto top of caudal peduncle; scaly fin sheaths low, only covering bases of soft dorsal and anal fins.

Other species of Spicara: soft dorsal rays 10 to 12 and soft anal rays 8 to 10 (15 to 17 and 15 or 16 respectively, in S. nigricauda). Also, no blotch on body in S. alta and prominent blotch on midbody rather than on caudal peduncle in S. maena and S. smaris.

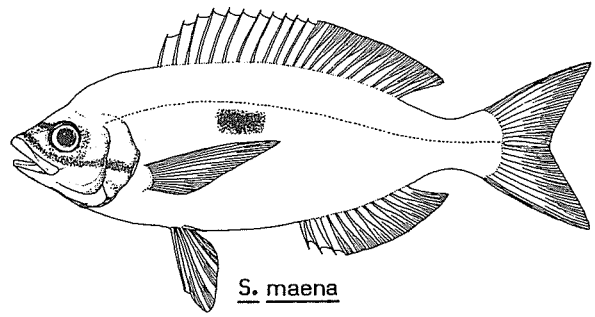
Centracanthus cirrus: body more slender; dorsal fin notched before the soft rays.



S. melanurus

SIZE:

Maximum: 20 cm.

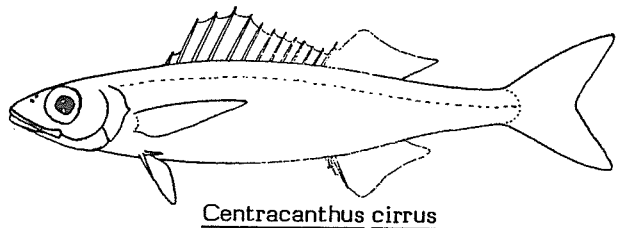


S. maena

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known from Ghana and Angola.

Over the continental shelf in depths of 50 to 70 m.



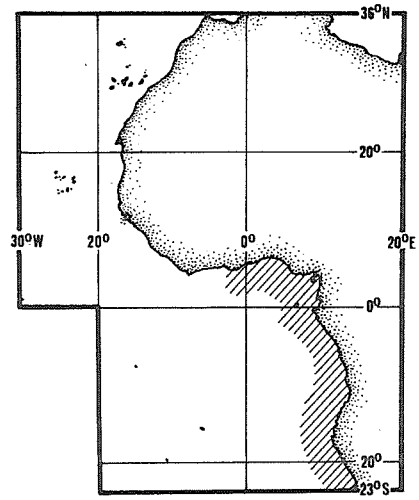
Centracanthus cirrus

PRESENT FISHING GROUNDS:

Trawlable bottoms; of minor commercial importance.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.



CENTRA Spic 5

1981

(= EMMEL Maen 2)
(Fishing Area 37)

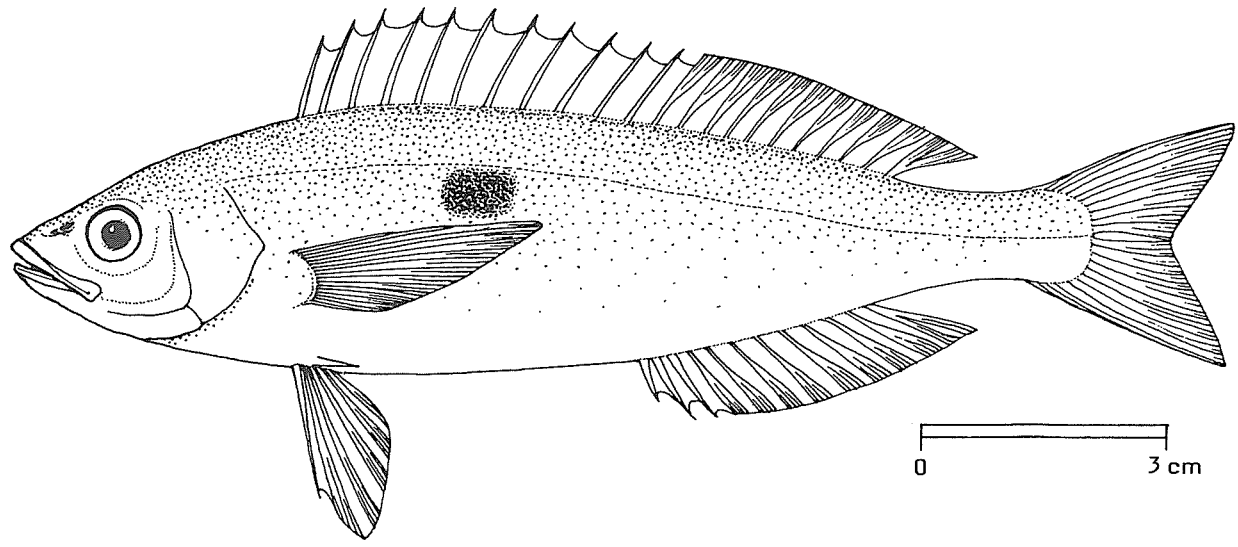
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTRACANTHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Spicara smaris (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE : Maena smaris (Linnaeus, 1758)



VERNACULAR NAMES:

FAO : En - Picarel
Fr - Picarel
Sp - Caramel

NATIONAL :

DISTINCTIVE CHARACTERS :

Body slender and elongate, its depth contained 3.7 to 4.7 times in standard length. Upper jaw very protrusible; jaws with bands of villiform teeth; vomerine teeth small or absent; lower limb of first gill arch with 20 to 22 gillrakers. Dorsal fin unnotched with 11 spines and 10 to 12 soft rays; anal fin with 3 spines and 9 or 10 soft rays. Lateral-line scales 75 to 81. Swimbladder bifurcate posteriorly.

Colour: back greyish brown or greyish yellow, with rather indistinct brown crossbars; a black rectangular blotch present between lateral line and pectoral fin.

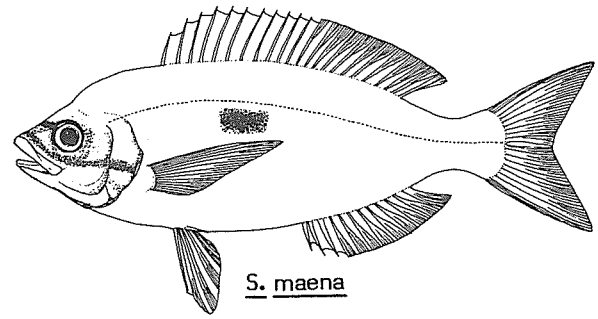
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA :

Spicara maena: scales larger, 63 to 73 in lateral line (75 to 81 in S. smaris); body deeper, its depth contained 2.9 to 3.5 times in standard length (3.7 to 4.7 times in S. smaris).

