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Sponge Identification Guide
NAFO Area

2010



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Sponge Identification Guide NAFO Area

M. Best¹, E. Kenchington¹, K. MacIsaac¹, V. E. Wareham², S. D. Fuller³, and A. B. Thompson⁴

¹Fisheries and Oceans, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada

²Fisheries and Oceans, Northwest Atlantic Fisheries Center, St John's, Newfoundland and Labrador, Canada

³Biology Department, Dalhousie University, Halifax, Nova Scotia, Canada

⁴NAFO Secretariat, Dartmouth, Nova Scotia, Canada

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Abstract

Accurate reporting of sponges is increasingly important for mapping distributions and for the continued development of sustainable fisheries under the ecosystem approach. This Sponge Identification Guide is intended to help those on-board commercial and research fishing vessels to identify and record the various species of sponges likely to be commonly encountered in fishing trawls in the NRA. The guide is clear and simple to use, and will provide names to the majority of these bottom dwelling animals. The photographs are typically of caught specimens as seen on the deck.

Introduction

The United Nations General Assembly Resolution 61/105 (UNGA, 2006) calls upon Regional Fisheries Management Organizations (RFMOs), such as NAFO, to identify vulnerable marine ecosystems (VMEs) in the high seas and to adopt protective measures for those in danger of significant adverse impact from fishing gear. The Fisheries and Agriculture Organization (FAO) of the United Nations has responded to this request by preparing technical guidelines to assist States and RFMOs in formulating and implementing the appropriate measures for the management of deep-sea fisheries (FAO, 2008). The FAO Guidelines provide examples of species groups, communities and habitat-forming species that are documented or considered sensitive and potentially vulnerable to fishing activities in the high-seas. These include sponges, deep-water corals, and hydroids. However, not all sponge species meet the criteria of VME components suggested by the FAO.

Fuller *et al.* (2008) discuss the large number of sponge species that are known from the North Atlantic and describe three general groups which should be considered VME:

- Hexactinellid patches (*Vazella pourtalesi*), found to date on the Scotian Shelf in soft sediment areas;
- *Geodia* spp. found along the shelf edge, in gravel or hard bottom areas; and
- *Thenea* sp. generally found in soft bottom, and growing on spicule mats.

These groupings were endorsed by the NAFO Working Group on the Ecosystem Approach to Fisheries Management and the NAFO Scientific Council (NAFO 2008a, b). ICES (2009) later reviewed the North Atlantic sponge taxa against the FAO (2008) criteria to determine which should be considered as vulnerable marine ecosystem components. They produced an expanded list of 25 sponge species which are habitat-forming and can be considered indicators of sponge VMEs in the North Atlantic. These are species that form the sponge grounds, and host a variety of associated smaller sponge species that contribute to the biodiversity of the habitat. Unfortunately, there is very little data on sponge species distribution in the NRA as no identification guide has been created that would facilitate this reporting. Because the habitat-forming taxa are large and massive, research vessel bycatch tended to be highly skewed towards large numbers of very small sponge bycatch, with a few very large catches that were indicative of sponge grounds (Kenchington *et al.*, 2009b). Management decisions have proceeded on the reasonable assumption that protecting sponge grounds would infer protection to both the habitat-forming taxa and the smaller associated taxa. However, more detailed information would be very useful in evaluating the VME status of the sponge areas and it was hoped that with a guide available such information would be forthcoming.

Development of the Sponge Identification Sheets

Following the success of the previously-produced NAFO Coral Identification Guide (Kenchington *et al.*,

2009a), the Sponge Identification Guide was produced with identical goals for improving data on sponge specimens encountered in the NAFO Regulatory Area. A group of main collaborators was formed of scientists with expertise in identification of sponges from the NRA, as well as other interested parties, all of whom are included in the authorship of this working paper. Relevant experts in sponge identification were also consulted and are acknowledged in the document. Again it was decided that the guide should be made to aid in at-sea identification by non-experts, as a tool to increase the consistency and accuracy of data coming to member States and NAFO.

A taxa list was created based on data from Newfoundland multispecies surveys and the 2009 German Demersal Greenland scientific surveys undertaken by the NEREIDA project at fishing depths within the NRA. Only one additional taxon was included, *Vazella pourtalesi*, in hopes of deducing its distribution more broadly. It was recognized that sponges as a group can be very difficult to identify, due to their malleability and variation within members of even the same species. Accurate identification to species often requires microscopic analysis of spicules, therefore several taxa are represented at the genus level to avoid incorrect reporting (for example, *Geodia* spp. represents at least three known species in the genus *Geodia*). It was also recognized that most of the intended users will use pictures to identify the taxa as they appear on deck, and will also wish to minimize reading time associated with identification. The guide therefore uses clear photos taken on-deck or laboratory photos (versus underwater photos), and illustrates those features which help to distinguish the taxon using current taxonomic descriptors. The taxa were organized according to morphology or body type, as this tends to be more intuitive than organizing them taxonomically. Thus, there are six morphology groups defined, representing a total of 35 sponge taxa. It is recognized that the taxa list is almost certainly incomplete, as sponge expertise in the area is developing. Thus, the guide is intended to be a 'living' document, where pages can easily be added and updated as knowledge of sponges in the NRA improves.

