SEA ANEMONES

	sea anemone - актиния	[si: əˈnemənɪ]
	Ivell's sea anemone - морская анемона Ивелла	[ivell'es si: əˈnemənɪ]
	onion anemone – луковая анемона	[ˈʌnjən əˈnemənɪ]

	**stinging anemone - тёмно-бордовая анемона**	[ˈstɪŋɪŋ əˈneməni]
	**beadlet anemone – жёлтая анемона**	[beadlet əˈneməni]
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Sea anemone

Sea anemones are the marine, predatory animals of the order Actiniaria. They are named after the anemone, a terrestrial flowering plant, because of the colourful appearance of many. Sea anemones are classified in the phylum Cnidaria, class Anthozoa, subclass Hexacorallia. As cnidarians, sea anemones are related to corals, jellyfish, tube-dwelling anemones, and Hydra. Unlike jellyfish, sea anemones do not have a medusa stage in their life cycle.

A typical sea anemone is a single polyp attached to a hard surface by its base, but some species live in soft sediment and a few float near the surface of the water. The polyp has a columnar trunk topped by an oral disc with a ring of tentacles and a central mouth. The tentacles can be retracted inside the body cavity or expanded to catch passing prey. They are armed with cnidocytes (stinging cells). In many species, additional nourishment comes from a symbiotic relationship with single-celled dinoflagellates, zooxanthellae or with green algae, zoochlorellae, that live within the cells. Some species of sea anemone live in association with hermit crabs, small fish or other animals to their mutual benefit. Sea anemones breed by liberating sperm and eggs through the mouth into the sea. The resulting fertilized eggs develop into planula larvae which, after being planktonic for a while, settle on the seabed and develop directly into juvenile polyps. Sea anemones also breed asexually, by breaking in half or into smaller pieces which regenerate into polyps. Sea anemones are sometimes kept in reef aquariums; the global trade in marine ornamentals for this purpose is expanding and threatens sea anemone populations in some localities, as the trade depends on collection from the wild.

A typical sea anemone is a sessile polyp attached at the base to the surface beneath it by an adhesive foot, called a basal or pedal disc, with a column-shaped body topped by an oral disc. Most are from 1 to 5 cm in diameter and 1.5 to 10 cm in length, but they are inflatable and vary greatly in dimensions. Some are very large; Urticina columbiana and Stichodactyla mertensii can both exceed a metre in diameter and Metridium farcimen a metre in length. Some species burrow in soft sediment and lack a basal disc, having instead a bulbous lower end, the physa, which anchors them in place.

The column or trunk is generally more or less cylindrical and may be plain and smooth or may bear specialist structures; these include solid papillae (fleshy protuberances), adhesive papillae, cinclides (slits) and small protruding vesicles. In some species the part immediately below the oral disc is constricted and is known as the capitulum. When the animal contracts, the oral disc, tentacles and capitulum fold inside the pharynx and are held in place by a strong sphincter muscle part way up the column. There may be a fold in the body wall, known as a parapet, at this point, and this parapet covers and protects the anemone when it is retracted. The oral disc has a central mouth, usually slit-shaped, surrounded by one or more whorls of tentacles. The ends of the slit lead to grooves in the wall of the pharynx known as siphonoglyphs; there are usually two of these grooves, but some groups have a single one.

The tentacles are generally tapered and often tipped by a pore, but in some species they are branched, club-tipped, or reduced to low knobs. The tentacles are armed with many cnidocytes, cells that are both defensive and used to capture prey. Cnidocytes contain stinging nematocysts, capsule-like organelles capable of everting suddenly, giving the phylum Cnidaria its name. Each nematocyst contains a small venom vesicle filled with actinotoxins, an inner filament, and an external sensory hair. A touch to the hair mechanically triggers a cell explosion, which launches a harpoon-like structure that attaches to the organism that triggered it, and injects a dose of venom in the flesh of the aggressor or prey. At the base of the tentacles in some species lie acrorhagi, elongated inflatable tentacle-like organs armed with cnidocytes, that can flail around and fend off other encroaching anemones; one or both anemones can be driven off or suffer injury in such battles.

