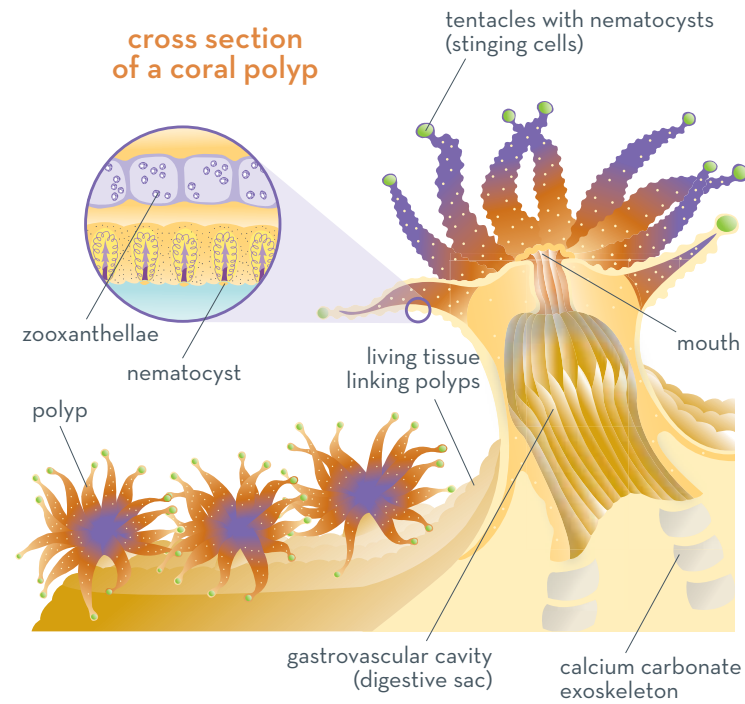


What is a coral reef?

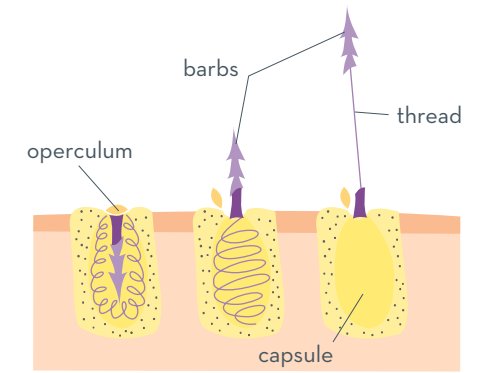
Coral reefs are colonies of small animals, known as polyps, which release calcium carbonate to form a hard skeleton on which they live.

Coral reefs are found in shallow, tropical waters around the world. Living coral reefs provide homes for large numbers of marine animals. In fact, coral reefs make up only 1 percent of the ocean's habitat but include over 25 percent of its species.



Paralyzing its prey

Corals feed using their tentacles to capture their prey, which includes tiny animals called zooplankton and small fish. The tentacles contain small stinging cells called nematocysts. Inside the stinging cell is a thread that is coiled under pressure and wrapped around a stinging barb. When potential prey touches the tentacles, the flap, or operculum, on top of the cell flies open, the thread rapidly uncoils, and the barb is ejected. The barbs are designed to penetrate the victim's skin and inject a venom. When the prey is subdued, the tentacles move it into the polyp's mouth and the nematocysts recoil into their capsules.



coral nematocyst

World's largest living structure

There are four types of reefs: barrier, stromatolite, patch, and fringe reefs.

Barrier reefs are the largest living structures in the world and are formed by coral running roughly parallel to the shore, which is separated from it by a wide, deep lagoon.

Stromatolites (which means "layered rock") are formations created by microscopic, blue-green algae. This type of algae forms colonies with a sticky surface coating that traps sediments. The sediments and coating cement together to form a stromatolite. The Bahamas is one of the few places in the world to have these rare formations. Stromatolites only form in shallow water where there aren't many grazing-type fish that would eat the algae.



Patch reefs are located in calm, shallow water about 10 to 20 ft. deep. The outer edge of this coral reef is ringed by sand that extends to seagrass beds. The top of a patch reef lies just below the surface of the sea and some may stick up above the water at low tide. Patch reefs are important places for young fish that are almost big enough to move out to the fringe reef. And because the fish are in shallow water close to land, patch reefs are used by fishermen.

A fringe reef is a type of coral reef that extends from the shore with no body of water separating land and reef. Fringe reefs help protect islands from pounding surf.

