

FAO SPECIES CATALOGUE

Volume 18

OPHIDIIFORM FISHES OF THE WORLD (Order Ophidiiformes)

An annotated and illustrated catalogue of pearlfishes, cusk-eels, brotulas and other ophidiiform fishes known to date





FAO SPECIES CATALOGUE

Volume 18 OPHIDIFORM FISHES OF THE WORLD

(Order Ophidiiformes)

An annotated and illustrated catalogue of pearlfishes, cusk-eels, brotulas and other ophidiiform fishes known to date

by

Jørgen G. Nielsen

Zoological Museum University of Copenhagen Denmark

Daniel M. Cohen

Los Angeles County Museum and California Academy of Sciences California, USA (Introduction, Ophidiidae [excl. Ophidiinae], Bythitidae, Aphyonidae)

Douglas F. Markle

Department of Wildlife and Fisheries Oregon State University Oregon, USA (Carapidae)

C. Richard Robins

Natural History Museum University of Kansas Kansas, USA (Ophidiinae)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS Rome, 1999

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

M-40 ISBN 92-5-104375-2

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior permission of the copyright owner. Applications for such permission, with a statement of the purpose and extent of the reproduction, should be addressed to the Director, Information Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00100 Rome, Italy.

© FAO 1999

PREPARATION OF THIS DOCUMENT

This document was prepared under the FAO Fisheries Department Regular Programme by the Species Identification Programme in the Marine Resources Service of the Fishery Resources Division. It is the eighteenth worldwide species catalogue in the FAO Fisheries Synopsis series.

Several ophidiiform fishes are abundant in nature and play a significant role in the ecology of their habitats. Some species are of great importance to fisheries. Their identification, however, often presents such great difficulty that specimens are often referred to the family or genus level only. The purpose of this catalogue is to facilitate identification of these fishes. It also provides a much updated and extended version of the revision of the Order Ophidiiformes by Cohen and Nielsen (1978). The authors are internationally recognized experts in ophidiiform fishes and have been collaborating with FAO's Species Identification and Data Programme for many years.

The sections "Information on fisheries" were kindly provided by Sergi Tudela, CSIC, Barcelona.

Project manager: P. Oliver (FAO, Rome).

Technical editor: V.H. Niem (Research Institute Senckenberg, Frankfurt).

Illustrators: M. Andersen and B. Rubæk (Zoological Museum University of Copenhagen), W. Schwarzhans (Hamburg), E. D'Antoni (FAO, Rome), and several others who are referred to in connection with each illustration.

Page composition and indexing: G. Sciarappa-Demuro (FAO, Rome).

Digitization of distribution maps: E. Orlova (St. Petersburg), F. Carocci (FAO, Rome), and E. Luchetti (Rome).

Nielsen, J.G.; Cohen, D.M.; Markle, D.F.; Robins, C.R.

FAO species catalogue. Volume 18. Ophidiiform fishes of the world (Order Ophidiiformes). An annotated and illustrated catalogue of pearlfishes, cusk-eels, brotulas and other ophidiiform fishes known to date.

FAO Fisheries Synopsis. No. 125, Vol. 18. Rome, FAO. 1999. 178p., 136 figs.

ABSTRACT

This is the eighteenth issue in the FAO series of worldwide annotated and illustrated catalogues of the groups of marine organisms that enter marine fisheries. This volume covers all 93 genera currently recognized in the order Ophidiiformes (pearlfishes, cusk-eels, brotulas and allies). It includes a glossary of technical terms, general remarks on the order, identification keys from the suborder to the species level, detailed genera accounts, and a table of species by major fishing areas. In addition, 10 species of interest to fisheries are treated in illustrated accounts. The work is fully indexed and there is a comprehensive list of references to pertinent literature.

Distribution

Authors FAO Fisheries Officers Regional Fisheries Councils and Commissions Selector SC

Acknowledgments

I thank numerous colleagues from all around the world who helped me. I remain grateful to many who were acknowledged in an earlier version of this review, and for the present work I particularly thank Dr. Anne Cohen for sharing her computer expertise, Dr. John Paxton for information on the distribution of Australian bythitids, Rick Feeney and Jeff Seigel for help at the Los Angeles County Museum of Natural History where much of this work was done, and the staff of the Ichthyological Department at the California Academy of Sciences, who helped in the final stages.

Daniel M. Cohen

I am thankful to many colleagues from all over the world for taking good care of me during visits and for sending specimens and data. In addition I am grateful to FAO for funding travels to Los Angeles and London.

Jørgen G. Nielsen

For assistance with the literature I thank G.H. Burgess, W.J. Richards, and C. Riva Rossi. R.N. Lea, K.A. Shaw, and E.O. Wiley commented on various versions of the manuscript. Other acknowledgments concerning acquisition of material, loans of material, and radiographs may be found in the author's papers cited in the bibliography.

C. Richard Robins