As with the Coral Guide, the Sponge Guide uses 8½ x 5½ inch pages (half a standard letter sheet) for its clarity and ease of use, and it is intended that a high-quality pdf version be made available which can be formatted as desired by the user. A template was produced using Adobe InDesign, based on the Coral Guide, which was altered to best incorporate all sponge taxa consistently and clearly. Coloured tabs are included to make the grouping according to morphology type more apparent and easier to navigate. Thumbnail pictures of each taxon are included in the Table of Contents to facilitate comparison and aid

in quick reference. A size diagram comparing a typical specimen to a typical human or hand was created to aid in visualization, though diagrams to show variation in colour are excluded due to lack of information and time constraints. Many photos were edited using Adobe Photoshop to remove distracting backgrounds, and to add a standard 5 cm scale bar. The addition of depth information was discussed, but not included to avoid bias in reporting. Several drafts were circulated through the group of main collaborators, and all comments and suggestions are considered in the final guide.

The sponge identification sheets are illustrated below. Hard copies, printed on waterproof paper and spiral bound, are available from the NAFO Secretariat.

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Sponge Identification Guide NAFO Area



On the cover (reverse): Various underwater photographs taken from within the NAFO Convention Area. Top: 'Sponge Grounds,' largely dominated by *Geodia* spp. Bottom (left to right): *Hymedesmia* sp.; Astrophorida (Order containing *Geodia* spp. and *Stryhnus ponderosus*); *Phakelia* sp.; Rock wall with several sponge taxa; *Asconema foliata*; *Mycale lingua*.

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Contributors

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Photo credits

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Northwest Atlantic Fisheries Organization
P.O. Box 638, Dartmouth, Nova Scotia
Canada B2Y 3Y9
Tel: (+1-902) 468-5590 • Fax (+1-902) 468-5538
www.nafo.int

NAFO CONVENTION AREA

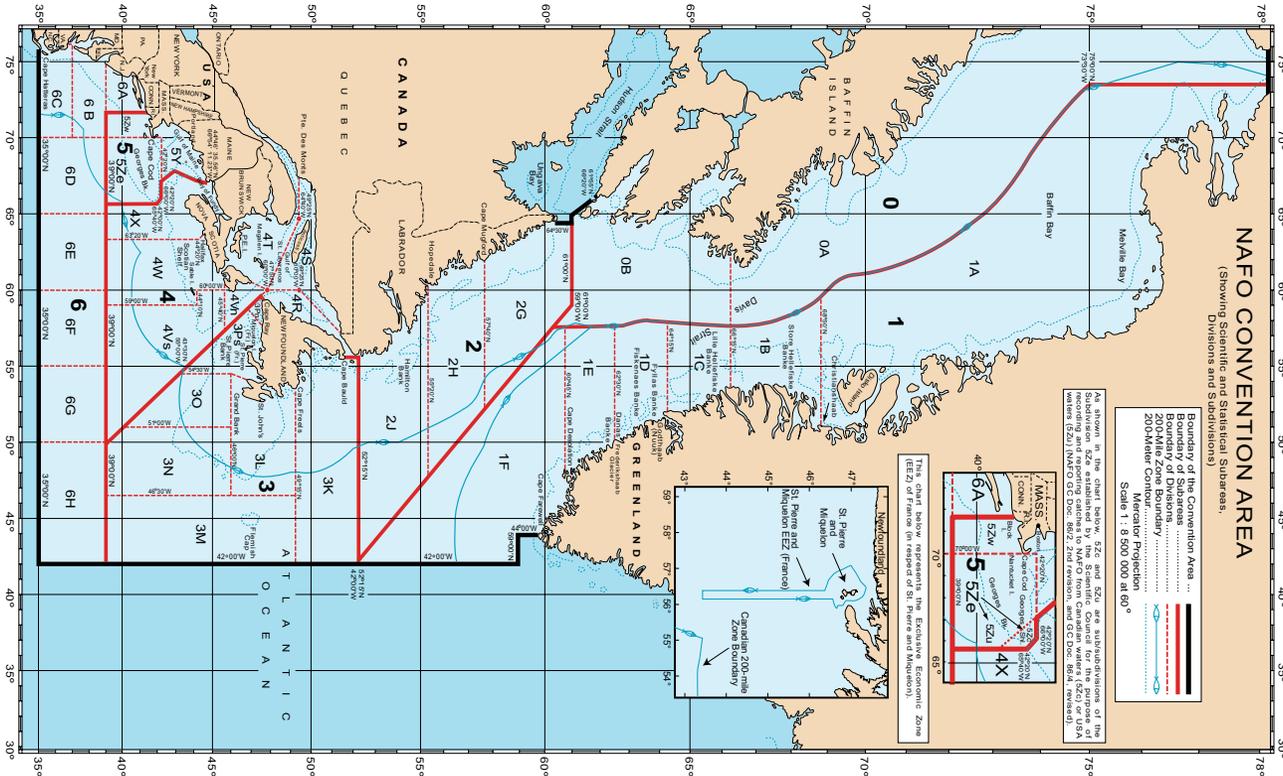
(Showing Scientific and Statistical Subareas, Divisions and Subdivisions)

- Boundary of the Convention Area
 - Boundary of Subareas
 - 200-Mile Zone Boundary
 - 200-Mile Contour
 - 200-Mile Contour
- Scale 1 : 8 500 000 at 60°

As shown in the chart below, 5Z and 5Zu are subdivisions of the 5Z subarea, and 5Zu is a subdivision of the 5Z subarea. The recording and reporting details to NAFO from Canadian waters (CC) or USA waters (CU) are shown in the chart below. (CC) and (CU) are shown in the chart below.