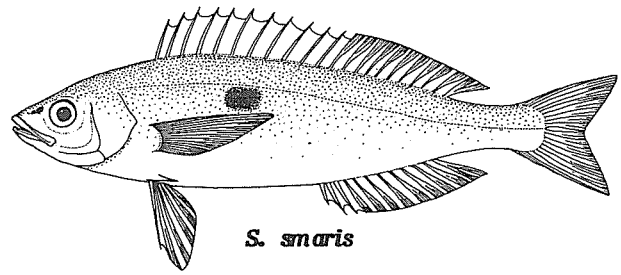
S. alta: scales much larger, 48 to 50 in lateral line; no black blotch on body.

S. melanurus and S. nigricauda: a black blotch on caudal peduncle, none on mid-body; dorsal fin with 12 spines and 15 to 17 soft rays (11 spines and 10 to 12 soft rays in S. smaris); anal fin with 15 or 16 soft rays (9 or 10 in S. smaris).

Centracanthus cirrus: body more slender, its depth contained 5 to 5.6 times in standard length; dorsal fin margin notched before the soft rays.



S. maena



S. smaris

SIZE :

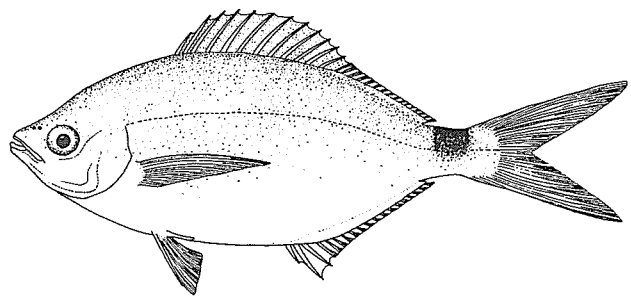
Maximum: 20 cm; common to about 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR :

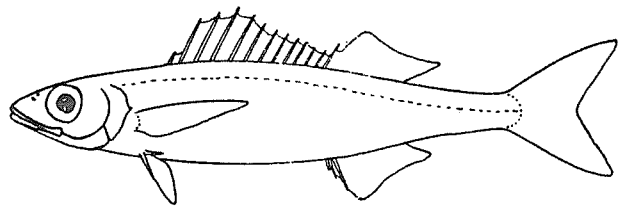
In the area, from the Straits of Gibraltar to southern Morocco. Northward extending into the Mediterranean and in the Eastern Atlantic to Portugal.

Lives over muddy and vegetated bottoms from the littoral zone to depths of about 200 m.

Feeds on crustaceans and molluscs.



S. melanurus



Centracanthus cirrus

PRESENT FISHING GROUNDS :

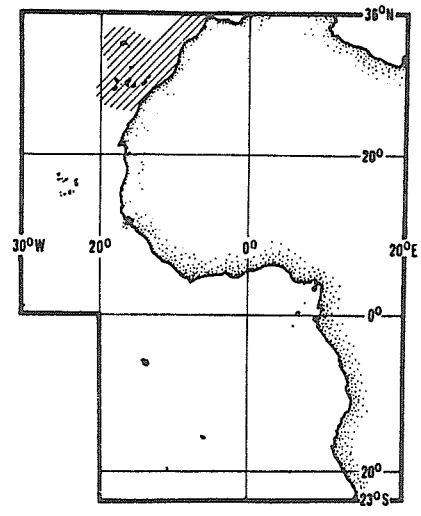
Trawlable grounds off Morocco; of rather small commercial importance.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION :

Separate statistics are not reported for this species.

Caught with trammel nets, bottom trawls and pots.

Marketed mostly fresh.



