

Source: William & Edwards. *Coral and Coral Reefs of the Caribbean*. © Caribbean Conservation Association, 1993. Reprinted by permission.

31. CORAL REEF PLANTS

Algae and seagrasses are the main types of plants found in a coral reef environment. They are primary producers and provide the basic food supply for the entire reef ecosystem.

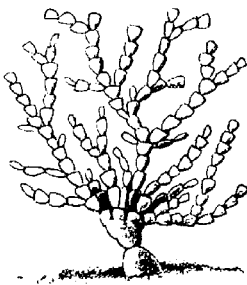
Algae range in size from simple unicellular plants such as zooxanthellae, found in the coral polyp to multicellular branching forms which are commonly called sea weeds. Pigments in the algae give each type its characteristic color, for example red algae, brown algae and green algae.

Two main types of multicellular algae found on reefs are **coralline algae** and **calcareous algae**. Not only are these algae food for some coral reef animals, but they also contribute to the making of the limestone framework of the reef.

Coralline algae are made up of masses of very fine thread-like filaments, that spread out in thin layers over the reef rock surface. These filaments produce calcium carbonate thus giving the algae an appearance more like a rock than a plant. The encrusting filaments trap sediments of sand, as well as cement the particles of sand together. Thus coralline algae help to stabilize the coral reef structure.

Calcareous algae do not encrust like coralline algae, but grow erect. They too produce calcium carbonate (limestone). When these algae die, the limestone remains produce sand. One type of calcareous algae known as *Halimeda* produces about fifty percent of the sand found on some of our beaches in the Caribbean.

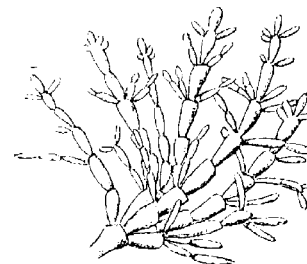
Below are diagrams of some reef algae.



HALIMEDA



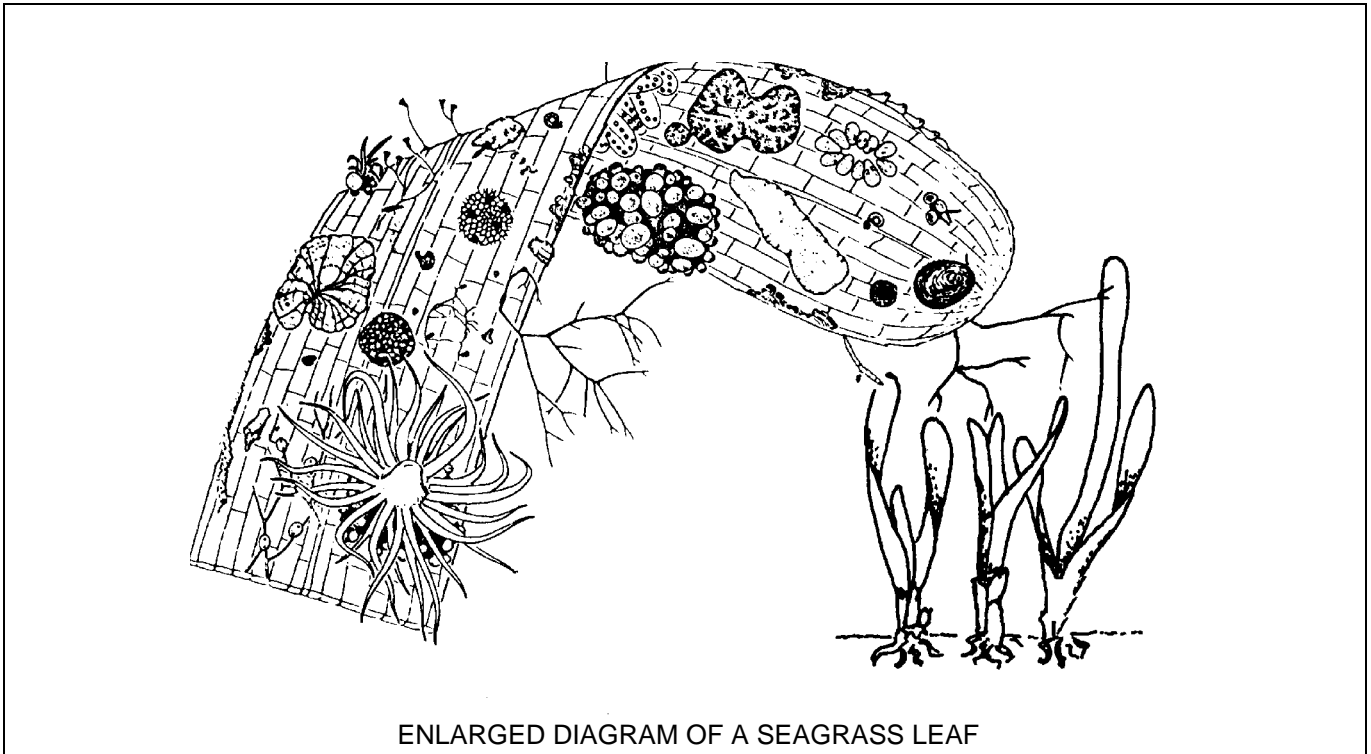
PENCILLUS



CORALLINA

Seagrass beds are often found in areas where coral reefs grow. Turtle grass, manatee grass and shoal grass are three types of seagrasses commonly found in the Caribbean Sea. Unlike algae, seagrasses are true flowering plants.

Seagrasses serve as a habitat and shelter for reef animals such as the young or juveniles of conch and lobsters. These plants also provide food for many herbivorous reef fish. The leaves of seagrass are also a habitat for very tiny organisms.



Seagrasses have extensive interwoven underground creeping stems with roots attached. These stems are called **rhizomes**. They anchor the plant in the sandy sea bed and help to keep the sea water clean by filtering and trapping large amounts of fine sediments. These rhizomes also bind the sand on the sea bed and prevent the sand from being carried away by water currents. They are important in preventing beach erosion.

Teachers' Notes and Follow-up Activity

The coral reef is a community. Each organism depends on others and each has a role to play if the community is to survive. The interrelationships must therefore be stressed. Take students on a visit to a nearby marine aquarium, or in a glass bottom boat (if available) to observe coral reef plants.

Correlation to National Standards from McREL (<http://www.mcrel.org>) :

Life Sciences

5. Understands the structure and function of cells and organisms
6. Understands relationships among organisms and their physical environment