No backbones here

Coral polyps are invertebrates: animals without backbones. They belong to the group of creatures called Cnidaria, which also includes sea anemones and jellyfish. Like all cnidarians, corals have no head. Their bodies are sac-like with a mouth surrounded by a crown of tentacles in groups of six or eight. Coral polyps are some of the smaller members of this group, and the polyps range in size from less than an inch to several inches in diameter.



Living in partnership

Corals have algae called zooxanthellae living in their tissue. This is a mutually beneficial partnership called symbiosis. The algae receive a safe place to live and, in return, produce very important nutrients that the coral needs for survival. Unfortunately for the coral, the water temperature range that the zooxanthellae can live in is narrow in most cases. If the water warms up too much, the coral expels the zooxanthellae, eventually dies, and turns white. This process is called coral bleaching.

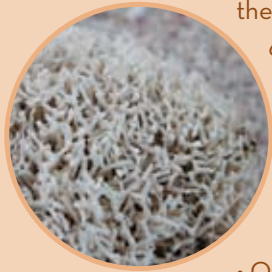


Coral Reefs

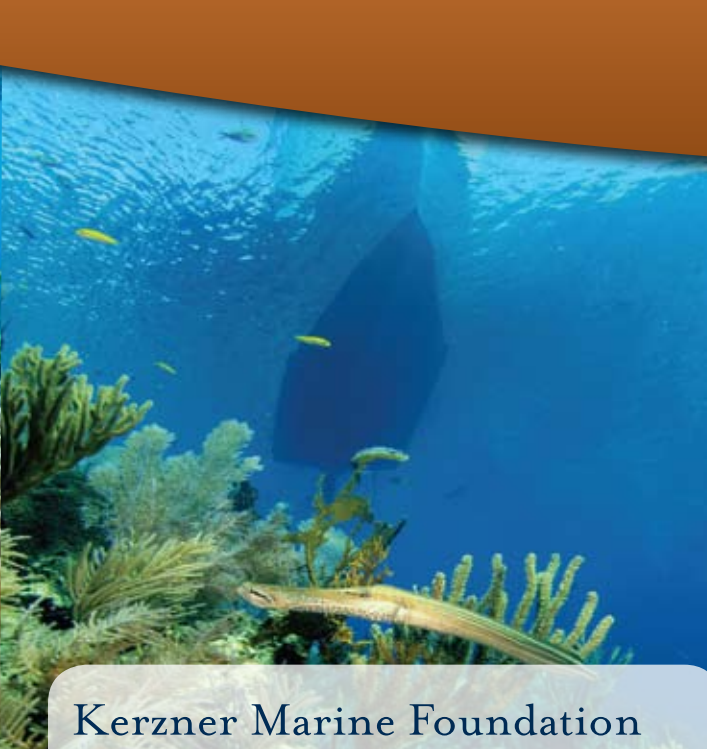
Coral in crisis

Coral reefs are facing a crisis. Over 10 percent of the world's reefs have been destroyed and 60 percent more face the same fate in the next 40 years if action is not taken. Factors that are endangering coral reefs include:

- Pollution, including oil spills and agricultural and mining runoff
- Overfishing of plant-eating fish that keep the reef clear of algae



- Boats colliding into reefs
- Changing climate
- Coastal development



Keeping corals healthy

- 1) Adequate light: Light levels are critical in maintaining the coral-algal symbiotic relationship.
- 2) Warm water: High water temperatures are very detrimental and will bleach coral. Corals grow best in water 73 to 77° F.
- 3) Clear water: Excessive sedimentation reduces available light for coral growth. Silt blocks feeding and respiration.
- 4) Proper salinity: Corals can tolerate a narrow range of salinities, between 30 and 40 parts per thousand.



Be Blue!

The most important thing you can do to help protect coral reefs is to invest in their future. Participate in activities at Atlantis, Paradise Island, such as the Blue Adventure tours, and learn more about the local reefs. A portion of each program sale goes to **the blue project**SM. You can also help protect reefs by reducing, reusing, and recycling; disposing of fishing line and pet waste properly; buying biodegradable detergents and soaps; purchasing seafood wisely; avoiding the purchase of items made of coral or shells; and picking up and properly disposing of litter from beaches.

www.blueproject.com



Kerzner Marine Foundation

The focus of the nonprofit Kerzner Marine Foundation is protecting the integrity of tropical marine ecosystems, which are becoming increasingly threatened due to overpopulation and overexploitation. We place a priority on projects that include developing and managing Marine Protected Areas (MPAs), conserving coral reefs, as well as supporting dolphin and whale conservation and research on a global level. The Foundation is partially funded by YOU through your participation in Blue Adventures and Dolphin Cay programs.

www.kerznermarinefoundation.org