CENTROL

1981

FAO SPECIES IDENTIFICATION SHEETS

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

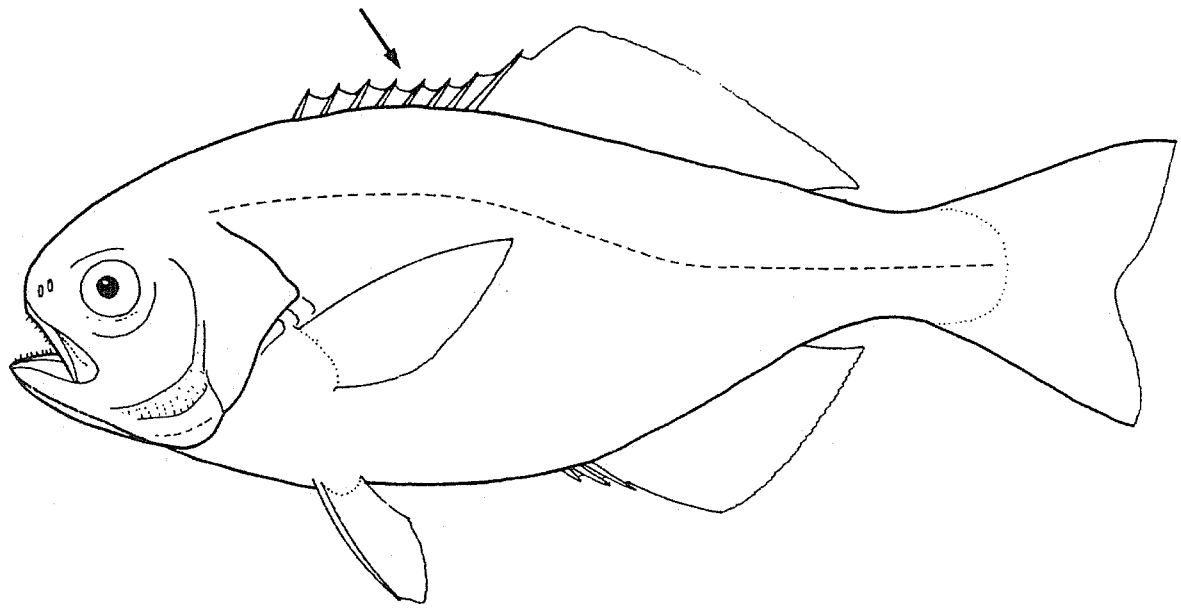
CENTROLOPHIDAE

Ruffs, barrelfishes, blackfishes

Body slender to deep, usually somewhat compressed; caudal peduncle moderate in length and somewhat deep. Snout blunt, longer than eye diameter; adipose tissue around eyes not conspicuously developed; margin of preopercle usually moderately denticulate, but spinulose in most young stages and in Schedophilus; opercle thin, with 2 flat, weak spines, the margin denticulate; 7 branchiostegal rays; mouth large, maxilla extending at least to below eye; a nearly uniserial row of small, conical teeth in both jaws; vomer, palatines (roof of mouth) and basibranchials (floor of mouth) toothless; pharyngeal sacs with irregularly shaped papillae in 10 or 20 longitudinal bands, the teeth seated directly on top of the bony base. A single continuous dorsal fin, its rays preceded by 5 to 9 short, stout spines not graduating to the rayed portion (Hyperoglyphe) or 3 to 7 thin weak spines graduating to the rayed portion (Centrolophus, Schedophilus); anal fin with 3 spines, not separated from the rays; pelvic fins attached to the abdomen by a thin membrane and folding into a broad, shallow groove; pectoral fins broad, usually not prolonged; caudal fin broad and not deeply forked. Lateral line usually somewhat arched anteriorly, straightening out over anal fin, with tubed scales extending onto caudal peduncle. Scales cycloid (smooth) but with minute cteni (rakers) in Schedophilus medusophagus, easily detached; head conspicuously naked, covered with small pores.

Colour: generally dark green to grey, or brownish, with an indistinct vertical, or more usually horizontal, pattern of darker irregular stripes; eyes often golden.

Small to moderately large epi- and mesopelagic fishes, adults 20 to 120 cm in length; the young associating with a variety of floating objects such as jellyfish (in the case of Schedophilus) or in schools under flotsam (in the case of Hyperoglyphe). They feed on crustaceans, salps and small fishes. The adults of Hyperoglyphe live in deep submarine canyons and are often caught on deep lines. There is no special fishery for ruffs in Fishing Area 34, but they are highly esteemed as foodfishes.

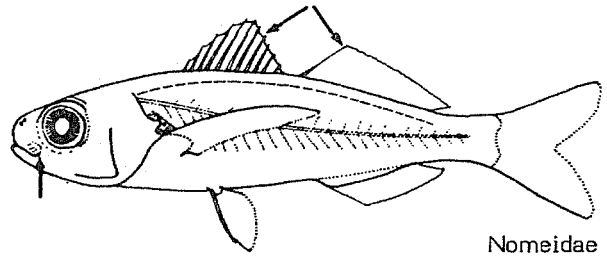


SIMILAR FAMILIES OCCURRING IN THE AREA:

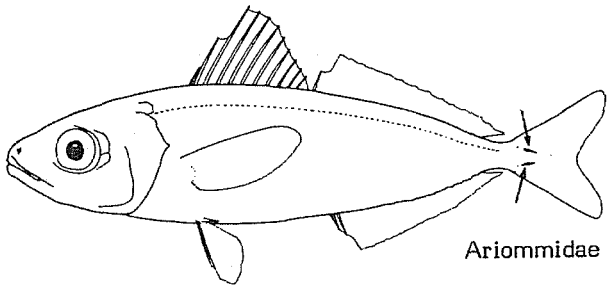
Nomeidae: 2 dorsal fins, the first with about 10 long, slender spines; mouth small; teeth present on roof and floor of mouth.

Ariommidae: 2 dorsal fins, the first with about 10 long, slender spines; mouth small; caudal peduncle very narrow and not compressed, with 2 fleshy keels on each side at base of caudal fin.

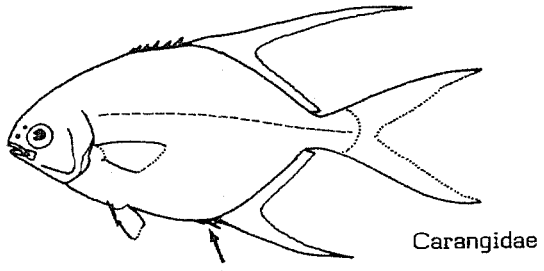
Carangidae: 2 detached stout spines preceeding anal fin (sometimes imbedded in the skin); modified scales often present along posterior portion of lateral line forming scutes or keels on sides of caudal peduncle.



Nomeidae



Ariommidae

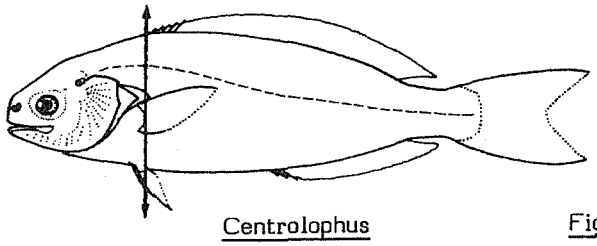


Carangidae

KEY TO GENERA OCCURRING IN THE AREA:

1 a. Spines of the dorsal fin weakly developed and all graduating to the soft dorsal rays (Figs. 1,2)

2 a. Weak denticulations on preopercular margin. Origin of dorsal fin usually well behind insertion of pectoral fins, but over pectoral insertions in very small specimens. Body elongate, maximum depth usually less than 30% of standard length (Fig. 1) ..... Centrolophus

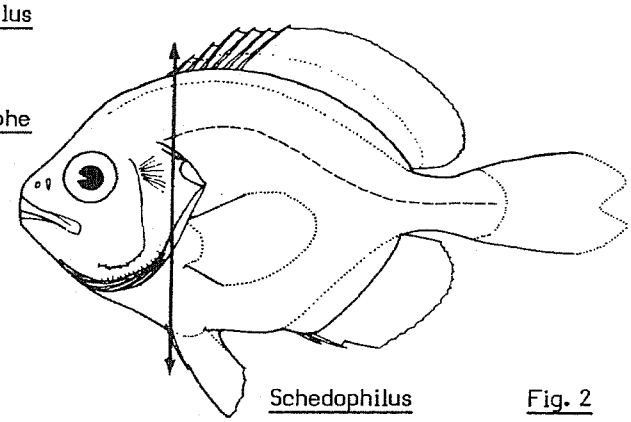


Centrolophus

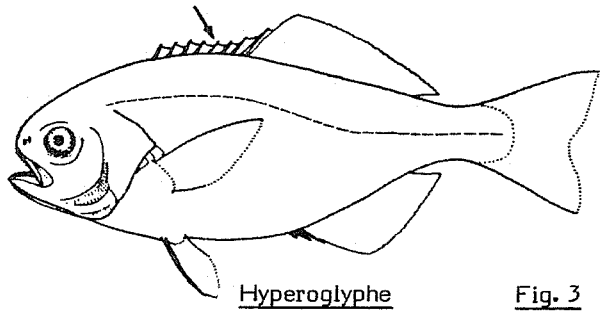
Fig. 1

2 b. Nine to 15 small spines on preopercular margin. Origin of dorsal fin usually before insertion of pectoral fins, but over pectoral insertions in very large specimens. Body deep, maximum depth usually greater than 30% of standard length (Fig. 2) ..... Schedophilus

