Invertebrates of the Reef

Residents of the Reef

Taxonomy of Representative Reef Invertebrates

CNIDARIA

Animals with a radialized (20,000 species)

1. Sea anemone – Actinia (Anthozoa)
2. Tubeworm – Spirobranchus

ARTHROPODA

Joint-legged animals – (85,000)

MALACOSTRACA: Lobsters, crabs, and shrimp

1. Giant barrel crab – Petrolisthes (Galatea)
2. Arrow crab – Stenorhynchus seticornis
3. Spiny lobster – Panulirus argus

CHIMPEDIA: Barnacles

4. Acorn barnacle – Littoraria (Tagis)

ECHINODERMATA

Spiny-skinned animals – (6,000)

HOLOTHUROIDEA: Sea cucumbers

1. Sea cucumber – Thyone (Holothuria)

ECHINOIDEA: Sea urchins and sand dollars

2. Slate pencil urchin – Eucidaris metularia
3. Rock boring urchin – Echinometra lucunter

ASTEROIDEA: Sea stars

4. Sea star – Linckia (Ophiura)

OPHIUROIDEA: Brittle or serpent stars

5. Spiny brittle star – Ophiothrix (Ophiura)

MOLLUSCA

Soft-bodied animals – (100,000)

GASTROPODA: Snails and slugs

1. Banded tulip – Fasciolaria lilium
2. Queen conch – Strombus (Aquatilis)

POLYPLACOPHORA: Chitons, mollusks, skin spikes

3. Atlantic ridge chiton – Chaetopleura (Chiton)

CEPHALOPODA: Squids and octopuses

4. Bigfin long-finned squid – Loligo pealei
5. Common octopus – Octopus vulgaris

ANNELIDA

Segmented worms – (8,700)

POLYCHAETA: Fan, tube, and bristle worms

1. Fan worm – Sabellaria (Sabellaria)
2. Atlantic tube worm – Serpula (Serpula)

BRYOZOA

Moss-like animals – (4,000)

1. Moss bryozoan – Bugula (Lichen)

CRUSTACEA

Animals with jointed legs – (5,000)

