MARINEreview: Benthos & Meiofauna

Your most important resources are www.sciencerush.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. Sea Anemone (Order Actiniaria): Sea Anemones are in the same phylum (Cnidaria) as jellyfish and corals, sharing much of the same physiology. Sea Anemones are most known for their symbiotic relationship with anemonefish.
https://www.youtube.com/watch?v=vNhORnwcQcU (3:00)

2. Sea Cucumber (Class Holothuroidea): Sea Cucumbers are a type of echinoderm that may help reduce the effect of ocean acidification on coral growth by recycling calcium carbonate. They are currently being overfished in developing countries for sale and consumption in large countries like China.
https://www.youtube.com/watch?v=MVNrbyU-Vck (1:28)

3. Crown-of-Thorns Sea Star (*Acanthaster planci*): They have up to 21 arms. Despite all of the thorns, the actual surface of their body is soft and membranous. If you take them out of the water, that body surface will burst and the liquid will drain out, causing the spines to bend over and flatten. They regain their shape when placed back in water if they are still alive.
https://www.youtube.com/watch?v=E8WXiEBf4Oc (6:31)

4. Carnivorous Sponges (Family Cladorhizidae): Sponges (Phylum Porifera) are typically filter feeders. The deep sea Cladorhizidae family, however, trap small crustaceans with velcro-like hooks.
https://www.youtube.com/watch?v=oJeyOU4eSKw (4:06)

5. Bull Kelp aka Giant Kelp (*Nereocystis luetkeana*): Kelp forests are an important ecosystem that supports high biodiversity. Due to its very fast growth rate, kelp is often used in a variety of products including food, toothpaste, pharmaceuticals and biofuels.
https://www.youtube.com/watch?v=GcbU4bfkDA4 (3:13)

6. Peacock Mantis Shrimp (*Odontodactylus scyllarus*): The Peacock Mantis Shrimp is one of over 400 species of mantis shrimp, known for their incredible color vision and powerful claws. They have 16 color-receptive cones in their eyes (as opposed to our three) and can accelerate their attacking claws at 23 m/s.
https://www.youtube.com/watch?v=J4o7Fbt7OXU (1:26)

7. Blue Crab (*Callinectes sapidus*): The blue crab's scientific name means 'beautiful savory swimmer.' Blue crabs not only comprise the most valuable fishery in the Chesapeake Bay, but are major predators of benthic communities and are prey for many other fish species. Blue crabs are sexually dimorphic, meaning sexes occur in distinct forms. Males have blue claws and a narrow abdominal apron (referred to as the Washington Monument). Females have red-tipped claws ("painted fingernails") and a broad abdominal apron (referred to as the Capitol dome).
https://www.youtube.com/watch?v=VpNayQkwwkg (1:20)

8. (Jacques) Pacific Cleaner Shrimp (*Lysmata amboinensis*): There are 36 genera of cleaner shrimp representing over 150 species. They are known for actively engaging in mutualistic symbiotic relationships with fish, where they feed on small parasites and dead tissue living on the fish.
https://www.youtube.com/watch?v=FAHtqzP6hnE (0:31)

Top 10 Terms for This Exam

Benthos	Meiofauna
Epifauna	Infauna
Subtidal Zone	Depositional Environment
Kelp	Anaerobic Environment
Stream Index	Benthic Phyla

The Gimme Questions for This Exam

1. The most important environmental factor influencing the presence, absence, and types of interstitial organisms is
a. light b. temperature c. salinity d. grain size

2. All of these are characteristics of seagrass beds **except**
a. their borders are well-defined
b. they inhabit all types of substrates
c. they vary in the density of plants
d. they are restricted to a fairly narrow temp. range

3. Which feeding type is quite rare among meiofauna due to lack of interstitial plankton?
a. suspension feeding
b. predation by other meiofaunal organisms
c. detritus feeding
d. predation by macrofaunal organisms

4. All of these statements regarding species richness (diversity) are true **except**
a. turbulent waters provide a means of meiofaunal transport
b. most meiofaunal organisms lack a motile larval phase
c. waterfowl provide a major means of meiofaunal transport
d. meiofaunal organisms exhibit the same polar to tropical gradient of abundance as macrofauna

Finding Nemo Clips for This Exam

27 – Nemo & Dory