



PHYLUM: PORIFERA

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Phylum: PORIFERA

Sponges (The 'Pore-Bearers')

Sponges are sessile aquatic organisms, considered to be amongst the first and simplest metazoans. They comprise a highly successful and variable group, inhabiting both marine and freshwater habitats. Their success is closely linked to their varied reproductive strategies (sexual and asexual), extensive regenerative abilities and the adaptability of their simple body organisation, which consists of specialised cells that are not organised into tissues or organs.

Sponges are made up of an intricate system of chambers interconnected by canals, which are lined with flattened cells (pinacocytes) that also form the outside 'skin' of the sponge. These chambers are lined with flagella-bearing cells (choanocytes) that generate a unidirectional water current, enabling the sponge to draw in ambient water through small inhalant pores (ostia) and filter out microscopic food particles. Filtered water is then expelled through fewer, larger exhalant openings (oscles). A collagenous matrix (the mesohyl) fills the space between the canals and chambers, harbouring other mobile cells, supporting fibres and inorganic structures of the skeleton. The latter may include spicules composed of either calcium carbonate or silica, which are present in many species. Spicules come in an array of forms, with observations of their type, shape, combination and arrangement enabling the identification of a specimen. Without this information, sponges can be very difficult to identify, with individuals often demonstrating morphological plasticity according to environmental conditions.

Sponges are of great ecological, commercial and evolutionary importance. As a competitive component of marine benthic communities, they serve as a food source for other organisms, as well as a biological habitat and/or host for associated species. They also enable benthic-pelagic coupling and primary production through microbial symbionts. Furthermore, sponges may act as bio-eroders and environmental quality indicators. From an anthropogenic point of view, sponges played an important role in ancient society, and continue to do so today. In the past, sponges were used as household items, for personal hygiene, for the relief of pain, for treating disease, and in art. More recently, interest in sponges is largely due to their production of novel chemical compounds, which

may have potential biomedical and anti-fouling applications. In addition, their skeletal structures have instigated further interest due to their unique optical and mechanical properties, which may enable future manufacturing of advanced materials.

Globally, there are around 8 500 extant sponge species, with the vast majority (83%) belonging to the class Demospongiae. South Africa has recorded 347 sponge species, comprising around 4% of sponge diversity worldwide. However, local taxonomic knowledge of this phylum is largely incomplete.

Classification

The phylum Porifera has four classes, namely the Calcarea, Demospongiae, Hexactinellida and Homoscleromorpha.

Class Calcarea

Exclusively marine, calcareous sponges predominantly inhabit shallow tropical waters. They are often small and delicate, with thin coalescent tubes or a vase-like form. The majority are white or cream, but may also be pink, red or yellow. Calcium carbonate spicules are present, with limited variation in spicule morphology. This class is not addressed further within this guide.

Class Demospongiae

Comprises the largest and most diverse group, inhabiting both marine and freshwater environments. Huge variety in both form and colour. Siliceous spicules present and/or skeleton of spongin fibres or fibrillar collagen.

Class Hexactinellida

Also known as glass sponges; exclusively marine and largely restricted to both hard and soft substrates in deeper environments (beyond 400 m). Dull colouration and variable body form, but never encrusting. Some species have large, conspicuous, hair-like spicules visible to the naked eye. Siliceous six-rayed spicules present, with highly diverse spicule morphologies. Often long-lived and fragile, they are particularly susceptible to disturbance.

Class Homoscleromorpha

Small group of marine sponges inhabiting predominantly shallow environments, often

found in dark or semi-dark ecosystems (e.g. caves). Encrusting or lobate with a smooth surface, often small and delicate. Small siliceous spicules present, but lacking a well-organised skeleton. This class is not addressed further within this guide.

Collection and preservation

Note: Sponge spicules and mucus may be harmful to humans, causing abrasions or severe dermatitis. Sponges may be fragile and often demonstrate dramatic post-collection (and preservation) changes in both form and colouration (e.g. lose colour in ethanol). Thus, taking clear photographs (with a scale bar) and documenting observations shortly after collection is essential.

The following information should be recorded for each specimen retained:

- Locality
- Date

- Depth
- Collector(s)
- Method of collection
- Habitat/substrate type

Other observations used to aid sponge identification:

- Form – note if whole or fragmented
- Size
- Colour – record immediately after removal from sea
- Surface ornamentation (ridges, stalks, etc.)
- Distribution and shape of surface pores (ostia) and oscules
- Texture/consistency
- Mucus
- Smell
- Associated fauna

Specimens should be frozen (somewhat fixes colour; below -10°C) or stored in 80–90% ethanol solution.

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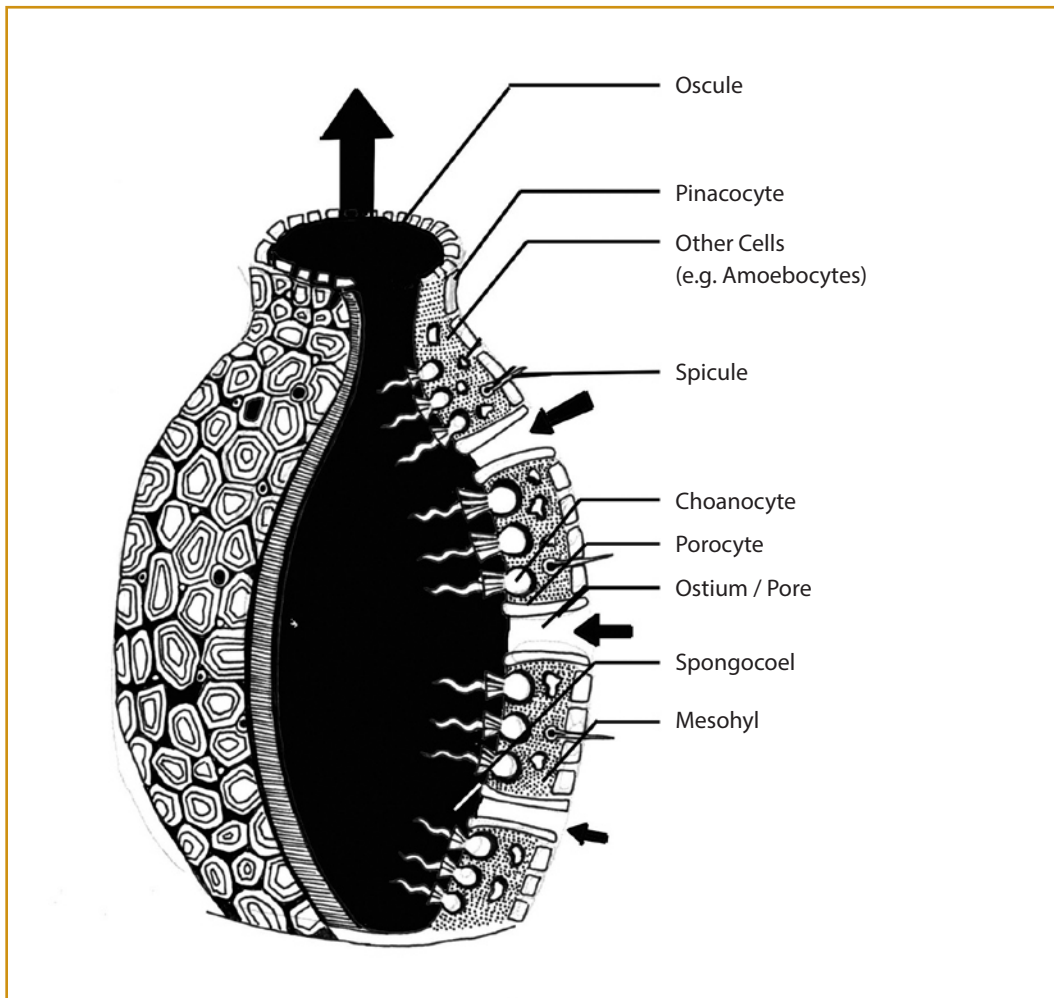
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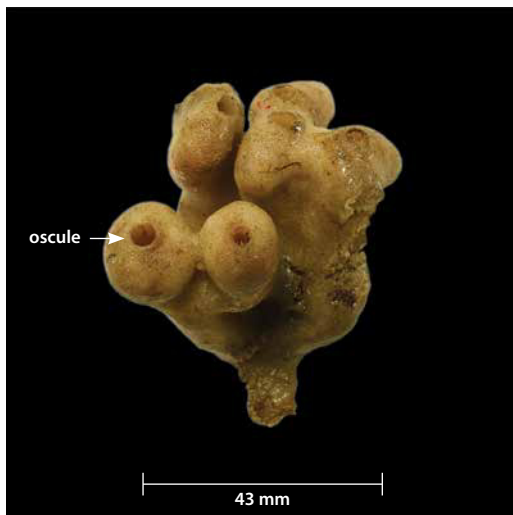
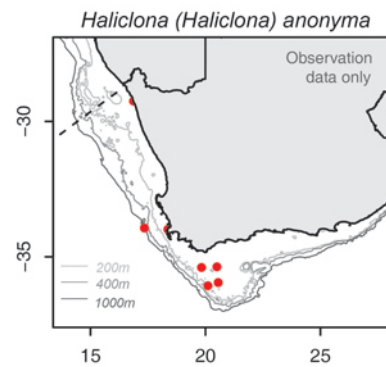
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Basic Poriferan body plan