1 b. Five to 9 stout dorsal spines, shorter than and not increasing regularly in length to the dorsal rays (Fig. 3) ..... Hyperoglyphe



Schedophilus Fig. 2



Hyperoglyphe Fig. 3

LIST OF SPECIES OCCURRING IN THE AREA :

Code numbers are given for those species for which Identification Sheets are provided

Centrolophus niger (Gmelin, 1788)	CENTROL Cent 1
Hyperoglyphe moselii (Cunningham, 1910)	CENTROL Hyper 1
Schedophilus huttoni (Waite, 1910)	
Schedophilus medusophagus Cocco, 1839	
Schedophilus ovalis (Cuvier & Valenciennes, 1833)	CENTROL Sched 1
* Schedophilus pemarco (Poll, 1959)	CENTROL Sched 2

Prepared by R.L. Haedrich, Memorial University of Newfoundland, St. John's Newfoundland, Canada

*This species might be the young of H. moselii

CENTROL Cent 1

1981

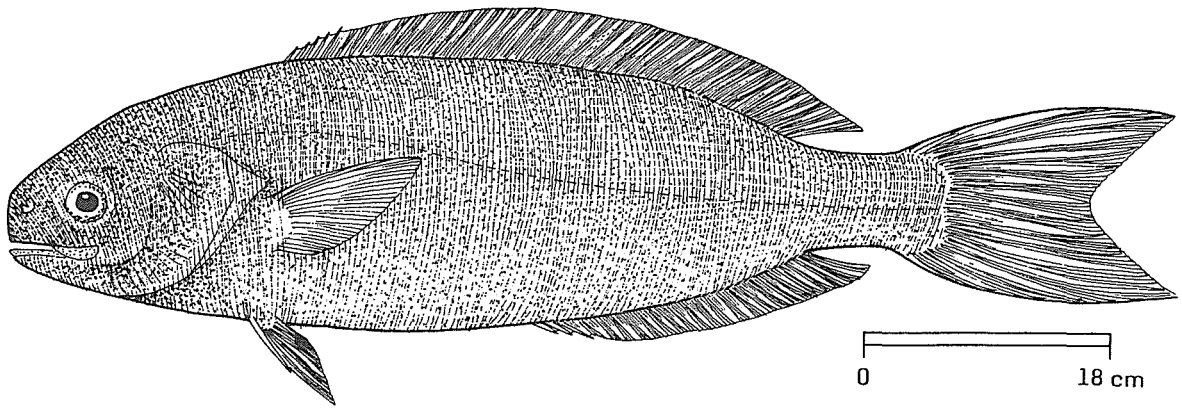
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTROLOPHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Centrolophus niger (Gmelin, 1788)

OTHER SCIENTIFIC NAMES STILL IN USE : Centrolophus pompilus Cuvier & Valenciennes, 1833



VERNACULAR NAMES:

FAO : En - Blackfish
Fr - Centrolophe noir
Sp - Romerillo

NATIONAL :

DISTINCTIVE CHARACTERS :

Body elongate; caudal peduncle broad, thick, and fairly long. Head relatively small, snout blunt and rounded; eye moderate, lacking adipose tissue; mouth large, end of maxilla under posterior half of eye; premaxilla not protractile; slender supramaxilla present; lachrymal bone completely covering upper jaw when mouth is closed; jaw teeth small, pointed, in a single series, no teeth on roof or floor of mouth; opercle thin, fine denticulations on preopercular margin; gillrakers heavy, about 19 on first arch. A single continuous dorsal fin, originating posterior to the pectoral fin insertions and with about 5 very weak spines graduating to the 32 to 37 soft rays; anal fin originating a little behind mid-body, with 3 weak spines and 20 to 23 soft rays; pectoral fins rounded in young, pointed in adults, their relative length decreasing slightly with growth; pelvic fins inserted under pectoral fin base, attached to abdomen by a small membrane and folding into a shallow groove; caudal fin broad, moderately forked. Lateral line slightly arched anteriorly, straightening out about mid-body and extending onto caudal peduncle; about 190 scales in the lateral series. Scales very small, cycloid, easily shed, covering bases of median fins; top of head naked, with prominent pores. Skin thick; extensive subdermal canal system communicating to the surface through small pores.

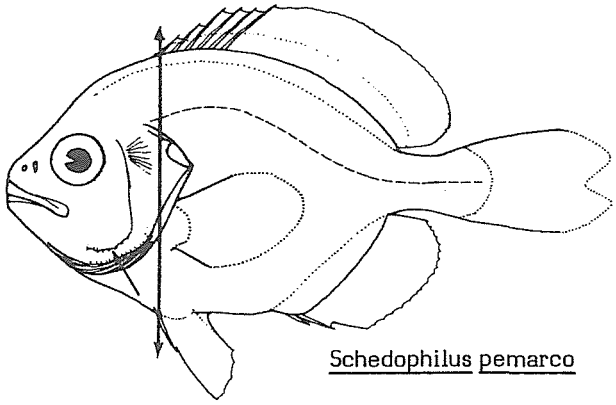
Colour: light to dark or bluish brown. No pattern in adults but young may have 3 or 4 dark vertical stripes.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Schedophilus species: body usually deeper; 9 to 15 small spines on preopercular margin (only fine denticulations in C. niger); origin of dorsal fin anterior to pectoral fin insertions; also, fin counts different; 30 vertebrae in S. huttoni (25 in C. niger).

Hyperoglyphe moselii: body deeper; about 8 short, stout spines and 23 to 25 longer soft rays in dorsal fin.

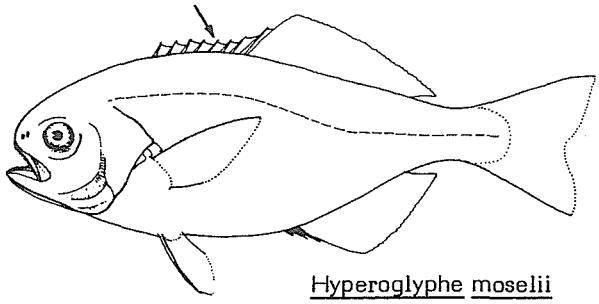
Psenes pellucidus, elongate adults (Nomeidae): 2 distinct dorsal fins, the first with 10 to 12 long, slender spines that fold into a groove; (5 weak, graduating spines in C. niger); anal fin with 3 spines and 26 to 31 soft rays; long knife-like teeth in the lower jaw.



