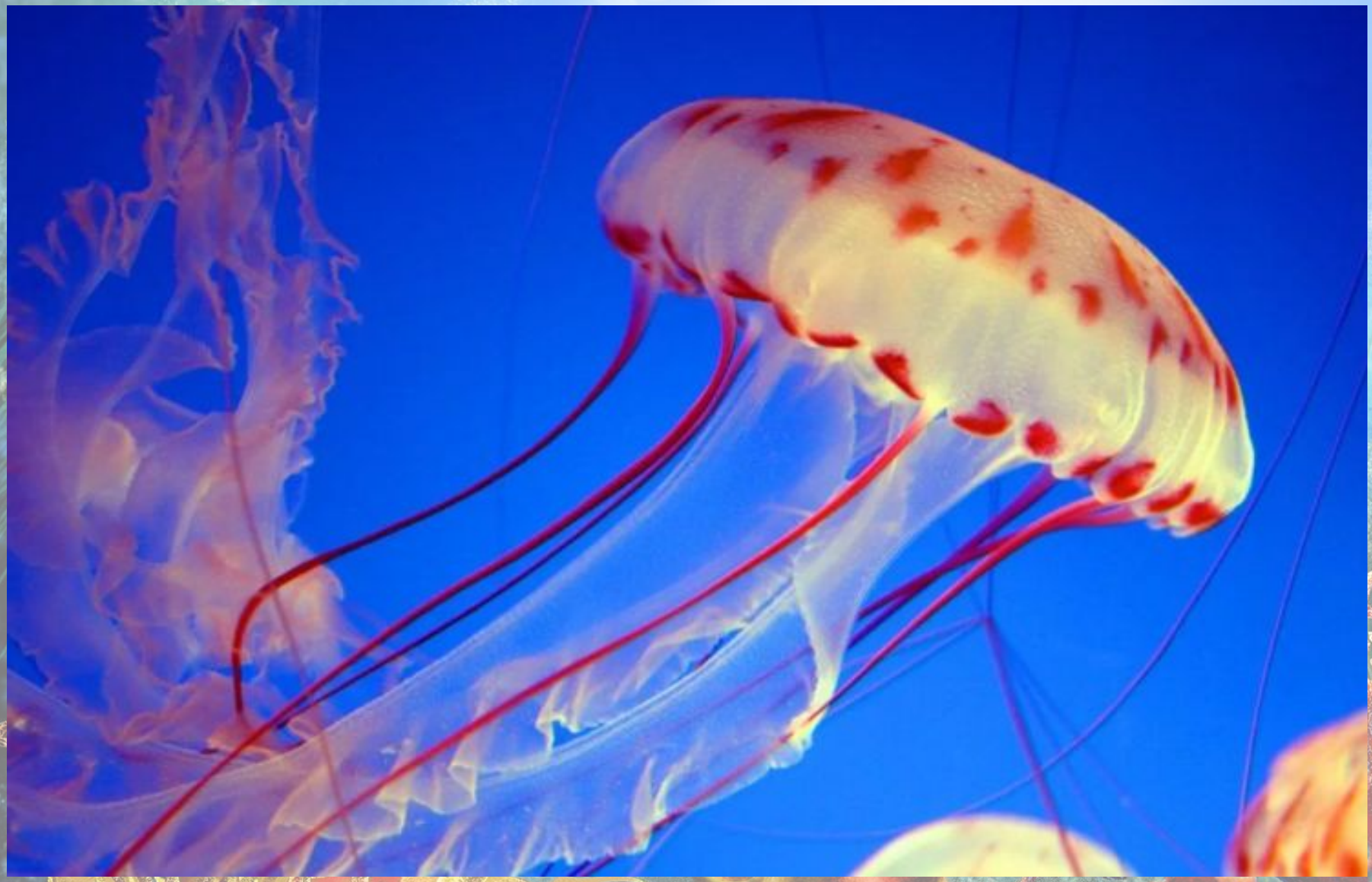
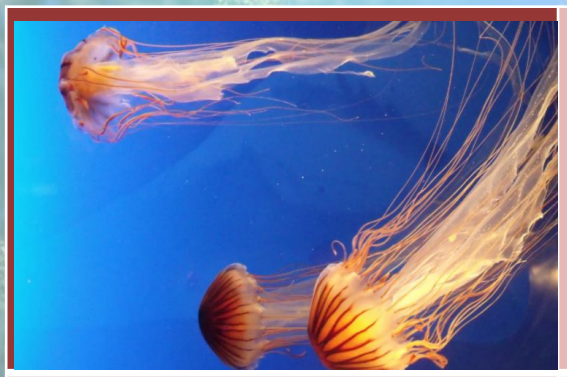
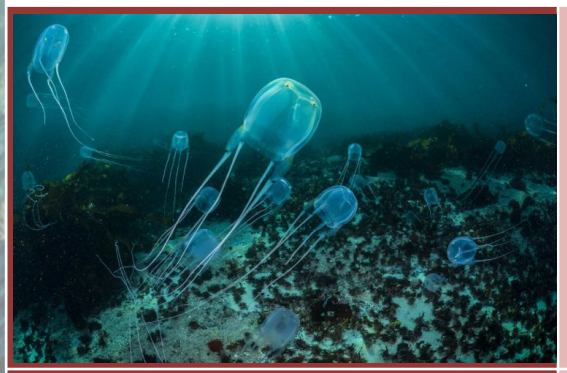
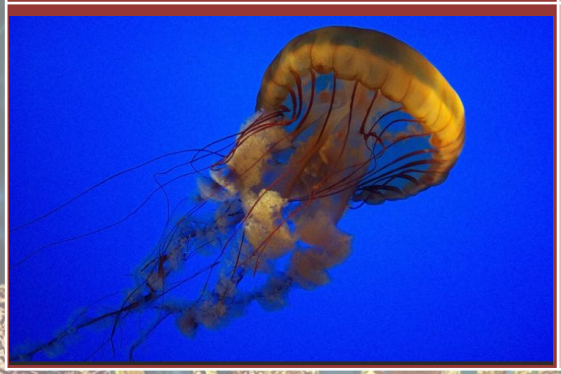
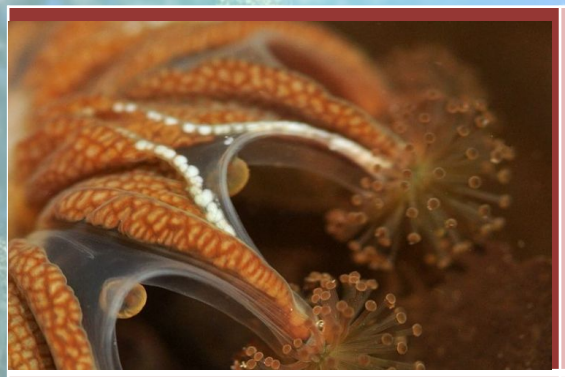
JELLYFISH