***Haliclona (Haliclona) anonyma* (HaAno)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Haplosclerida
Family:	Chalinidae
Genus:	<i>Haliclona (Haliclona)</i>
Species:	<i>anonyma</i>
Common name:	Tubular fan sponge

**Distinguishing features**

Upright stalked form with coalescent (fused) tubular branches that terminate in rounded ends with slightly raised conspicuous oscules; surface smooth to slightly rough with small ostia (<1 mm); firm and tough.

Colour

Light to dark brown.

Size

Length up to 150 mm, width 70 mm.

Distribution

South African endemic. West and South Coasts of South Africa; 17–144 m depth.

Similar species

None.

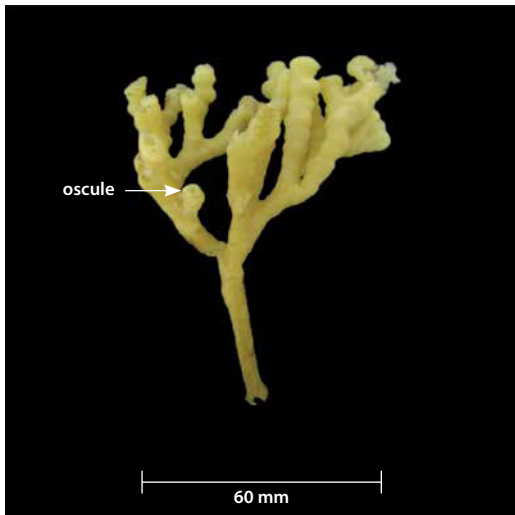
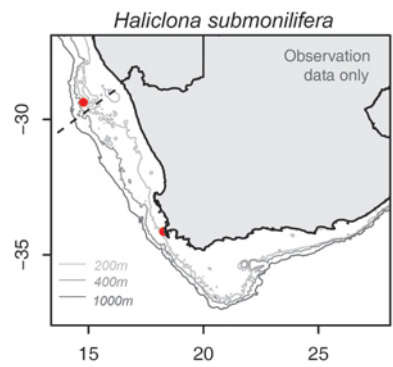
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Samaai T and Gibbons MJ. 2005. Demospongiae taxonomy and biodiversity of the Benguela region on the west coast of South Africa. *African Natural History* 1: 1-96. pp. 85-86.

Stephens J. 1915. Atlantic Sponges collected by the Scottish National Antarctic Expedition. *Transactions of the Royal Society of Edinburgh* 50(2): 423-467, pls XXXVIII-XL. pp. 459-460, 463.

***Haliclona submonilifera* (HaSub)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Haplosclerida
Family:	Chalinidae
Genus:	<i>Haliclona</i>
Species:	<i>submonilifera</i>
Common name:	Bubble bead sponge



Distinguishing features

Upright stalked form with somewhat dichotomous branches that have numerous swellings and constrictions, terminating in rounded ends with distinct oscules, which may also occur along the branches on rounded elevations; surface velvety; very compressible, flexible and easily torn.

Colour

Straw yellow.

Size

Typical length 130 mm, width 70 mm.

Distribution

West Coast of South Africa. Recorded from \pm 245 m depth.

Similar species

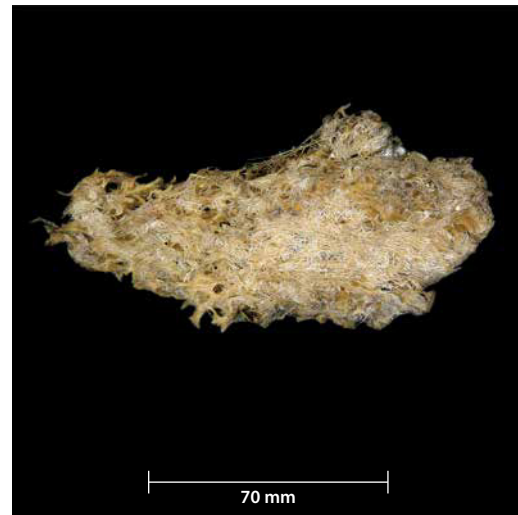
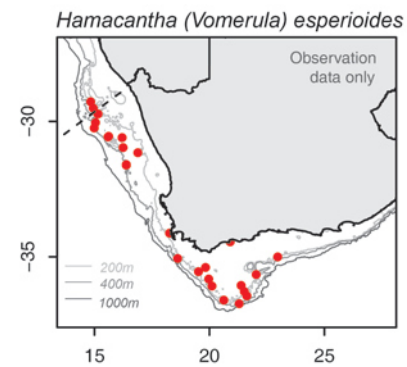
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Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografías de Zoología Marina* 3: 9-157. pp. 96-97.

***Hamacantha (Vomerula) esperioides* (HamEsp)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Merliida
Family:	Hamacanthidae
Genus:	<i>Hamacantha (Vomerula)</i>
Species:	<i>esperioides</i>
Common name:	Fibrous sponge

**Distinguishing features**

Flattened, cavernous, bushy form; surface rough with conspicuous easily-detached translucent membrane overlying fibrous projections; texture tough and coarsely fibrous, very compressible.

Colour

Dirty pale yellow to beige.

Size

Length up to 250 mm, width 150 mm.

Distribution

West and South Coasts of South Africa, South America (Río de la Plata); 17–1 110 m depth.