Schedophilus pemarco

SIZE:

Maximum: 120 cm; common to 90 cm.

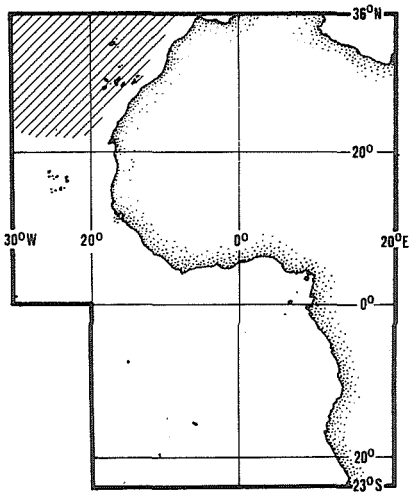


Hyperoglyphe moselii

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Northwest Africa and Madeira; outside the area generally across the North Atlantic from Newfoundland to New York and Iceland, coast of Europe, western Mediterranean and Adriatic. A very similar form occurs off South Africa.

An epi- and mesopelagic species inhabiting temperate oceanic waters; may sometimes occur in small schools near the bottom on the upper continental slope, at 200 to 400 m depth.



PRESENT FISHING GROUNDS:

Offshore in deeper waters of Northwest Africa. Taken as by-catch.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with deep bottom trawls.

Marketed fresh and frozen. Also used for canning, fishmeal and oil.

CENTROL Hyper 1

1981

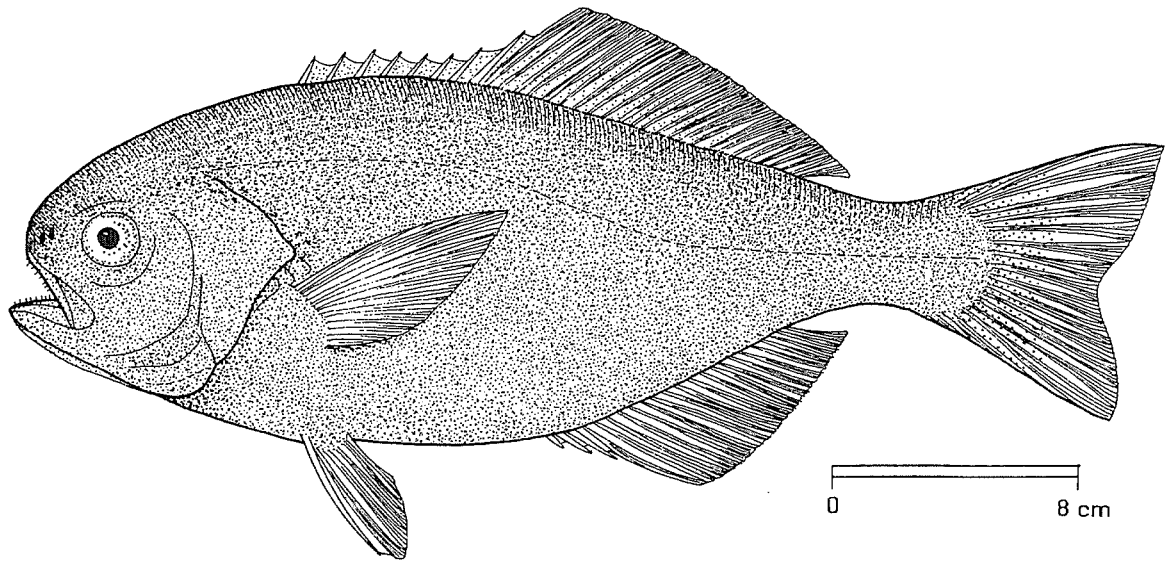
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTROLOPHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Hyperoglyphe moselii (Cunningham, 1910)

OTHER SCIENTIFIC NAMES STILL IN USE : Palinurichthys pringlei Smith, 1949
Palinurichthys matthewsi Smith, 1960



VERNACULAR NAMES:

FAO : En - African barrelfish
Fr - Rouffe africain
Sp - Rufo africano

NATIONAL :

DISTINCTIVE CHARACTERS :

Body moderately deep; caudal peduncle broad, of moderate length. Head deep and broad, snout blunt and rounded; eye moderate to large; mouth large, end of maxilla under eye; teeth small and pointed, in a single series; no teeth on roof or floor of mouth; preopercle with numerous small spines; about 23 gillrakers on the first arch. Dorsal fin originating over or a little behind origin of pectoral fins, with about 8 short, stout spines and 23 to 25 longer soft rays; anal fin with 3 spines and 18 to 20 soft rays; pectoral fins rounded in the young, long and pointed in adults; pelvic fins originating under end of pectoral fin base; caudal fin broad and slightly forked. Lateral line slightly raised anteriorly, straightening out over the anal fin and extending onto caudal peduncle; about 80 scales in the lateral series. Scales moderate in size and fairly easily shed; top of head naked, with numerous conspicuous pores.

Colour: dark brown to almost black.

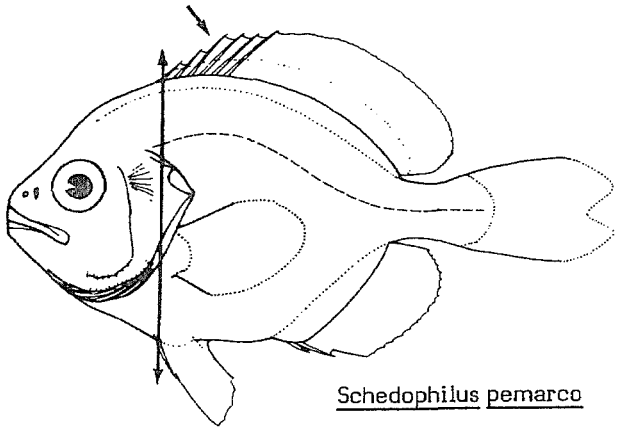
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

The status of this species is not clear and future work may show it to be synonymous with one or another of the following Schedophilus species:

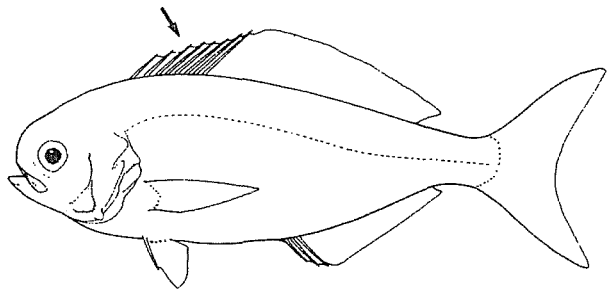
Schedophilus pemarco: 5 to 7 weak dorsal fin spines, increasing gradually in length to that of the soft rays; dorsal fin originating ahead of pectoral fin origins; anal fin with 3 weak spines and 16 to 18 rays (3 spines and 18 to 20 soft rays in H. moselii); colour pattern mottled with several faint and irregular horizontal stripes.

