

# MESOPHOTIC ZONE



This is the zone of the ocean that is between 30m and 150m deep. "Meh-so-fo-tic" means "middle light"

It is deeper than where most scuba divers go but not totally dark. The light is dim like a permanent sunset!

## WHY IS IT IMPORTANT?

Acts like a refuge: when shallow reefs get too hot or damaged, some animals move deeper to the mesophotic zone. It helps keep fisheries healthy by providing homes for fish to grow and breed. It also stores carbon, which helps balance Earth's climate.

## WHAT LIVES HERE?

Special corals that can survive in low light.

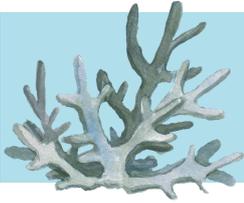
Fish such as groupers, snappers, and deep reef species that hide from predators.

Tiny drifting animals called plankton.

Colourful sponges and Sea Fans



# BLACK CORALS



*Deep-Sea Superstars of Ascension Island. Found around 100m deep where no sunlight reaches!*

Family: Antipatharia

*Black Corals can live for hundreds of years and grow slowly*

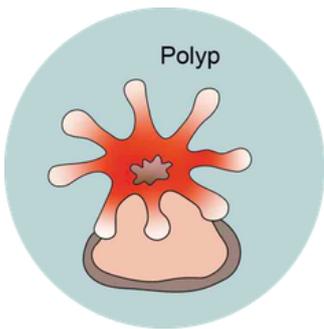
## WHAT ARE THEY?

*Black bottlebrush corals are a type of black coral. They look like tiny underwater bottlebrushes covered in soft little polyps (like mini sea flowers). Even though they're called "black," they look more yellow or golden when alive.*

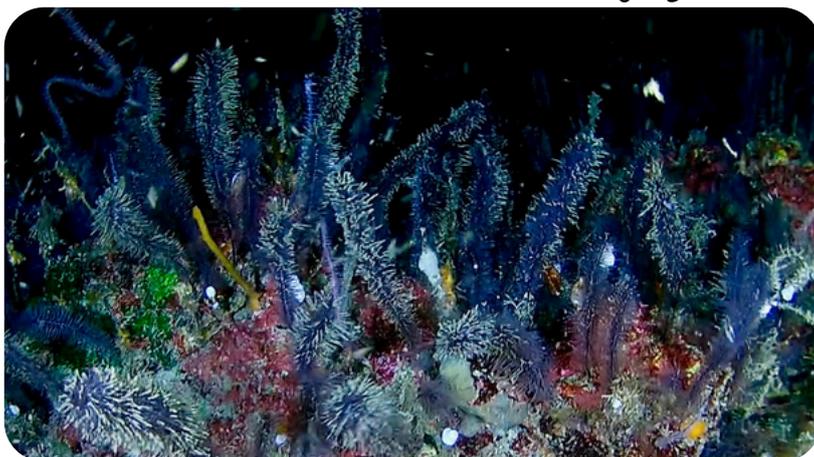
*The "black" part is their skeleton inside!*



## HOW DO THEY EAT?



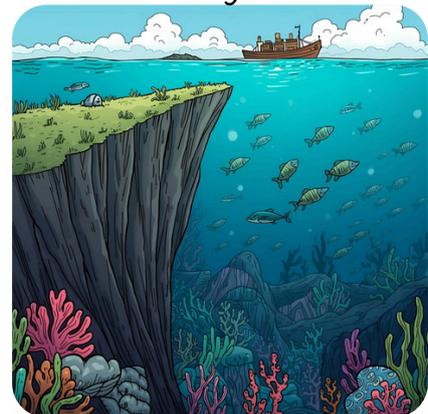
*They use their tiny tentacles called polyps to catch plankton (tiny drifting animals and plants) from the water. Think of them as ocean nets catching snacks floating by!*



## HABITAT

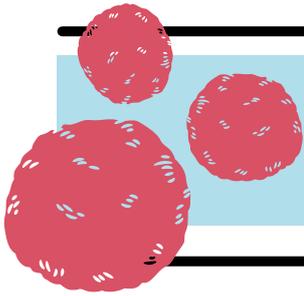
*Found in the deep ocean, way below where sunlight reaches 100m deep*

*They grow on rocks and cliffs in the sea where strong currents bring them food.*



