

## MARINEreview: Tropical Communities & Symbiosis

Your most important resources are [www.sciencrush.net](http://www.sciencrush.net) and PowerSchools. Use them! I am available every day before school, after school, and during lunch for extra help. Let me know if there is anything I can add to this review to help you.

### Marine Organisms of the Day

**1. Great Barracuda (*Sphyraena barracuda*):** The Great Barracuda can grow up to 5 feet long and swim up to 36 mph in short bursts. It is an opportunistic feeder with a bad attitude, but rarely attacks humans. Even so, you should avoid wearing shiny jewelry when diving near barracuda.

[https://www.youtube.com/watch?v=v07mr\\_s6Fvk](https://www.youtube.com/watch?v=v07mr_s6Fvk) (0-1:00)

**2. Queen Angelfish (*Holacanthus ciliaris*):** Angelfish are very common fish on coral reefs. The Queen Angelfish is particularly popular because it is very colorful. They feed primarily on sponges, but juveniles will act as a symbiont in cleaning parasites off other fish.

<https://www.youtube.com/watch?v=cjgLjEyonVk> (1:10)

**3. (Bill) Yellow Longnose Butterflyfish (*Forcipiger flavissimus*):** Butterflyfishes are another very common family of reef fish. The Yellow Longnose Butterflyfish is easily identified by their long snout and distinct eye spot. Eye spots are an adaptation to confuse predators.

<https://www.youtube.com/watch?v=NdXYuavM0U4> (0:51)

**4. Red Mangrove Tree (*Rhizophora mangle*):** The Red Mangrove is a tropical halophyllic tree that can be found as far north as North Carolina, but are most common in the estuaries and coastlines of tropical Florida. They are well known for their stilt roots, also called prop roots, which raise them up above the waterline.

<https://www.youtube.com/watch?v=s2DVjAJdXck> (2:09)

**5. Parrotfish (Family Scaridae):** Every night, certain species of parrotfish envelope themselves in a transparent cocoon made of mucus secreted from their head. Much of the sand on beaches is actually ground up, undigested coral that the parrotfish excretes.

<http://www.scientificamerican.com/video/parrot-fish-poop-makes-beautiful-beaches/> (2:13)

**6. Star Coral (*Montastraea cavernosa*):** Star Coral is a common coral species found throughout the Caribbean and up the southeast coast of the United States, including North Carolina. As with all corals, they need clear, warm waters to facilitate their symbiotic relationship with zooxanthellae.

<http://video.nationalgeographic.com/video/coral-reefs> (3:00)

**7. Pearlfish (Family Carapidae):** Pearlfish are very vulnerable, slender fish that come out at night to feed on plankton. During the day, they live inside invertebrate hosts. These include sea cucumbers, to whom they have a commensalistic relationship.

<https://www.youtube.com/watch?v=K2Eyup8Jk3w> (1:43)

### Top 10 Terms for This Exam

Hermatypic Coral

Zooxanthellae

Planktivore

Types of Symbiosis

Polyp

Ahermatypic Coral

CaCO<sub>3</sub>

Mangroves

Types of Coral Reefs

Feeding Types of Reef Fish

### The Gimme Questions for This Exam

1. Although corals are sessile organisms, they engage in a behavior pattern that we usually associate with mobile organisms. This behavior is

a. nesting

b. sexual reproduction

c. migration

d. sleep

2. Coral reefs worldwide are experiencing rapid overgrowth by fleshy macroalgae. Which of the following are possible reasons for this?

a. nutrients have been added to the water column

b. coral coverage has been reduced by disease and physical disturbance

c. reduction in algal herbivores

d. all of these answers

3. All of these statements are true of symbiotic luminescent bacteria **except**

- a. the bacteria obtain food from their hosts
- b. the bacteria inhabit mainly squid and fish of the mesopelagic zone
- c. the bacteria are passed to the next generation through the egg
- d. the bacteria produce light constantly

4. The physical structure of coral reefs is the result of a complex balance among which of the following processes?

- a. climate and sea level change
- b. calcification, compaction/cementing, and bioerosion
- c. predation, competition and disturbance
- d. calcification and dissolution

**Finding Nemo Clips for This Exam**

3 – First Day of School

30 – Back on the Reef

Exploring the Reef