S. ovalis: 6 to 8 weak dorsal fin spines increasing gradually in length to that of the finrays; dorsal fin with 29 to 33 soft rays, originating ahead of pectoral fin origins; anal fin with 3 weak spines and 20 to 24 rays; colour pattern dark greenish above and lighter below.

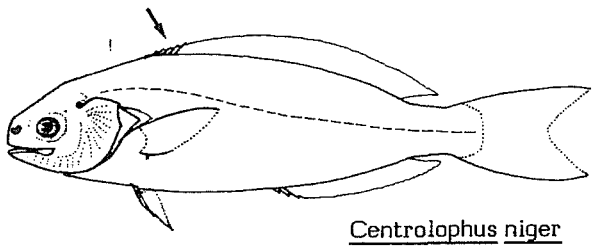
Centrolophus niger: body less deep; spines of dorsal fin 5, weakly developed and all graduating in length to that of soft rays.



Schedophilus pemarco



Schedophilus ovalis



Centrolophus niger

SIZE:

Maximum: 70 cm; common to 40 cm.

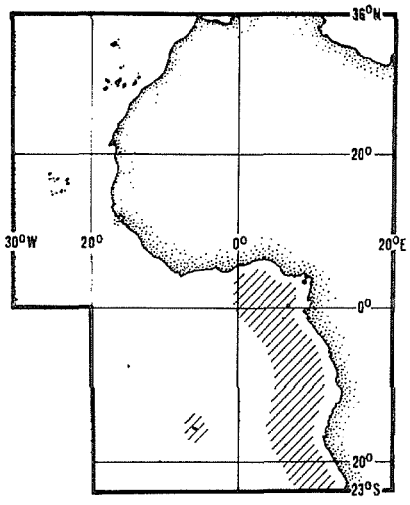
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

St. Helena and coast of West Africa, from Ghana to Angola and South Africa.

Inhabits deep water, from 200 to 500 m; probably localized, perhaps in areas of submarine canyons.

PRESENT FISHING GROUNDS:

Offshore in deeper waters. Taken as bycatch; may have considerable commercial potential.



CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with deep bottom trawls and lines.

Marketed fresh, frozen and smoked. Also used for canning, fishmeal, and oil.

CENTROL Sched 1

1981

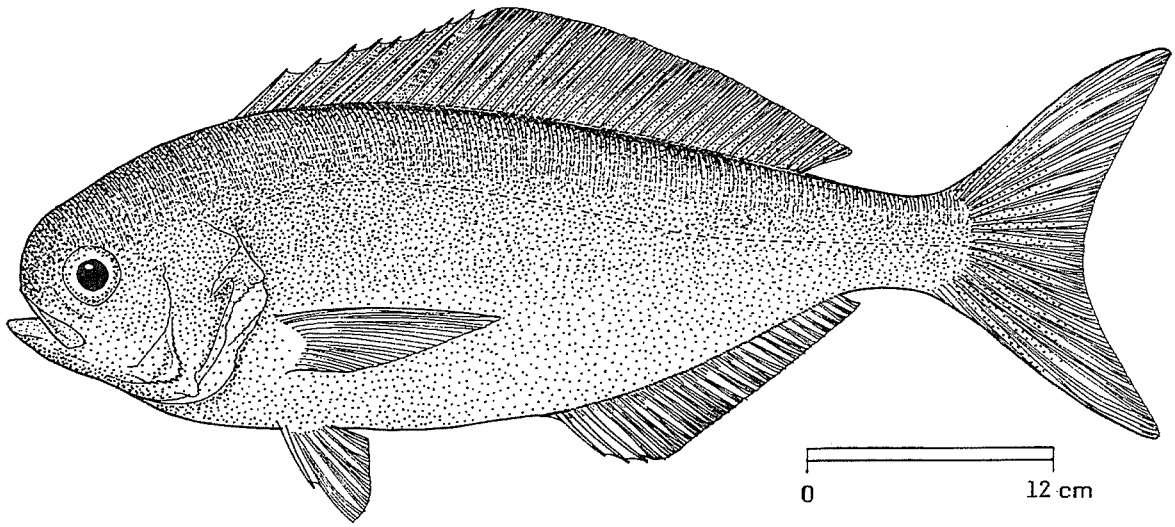
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTROLOPHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Schedophilus ovalis (Cuvier & Valenciennes, 1833)

OTHER SCIENTIFIC NAMES STILL IN USE : Centrolophus crassus Cuvier & Valenciennes, 1833
Mupus ovalis (Cuvier & Valenciennes, 1833)
Mupus imperialis Cocco, 1840



VERNACULAR NAMES:

FAO : En - Imperial blackfish
Fr - Rouffe impérial
Sp - Rufo imperial

NATIONAL :

DISTINCTIVE CHARACTERS :

Body moderately deep; caudal peduncle broad and long. Snout blunt and rounded, shorter than eye diameter; eye large; mouth large, end of maxilla under eye; lower jaw projecting slightly; jaw teeth small, in a single series; no teeth on roof or floor of mouth; preopercle margin with small spines. A single, continuous dorsal fin originating ahead of pectoral fin origin, with 6 to 8 weak spines graduating in length to the 29 to 33 soft rays; anal fin with 3 weak spines and 20 to 24 soft rays; pectoral fins rounded in young, pointed and produced in adults; pelvic fins inserting under pectoral fin bases; caudal fin broad, relatively stiff and forked. Lateral line slightly arched anteriorly, straightening out by mid-body and extending onto caudal peduncle; about 100 scales in the lateral series. Scales relatively small, cycloid, easily shed; top of head naked, with numerous pores.