Similar species

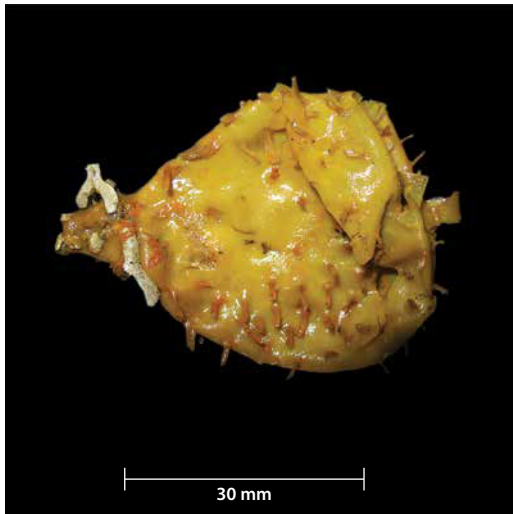
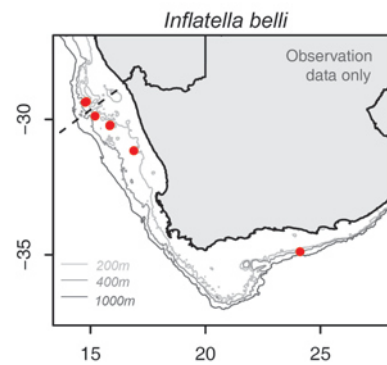
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- Ridley SO and Dendy A. 1886. Preliminary Report on the Monaxonida collected by H.M.S. 'Challenger'. *Annals and Magazine of Natural History* (5) 18: 325-351, 470-493. p. 337.
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Inflatella belli (Goose)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Coelosphaeridae
Genus:	<i>Inflatella</i>
Species:	<i>belli</i>
Common name:	Gooseberry sponge



Distinguishing features

Semi-spherical to ovoid form; surface covered with long trumpet-shaped protrusions; tough and leathery, soft pulpy interior.

Colour

Green to yellow-brown.

Size

Width up to 50 mm.

Distribution

West and South Coasts of South Africa, Namibia, Antarctic and Subantarctic regions; 18–450 m depth. All specimens to be retained for further research.

Similar species

None.

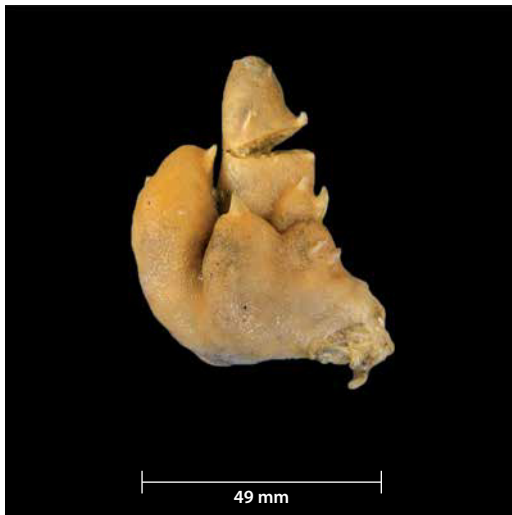
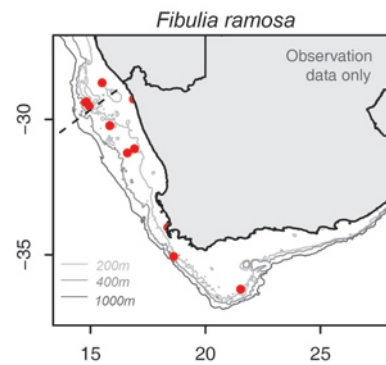
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Kirkpatrick R. 1907. Preliminary Report on the Monaxonellida of the National Antarctic Expedition. *Annals and Magazine of Natural History* (7) 20(117): 271-291. pp. 283-284.

Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografías de Zoología Marina* 3: 9-157. pp. 82-83.

***Fibulia ramosa* (FibRam)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Dendoricellidae
Genus:	<i>Fibulia</i>
Species:	<i>ramosa</i>
Common name:	Columnar sponge

**Distinguishing features**

Upright, with somewhat fused columnar branches which may become curved or twisted; surface sandpaper-like, with small cone-shaped protrusions; firm, tough and leathery.

Colour

Pale orange-brown.

Size

Typical length 60 mm, width up to 40 mm.

Distribution

West and South Coasts of South Africa, Prince Edward Islands; 91–287 m depth.

Similar species

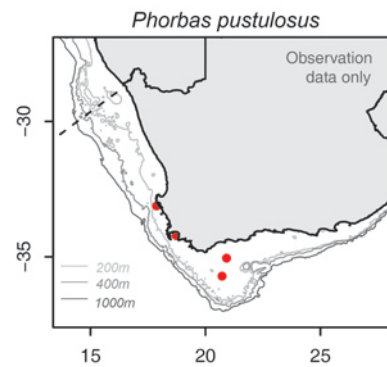
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Phorbaspustulosus (PhoPus)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Hymedesmiidae
Genus:	<i>Phorbaspustulosus</i>
Species:	<i>pustulosus</i>
Common name:	Baseball glove sponge



Distinguishing features

Upright hand-shaped form with irregular branches; surface slightly rough and covered in bumps (pustules); firm and tough.

Colour

Pale dirty peach.

Size

Length up to 130 mm, width 200 mm.

Distribution

West and South Coasts of South Africa, Patagonian Shelf; 43–128 m depth.

Similar species

None.

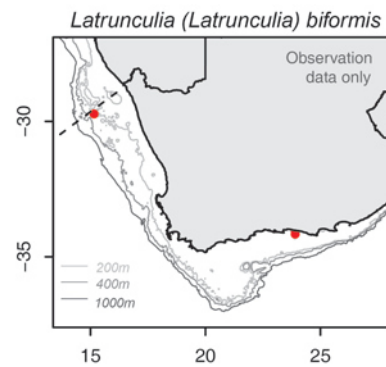
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***Latrunculia (Latrunculia) biformis* (LatBif)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Latrunculiidae
Genus:	<i>Latrunculia (Latrunculia)</i>
Species:	<i>biformis</i>
Common name:	Mud-clump sponge

**Distinguishing features**

Semi-spherical to ovoid form; surface covered in conical, volcano-shaped oscules and flattened disk-like projections; firm and tough.

Colour

Chocolate brown.

Size

Length up to 90 mm, width 80 mm.

Distribution

West and South Coasts of South Africa, South America (Río de la Plata), Antarctic and Subantarctic regions; 18–1 080 m depth.

Similar species

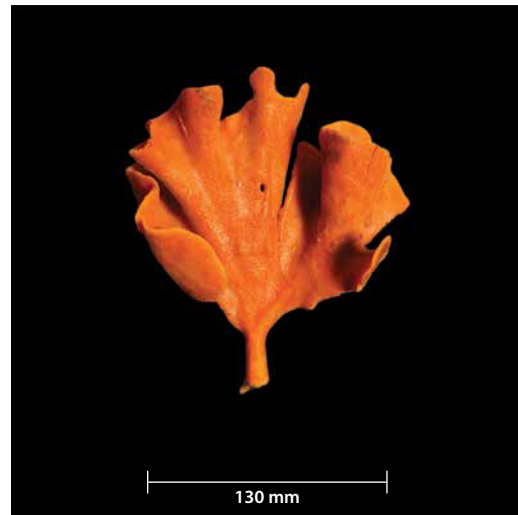
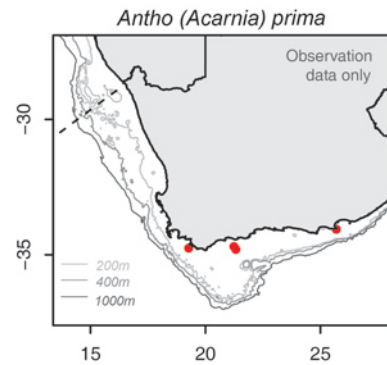
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- Samaai T, Gibbons MJ and Kelly M. 2006. Revision of the genus *Latrunculia* du Bocage, 1869 (Porifera: Demospongiae: Latrunculiidae) with descriptions of new species from New Caledonia and the Northeastern Pacific. *Zootaxa* 1127: 1-71. pp. 19-27.