This chart below represents the Exclusive Economic Zone (EEZ) of France (in respect of St. Pierre and Miquelon)



Preface

This book is intended as a pictorial identification guide for some species of sponge found on the Grand Banks of Newfoundland and on Flemish Cap. Some species also occur more broadly in NAFO Divisions 1, 2, 3, 4 and 5, however Divisions 5 and 6 will contain many more species not yet included in this guide. Our intent is that the guide should be useful for at-sea identifications by non-specialists. It is written for fishers, fishery observers, scientific technicians, and others who may not be familiar with sponge identification. It is hoped that it will result in improved data collection for expanding our knowledge of the distribution of these vulnerable marine species. Should users find sponges that do not fit the guide, or need assistance in identification, please contact:

Megan Best
Bedford Institute of Oceanography
Fisheries and Oceans Canada
1 Challenger Drive
Dartmouth, Nova Scotia, Canada
B2Y 4A2
Tel: (+1 902) 426-2791 • e-mail: Megan.Best@dfo-mpo.gc.ca

Terminology



Spicules:

- Skeletal elements that give most sponges their structure
- Generally spicules are microscopic, though large spicules can be seen by the naked eye
- The characteristic shapes of these spicules are used to identify sponge species

Encrusting:

- A thin, sheet-like coating, generally on a rock or shell

Morphology Categories

This guide arranges sponges according to morphology or body type:



Solid/Massive

- Substantial, fairly compact structure; can be round but more often irregular in shape



Leaf/Vase-Shaped

- Fleshy leaf or vase, with or without a short 'stem' anchored to hard substrate



Round with Projections

- Distinct projections are present, called 'papillae;' sometimes with visible openings at the ends



Thin-Walled, Complex

- Spicules are often arranged in intricate, mesh-like patterns visible to the naked eye; also known as 'Glass Sponges'



Stalked

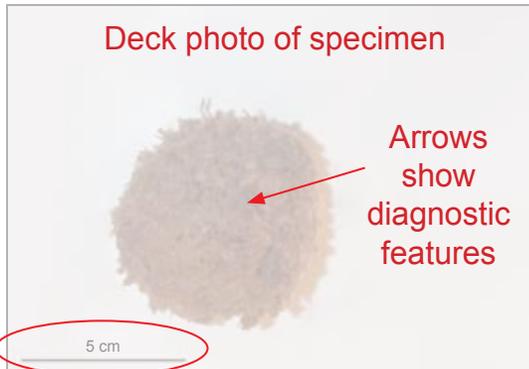
- Bulk of sponge tissue is centred around a thinner 'stalk' or 'stem'

Other

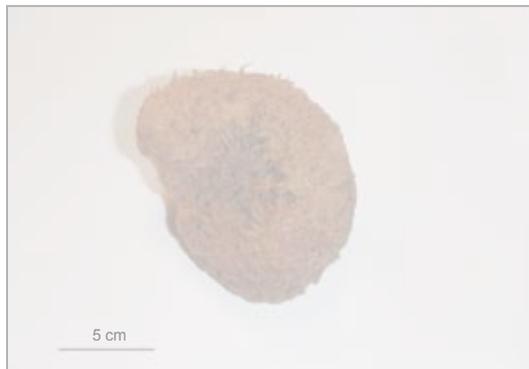
- A variety of miscellaneous body types: finger-shaped, encrusting, bladder-like, excavating, etc.

Morphology Categories

Deck photo of specimen



Standard 5cm scale bar



Use when recording

Scientific Name

Common Name (If any)

ITIS TSN: XXXXX • ERMS AphiaID: XXXXX

www.itis.gov • www.marbef.org/data/erms.php



Relative size
of sponge to
human
or human
hand

Physical Description

-

Size Information

-

Colour

-

Habitat Information

-

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Solid/Massive



Biemna variantia

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Forcepia (Forcepia) thielei

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Geodia spp.

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Hamacantha (Hamacantha) carteri

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Data Collection

This identification guide can be used with the NAFO Exploratory Fishery Data Collection Form. At present there are no simple species codes for sponges; the scientific name at the top right corner of the identification page can be used. Sponges can be difficult to weigh. Small samples should be cleared of any larger organisms (e.g. sea stars). All samples must be weighed and all sponges of the same type should be weighed together. Record the weight to the nearest kilogram and use <1 kg for smaller samples. The weight of very large samples (over 100 kg) can be estimated by filling a fish box with the same species and weighing that. The remaining weight can be estimated by multiplying the weight of the sponge in the fish box by the estimated unweighed volume. It is also useful to note the number of specimens, and the presence of any associated fauna or egg casings.