# RHODOLITHS

Go Deeper

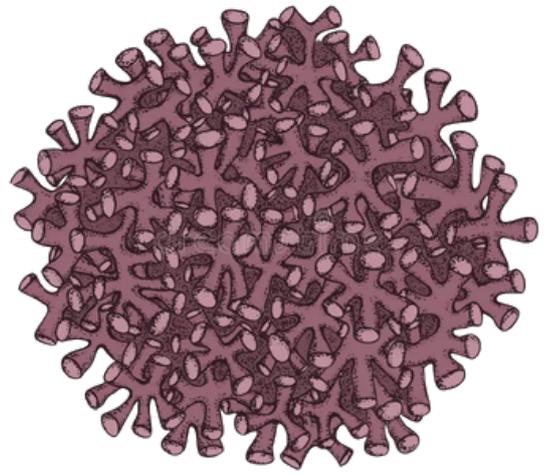


Rhodoliths are living red algae that grow hard, rock-like skeletons made of calcium carbonate.

Some rhodolith beds are thousands of years old, they only grow by 1mm a year!

## WHAT ARE THEY?

Rhodoliths form round, knobby balls that roll around on the seafloor—like underwater tumbleweeds! Each rhodolith is made up of many tiny branches of red algae growing together. Prefer clear water where sunlight can reach for photosynthesis.



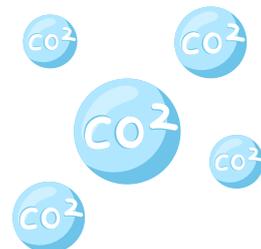
## WHY ARE THEY IMPORTANT?

*Habitat Builders:* Rhodoliths create mini underwater gardens for fish, snails, crabs, worms, and baby sea creatures to hide and grow. Sometimes you can find rhodoliths washed up on the beaches around ascension.



## BLUE CARBON

*Carbon Storage:* Their hard skeletons help store carbon, which is good for the planet. By locking carbon inside their hard skeletons and the sand around them, rhodoliths help fight climate change just like forests on land.



# MAERL BEDS



Maerl (say it like "marl") is made of living pink or red coralline algae—just like rhodoliths!

Instead of forming a ball maerl grows as a carpet of pink branches on the seafloor.

## WHERE DO THEY GROW?

Found in clear coastal waters around the world, often in bays and sheltered areas. They need sunlight for photosynthesis, so they usually grow at depths of 1–20 m, but can be deeper in clear water like around Ascension



## WHY ARE THEY IMPORTANT?

*Underwater Gardens:* Maerl beds create homes for fish, crabs, snails, sea stars, and baby scallops.

*Blue Carbon Heroes:* Their hard skeletons store carbon—helping the planet by locking away carbon dioxide.



## OLDER THAN THE PYRAMIDS!

Maerl beds can be thousands of years old—some started growing before the pyramids were built! We can tell this as they only grow by 1mm a year.



# SEA PENS

Go Deeper



Sea Pens are like underwater feathers. They are soft corals that live on the seafloor.

Some Sea Pens can glow in the dark - they're bioluminescent! This can help them scare off predators or warn other animals.

## HOW DO THEY GROW?

A sea pen is actually made of many tiny animals called polyps.

All the polyps work together as one colony. One strong polyp anchors the sea pen into the seabed, like a root.



## HOW DO THEY EAT?

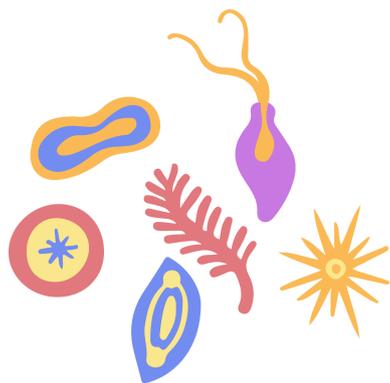
Sea pens are filter feeders.

They eat:

Tiny plankton

Small floating food particles

They catch food using their small tentacles as water flows past.



## FUN FACTS

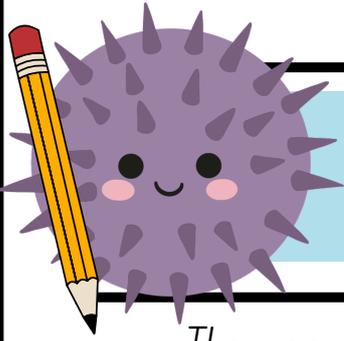
Sea Pens can grow up to 1m tall and can live for over 15 years!

We have multiple types of Sea Pens on Ascension Island - some of them are only found at depths around 150m



# PENCIL URCHINS

Go Deeper



Pencil urchins are sea urchins with thick, blunt spines that look like pencils or crayons.