Colour: dark green on back, often with a silvery cast; lighter on sides and below. Young with a mottled pattern.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

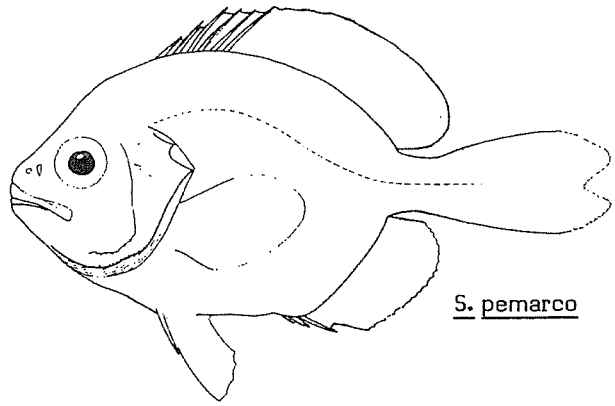
Schedophilus medusophagus: dorsal fin with extremely weak spines, scarcely distinguishable from the rays, 44 to 50 elements in all (35 to 41 in S. ovalis), anal fin with 28 to 31 elements (23 to 27 in S. ovalis); body extremely flabby and soft.

S. pemarco: body deeper; dorsal fin with 5 to 8 spines and 23 to 26 rays; anal fin with 3 spines and 16 to 18 rays.

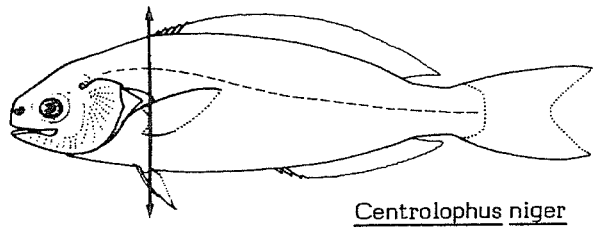
S. huttoni: dorsal fin with more than 55 elements; anal fin with more than 35 elements.

Centrolophus niger: dorsal fin originating posterior to pectoral fin origins, with 5 very weak spines and 32 to 37 rays; preopercular margin finely denticulate but without distinct spines; body elongate, brownish.

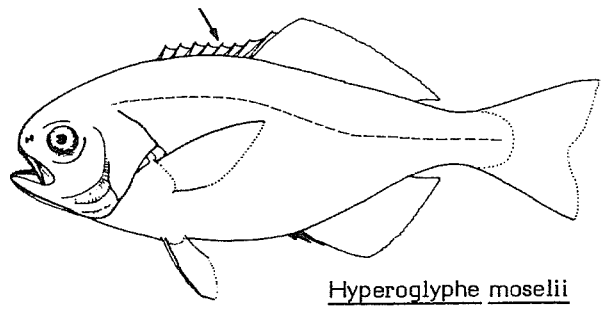
Hyperoglyphe moselii: dorsal fin originating over or posterior to pectoral fin origins, with about 6 spines and 23 to 25 rays; anal fin with 3 spines and 18 to 20 rays; body blackish.



S. pemarco



Centrolophus niger



Hyperoglyphe moselii

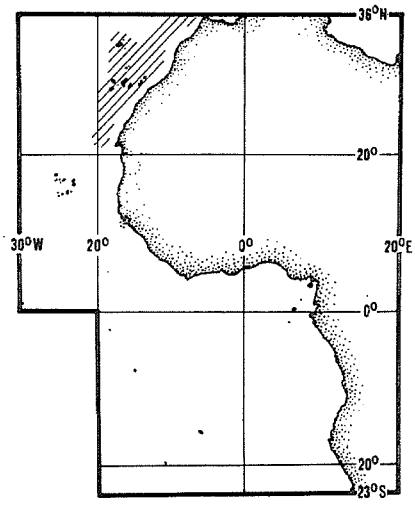
SIZE:

Maximum: 100 cm; common to 60 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Madeira, Canary Islands and Northwest Africa; outside the area, in the Eastern Atlantic from the Azores, the Iberian Peninsula and throughout the Mediterranean. Also probably South Africa. An indistinguishable form occurs in the Pacific and Australia.

Its preferred habitat appears to be deep water, perhaps in submarine canyons, near oceanic islands. Most common at 80 to 240 m depth. The young are epipelagic, associated with pelagic medusae and siphonophores.



PRESENT FISHING GROUNDS:

Canary Islands and offshore in deeper waters off Northwest Africa. Usually taken as bycatch.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with deep lines and bottom trawls.

Marketed fresh and frozen.

