

Things that live in the sand

Pipi, *Donax deltooides*

Pipis are bivalves with two wedge-shaped, hinged shells. They are pink and white on the outside and purple on the inside. They have a strong muscular foot to dig in the sand and bury themselves. Pipis live on exposed sandy beaches that are in the lower area of the tidal zone. They bury themselves a few centimetres below the surface. They have two siphons that they use for feeding on plankton and microscopic food particles. One siphon, the inhalant siphon, inhales water and food (which is strained out by the gills), the other siphon, the exhalant siphon, exhales the waste water. They are prey for birds (eg Oystercatchers), crabs, gastropods, humans, octopuses and stingrays.

Pipis

http://wildlife.faanet.gov.au/factfile.cfm?Fact_ID=51

Oystercatchers

<http://pw1.netcom.com/~djhoff/sb-sooy.html>

Sand Crab, *Ovalipes australiensis*

Sand crabs have a broadened shell or cephalothorax that is light grey with two red oval patches toward the rear of the shell. The fifth legs are flattened to form swimming paddles and to help burrow into sand and mud. These crabs are widespread and are active surf dwellers, living to a depth of 34 m. They often steal the bait from fishhooks and nip bathers' feet. Besides eating bait from fishing lines, these crabs will eat anything they can catch, such as small fish and worms, and will scavenge for dead animals as well. Their predators are fish, birds, octopuses, turtles, humans, stingrays and water rats.

<http://www.museum.vic.gov.au/crust/mov1657t.html>

Giant Beach Worm, *Australonuphis teres*

These large worms live on exposed sandy beaches, lying completely hidden in the sand where the surf breaks at low tide. They either make permanent, lined tubes or temporary burrows in the sand. They have a strong horny jaw which is usually inside the pharynx. The worm can bite with these jaws when it turns its pharynx inside out.

Giant Beach Worms are [omnivorous scavengers](#) and are attracted to decaying meat, fish and a variety of seaweeds. They can also eat small [bivalves](#) like pipis. The worms can reach 2.5 m in length and are eagerly sought for bait. Humans, birds and fish prey upon them.

Soldier Crab, *Mictyris* spp.

Soldier crabs live on sheltered sandy and muddy shores, in the intertidal zone. They feed on some types of algae and detrital food extracted from the sand and mud. They will bury themselves in the sand and mud in a spiral motion if they are disturbed. Soldier crabs were given their name because of their blue 'uniforms' and the way they form large 'armies' on the mudflats. They are preyed upon by birds, water rats, humans, fish, octopuses and stingrays.

http://wildlife.faanet.gov.au/factfile.cfm?Fact_ID=66

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Things that wash up on the sand

Cuttlefish

The 'cuttle bones' that are found on the beach are actually the skeletons from inside dead

cuttlefish that have been washed clean and left floating in the sea.

http://wildlife.faunanet.gov.au/factfile.cfm?Fact_ID=54

Sea balls

Sea or fibre balls are the tangled fibres of dead seagrass, *Posidonia* spp that have been washed back and forth in the sea until they are formed into balls.

Jelly sausages

These are snail egg cases that have washed onto the beach after a storm. The tiny snail eggs can just be seen with the naked eye if the sausage is held up to the light.

Bluebottles

Bluebottles (also known as Portuguese-Man-of-War) are colonies of polyps that are specialised for feeding, defence, float production and reproduction. They float on the surface of the sea, driven by the winds. There are right and left-handed floats so that not all of them are driven in the same direction at once — preventing all bluebottles from getting stranded on a beach together. The tentacles may trail for 10 m in the water, ready to capture any small animals for food by stinging them with nematocysts. These same tentacles sting swimmers at beaches when the animals are washed ashore by prevailing winds.

<http://www.amonline.net.au/factsheets/bluebottle.htm>

Bones of fish and birds are often found littering the sand. They are picked clean by crabs and sea lice.

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Things that live on rocky shores

Sea urchin, *Heliocidaris* sp.