Biemna variantia

ITIS TSN: 48284 • ERMS AphiaID: 133205



Physical Description

- Round or cushion-shaped, encrusting
- Uneven surface with small projections (“shaggy”); soft, friable or easily-broken

Size Information

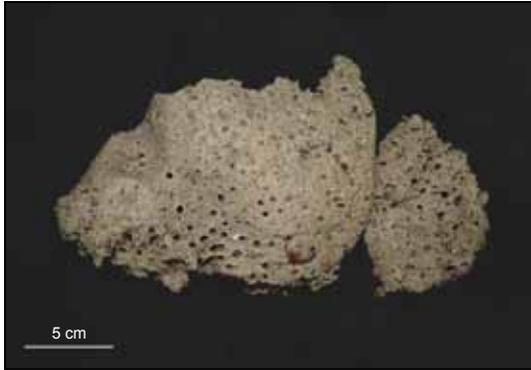
- Up to 15cm

Colour

- Brown with a pinkish hue when out of water

Habitat Information

- Mud, gravel, rock outcrops



Forcepia (Forcepia) thielei

ITIS TSN: 48049 (Genus) • ERMS AphiaID: 168877



Physical Description

- Forms a thick, irregular leaf when intact; thick base
- Most often found in pieces; somewhat elastic but easily-broken
- Surface “shaggy,” with holes, often more apparent on one side

Size Information

- Up to 18cm

Colour

- Brown, grey, possibly yellowish-white

Habitat Information

- Sand, small gravel



Geodia spp.

ITIS TSN: 48612 • ERMS AphiaID: 132005



Physical Description

- Massive round/lobed sponges with few or no holes in the surface
- Surface smooth, or rough with encrusting species; hard, sometimes wrinkled in appearance
- Can form “Sponge Grounds” and be found in large quantities

Size Information

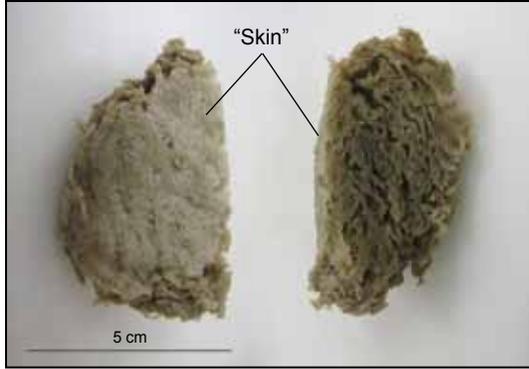
- Largest specimens recorded at 55cm

Colour

- Cream-yellow, white; pinkish or beige on the inside

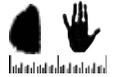
Habitat Information

- Gravel, rock outcrops



Hamacantha (*Hamacantha*) *carteri*

ITIS TSN: 65715 (Genus) • ERMS AphiaID: 168420



Physical Description

- Thick, soft, with an irregular but smooth surface and a thin "skin"
- "Skin" is closely-attached, usually intact
- Thickly encrusts on small rocks
- Often confused with *Mycale lingua*, but much less common; presence of "skin" is a diagnostic feature

Size Information

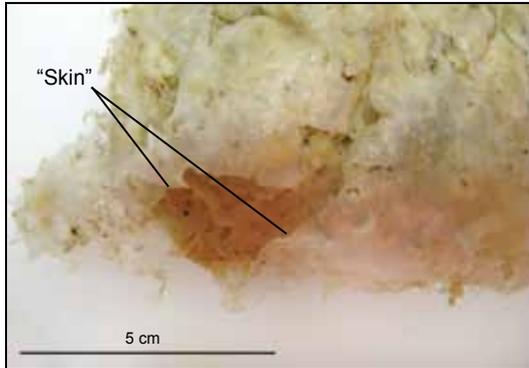
- Up to 12cm

Colour

- Light brown, brownish-yellow, possibly grey

Habitat Information

- Gravel, rock outcrops



Melonanchora elliptica

ITIS TSN: 203975 • ERMS AphiaID: 133868



Physical Description

- Round/bladder-like, with short, flattened projections
- Has a characteristic papery “skin,” whitish in colour, with a crumbly interior

Size Information

- Up to 10cm in diameter, possibly more

Colour

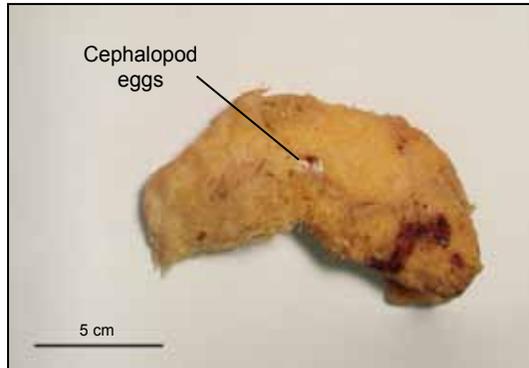
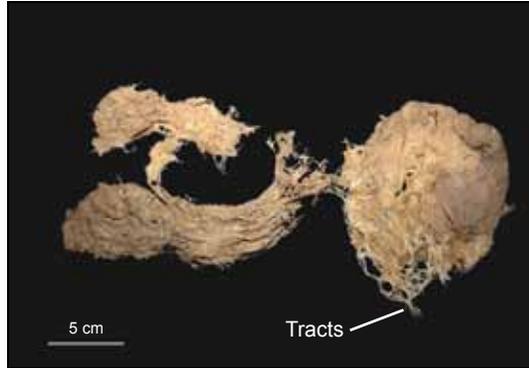
- Yellowish-white or whitish-grey

