



Zootaxa 2599: 1–62 (2010)
www.mapress.com/zootaxa/

Copyright © 2010 · Magnolia Press

Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

ZOOTAXA

2599

Identification guide to the shallow water (0–200 m) octocorals of the South Atlantic Bight

SUSAN T. DEVICTOR¹ & STEVE L. MORTON²

¹*Southeastern Regional Taxonomic Center, Marine Resources Research Institute, South Carolina Department of Natural Resources,
217 Ft. Johnson Rd. Charleston, SC 29412, USA. E-mail: DeVictorS@dnr.sc.gov*

²*National Oceanic & Atmospheric Administration/National Ocean Service, Marine Biotoxins Program, Hollings Marine Laboratory,
331 Fort Johnson Rd. Charleston, SC 29412 USA. E-mail: Steve.Morton@noaa.gov*



Magnolia Press
Auckland, New Zealand

Accepted by P. Alderslade: 29 Jul. 2010; published: 31 Aug. 2010

Susan T. Devictor & Steve L. Morton

Identification guide to the shallow water (0–200 m) octocorals of the South Atlantic Bight

(*Zootaxa* 2599)

62 pp.; 30 cm.

31 August 2010

ISBN 978-1-86977-583-4 (paperback)

ISBN 978-1-86977-584-1 (Online edition)

FIRST PUBLISHED IN 2010 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

© 2010 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

Table of contents

Abstract	5
Introduction	5
Octocoral morphology	6
Methods	11
Key to Families (and unique species) of Octocorallia of the South Atlantic Bight (to 200m)	13
Notes on the families and keys to species	17
Order Alcyonacea	17
Family Clavulariidae	17
Key to species of Clavulariidae in the South Atlantic Bight	18
Family Alcyoniidae	19
Family Nidaliidae	19
Family Nephtheidae	19
Family Anthothelidae	19
Key to species of Anthothelidae in the South Atlantic Bight	20
Family Plexauridae	20
Key to species of Plexauridae in the South Atlantic Bight	21
Family Gorgoniidae	22
Key to species of genus <i>Leptogorgia</i> in the South Atlantic Bight	22
Family Ellisellidae	23
Order Pennatulacea	23
Family Renillidae	23
Family Kophobelemnidae	24
Family Virgulariidae	24
Key to species of Virgulariidae in the South Atlantic Bight	24
Notes on the shallow-water (<200 M) species of Octocorallia in the South Atlantic Bight	24
Order Alcyonacea	24
Family Clavulariidae	24
<i>Carijoa riisei</i> (Duchassaing and Michelotti, 1860)	24
<i>Telesto fruticulosa</i> Dana, 1846	25
<i>Telesto nelleae</i> Bayer, 1961	27
<i>Telesto sanguinea</i> Deichmann, 1936	27
<i>Scleranthelia rugosa</i> (Pourtalès, 1867)	29
Growth form <i>rugosa</i> (Pourtalès, 1867)	29
Growth form <i>musiva</i> Studer, 1878	29
Family Alcyoniidae	30
<i>Bellonella rubistella</i> (Deichmann, 1936)	30
Family Nephtheidae	31
<i>Pseudodrifa nigra</i> (Pourtalès, 1868)	31
Family Nidaliidae	31
<i>Nidalia occidentalis</i> Gray, 1835	31
Family Anthothelidae	32
<i>Diodogorgia nodulifera</i> (Hargitt, in Hargitt and Rogers, 1901)	32
<i>Iciligorgia schrammi</i> Duchassaing, 1870	34
<i>Titanideum frauenfeldii</i> (Kölliker, 1865)	35
Family Plexauridae	37
<i>Bebryce cinerea</i> Deichmann, 1936	37
<i>Bebryce parastellata</i> Deichmann, 1936	37
<i>Muricea pendula</i> Verrill, 1864	39
<i>Paramuricea</i> sp.	40
<i>Scleracis guadalupensis</i> (Duchassaing & Michelotti, 1860)	42
<i>Thesea nivea</i> Deichmann, 1936	43
Family Gorgoniidae	44