	**jellyfish** - медуза	[ˈʤelɪfɪʃ]
	**box jellyfish** - кубомедуза	[bɒks ˈʤelɪfɪʃ]
	**true jellyfish** - настоящая медуза	[truː ˈʤelɪfɪʃ]

	**stalked jellyfish** - стебельчатая медуза	[stɔːkt ˈʤelɪfɪʃ]
	**crown jellyfish** – короновая медуза	[kraʊn ˈʤelɪfɪʃ]
	**crystal jelly** - гидромедуза	[krɪstl ˈʤelɪ]

	**red paper jellyfish** - антомедуза	[red ˈpeɪpə ˈʤelɪfɪʃ]
	**flower hat jelly** - лимномедуза	[ˈflaʊə hæt ˈʤelɪ]

Jellyfish

Jellyfish and **sea jellies** are the informal common names given to the medusa-phase of certain gelatinous members of the subphylum Medusozoa, a major part of the phylum Cnidaria. Jellyfish are mainly free-swimming marine animals with umbrella-shaped bells and trailing tentacles, although a few are anchored to the seabed by stalks rather than being mobile. The bell can pulsate to provide propulsion for highly efficient locomotion. The tentacles are armed with stinging cells and may be used to capture prey and defend against predators. Jellyfish have a complex life cycle; the medusa is normally the sexual phase, which produces planula larva that disperse widely and enter a sedentary polyp phase before reaching sexual maturity.