CENTROL Sched 2

1981

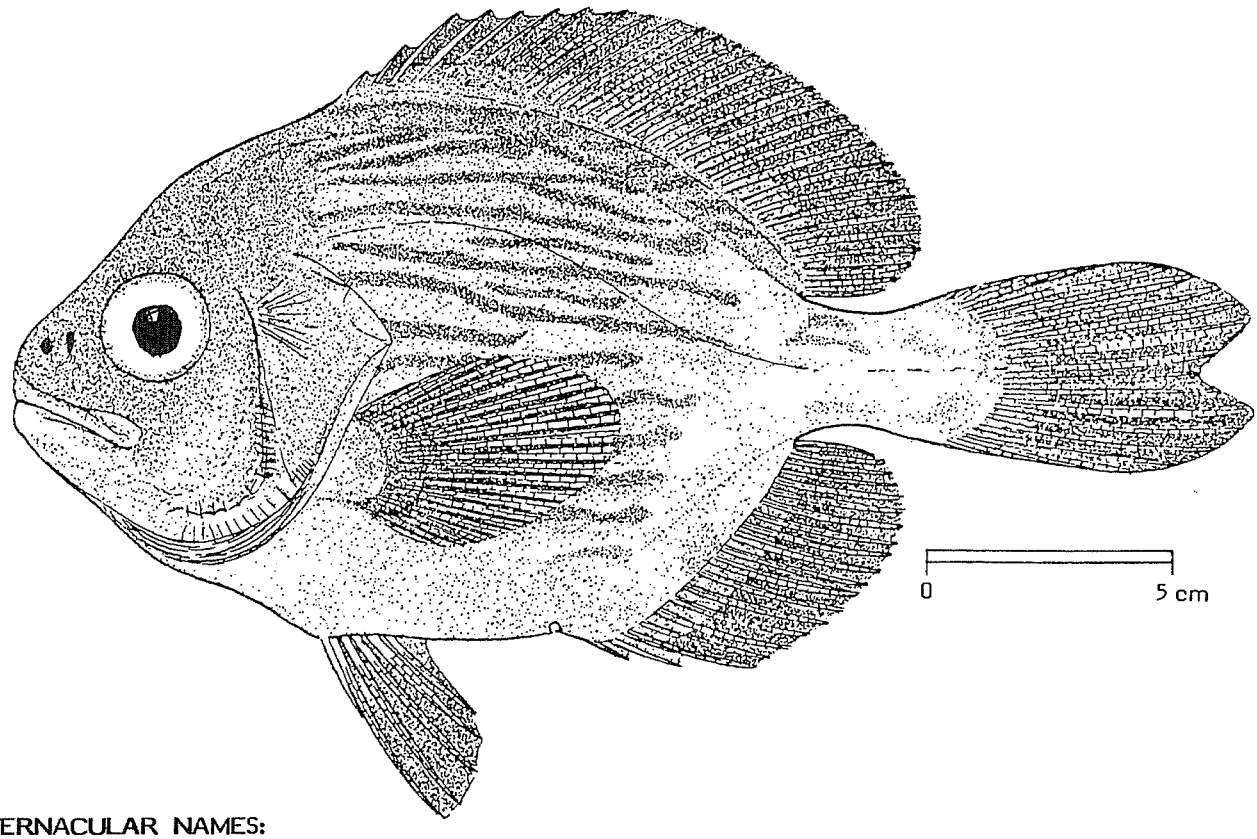
FAO SPECIES IDENTIFICATION SHEETS

FAMILY : CENTROLOPHIDAE

FISHING AREAS
34, 47 (in part)
(E.C. Atlantic)

Schedophilus pemarco (Poll, 1959)

OTHER SCIENTIFIC NAMES STILL IN USE : Palinurichthys pemarco Poll, 1959



VERNACULAR NAMES:

FAO : En - Pemarco blackfish
Fr - Rouffe rayé
Sp - Rufo pemarco

NATIONAL :

DISTINCTIVE CHARACTERS :

Body deep; caudal peduncle moderately long and deep. Head rounded and wide; snout blunt; eye large; mouth large, end of maxilla under the eye, inclined somewhat downward; teeth small, pointed in a single series; preopercle with 12 to 19 small, but conspicuous spines; gillrakers most commonly 23 on first arch. Dorsal fin originating ahead of pectoral fin origins, with 5 to 7 spines graduating in length to the 23 to 26 soft rays; anal fin with 3 spines and 16 to 19 soft rays; pectoral fins broad and rounded; pelvic fins originating directly under pectorals, long, often reaching beyond the anus; caudal fin broad and only slightly emarginate. Lateral line arched anteriorly to follow dorsal profile, straightening out by mid-body and extending onto the peduncle; about 95 scales in the lateral series. Scales small, cycloid, easily shed; top of head and nape naked.

Colour: grey to brownish, with bluish irregular horizontal lines along sides; pelvic fins black.

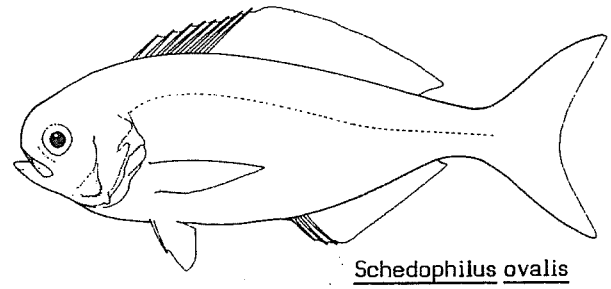
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Schedophilus ovalis: soft rays in dorsal fin 27 to 33 (23 to 26 in S. pemarco); in anal fin 20 to 23 (16 to 19 in S. pemarco); colour greenish; pectoral fins may have elongated tips.

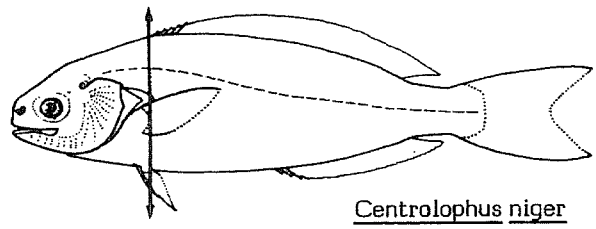
S. huttoni: dorsal fin with more than 55 elements; anal fin with more than 35 elements (28 to 33, and 19 to 22, in S. pemarco).

Centrolophus niger: dorsal fin originating behind pectoral fin origins, with 5 weak spines and 32 to 37 rays; anal fin with 3 weak spines and 20 to 23 rays; colour brown; preopercular margin finely denticulate but without distinct spines.

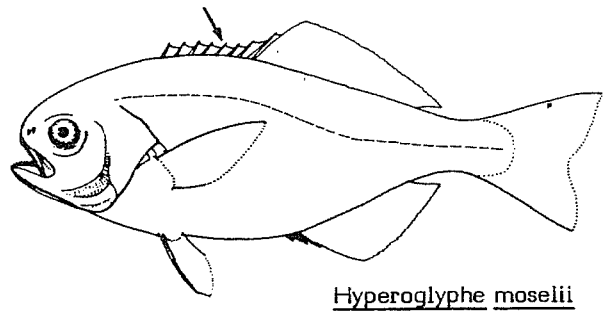
Hyperoglyphe moselii: dorsal fin originating over or posterior to pectoral fin origins, with about 6 short, stout spines not graduating to the soft rays; about 80 scales in the lateral series (95 in S. pemarco); colour blackish. H. moselii might be the adult of S. pemarco.



Schedophilus ovalis



Centrolophus niger



Hyperoglyphe moselii

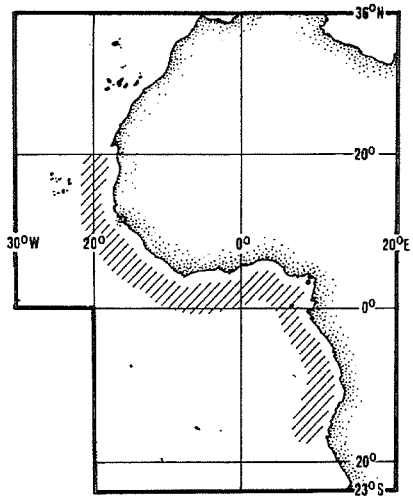
SIZE:

Maximum: 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

West Africa from Cape Blanc to the Kunene River.

Inhabits deep water from 100 to 500 m; smaller specimens are found at shallower depths.



PRESENT FISHING GROUNDS:

Offshore throughout the area. Taken as by-catch.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Taken with bottom trawls.

Marketed fresh or frozen.