The venom is a mix of toxins, including neurotoxins, that paralyzes the prey so the anemone can move it to the mouth for digestion inside the gastrovascular cavity. Actinotoxins are highly toxic to prey species of fish and crustaceans. However, Amphiprioninae (clownfish), small banded fish in various colours, are not affected by their host anemone's sting and shelter themselves from predators among its tentacles. Several other species have similar adaptions and are also unaffected (see Mutualistic relationships). Most sea anemones are harmless to humans, but a few highly toxic species (notably Actinodendron arboreum, Phyllodiscus semoni and Stichodactyla spp.) have caused severe injuries and are potentially lethal.

A sea anemone is capable of changing its shape dramatically. The column and tentacles have longitudinal, transverse and diagonal sheets of muscle and can lengthen and contract, as well as bend and twist. The gullet and mesenteries can evert (turn inside out), or the oral disc and tentacles can retract inside the gullet, with the sphincter closing the aperture; during this process, the gullet folds transversely and water is discharged through the mouth.

Sea anemones are typically predators, ensnaring prey of suitable size that comes within reach of their tentacles and immobilizing it with the aid of their nematocysts. The prey is then transported to the mouth and thrust into the pharynx. The lips can stretch to aid in prey capture and can accommodate larger items such as crabs, dislodged molluscs and even small fish. Stichodactyla helianthus is reported to trap sea urchins by enfolding them in its carpet-like oral disc. A few species are parasitic on other marine organisms. One of these is Peachia quinquecapitata, the larvae of which develop inside the medusae of jellyfish, feeding on their gonads and other tissues, before being liberated into the sea as free-living, juvenile anemones.

Ivell's sea anemone

Ivell's sea anemone is a species of sea anemone in the family Edwardsiidae. It is endemic to a single location, Widewater Lagoon in West Sussex, England, where it was first discovered by Richard Ivell. It has been listed as Data Deficient by the IUCN since 1996.

Ivell's sea anemone is a tiny, worm-like anemone up to 20 mm long and 1.5 mm diameter; the column is similar to other Edwardsia spp. There are twelve transparent tentacles, arranged in two cycles, nine tentacles in the outer cycle and three in the inner cycle. In life the tentacles of the outer cycle are held flat on the substrate, the three of the inner cycle more or less vertical, often curled over the mouth. Each tentacle has a few transverse bars of pale cream occasionally forming complete rings.

It is endemic to England known from only one site, Widewater Lagoon in West Sussex, the type locality. Searches in recent years have failed to find any specimens and the species is considered extinct by some conservationists.

Burrows in soft mud in saline lagoons or sheltered creeks, it is a tiny species and easily overlooked unless deliberately sought.

Onion anemone

Paranthus rapiformis, the onion anemone, is a species of sea anemone in the family Actinostolidae. It was first described by the French naturalist Charles Alexandre Lesueur in 1817 and is native to the northwestern Atlantic Ocean and the Gulf of Mexico.

P. rapiformis is a small white sea anemone which burrows into the sediment, usually subtidally, but it may be exposed at extreme low water. The base of the column is expanded which anchors it in place, and it is usually attached to a submerged stone or shell. When covered with water, the short tentacles spread out over the surface of the sand. When it is disturbed, the tentacles retract and the column inflates to form a globular shape; this is translucent, with longitudinal white stripes, and resembles a small onion.

As a burrowing sea anemone, the pedal disc of P. rapiformis is replaced by a rounded end known as a "physa" which is used for digging. First the physa is pushed into the soft sediment, then the anemone swells its body wall to anchor itself in place while pushing the physa further into the sand. Now it inflates the physa and deflates the body wall, using its strong longitudinal muscles to draw the upper part towards the base, during which process, the physa inverts. These two steps are repeated as it works its way deeper into the sediment.