Jellyfish are found all over the world, from surface waters to the deep sea. Scyphozoans (the "true jellyfish") are exclusively marine, but some hydrozoans with a similar appearance live in freshwater. Large, often colorful, jellyfish are common in coastal zones worldwide. The medusae of most species are fast-growing, and mature within a few months then die soon after breeding, but the polyp stage, attached to the seabed, may be much more long-lived. Jellyfish have been in existence for at least 500 million years, and possibly 700 million years or more, making them the oldest multi-organ animal group.

Jellyfish are like other cnidarians generally carnivorous (or parasitic), feeding on planktonic organisms, crustaceans, small fish, fish eggs and larvae, and other jellyfish, ingesting food and voiding undigested waste through the mouth. They hunt passively using their tentacles as drift lines, or sink through the water with their tentacles spread widely; the tentacles, which contain nematocysts to stun or kill the prey, may then flex to help bring it to the mouth. Their swimming technique also helps them to capture prey; when their bell expands it sucks in water which brings more potential prey within reach of the tentacles.

Box jellyfish

Box jellyfish (class Cubozoa) are cnidarian invertebrates distinguished by their cube-shaped medusae. Some species of box jellyfish produce potent venom: Chironex fleckeri, Carukia barnesi and Malo kingi. Stings from these and a few other species in the class are extremely painful and can be fatal to humans.

The medusa form of a box jellyfish has a squarish, box-like bell, from which its name is derived. From each of the four lower corners of this hangs a short pedalium or stalk which bears one or more long, slender, hollow tentacles. The rim of the bell is folded inwards to form a shelf known as a velarium which restricts the bell's aperture and creates a powerful jet when the bell pulsates. As a result, box jellyfish can move more rapidly than other jellyfish; speeds of up to 6 metres per minute have been recorded.

In the center of the underside of the bell is a mobile appendage called the manubrium which somewhat resembles an elephant's trunk. At its tip is the mouth. The interior of the bell is known as the gastrovascular cavity. It is divided by four equidistant septa into a central stomach and four gastric pockets. The eight gonads are located in pairs on either side of the four septa. The margins of the septa bear bundles of small gastric filaments which house nematocysts and digestive glands and help to subdue prey. Each septum is extended into a septal funnel that opens onto the oral surface and facilitates the flow of fluid into and out of the animal.

Box jellyfish also display complex, probably visually-guided behaviors such as obstacle avoidance and fast directional swimming. Research indicates that, owing to the number of rhopalial nerve cells and their overall arrangement, visual processing and integration at least partly happen within the rhopalia of box jellyfish. The complex nervous system supports a relatively advanced sensory system compared to other jellyfish, and box jellyfish have been described as having an active, fish-like behavior.

A fully grown box jellyfish can measure up to 20 cm along each box side (30 cm or 12 in in diameter), and the tentacles can grow up to 3 m in length. Its weight can reach 2 kg. There are about 15 tentacles on each corner. Each tentacle has about 500,000 cnidocytes, containing nematocysts, a harpoon-shaped microscopic mechanism that injects venom into the victim. Many different kinds of nematocysts are found in cubozoans.

Although the notoriously dangerous species of box jellyfish are largely restricted to the tropical Indo-Pacific region, various species of box jellyfish can be found widely in tropical and subtropical oceans, including the Atlantic Ocean and the east Pacific Ocean, with species as far north as California, the Mediterranean Sea and Japan, and as far south as South Africa and New Zealand .