They are not sharp like other sea urchins, but they are still very tough!

## ARE THEY ANIMALS?

Yep! Pencil Urchins are animals closely related to Starfish, Sea Cucumbers and Brittle Stars.

They are all part of a family called Echinoderms.



## WHAT DO THEY EAT?

- Algae
- Seaweed
- Sometimes tiny bits of dead plants or animals

## HOW DO THEY MOVE?

They move using tube feet (small sticky feet). Sometimes they move their spines, which help them push along the seafloor.



## FUN FACTS

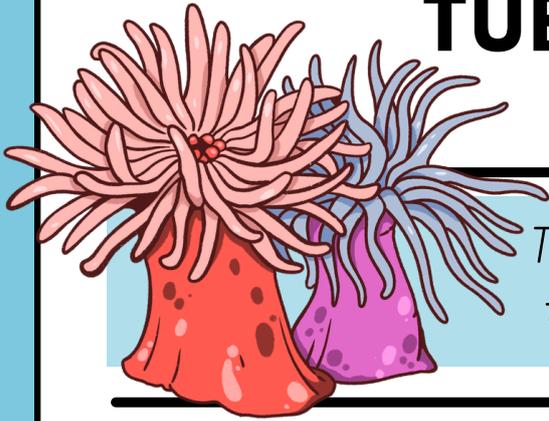
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# TUBE DWELLING ANEMONES

Go Deeper



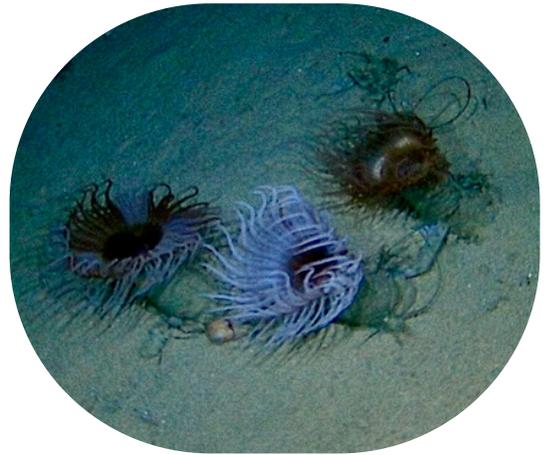
Tube-dwelling anemones are soft-bodied sea animals that live inside long tubes they build in the seabed.

Only their tentacles and top part stick out of the sand or mud.

## ARE THEY ANIMALS?

Yep! These creatures are closely related to anemones, corals and jellyfish.

They are all a part of the group cnidarians.



## WHY DO THEY LIVE IN TUBES?

The tubes help to provide a home and protection. Just like we live in houses the tube dwelling anemone likes to feel safe. They make the tube from sand and mucus, the tube can be longer than the animal itself!

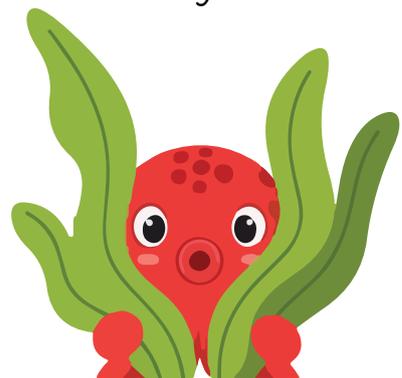
## WHAT DO THEY EAT?

They are filter feeders and hunters.. They eat, small plankton and tiny swimming animals. They catch food using long, thin tentacles with stinging cells.



## PEEKABOO!

These Anemones can quickly retract into their tubes to hide from predators. Sometimes when we pass over them with the camera the current generated scares them into hiding.



# SEA STARS



Sea Stars are found in all areas of the ocean from rock pools to the deep sea! They usually have 5 arms but some have up to 20!

If a sea star loses an arm, it can grow it back. Some can regrow an entire body from just one arm!

## WHAT ARE THEY?

Sea stars are not fish—they're echinoderms, which means "spiny-skinned animals." They come in many colours: red, purple, orange, blue, or brown. They have hundreds of tiny suction-cup feet help them move and hold on to rocks



## HOW DO THEY EAT?

Sea stars are super eaters:

They use tiny tube feet to pull open clams or mussels.

Then they push their stomach out of their mouth to digest food outside their body!