Habitat Information

- Gravel, rock outcrops

Mycale (Mycale) lingua

ITIS TSN: 48202 • ERMS AphiaID: 168640



Physical Description

- Lobed, tongue-shaped, or sometimes erect with a narrow base
- Soft, fleshy; furrowed surface, with long stringy tracts
- Sometimes found with Cephalopod (i.e. octopus, squid, cuttlefish) eggs embedded

Size Information

- Up to 30cm

Colour

- Grey, cream, yellow, white

Habitat Information

- Sand, gravel



Spongia pulchella

ITIS TSN: 47557 • ERMS AphiaID: 132335



Physical Description

- Plate-shaped, thickly encrusting, or upright with a short stalk
- Very elastic/"spongy," hard to tear; surface smooth and soft; velvety appearance
- Openings set in small depressions, closely-spaced on the outer edge

Size Information

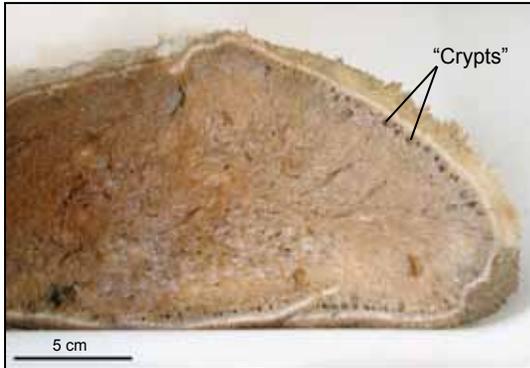
- 5–10cm

Colour

- Brown to brownish-yellow, possibly greenish-grey or cream

Habitat Information

- Gravel, rock outcrops



Stelletta spp.

ITIS TSN: 48679 • ERMS AphiaID: 131994



Physical Description

- More or less spherical, sometimes depressed
- Surface rough due to encrusting sponges; often surface is completely covered
- Similar to *Geodia* spp., but is more rough and much less common. When cut in cross-section, outer skin appears darker than the inner sponge
- “Crypts” (empty spaces) below surface often very pronounced, much more so than *Geodia* spp.

Size Information

- Up to 20cm in diameter

Colour

- Brown, reddish and purplish on the exterior; white, pinkish and light yellow on the inside

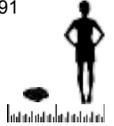
Habitat Information

- Gravel, rock outcrops



Stryphnus ponderosus

ITIS TSN: 659254 (Genus) • ERMS AphiaID: 133991



Physical Description

- Fairly hard, thick, rounded and irregularly-lobed. Sometimes bowl-shaped.
- Surface rough, with many encrusting species attached. Spicules often come off when handling (wear gloves!)

Size Information

- Up to 40cm in diameter

Colour

- Pinkish or brown, with encrusting species generally turning a dark purple when out of water

Habitat Information

- Gravel, rock outcrops



Suberites ficus

ITIS TSN: 48488 • ERMS AphiaID: 134285



Physical Description

- Thick, lobed, sometimes cylindrical
- Firm, velvety appearance
- Often smells like garlic!

Size Information

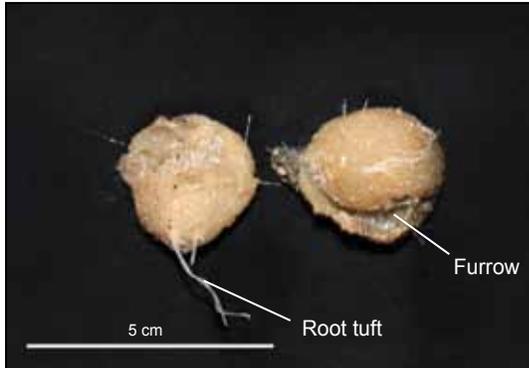
- Variable; up to 40cm in length

Colour

- Yellow to brown, usually yellow on the inside

Habitat Information

- Gravel, rock outcrops; often found encrusting on shells



Thenea muricata

ITIS TSN: 204087 • ERMS AphiaID: 134106



Physical Description

- Ball- to mushroom-shaped, with one or few large openings at the top and a furrow running along the side
- Stringy tuft to anchor into sediment
- Surface rough; consistency soft or firm

Size Information

- 1 to 20cm

Colour

- Brown or grey

Habitat Information

- Mud, sand



Thenea spp.