True jellyfish

True jellyfish are an exclusively marine class of the phylum Cnidaria. It may include the extinct fossil group the Conulariida, whose affinities are uncertain and widely debated.

The class name Scyphozoa comes from the Greek word skyphos (σκύφος), denoting a kind of drinking cup and alluding to the cup shape of the organism.

Most species of Scyphozoa have two life-history phases, including the planktonic medusa or jellyfish form, which is most evident in the warm summer months, and an inconspicuous, but longer-lived, bottom-dwelling polyp, which seasonally gives rise to new medusae. Most of the large, often colorful, and conspicuous jellyfish found in coastal waters throughout the world are Scyphozoa. They typically range from 2 to 40 cm in diameter, but the largest species, Cyanea capillata can reach 2 metres across. Scyphomedusae are found throughout the world's oceans, from the surface to great depths; no Scyphozoa occur in freshwater (or on land).

As medusae, they eat a variety of crustaceans and fish, which they capture using stinging cells called nematocysts. The nematocysts are located throughout the tentacles that radiate downward from the edge of the umbrella dome, and also cover the four or eight oral arms that hang down from the central mouth. Some species, however, are instead filter feeders, using their tentacles to strain plankton from the water.

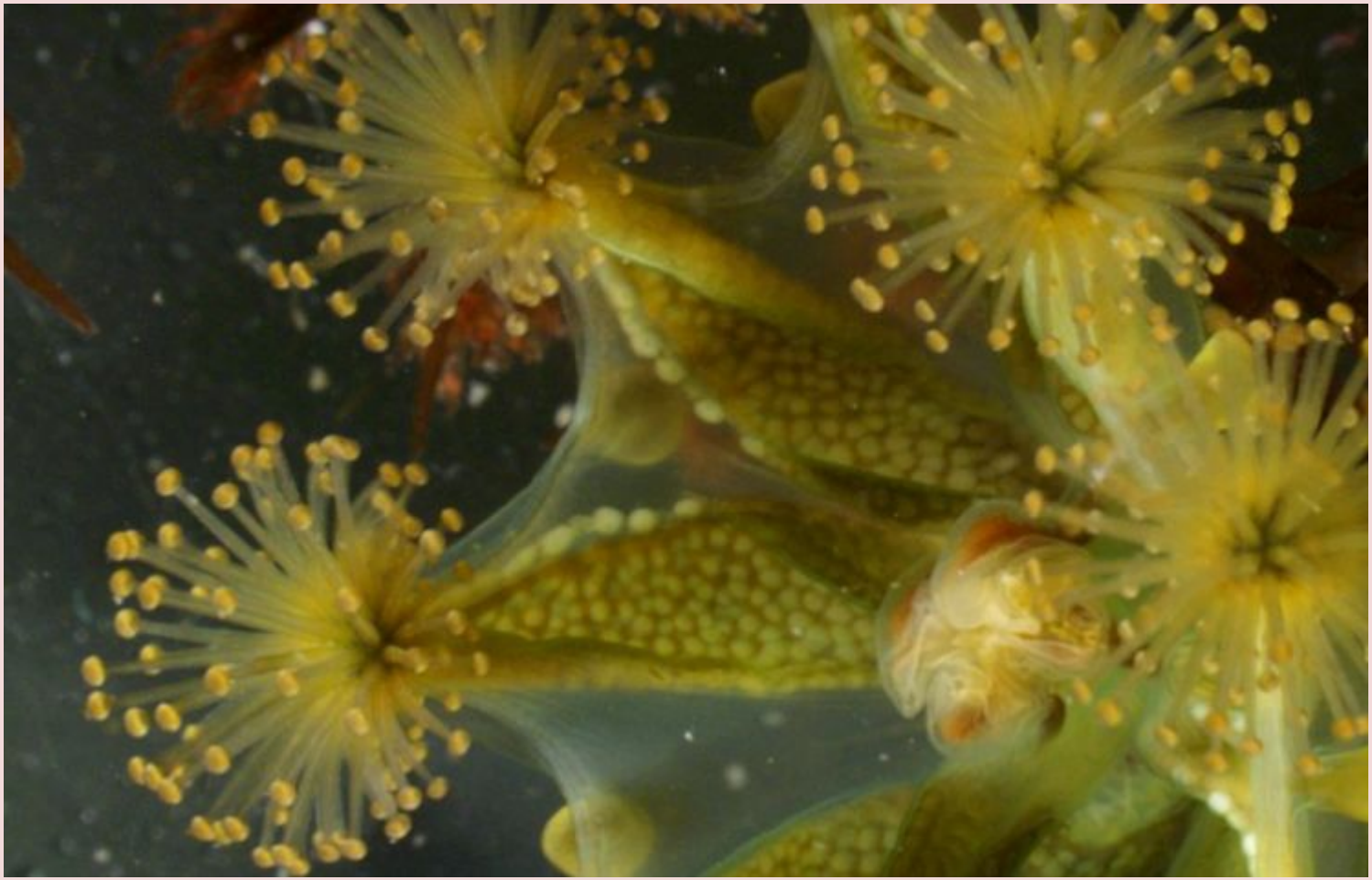
Scyphozoans usually display a four-part symmetry and have an internal gelatinous material called mesoglea, which provides the same structural integrity as a skeleton. The mesoglea includes mobile amoeboid cells originating from the epidermis.