Sea urchins live on rocky shores and in rock pools. On the underside of their bodies, they have a mouth with sharp jaws with which they scrape algae off the rocks. Sea urchins are very common along the southern coasts. They have tube feet but they mostly walk on their spines. They gouge depressions in rocks to create shelter. Crabs, fish and Port Jackson Sharks prey upon them.

<http://www.affa.gov.au/docs/fisheries/names/namebook/p141a.html>

http://www.mesa.edu.au/friends/seashores/sea_urchins.html

Cunjevoi, *Pyura* sp.

Cunjevoi or sea squirts live on reefs and rock platforms up to 12 m deep. They are filter feeders. This means they sieve plankton and small food particles from the water. Cunjevoi can form large mats or colonies over intertidal rock platforms and wharf pylons. They have two siphons that lie close together and are closed at low tide. When covered with water, cunjevoi take water in through the inhalant siphon, filter it for food particles and then get rid of the waste water through the exhalant siphon. They prey for humans and Orange Triton Shells.

http://www.mesa.edu.au/friends/seashores/p_stolonifera.html

http://wildlife.faunanet.gov.au/factfile.cfm?Fact_ID=123

Surf Barnacle, *Tesseropora rosea*

Surf Barnacles live on exposed rocky shores. They are filter feeders. This means they sieve plankton and small food particles from the water. This barnacle is very common on all exposed southern rocky coasts. The larva lives in the plankton then settles on a suitable foundation,

cements itself to the base, changes considerably and builds a hard shell as protection from predators and drought. The cirri or feeding legs are kicked out to catch tiny particles of food. They are preyed upon by gastropods such as the Mulberry Whelk *Thais orbita*.

http://www.mesa.edu.au/friends/seashores/c_polymerus.html

Purple Shore Crab, *Leptograpsus variegatus*

Purple Shore Crabs live on exposed shores and feed mostly on algae, small barnacles, snails and limpets. These crabs use their claws to pull off parts of shelled animals to reach the soft parts inside. Purple Shore Crabs are active crabs that occur abundantly on rock platforms. The adults have purple claws, a rounded carapace and are often harvested for fish bait. They are well adapted for life out of the water. They are preyed upon by fish, humans, octopuses and birds, including kookaburras.

<http://web.mit.edu/corrina/tpool/pshorecrab.html>

Tube worm, *Galeolaria* sp.

Tube worms live on reefs and exposed southern Australian rocky coasts. They are filter feeders. Tube worms occur in such high densities that they overgrow each other to form thick encrustations. This is why they are referred to as Sydney Coral. The living animal has black tentacles and a special lid to seal it off and prevent it drying out. Fish, including wrasse and parrot fish, prey on them.

<http://www.mesa.edu.au/friends/seashores/worms.html>

Chiton, *Chiton pellisserpentis*

Chitons live on sheltered and moderately exposed rocky shores in the mid to low intertidal zones. They graze on microscopic algae on the rocks. This mollusc has eight valves making up the shell and is surrounded by a girdle that is covered by bead-like scales. These animals are very abundant in the intertidal zone and they return to the same place after foraging at night. The valves of those living high in the intertidal zone can become very eroded. They are preyed upon by octopuses and birds.

http://www.mesa.edu.au/friends/seashores/c_pelliserpentis.html

Mulberry Whelk, *Morula marginalba*

Mulberry Whelks live on exposed rocky shores in the mid intertidal zone. They feed on barnacles, limpets, oysters and tube worms by making a hole in these animals' hard coverings with their radula and then ingesting the soft parts inside. The off-white shell has black raised lumps, making them look like mulberries. They are abundant on rock platforms in New South Wales. They are preyed upon by birds, crusher crabs, octopuses and some fish.

http://www.mesa.edu.au/friends/seashores/m_marginalba.html

Limpet, *Cellana tramoserica*

Limpets live on exposed rocky shores in the mid to low intertidal zone. They feed on microscopic algae that live on rock surfaces. They are orange-brown with dark radiating stripes. They return to their home spot or scar after feeding, using chemical sensors to retrace the mucous trail. Dense populations of limpets are important in controlling the growth of algae because of the intensity of grazing. They are adapted for living on wave-swept shores, so they have a strong muscular foot. They are preyed upon by whelks, oystercatchers, fish and sea stars.