ITIS TSN: 48716 • ERMS AphiaID: 48716



Physical Description

- Irregular plate-shaped, oval, or finger-shaped
- One surface smooth with holes, sometimes located in a furrow; other surface rough with no holes, sometimes with long thin tufts
- Sometimes very abundant

Size Information

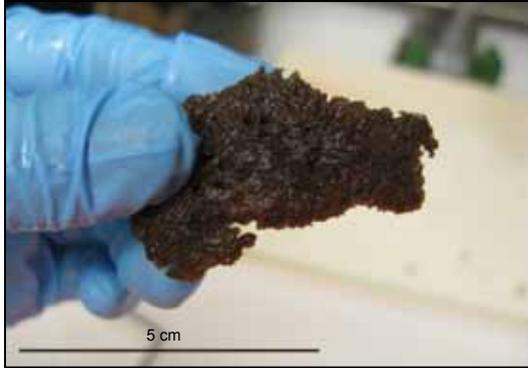
- 1 to 10cm in diameter

Colour

- Brown or grey

Habitat Information

- Mud, sand



lophon piceum

ITIS TSN: 203967 (*l. piceus*) • ERMS AphiaID: 132972



Physical Description

- Cup/leaf-shaped when intact, but most often found in pieces 0.5 to 1.5cm thick; easily broken
- Surface smooth or somewhat grooved
- Many small openings, generally more apparent on one side than the other

Size Information

- Up to 16.5cm in height

Colour

- Generally dark brown/black, also light brown

Habitat Information

- Gravel, rock outcrops



Phakellia spp.

ITIS TSN: 48376 • ERMS AphiaID: 131779



Physical Description

- Cup/fan-shaped, attached by a stalk. Can sometimes see a pattern of ribbed veins fanning out from the stem
- Surface smooth, velvety, or slightly rough
- Fairly elastic but tears easily

Size Information

- Up to 20cm

Colour

- Ochre yellow, light brown, grey-beige, sometimes with a green tint

Habitat Information

- Gravel, rock outcrops



Vazella pourtalesi

Russian Hat

ITIS TSN: 659662 (Genus) • ERMS AphiaID: 172120 (Genus)



Physical Description

- Thick (1–2cm), vase-shaped, with spicules projecting out from the outer surface, giving it a spikey appearance
- Many small holes; extend through entire wall

Size Information

- Up to 30cm in height

Colour

- White, grey, brown

Habitat Information

- Mud



Craniella cranium

ITIS TSN: 204076 • ERMS AphiaID: 171330



Physical Description

- Ball-shaped, covered in small projections (“spikey”)
- Can sometimes see opening at the top, usually this is closed
- Has a tuft at the base, often not attached
- Cross-sections show the skeleton is spirally radiate

Size Information

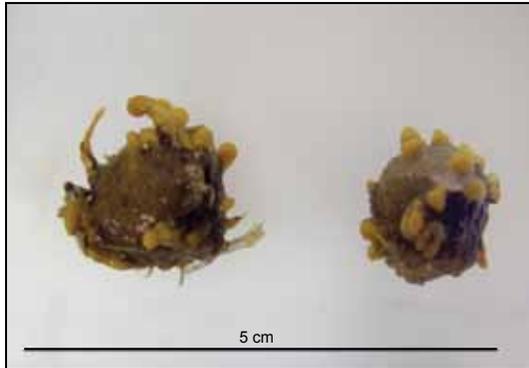
- Often ~5cm in diameter; up to 10cm

Colour

- White, yellow, with reddish or greenish hue

Habitat Information

- Gravel, sometimes found attached to other sponges



Histodermella sp.

ITIS TSN: 659400 • ERMS AphiaID: 131925



Physical Description

- Small, round, with several thin projections
- Surface smooth or slightly rough
- Fairly robust; often found intact

Size Information

- 1–2cm in diameter

Colour

- Dark yellow or brown, with bright yellow projections

Habitat Information

- Gravel, rock outcrops, dead *Lophelia* (stony coral)



Polymastia spp.

ITIS TSN: 48506 • ERMS AphiaID: 132046



Physical Description

- Generally thick, roundish, with many characteristic projections (“nipple sponge”) of various length
- Attached to rock or other hard substrate; sometimes encrusting

Size Information

- Usually small, with some up to 15cm, possibly larger

Colour

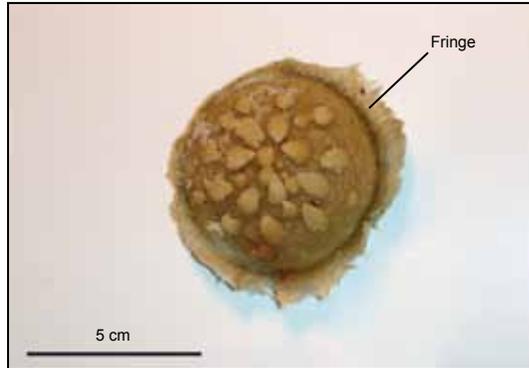
- Brown, reddish, yellow, white

Habitat Information

- Gravel, rock outcrops

Radiella hemisphaerica

ITIS TSN: 659290 (Genus) • ERMS AphiaID: 170674



Physical Description

- Half-sphere, with a distinct fringe of long spicules at the outer edge
- Several projections from upper surface; number varies from very few up to 20
- Firm in consistency

Size Information

- Up to 8cm in diameter

Colour

- Light brown, white-grey

Habitat Information

- Mud, gravel



Asconema foliata

ITIS TSN: 659654 (Genus) • ERMS AphiaID: 132122 (Genus)



Physical Description

- Found in thin (1–2mm) fibreglass-like sheets with long linear fibres; fused tubes when intact
- Surface smooth, no holes, pulls apart very easily
- Sometimes associated brittle stars or crinoids attached

Size Information

- Entire sponge up to 40cm across

Colour

- White or grey, sometimes brown from sediment

Habitat Information

- Gravel, rock outcrops



Chonelasma sp.