***Antho (Acarnia) prima* (AntPri)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Microcionidae
Genus:	<i>Antho (Acarnia)</i>
Species:	<i>prima</i>
Common name:	Orange fan sponge



Distinguishing features

Upright, stalked with a convoluted fan form; surface fuzzy; breaks easily; slimy mucus may be present.

Colour

Pale peach to dirty orange.

Size

Length up to 160 mm, width (top) 130 mm.

Distribution

South Coast of South Africa, New Zealand; 57–164 m depth.

Similar species

None.

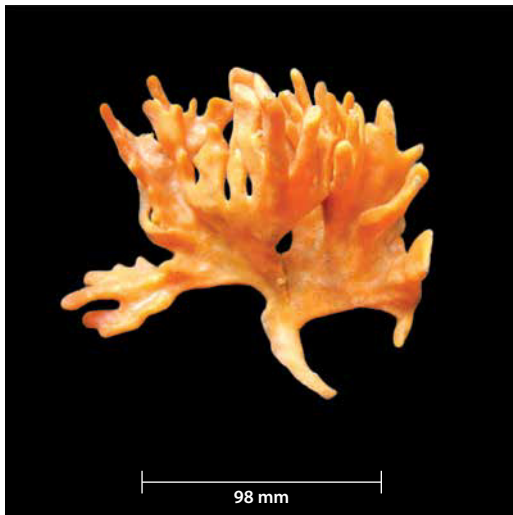
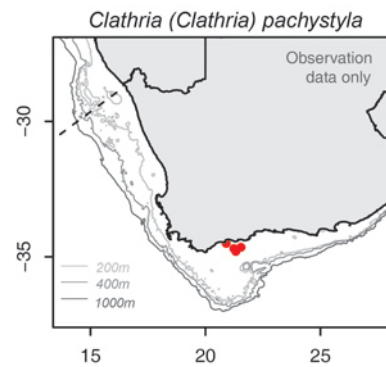
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Lévi C. 1963. Spongiaires d'Afrique du Sud. (1) Poecilosclérides. *Transactions of the Royal Society of South Africa* 37(1): 1-72, pls I-X. pp. 63-64.

***Clathria (Clathria) pachystyla* (ClAPac)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Microcionidae
Genus:	<i>Clathria (Clathria)</i>
Species:	<i>pachystyla</i>
Common name:	Orange finger sponge

**Distinguishing features**

Upright, stalked, somewhat fan-shaped form with fused branches arising from flat blades; semi-compressible and tears with some force.

Colour

Bright orange.

Size

Length up to 170 mm.

Distribution

South African endemic. South Coast of South Africa; recorded from ± 62 m depth.

Similar species

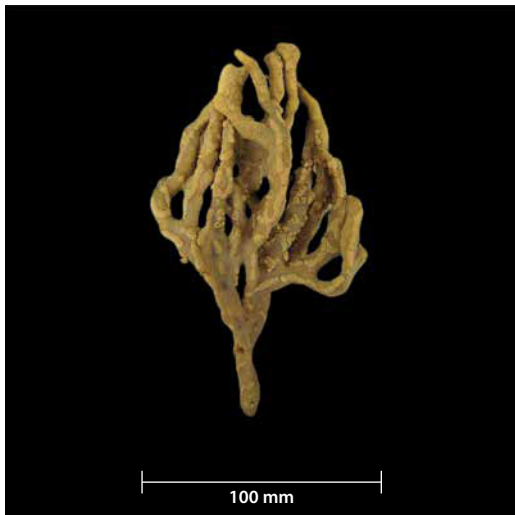
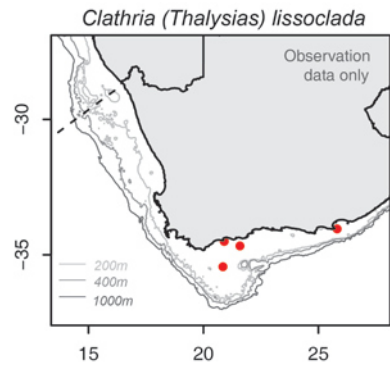
Clathria (Thalysias) lissoclada.

References

Lévi C. 1963. Spongiaires d'Afrique du Sud. (1) Poecilosclérides. *Transactions of the Royal Society of South Africa* 37(1): 1-72, pls I-X. p. 56.

Clathria (Thalysias) lissoclada (ClALis)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Microcionidae
Genus:	<i>Clathria (Thalysias)</i>
Species:	<i>lissoclada</i>
Common name:	Triangular blade sponge



Distinguishing features

Upright, stalked form with fused, somewhat flat branches arising from semi-triangular blades; surface smooth, with numerous random oscules and possibly polyp-like invertebrate epifauna; semi-compressible and tough.

Colour

Orange to pink.

Size

Length up to 180 mm, width 80 mm.

Distribution

South Coast of South Africa, Falklands; 16–77 m depth.

Similar species

Clathria (Clathria) pachystyla.

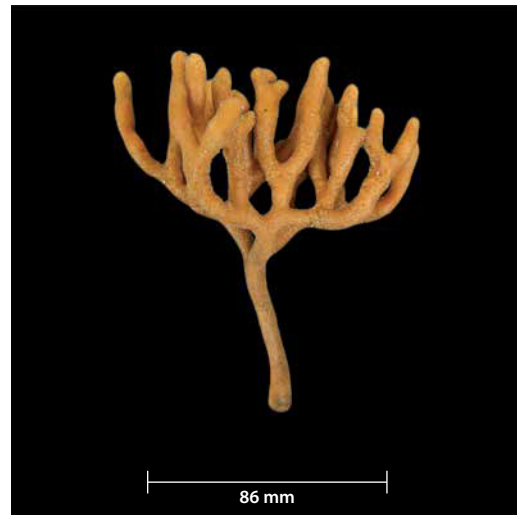
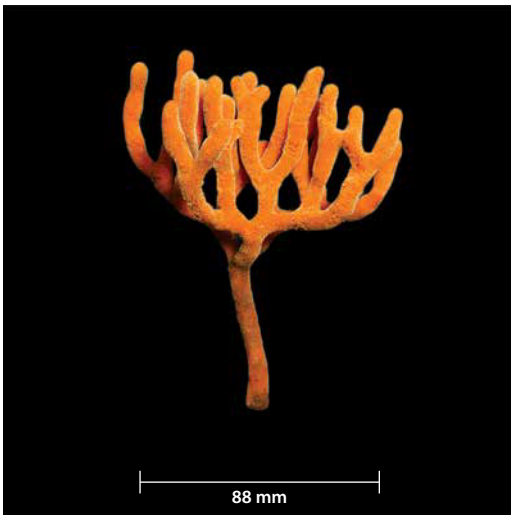
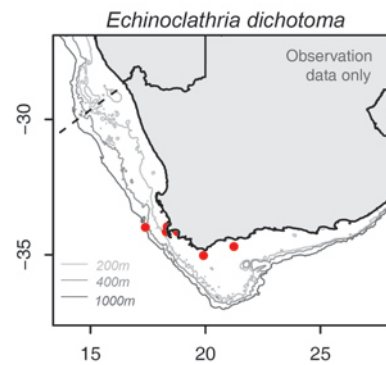
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***Echinoclathria dichotoma* (EchDic)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Microcionidae
Genus:	<i>Echinoclathria</i>
Species:	<i>dichotoma</i>
Common name:	Orange tree sponge

**Distinguishing features**

Upright, stalked form with thick (often dichotomous) cylindrical, round-ended branches; surface fuzzy with small circular ostia (<1 mm); firm and tough, slimy mucus may be present.