<i>Leptogorgia cardinalis</i> (Bayer, 1961)	44
<i>Leptogorgia euryale</i> (Bayer, 1952).....	45
<i>Leptogorgia hebes</i> Verrill, 1869	46
<i>Leptogorgia punicea</i> (Milne Edwards & Haime, 1857)	47
<i>Leptogorgia setacea</i> (Pallas, 1776)	49
<i>Leptogorgia virgulata</i> (Lamarck, 1815).....	50
Family Ellisellidae	51
<i>Viminella barbadensis</i> (Duchassaing & Michelotti, 1864) new combination	51
Order Pennatulacea	53
Family Renillidae	53
<i>Renilla reniformis</i> (Pallas, 1766)	53
Family Kophobelemnidae	53
<i>Sclerobelemnon theseus</i> Bayer, 1959	55
Family Virgulariidae	55
<i>Stylatula elegans</i> (Danielssen, 1860).....	55
<i>Virgularia presbytes</i> Bayer, 1955	57
Acknowledgements	57
Taxonomic listing of the octocorals found in the South Atlantic Bight to 200m.....	58
Glossary of Octocoral Terms (adapted from Bayer <i>et al.</i> 1983)	59
References cited	60

Abstract

Octocoral diversity is well documented in the tropical western Atlantic and Indo–Pacific, but it has been several decades since a thorough species account of the shallow South Atlantic Bight region was produced (northwestern Atlantic between Cape Hatteras, NC and Cape Canaveral, FL, USA). Through the use of material from the NMNH and SERTC Octocorallia (=Alcyonaria) collections, this work documents the presence of 28 species of octocorals recorded in the shallow (0–200 m) South Atlantic Bight and reports five new range extensions. Included are illustrated keys to the species, synonymies, species images and remarks, and SEM images of sclerites from described species without previously published sclerite imagery. A brief history of previous work and discussion of octocoral morphology are also included.

Key words: Coelenterata, Cnidaria, Octocorallia, Alcyonaria, Gorgonacea, Alcyonacea, Alcyoniidae, Nidaliidae, Nephtheidae, Anthothelidae, Plexauridae, Gorgoniidae, Ellisellidae, Clavulariidae, Renillidae, Kophobelemnidae, Virgulariidae, western Atlantic

Introduction

The presence of octocorals is recorded in all the world's oceans and at all depths. While diversity of the group is highest in the tropical western Pacific, the Atlantic also maintains a rich octocoral species assemblage. Worldwide, there are approximately 340 genera of octocorals from 46 valid families (Bayer 1981a; Williams 1995; Williams 2001–2010). The growing number of new species recorded and revisions within the families makes it difficult to arrive at an exact number of species, but it is estimated at over 3200 worldwide (Bayer 1981a; Williams 1995; Williams 2001–2010; Daly *et al.* 2007). The Octocorallia has been the subject of many recent molecular phylogenetic studies which may eventually lead to major revisions of the classification as it is currently accepted. C.S. McFadden reviewed these studies and their significance to modern classification in Daly *et al.* (2007). Using the classification of Bayer (1981a) and Williams (1995), this work discusses 28 species from 11 families known from the South Atlantic Bight (SAB) to a depth of 200 m.

The presence of octocorals in nearly all benthic marine habitats indicates the adaptive nature of this group compared to other taxa within the Cnidaria. Octocorals are very numerous in shallow tropical reef communities and are well-documented in deep benthic communities, where the colonies may provide substrate in habitats with poor complexity. The diversity of the Octocorallia (=Alcyonaria) in the shallow SAB is low in comparison to similarly shallow areas of the Caribbean and tropical western Pacific, however this group can be considered an abundant sessile invertebrate taxon in hard bottom communities and colonies are often associated with numerous commensal organisms.

The paucity of recent, regional taxonomic literature and the problematic identification associated with the Octocorallia presented the need for this regional guide. Specifically, some members of the former Paramuriceidae (now Plexauridae) occurring in the shallow SAB have not been treated for several decades apart from inclusion in checklists and technical reports. This work aims to bridge this gap and is intended to assist scientists, managers, educators and students to identify, through the use of keys, species notes, and images, the octocorals present from depths less than 200 m in the SAB.

Prior work. The taxonomy and classification of western Atlantic octocorals were treated extensively by Deichmann (1936), who included in her monograph all western Atlantic shallow- and deep-water species known at the time and she also described several new species. Her work was a continuation of A. E. Verrill's study of material collected during the Blake Expedition of 1877–1878, a manuscript he was unable to complete before his death. Nearly 30 years later, Bayer (1961) presented an updated taxonomic treatment of western Atlantic tropical and subtropical shallow water octocorals and then produced a key (Bayer, 1981a) to the non-pennatulacean genera of world-wide Octocorallia. Subsequently, Williams (1995) published a world key to the pennatulacean octocorals which complemented Bayer's (1981a) key, and the two works comprise a standard for the modern classification of the Octocorallia. In the shadow of these important taxonomic works, the rationale for developing a regional key to the octocorals of the SAB was based on the following: a) since the publishing of Deichmann's (1936) western Atlantic key many new species have been described, four of which are included in the present work, and octocoral classification has changed significantly; b) although