ITIS TSN: 47355 • ERMS AphiaID: 32102



Physical Description

- Thin (2–3mm), hard, and very brittle
- Distinct mesh-like pattern throughout
- Vase-shaped with flared edges when intact, but almost always found in small fragments

Size Information

- Large intact specimens can approach 1m in width; typically less than 50cm

Colour

- White, greyish, or brown from sediment (usually dead); often dead specimens have encrusting sponges which gives a hue of yellow, blue, or purple

Habitat Information

- Gravel, rock outcrops



Euplectella spp.

ITIS TSN: 47464 • ERMS AphiaID: 132114



Physical Description

- Thin, tube-shaped sponge with complex, mesh-like surface; tube covered with larger mesh at one end, often torn at basal end
- Comes up flattened in trawls but relatively intact
- Sometimes two associated shrimp are found inside

Size Information

- Up to 30cm in height, 15cm in diameter

Colour

- White, greyish, or brown from sediment

Habitat Information

- Mud, gravel, rock outcrops



Asbestopluma sp.

ITIS TSN: 48263 • ERMS AphiaID: 131893



Physical Description

- Thin, pen/feather-shaped, one end with small branches and the other smooth and slightly widened

Size Information

- Up to 10cm long

Colour

- White to yellow

Habitat Information

- Gravel, rock outcrops



Chondrocladia spp.

ITIS TSN: 48278 • ERMS AphiaID: 131894



Physical Description

- Long, thin arms with bulbed ends attached to a tough, straight stalk/stem made of spiral (or slightly twisted) fibres
- Some referred to as “pine cones of the sea”

Size Information

- Up to 30cm long, 10cm wide

Colour

- Yellow, brown, greyish, pink

Habitat Information

- Mud, coral rubble



Cladorhiza spp.

ITIS TSN: 204009 • ERMS AphiaID: 133188



Physical Description

- Tree-like shape, often confused with coral
- Thin (generally less than 1cm), smooth, and straight, with alternating branches and root-like structures
- Branches bulbed at ends or pointed

Size Information

- Can approach 1m in length, typically less than 20cm

Colour

- Yellow, cream, pinkish, brown

Habitat Information

- Mud



Rhizaxinella sp.

ITIS TSN: 659300 • ERMS AphiaID: 132071



Physical Description

- Long, thin, branching stalk, with a root-like support system
- Sponge body somewhat oval, firm, “hairy” appearance

Size Information

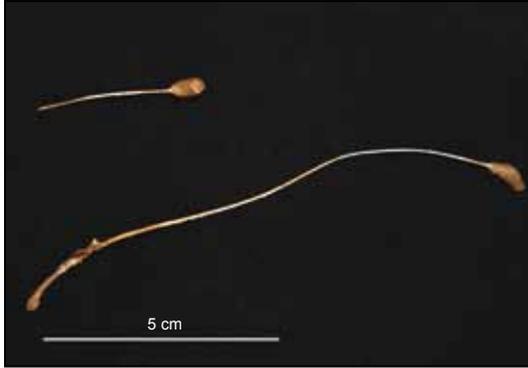
- Body up to 6cm long, 1cm wide; stalk up to 30cm long, 0.5cm wide

Colour

- Yellow, yellowish-grey

Habitat Information

- Mud, gravel



Stylocordyla borealis

ITIS TSN: 204074 • ERMS AphiaID: 134240



Physical Description

- Club-shaped on a long, thin, unbranched stalk, with a root-like support system
- Sponge body is oval, somewhat flattened at the top, and smooth in appearance

Size Information

- Up to 10cm long

Colour

- White, greyish, brown

Habitat Information

- Mud, sparse gravel



Cliona (and related) spp.

ITIS TSN: 48523 • ERMS AphiaID: 132026



Physical Description

- Excavating/boring sponge, found encrusting on the surface and inside of rocks and shells
- Generally have to break the rock open to confirm its presence
- Consistency inside rocks is slimy and soft

Size Information

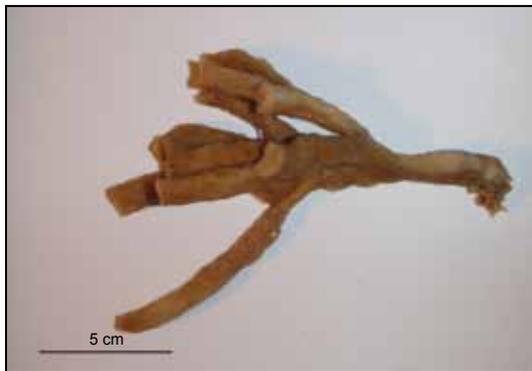
- Limited to rock substrate; has been observed in cobbles 20cm in diameter

Colour

- Pale pink, cream-coloured, or white

Habitat Information

- Gravel, shells, rock outcrops



Haliclona spp. Dead Man's Fingers

ITIS TSN: 47771 • ERMS AphiaID: 131834



Physical Description

- Finger-like projections, arising from a short stalk or base
- Velvety surface, with holes arranged in rows along branches

Size Information

- Commonly between 10 and 30cm

Colour

- Yellow, light brown, sometimes with a greenish or reddish tinge

Habitat Information

- Gravel, rock outcrops, corals, other sponges



Homaxinella sp.