Colour

Pale dirty orange.

Size

Length up to 150 mm, width (top) 100 mm.

Distribution

South African endemic. West and South Coasts of South Africa; 15–69 m depth.

Similar species

None.

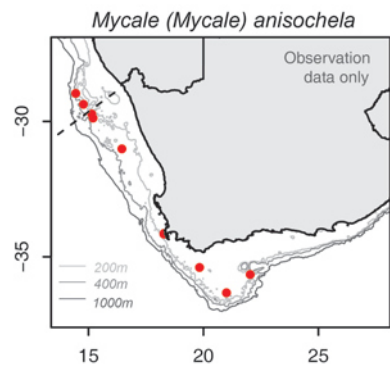
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Lévi C. 1963. Spongiaires d'Afrique du Sud. (1) Poeciloscélérides. *Transactions of the Royal Society of South Africa* 37(1): 1-72, pls I-X. p. 59.

Samaai T and Gibbons MJ. 2005. Demospongiae taxonomy and biodiversity of the Benguela region on the west coast of South Africa. *African Natural History* 1: 1-96. pp. 48-51.

Mycale (Mycale) anisochela (MycAni)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Mycalidae
Genus:	<i>Mycale (Mycale)</i>
Species:	<i>anisochela</i>
Common name:	Brain sponge



Distinguishing features

Semi-spherical to ovoid form, with large internal spaces; surface rough; very compressible and fibrous.

Colour

Pale yellow to off-white.

Size

Length up to 200 mm, width 120 mm.

Distribution

West and South Coasts of South Africa, Namibia; 75–351 m depth.

Similar species

None.

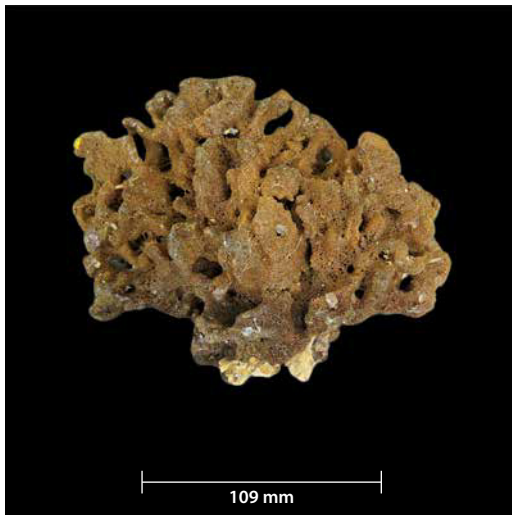
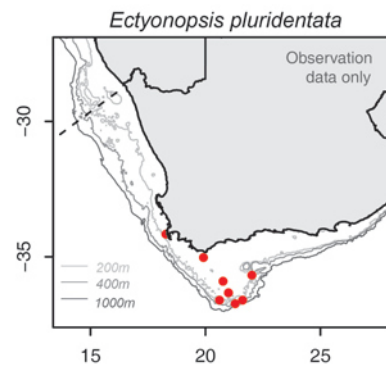
References

Lévi C. 1963. Spongiaires d'Afrique du Sud. (1) Poecilosclérides. *Transactions of the Royal Society of South Africa* 37(1): 1-72, pls I-X. pp. 8-9.

Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografías de Zoología Marina*. 3: 9-157. pp. 57-58.

***Ectyonopsis pluridentata* (EctPlu)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Poecilosclerida
Family:	Myxillidae
Genus:	<i>Ectyonopsis</i>
Species:	<i>pluridentata</i>
Common name:	Fused branch sponge

**Distinguishing features**

Upright, with a thick cluster of fused branches arising from an indistinct base; surface rough with uniform circular ostia (<1 mm) throughout; firm but compressible, breaks easily.

Colour

Beige to dark rusty brown (after freezing).

Size

Length up to 130 mm, width 160 mm.

Distribution

South African endemic. West and South Coasts of South Africa; 79–201 m depth.

Similar species

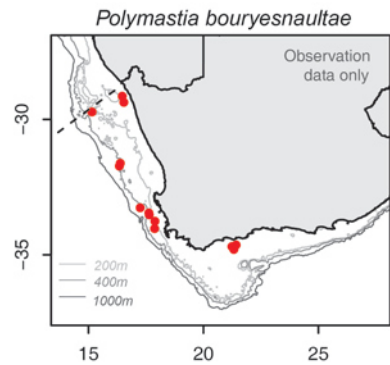
Ectyonopsis flabellata, which superficially appears less folded and more in a single plane, however spicule examination is needed to distinguish accurately.

References

Lévi C. 1963. Spongiaires d'Afrique du Sud. (1) Poecilosclérides. *Transactions of the Royal Society of South Africa* 37(1): 1-72, pls I-X. p. 38.

***Polymastia bouryesnaultae* (Polyma)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Polymastiida
Family:	Polymastiidae
Genus:	<i>Polymastia</i>
Species:	<i>bouryesnaultae</i>
Common name:	Knobbly sponge



Distinguishing features

Thickly encrusting to semi-spherical form; surface fuzzy and covered with numerous smooth, tapering, teat-shaped projections (papillae); firm and tough.

Colour

Brown base with pale yellow to light brown papillae.

Size

Length up to 50 mm, width 40 mm.

Distribution

West and South Coasts of South Africa, Namibia; 18–70 m depth.

Similar species

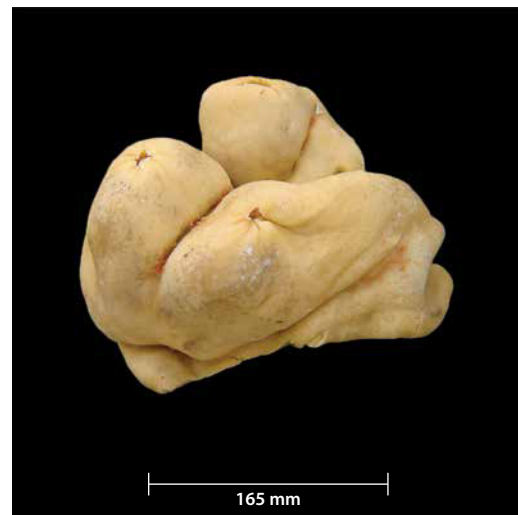
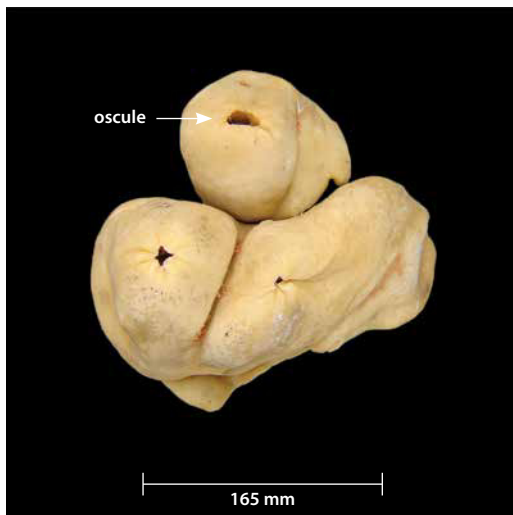
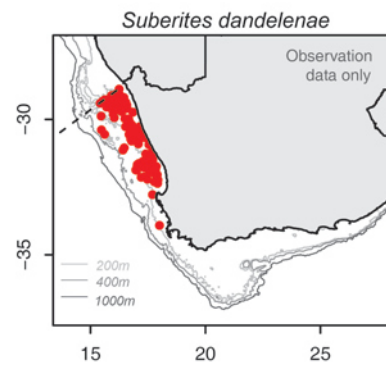
None.