<http://www.enchantedlearning.com/subjects/invertebrates/mollusk/gastropod/Limpet.shtm>

http://www.mesa.edu.au/friends/seashores/c_tramoserica.html

Neptune's Necklace, *Hormosira banksii*

Neptune's Necklace grows on sheltered reefs, in the low intertidal zone. These plants have a very distinctive pearl-necklace shape, but the balls vary in shape from round to cylindrical. Most are attached to rocks or in rock pools. They are eaten by sea urchins and some molluscs.

http://www.mesa.edu.au/friends/seashores/h_banksii.html

Sea stars, *Patiriella* spp.

Sea stars (often called starfish) live on rocky shores and in rock pools. They feed on algae that live on rock surfaces. Many sea stars are predatory, but the ones common on southern Australian coasts are grazers. They move around on tube-feet and can turn upright again if turned upside down. They are eaten by some fish, some gastropods and some other sea stars.

<http://www.npws.New South Wales.gov.au/science/biodiv/shore/star.htm>

http://wildlife.faunanet.gov.au/factfile.cfm?Fact_ID=112

Waratah Anemone, *Actinia tenebrosa*

Waratah Anemones live under rocks on exposed rocky coasts. They feed on small animals that they pull into their mouth with their tentacles. They are common intertidal anemones and are active, moving around the shore during high tide. They are preyed upon by 'sea spiders' and some nudibranchs.

<http://www.npws.New South Wales.gov.au/science/biodiv/shore/anem.htm>

http://www.mesa.edu.au/friends/seashores/a_tenebrosa.html

Marine slaters

Marine slaters are relatives of the slaters you can find in your garden. They live under rocks in estuaries all along the southern coasts.

http://www.mesa.edu.au/friends/seashores/l_australiensis.html

Sea slugs and sea hares

Sea slugs and sea hares are molluscs. They have a large foot and a shell that is reduced or internal. Sea hares are herbivorous and eat seaweeds, seagrass and blue-green algae. They can grow to a kilogram in weight but only live for one year. They extend their foot to create flaps at the sides so they can swim.

<http://www.seaslugforum.net/welcome.htm>

Blue-ringed Octopus

Blue-ringed Octopuses are well known because of the blue rings on their bodies which become very bright when they are irritated. They have a powerful nerve toxin in their bodies that can cause death in humans. They usually hide among rocks and debris, and emerge at night to feed.

<http://www.aqua.org/animals/species/venom/brocto.html>

http://wildlife.faunanet.gov.au/factfile.cfm?Fact_ID=52

Elephant Snails, *Scutus antipodes*

Elephant snails are slug-like animals that have a velvety, black foot almost totally surrounding the rough white shell. They graze algae off the rocks.

http://www.mesa.edu.au/friends/seashores/s_antipodes.html

Tasmanian Blennies

Tasmanian Blennies are small, mottled fish with long, fringed tentacles over their eyes. They live in crevices in rocks (or in discarded bottles and cans) along the south-eastern coast of Australia. The female guards her eggs in a nest.

Sponges

Sponges grow on rocks. They are adapted for a stationary filter-feeding lifestyle, directing a flow of water through their body to filter out the food particles. Sponges provide food for a few animals such as crustaceans, echinoderms (sea urchins and sea stars) and fish, but they are generally toxic and poor nutritional value.

http://wildlife.faunanet.gov.au/group.cfm?Group_ID=2

Flatworms

There are flatworms that live in salt water. They have soft, flattened bodies, a single opening to

the digestive cavity but no real gut. Marine flatworms glide across rocks. Some species can swim by undulating the sides of their bodies. There are a few species that are very brightly coloured but these are quite rare.

<http://www.mesa.edu.au/friends/seashores/ewtz.html>

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