Stinging anemone

Actinia bermudensis, the red, maroon or stinging anemone, is a species of sea anemone in the family Actiniidae.

Actinia bermudensis attaches itself to a rock surface by its pedal disc, which can reach 2.5 centimetres in width. The column is narrower at the top than the base and can reach 5 centimetres in height. Near the top is a ring of bulges called acrorhagi which contain many cnidocytes. The oral disc has a central mouth and two irregular whorls of 96 to 140 short, retractable, tapering tentacles which are armed with cnidocytes. The general colour of the anemone is dark red or maroon. In most of the range, the acrorhagi are blue, but in the waters off northern Florida, they are pink.

Actinia bermudensis occurs in the West Indies, Bermuda and northern Florida, and there is a further, isolated population off Brazil. It is found in the intertidal and the sublittoral zone. It is usually found near the base of rock walls, under overhangs, in caves, in crevices and under boulders.

The acrorhagi of Actinia bermudensis are used to discourage other individuals from moving into the anemone's territory. Intruding anemones are not normally killed but usually retire to a safer place.

Actinia bermudensis is an omnivore. The main items of prey are gastropods, isopods and small bivalves. Other food items may include other marine invertebrates and algae.

Beadlet anemone

The beadlet anemone is a common sea anemone found on rocky shores around all coasts of the British Isles. Its range extends to the rest of Western Europe and the Mediterranean Sea, and along the Atlantic coast of Africa as far south as South Africa.

Actinia equina can be found both in exposed and sheltered situations. It is highly adapted to the intertidal zone as it can tolerate both high temperatures and desiccation. The anemone may also be found in regions of variable salinity such as estuaries.

Beadlet anemones can live in solitary or in aggregations. Solitary beadlet anemones are found to be larger-sized than those that form clustered aggregation. Furthermore, larger sea anemones were found submerged in low tide, where they have greater access to food resources and are less subjected to harsh environmental exposures. The size of beadlet anemones may be connected to their physiological adaptation in regards to limited food resources and withstanding environmental conditions.

Underwater, it displays up to 192 tentacles, arranged in six circles. Out of water, the tentacles retract and the anemone resembles a blob of red, brown, green or orange jelly, up to about 5 centimetres across. It has bright blue beads (known as acrorhagi) located just beneath the tentacles, organised as an external ring containing stinging cells located at the top of the column that it uses to fight over territory. The acrorhagi contains the cnidocysts which themselves contain the nematocysts. There is some evidence that the various colour forms may in fact be different species.

Strawberry anemone

Actinia fragacea, commonly known as the strawberry anemone, is a species of sea anemone of the order Actiniaria, that occurs from Norway to Africa, including adjacent islands and the Mediterranean. It is generally found on rocks of the lower shoreline and depths up to 8–10 metres.

The strawberry anemone has a smooth column which is typically red or dark red, with many greenish spots. The tentacles are usually red or purplish. Actinia fragacea is similar in form to the beadlet anemone and was at one time considered to be a variant of that species, however, it is typically larger, measuring up to 100 millimetres (3.9 in) across the base. It also has a conspicuous ring of pale blue, red, pink, or white spots known as "acrorhagi" around the inside of the top of the column.

The strawberry anemone is found in the northeastern and eastern Atlantic Ocean. Its range extends from Norway, England, Scotland, and Ireland to the Mediterranean Sea and North Africa, including the Azores, the Canary Islands, and Cape Verde. It occurs on the lower shore and sublittoral zone at depths generally less than 10 metres. It is generally attached to rocks and boulders but is sometimes semi-immersed in sand.

A Californian species Corynactis californica shares the same common name, as does a southern African species, Corynactis annulata, and Urticina lofotensis, which is found in the North Atlantic Ocean and the Pacific coast of North America.