References

Samaai T and Gibbons MJ. 2005. Demospongiae taxonomy and biodiversity of the Benguela region on the west coast of South Africa. *African Natural History* 1: 1-96. pp. 21-22.

Potential VME***Suberites dandelenae* (Suber)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Suberitida
Family:	Suberitidae
Genus:	<i>Suberites</i>
Species:	<i>dandelenae</i>
Common name:	Amorphous solid sponge

**Distinguishing features**

Massive, with rounded lobes; surface smooth with a distinct oscule (10–20 mm) on the apical end of each lobe; soft and breaks easily.

Colour

Pale yellow.

Size

Length up to 400 mm.

Distribution

West Coast of South Africa (dense colonies), Namibia; 80–500 m depth.

Similar species

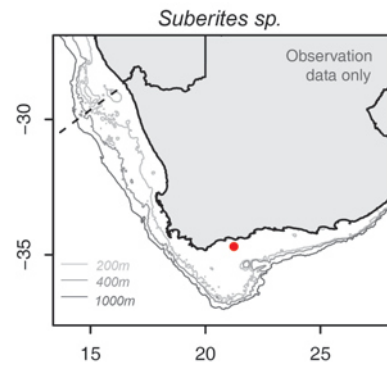
Several other *Suberites* species occur. Spicule examination required for further identification.

References

Samaai T, Maduray S, Janson L, Gibbons MJ, Ngwakum B and Teske PR. 2017. A new species of habitat-forming *Suberites* (Porifera, Demospongiae, Suberitida) in the Benguela upwelling region (South Africa). *Zootaxa* 4254(1), pp. 49-81.

Suberites sp. (SubHer)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Suberitida
Family:	Suberitidae
Genus:	<i>Suberites</i>
Species:	sp.
Common name:	Hermit encrusting sponge



Distinguishing features

Semi-spherical to somewhat amorphous and thickly encrusting on the hermit crab *Pagurus liochele*; velvety smooth with a few messy-edged oscules (2–11 mm) distributed randomly on upper surface, smooth-edged crab aperture (15 mm) on lower surface; firm and tough.

Colour

Beige, with dark grey to black splotches (mottled).

Size

Typical length 70–90 mm, width 50 mm.

Distribution

South Coast of South Africa; recorded from ± 35 m depth.

Similar species

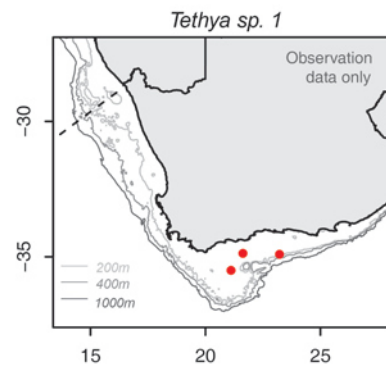
Sponge appears similar to other *Suberites* species, however this species is specific to encrusting the hermit crab *Pagurus liochele*. Formal taxonomic description under way.

References

Van Soest RWM. 2002. Family Suberitidae. In: Hooper JNA and Van Soest RWM. eds. *Systema Porifera: A Guide to the Classification of Sponges*. Kluwer Academic/Plenum Publishers, New York, NY (USA). ISBN 0-306-47260-0. xix, pp.1-1101, 1103-1706 (2 volumes).

***Tethya* sp. 1 (Teth1)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Tethyida
Family:	Tethyidae
Genus:	<i>Tethya</i>
Species:	sp. 1
Common name:	Hedgehog sponge

**Distinguishing features**

Semi-spherical form; surface rough and prickly with elongate projections (tubercles); firm and tough.

Colour

Dirty brown.

Size

Typical length 50 mm, width 30 mm.

Distribution

South Coast of South Africa; generally shallower than 200 m.

Similar species

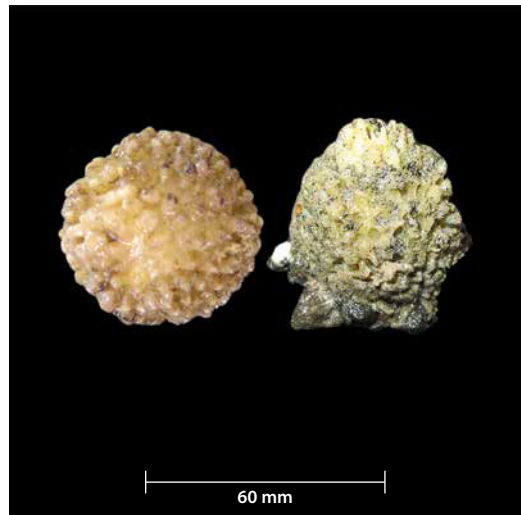
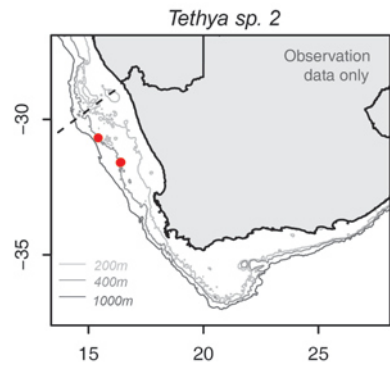
Tethya aurantium and *Tethya* sp. 2, but *Tethya* sp. 1 has elongated projections/tubercles giving it a 'hedgehog'-like appearance.

References

Sarà M. 2002. Family Tethyidae Gray, 1848. pp. 245-267. In: Hooper JNA and Van Soest RWM. eds. *Systema Porifera: A Guide to the Classification of Sponges*. Kluwer Academic/Plenum Publishers: New York, NY (USA). ISBN 0-306-47260-0. xix, pp.1-1101, 1103-1706 (2 volumes).

***Tethya* sp. 2 (Teth2)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Tethyida
Family:	Tethyidae
Genus:	<i>Tethya</i>
Species:	sp. 2
Common name:	Prickly pear sponge



Distinguishing features

Semi-spherical form; surface rough with semi-elongate projections (tubercles); firm and tough.

Colour

Yellow to beige.

Size

± 50-60 mm diameter.

Distribution

West Coast of South Africa; recorded from ± 357 m depth.