Scyphozoans have no durable hard parts, including no head, no skeleton, and no specialized organs for respiration or excretion. Marine jellyfish can consist of as much as 98% water, so are rarely found in fossil form.

Unlike the hydrozoan jellyfish, Hydromedusae, Scyphomedusae lack a vellum, which is a circular membrane beneath the umbrella that helps propel the (usually smaller) Hydromedusae through the water. However, a ring of muscle fibres is present within the mesoglea around the rim of the dome, and the jellyfish swims by alternately contracting and relaxing these muscles. The periodic contracting and relaxing propels the jellyfish through the water, allowing it to escape predation or catch its prey.

The mouth opens into a central stomach, from which four interconnected diverticula radiate outwards. In many species, this is further elaborated by a system of radial canals, with or without an additional ring canal towards the edge of the dome. Some genera, such as Cassiopea, even have additional, smaller mouths in the oral arms. The lining of the digestive system includes further stinging nematocysts, along with cells that secrete digestive enzymes.

Stalked jellyfish



Staurozoa is a class of Medusozoa, jellyfishes and hydrozoans. It has one extant order: Stauromedusae (stalked jellyfishes). A fossil group called Conulariida has been proposed as a second order, although this is highly speculative. The extinct order is largely unknown and described as a possibly cnidarian clade of marine life with shell-like structures, the Conulariida. Staurozoans are small animals (1–4 cm) that live in marine environments, usually attached to seaweeds, rocks, or gravel. They have a large antitropical distribution, a majority found in boreal or polar, near-shore, and shallow waters. Few staurozoans are found in warmer tropical and subtropical water environments of the Atlantic, Indian, and Pacific Ocean basins, but most are known from the Northern Hemisphere. Over the years their number of species has increased, thus right now it is said to have an estimated 50 species.

Crown jellyfish

Crown jellyfishes are the six families of true jellyfish that belong to the order Coronatae. They are distinguished from other jellyfish by the presence of a deep groove running around the umbrella, giving them the crown shape from which they take their name. Many of the species in the order inhabit deep sea environments.

Crown jellyfish are able to make light through bioluminescence. When they are touched, their bells will light up. Otherwise, the bell of a crown jellyfish will look transparent when undisturbed. When they are attacked, crown jellyfish are able to startle, mislead, and distract their predators with the light that they produce. They may also use their bioluminescence to lure or dazzle their prey.