ITIS TSN: 48340 • ERMS AphiaID: 131777



Physical Description

- Small, tough, finger-like projections, sometimes branching

Size Information

- Clumps can be 10–15cm, projections rarely more than 0.5cm wide

Colour

- Bright yellow, light brown

Habitat Information

- Gravel, rock outcrops



Hymedesmia sp.

ITIS TSN: 48056 • ERMS AphiaID: 131950



Physical Description

- Extremely thin (1-2mm) encrusting sponge, sometimes with projections or depressions/holes
- Sometimes a vein-like pattern can be seen
- Soft, sometimes slimy

Size Information

- Patches up to 30cm wide

Colour

- Typically very bright colouration; blue, yellow, orange, green

Habitat Information

- Gravel, rock outcrops



Quasillina brevis

ITIS TSN: 659289 (Genus) • ERMS AphiaID: 134215



Physical Description:

- Small, bladder-like, very thin, and often stalked; attached to pebbles and small stones
- Hollow; often found broken open

Size Information

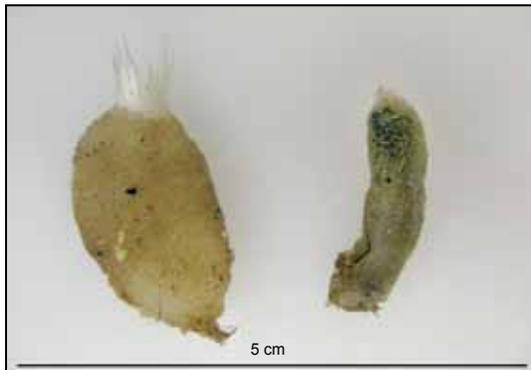
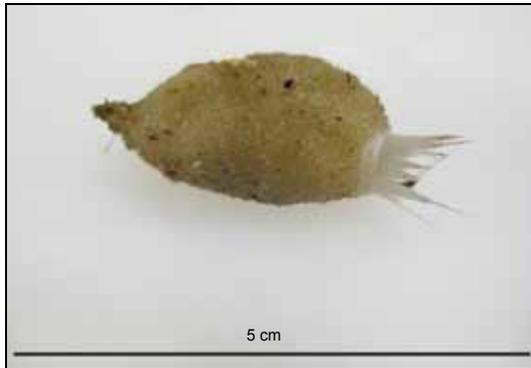
- 2–4cm

Colour

- Bright yellow; also dark yellow to brown

Habitat Information

- Gravel, rock outcrops



Sycon sp.

ITIS TSN: 47050 • ERMS AphiaID: 131723



Physical Description

- Tube-shaped, with a tuft of stiff spicules at opening
- “Hairy” surface, sometimes smooth
- Most often found as individuals, sometimes clustered

Size Information

- Up to 9cm long, though usually 1–3cm

Colour

- Off-white, grey, brown

Habitat Information

- Gravel, rock outcrops

Tentorium semisuberites

ITIS TSN: 48497 • ERMS AphiaID: 134224



Physical Description

- Toadstool-like, with a cylindrical body, and a rounded top; one or more small projections arise from the top
- Surface smooth or slippery
- Often smells like garlic when pinched

Size Information

- Up to 4cm high, 3cm in diameter; often find several small individuals (<1cm) together

Colour

- Light pink, pinkish-brown, yellowish-grey

Habitat Information

- Mud, gravel, rock outcrops



Spicule clumps

ITIS TSN: 46861 (Porifera) • ERMS AphiaID: 558 (Porifera)



Physical Description

- Mass of sponge spicules with no discernable structure, often embedded with sediment
- Can occur in large mats on the sea floor

Size Information

- Small 1cm balls to 20cm clumps

Colour

- Whitish, grey, and brown

Habitat Information

- Mud

Errata

(the following changes have been made to the guide)

Page vii

Correct thumbnail photos of *Hamacantha* (*Hamacantha*) *carteri*, *Melonanchora elliptica* and *Mycale* (*Mycale*) *lingua*, replaced incorrect thumbnail photos in Table of Contents.

Page viii

Stylocordyla borealis moved from “other” and placed with “stalked”.
“*Cliona* sp.” changed to “*Cliona* (and related) spp.”

Page 4

Following text added to physical description “Often confused with *Mycale lingua*, but much less common; presence of “skin” is a diagnostic feature”.

Page 8

Following text added to physical description ““Crypts” (empty spaces) below surface often very pronounced, much more so than *Geodia* spp.” Crypts identified on photograph.

Page 28

“*Cliona* sp.” changed to “*Cliona* (and related) spp.”

Notes