Similar species

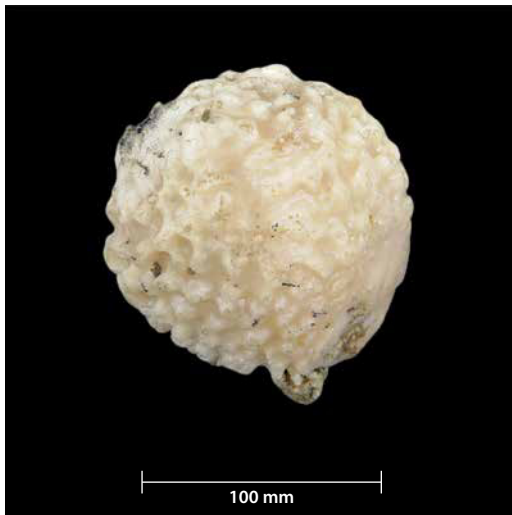
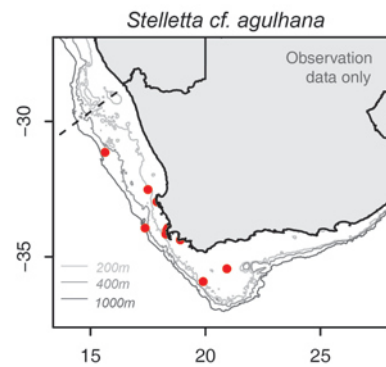
Tethya aurantium, *Tethya* sp. 1, but *Tethya* sp. 2 has semi-elongated projections/tubercles that are longer than *Tethya aurantium* and shorter than *Tethya* sp. 1.

References

Sarà M. 2002. Family Tethyidae Gray, 1848. pp. 245-267. In: Hooper JNA and Van Soest RWM. eds. *Systema Porifera: A Guide to the Classification of Sponges*. Kluwer Academic/Plenum Publishers: New York, NY (USA). ISBN 0-306-47260-0. xix, pp.1-1101, 1103-1706 (2 volumes).

***Stelletta cf. agulhana* (SteAng)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Tetractinellida
Family:	Ancorinidae
Genus:	<i>Stelletta</i>
Species:	<i>cf. agulhana</i>
Common name:	Globular sponge

**Distinguishing features**

Massive semi-spherical form; surface covered in large bumps which may fuse to form ridges, prickly to the touch; firm and tough.

Colour

Off-white.

Size

Length up to 130 mm, width 90 mm.

Distribution

South African endemic. West, South and East Coasts of South Africa; 2–164 m depth.

Similar species

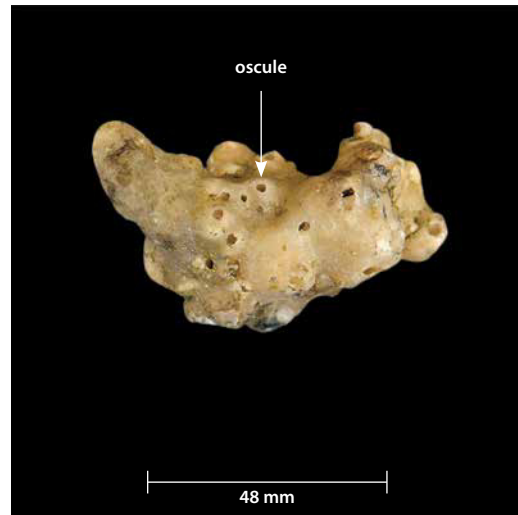
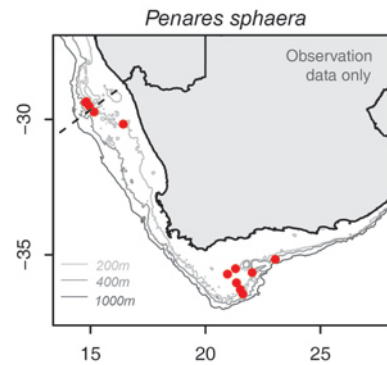
Tethya spp., however *Stelletta cf. agulhana* is more globular, larger in size and has large bumps.

References

- Burton M. 1926. Description of South African sponges collected in the South African Marine Survey. Part I. Myxospongia and Astrotetraxonida. *Fisheries Bulletin*. Fisheries and Marine Biological Survey Division, Union of South Africa Rept. 4 (Special Report 9): 1-29, 6 pls. pp. 4-6.
- Lendenfeld R Von. 1907. Die Tetraxonia. *Wissenschaftliche Ergebnisse der Deutschen Tiefsee-Expedition auf der Dampfer Valdivia 1898-1899*. 11 (1-2): i-iv, 59-374, pls IX-XLVI. pp. 213-218.
- Lévi C. 1967. Spongiaires d'Afrique du Sud. (3) Tetractinellides. *Transactions of the Royal Society of South Africa* 37: 227-256, pls XVII-XIX. pp. 232-234.
- Samaai T and Gibbons, MJ. 2005. Demospongiae taxonomy and biodiversity of the Benguela region on the west coast of South Africa. *African Natural History* 1: 1-96. pp. 12-14.

Penares sphaera (PenSph)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Tetractinellida
Family:	Geodiidae
Genus:	<i>Penares</i>
Species:	<i>sphaera</i>
Common name:	Crater sponge



Distinguishing features

Thickly encrusting, with mollusc endofauna and invertebrate epifauna; surface looks smooth, but rough to the touch, semi-circular white-edged oscules (up to 3 mm) abundant; texture firm and crunchy, but tears easily.

Colour

Pale peach to light grey.

Size

Length up to 110 mm, width 90 mm.

Distribution

West, South and East Coasts of South Africa; 107–500 m depth.

Similar species

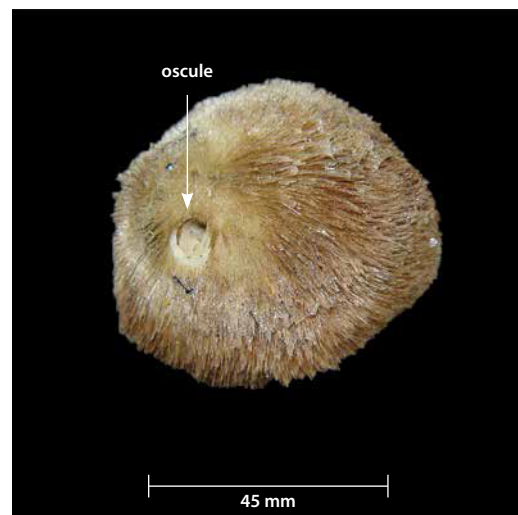
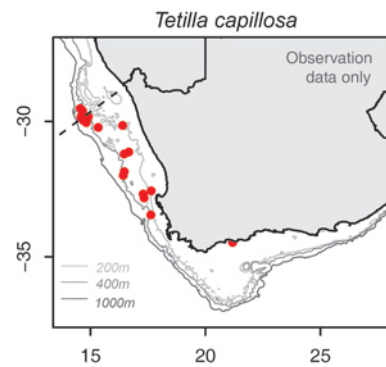
None.

References

- Lendenfeld R Von. 1907. Die Tetraxonia. *Wissenschaftliche Ergebnisse der Deutschen Tiefsee-Expedition auf der Dampfer Valdivia 1898-1899*. 11 (1-2): i-iv, 59-374, pls IX-XLVI. pp. 227-229.
- Lévi C. 1967. Spongiaires d'Afrique du Sud. (3) Tetractinellides. *Transactions of the Royal Society of South Africa* 37: 227-256, pls XVII-XIX. p. 246.
- Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografias de Zoología Marina* 3: 9-157. pp. 31-32.

***Tetilla capillosa* (TetCap)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Tetractinellida
Family:	Tetillidae
Genus:	<i>Tetilla</i>
Species:	<i>capillosa</i>
Common name:	Furry sponge

**Distinguishing features**

Hemispherical to ovoid form, flattened at the base; surface fuzzy, covered completely by outward-projecting spicules (up to 4 mm), single circular oscule present (4–6 mm); firm and tough.