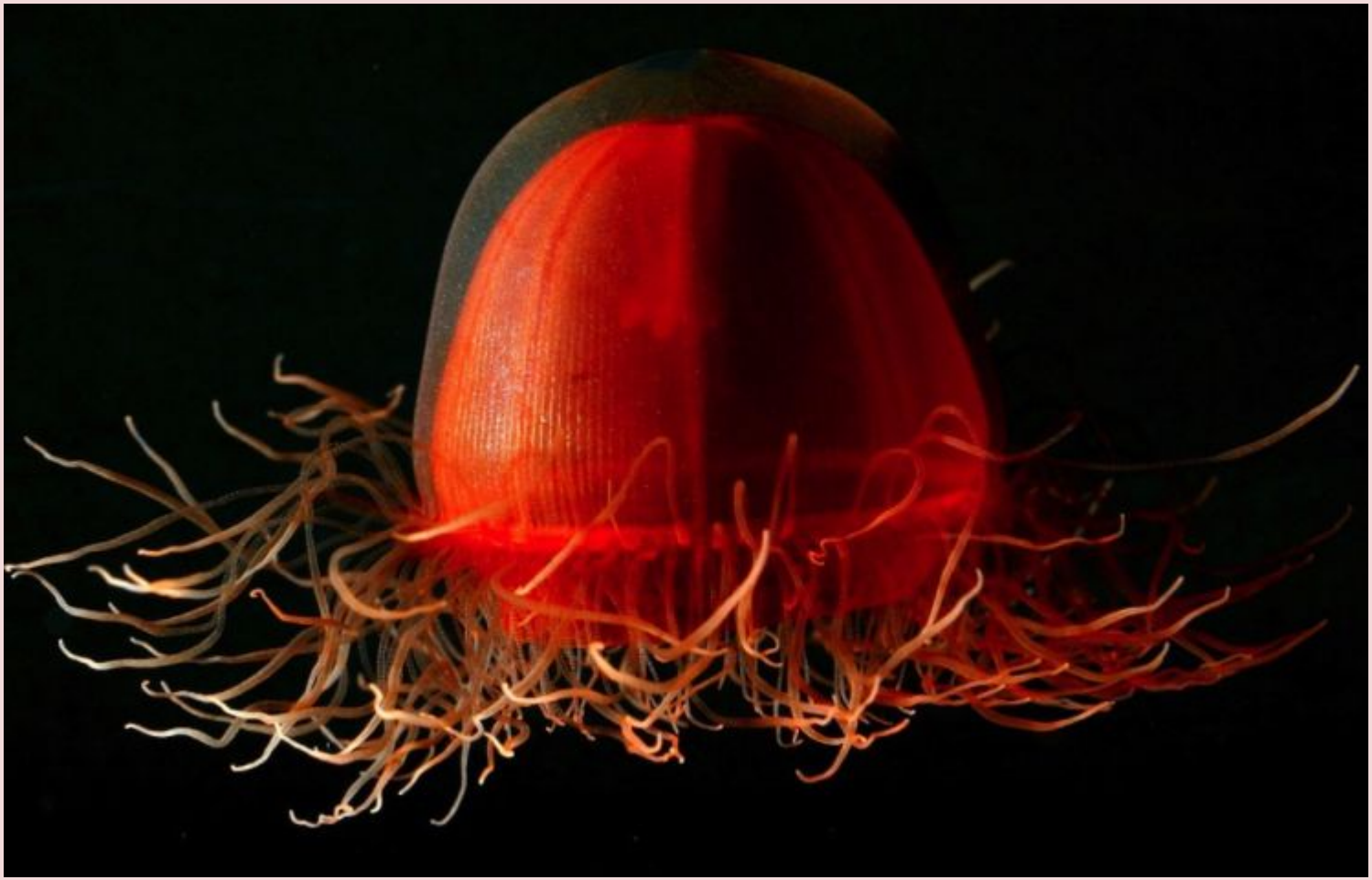
Crystal jelly

Aequorea victoria, also sometimes called the **crystal jelly**, is a **bioluminescent hydrozoan jellyfish**, or **hydromedusa**, that is found off the west coast of North America.