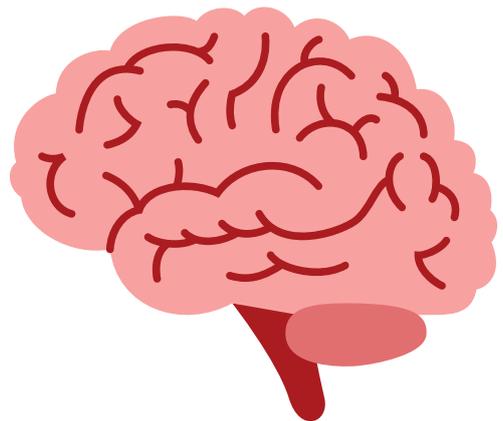
After finishing, they pull their stomach back inside.



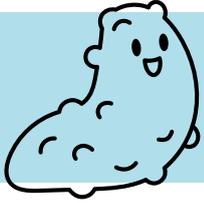
## FUN FACTS

Sea Stars have no brain and also no blood, they pump seawater through their body instead!

Sea stars can taste and see with their arms



# SEA CUCUMBERS



Sea cucumbers are not vegetables—they're animals related to sea stars and sea urchins (all echinoderms).

*Shape-Shifters: Can make their bodies stiff or soft to squeeze into tight spaces.*

## WHAT ARE THEY?

*Their bodies are soft and squishy like a water-filled balloon and they can come in a variety of colours like brown, black, red, orange, or even see-through!*

*They live on the sea floor and are like mini vacuum cleaners keeping the ocean tidy.*



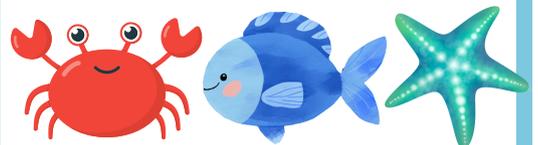
## WHAT EATS THEM?

*Sea cucumbers are food for a variety of animals like fish, crabs, and even some sea stars—an important part of the food chain.*

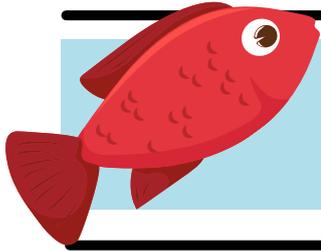
*If threatened, some spit out sticky threads or their insides to scare predators—then grow them back!*

## HOW DO THEY EAT?

*They use feathery tentacles around their mouths to pick up sand and tiny bits of food like algae and detritus. Once they've removed the food they leave behind clean sand, this keeps the sea floor clean and recycles nutrients into the food chain!*



# DEEPWATER BULLSEYE



*Deepwater Bullseye hide in the deep sea but are a bright red colour and have giant eyes for seeing in low light!*

Family: Priacanthidae (bigeyes)    Grow up to 35cm long! Can live as deep as 400m!

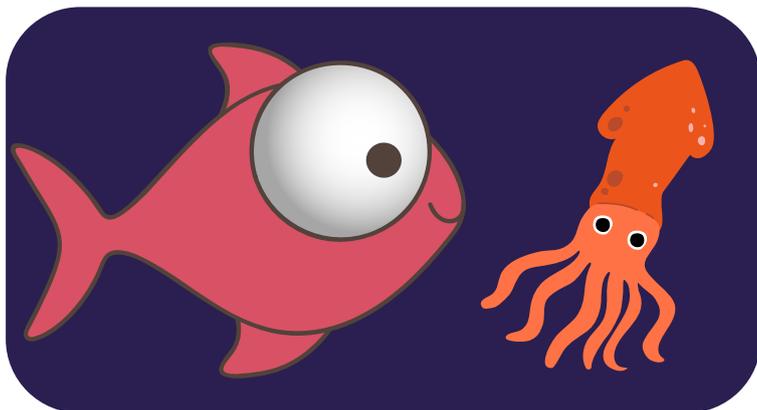
## WHAT ARE THEY?

*These fish are found in tropical and subtropical oceans around the world. They live near rocky reefs, steep slopes, and deep ledges. Around Ascension Island, they swim along the island's underwater volcanic slopes and nearby seamounts. Can be found up to 400m deep!*



## HOW DO THEY EAT?

*Deepwater Bullseye are nighttime hunters, they come up to shallow waters in the dark and feast on small fish, shrimp and squid. Their big eyes help them see at night and chase prey.*



## WHY HIDE?

*These fish hide in deeper waters during the day and come up to shallower waters at night, this is to avoid being seen by larger predators that might also be looking for a tasty snack!*