Colour

Brown to grey-green.

Size

Typical width 60 mm.

Distribution

South African endemic. West and South Coasts of South Africa; 227–476 m depth.

Similar species

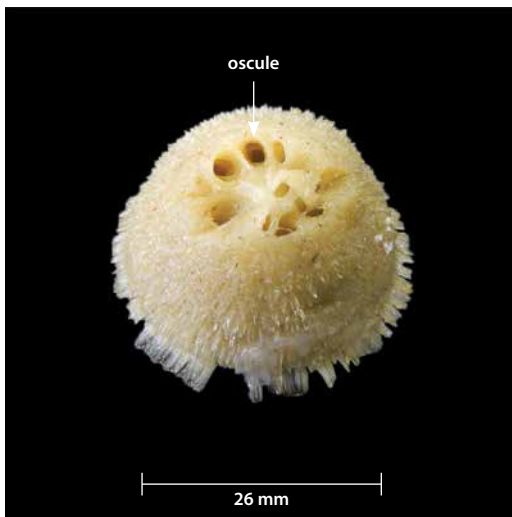
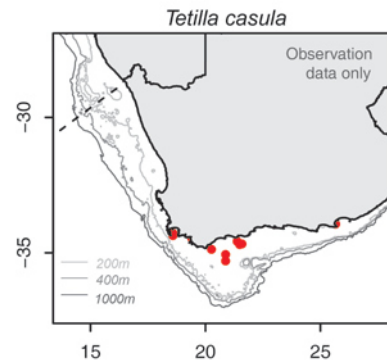
Tetilla casula, which has a flat base and is dome-shaped. Projecting spicules of *T. capillosa* are soft and fuzzy, hence commonly called "furry". *T. capillosa* has a single oscule slightly offset from centre, while *T. casula* has a cluster of oscules at the apex centre.

References

- Lévi C. 1967. Spongiaires d'Afrique du Sud. (3) Tetractinellides. *Transactions of the Royal Society of South Africa* 37: 227-256, pls XVII-XIX. pp. 250-251.
- Uriz MJ. 1987. Sponges from the South-West of Africa: description of species. pp. 54-73. In: Jones WC. Ed. *European Contributions to the Taxonomy of Sponges*. Sherkin Island Marine Station: Sherkin Island, County Cork: 1-140. p. 55.
- Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografias de Zoología Marina* 3: 9-157. p. 36.

Tetilla casula (TetCas)

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Tetractinellida
Family:	Tetillidae
Genus:	<i>Tetilla</i>
Species:	<i>casula</i>
Common name:	Volcano sponge



Distinguishing features

Hemispherical to dome-like form, flat spicule-fringed circular base; surface furry, covered by outward-projecting spicules, somewhat raised semi-spherical oscules (1–2 mm) clustered on apex; dense and tough.

Colour

Pale yellow to light green-grey.

Size

Base up to 50 mm, height 30 mm.

Distribution

South Coast of South Africa; 4–77 m depth.

Similar species

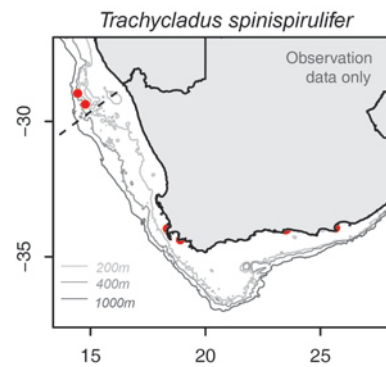
Tetilla capillosa, however *T. casula* has a more distinctly flattened base and dome-shape with softer spicules. *T. capillosa* has a single oscule slightly offset from centre, while *T. casula* has a cluster of oscules at the apex centre.

References

- Carter HJ. 1871. Description and Illustrations of a new Species of *Tethya*, with Observations on the Nomenclature of the Tethyadae. *Annals and Magazine of Natural History* (4) 8(44): 99-105, pl. IV. pp. 99-103.
- Kirkpatrick R. 1902. Descriptions of South African Sponges. Part I. *Marine Investigations in South Africa* 1: 219-232, pls I-III. pp. 226-227.
- Lévi C. 1967. Spongiaires d'Afrique du Sud. (3) Tetractinellides. *Transactions of the Royal Society of South Africa* 37: 227-256, pls XVII-XIX. pp. 248-249.

***Trachycladus spinispirulifer* (TruSpi)**

Phylum:	Porifera
Class:	Demospongiae
Subclass:	Heteroscleromorpha
Order:	Trachycladida
Family:	Trachycladidae
Genus:	<i>Trachycladus</i>
Species:	<i>spinispirulifer</i>
Common name:	Encrusting solid sponge

**Distinguishing features**

Thickly encrusting amorphous to semi-spherical form; surface somewhat ridged, largely smooth with unevenly distributed rough patches; firm and corky.

Colour

Red to orange. Pale yellow when preserved.

Size

Typical length 70 mm, width up to 60 mm.

Distribution

West and South Coasts of South Africa, Namibia, Vema Seamount, Halmahera, Australia, New Zealand; 8–351 m depth.

Similar species

Suberites spp., however *T. spinispirulifer* tends to be encrusting and has rough patches on surface.

References

Carter HJ. 1879. Contributions to our Knowledge of the Spongida. *Annals and Magazine of Natural History* (5) 3: 284-304, 343-360, pls XXV-XXVII. pp. 345-346.

Samaai T and Gibbons MJ. 2005. Demospongiae taxonomy and biodiversity of the Benguela region on the west coast of South Africa. *African Natural History* 1: 1-96. pp. 23-24.

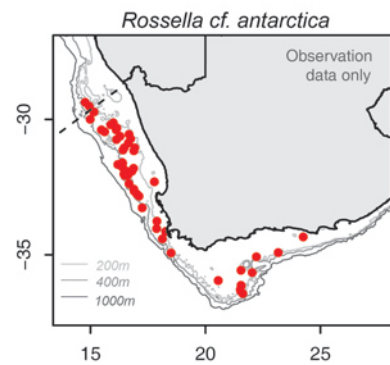
Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografias de Zoología Marina* 3: 9-157. p. 47.

Phylum: Porifera

Potential VME

Rossella cf. antarctica (RosAnt)

Phylum:	Porifera
Class:	Hexactinellida
Subclass:	Hexasterophora
Order:	Lyssacosida
Family:	Rossellidae
Genus:	<i>Rossella</i>
Species:	<i>cf. antarctica</i>
Common name:	Glass sponge



Distinguishing features

Upright, semi-spherical to ovoid form, somewhat tubular with single deep oscule on apex; surface prickly with long hair-like spicules protruding > 30 mm; semi-compressible.

Colour

Off-white to grey.

Size

Length up to 300 mm, width 150 mm.

Distribution

West and South Coasts of South Africa, South America, New Zealand, Antarctic and Subantarctic region; 8–2 000 m depth.

Similar species

None.

References

Carter HJ. 1872. On two new sponges from the Antarctic Sea, and on a new species of *Tethya* from Shetland; together with observations on the reproduction of sponges commencing from zygosis of the sponge animal. *Annals and Magazine of Natural History* (4) 9(54): 409-435, pls XX-XXII. pp. 414-417.

Uriz MJ. 1988. Deep-water sponges from the continental shelf and slope off Namibia (Southwest Africa): Classes Hexactinellida and Demospongia. *Monografías de Zoología Marina* 3: 9-157. pp. 26-28.