Almost entirely transparent and colorless, and sometimes difficult to resolve, Aequorea victoria possess a highly contractile mouth and manubrium at the center of up to 100 radial canals that extend to the bell margin. The bell margin is surrounded by uneven tentacles, up to 150 of them in fully-grown specimens. The tentacles possess nematocysts that aid in prey capture, although they have no effect on humans. Specimens larger than 3 cm usually possess gonads for sexual reproduction, which run most of the length of the radial canals and are visible in the photos in this article as whitish thickenings along the radial canals. The bell margin is ringed with the muscular velum, which is typical of hydromedusae, and aids in locomotion through muscular contraction of the bell. Larger specimens are frequently found with symbiotic hyperiid amphipods attached to the subumbrella, or even occasionally living inside the gut or radial canals.

Aequorea victoria are found along the North American west coast of the Pacific Ocean from the Bering Sea to southern California. The medusa part of the life cycle is a pelagic organism, which is budded off a bottom-living polyp in late spring. The medusae can be found floating and swimming both nearshore and offshore in the eastern Pacific Ocean; this species is particularly common in Puget Sound.

Red paper jellyfish



Red paper jellyfish is a species of hydrozoans distinguished by an anthomedusan jellyfish with a bright red subumbrella. P. rubra are found in extremely deep and cold Pacific Ocean waters.

Red paper lantern jellyfish is a common name for this animal because of its mantle that can crumple up or expand like a paper lantern. Another reason for the name was because it was first seen on the coast of Japan and was seen as sacred.

The red paper lantern is the most common type of P. rubra that has been recorded. This medusa has a transparent, bell-shaped hood measuring about 10 centimeters in diameter and 17 centimeters from top to bottom, with between 14 and 30 tentacles that extend up to 6 times the length of its body. Inside the transparent hood is a deep red colored mantle. JAMSTEC researcher Dr. Dhugal Lindsay is credited with naming it the paper lantern.

P. rubra has only been found in deep and cold ocean waters at only a few sites. So far reported from boreal to sub-boreal waters in the North Pacific and North Atlantic, and also in the Southern Ocean in Japan. They were found at depths between 450-1000m.

P. rubra exhibits bioluminescence, light produced by a chemical reaction within a living organism. Bio-luminescence is a type of luminescence, which is the term for a light-producing chemical reaction. Bio-luminescence is a "cold light" in that less than 20% of the light generates heat.

Flower hat jelly

The flower hat jelly is a species of hydrozoan in the family Olindiidae. Although they look like a jellyfish, they actually belong in the class Hydrozoa, while true jellyfish belong in class Scyphozoa. Flower hat jellies occur in the northwestern Pacific off central and southern Japan, and South Korea's Jeju Island. The adult form of the flower hat jelly only lives a few months and is typically seen from December to July, with peaks in April and May. During the day they rest on the bottom, often among rocks or algae, but at night they float up to hunt for their prey, typically small fish.

The sting of the flower hat jelly is generally mildly painful and leaves a rash. There is a single known human fatality from Japan.

This fluorescent jelly has lustrous tentacles that coil and adhere to its rim when not in use. Its bell is translucent and pinstriped with opaque bands. The flower hat jelly can grow to be about 15 cm in diameter. When first observed in the wild, typically around December, they only measure 2 cm.

Little is known about the details of its life cycle and no Olindias hydroids have been reported from the wild. Flower hat jellies have bred in a display at the Monterey Bay Aquarium. The hydroids attached themselves to various surfaces and formed small clusters. Eventually the medusae were released at a diameter of about 1 mm. Budding only happened when the hydroids were kept at water temperatures of 15 °C; not 20 °C or 25 °C. In contrast, the two warmer temperatures appeared to produce more medusae. This indicates that hydroid growth and reproduction (budding) occur in 15 °C or less, while warmer temperatures initiate the change into medusae. This matches the annual sea temperature variations observed in its native range. In aquariums, adults are usually kept in full salt water that is about 15–18 °C.