OSTRACODA: Seed shrimp

1. Feather hydroid – Pennaria (Hydroid)

ACTINOPODA: Sea spiders

2. Sea spider – Pycnogonum (Pycnogonida)

ARTHROPODA: Crabs and shrimpers

Anthozoanthe: Soft corals

3. Branched tree white – Lophogorgia (Gorgonia)
4. Sea fan – Gorgonia (Gorgonia)

Coelenterata: Stony corals and anemones

5. Star coral species – Montastraea annularis
6. Anthozoan sea anemone – Anthopleura (Anthopleura)

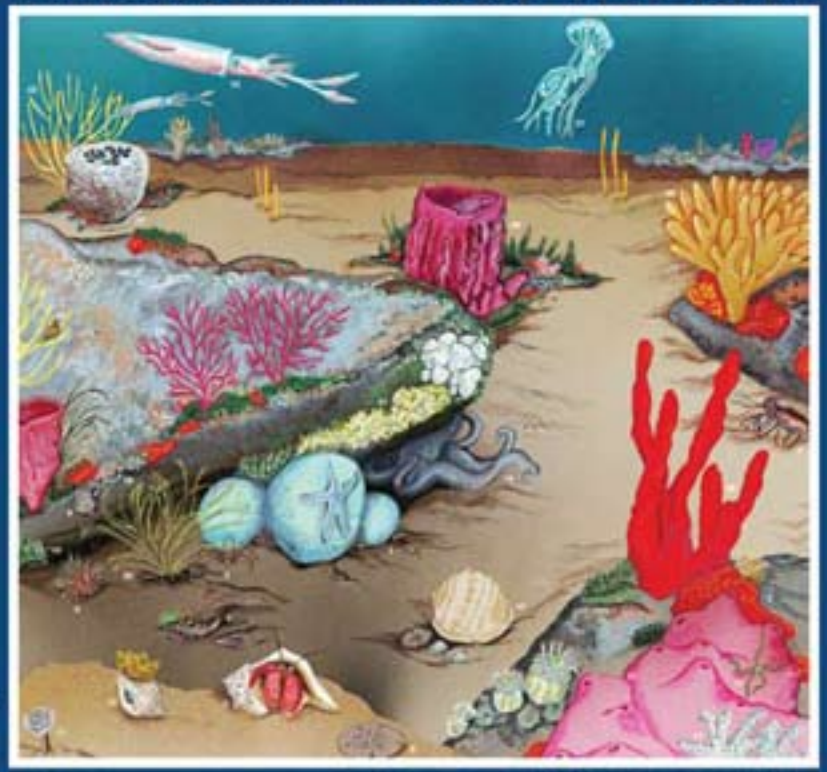
PORIFERA

Pore-bearing animals – (10,000)

1. Vase sponge – Ircinia (Ircinia)
2. Chicken liver sponge – Chondrilla (Chondrilla)
3. Red finger sponge – Haliclonda (Haliclonda)
4. Loggerhead sponge – Spongia (Spongia)
5. Finger sponge – Haliclona (Haliclona)
6. Turtle sponge – Aplysina (Aplysina)

Reefs of the Southeast

The coastal waters between Cape Hatteras, North Carolina, and Cape Canaveral, Florida, for about an ocean floor that is covered with hard substrate of sand, silt, and mud. Throughout the nonbuoyant clear and nutrient-rich waters of Southern Reef provide reef habitats for diverse communities of marine plant and animal life. These rocky and hardbottom known as "hard bottom" or "live bottom" areas support a variety of sponges, corals, and other invertebrates. As a result, these areas attract many diverse species of marine fishes, turtles, birds, and mammals. The Gray's Reef National Marine Sanctuary is one of the largest and most accessible hard bottom reefs in the United States. Managed by the National Oceanic and Atmospheric Administration, Gray's Reef was designated a sanctuary in 1981 and is representative of the habitat type found throughout the marine environment of the southeast United States.



GRAY'S REEF NATIONAL MARINE SANCTUARY

HTTP://GRAYSREEF.NOAA.GOV

Reef Habitats

Community Structure within the Reef

WATERS ABOVE THE REEF

Planktonic (drifting) and nektonic (swimming) invertebrates are found in the waters above the reef. Planktonic species include large medusae such as the sea nettle and the cannonball jelly. Squid exemplify a nektonic species that actively pursue prey in these waters.

FLAT TOP REEF

Horizontal reef tops provide habitat for sessile, attached benthic (bottom) dwelling invertebrates which rely upon ocean currents for food, gas exchange, waste removal, and egg dispersal. Examples include hard corals, soft corals, sponges, and hydroids.

SCARPS

Little sediment accumulates on the vertical reef surfaces known as scarps. As a result, the bare substrate supports colonies of encrusting sponges and bryozoans. Barnacles, tunicates, and sea anemones are also found on these exposed surfaces.

LEDGES AND CREVICES

Both predators and prey seek out good hiding places within the reef. Diurnal (active at day) species find refuge within the reef during the night. Nocturnal (active at night) species seek to conceal themselves within the reef during the daylight hours. Lobsters, crabs, sea urchins, and octopuses prefer this type of habitat.

SLOPES AND SANDY AREAS

Shifting sands and a lack of firm substrate preclude most sessile forms from settling along slopes and in sandy areas of the reef. Burrowing clams, mobile crabs, sea stars, and burrowing polychaete worms are better adapted to life in these loose sediments.

FLAT BOTTOM TROUGHS

Among the rock rubble, coarse sands, and shell frag-ments of flat bottom troughs are found brittle stars, fan and tube worms, burrowing crustaceans, small crabs, and fish. This habitat is also preferred by certain fast-moving echinoderms such as the sea cucumber.

The invertebrates of the reef have adapted to the specific resource characteristics of the habitats described above. This ability to adapt to different, specific resources helps to decrease competition for food and space among the components of the reef, thus allowing for a greater diversity of species within the reef community.

The data information about Gray's Reef, contact: Sanctuary's Reef National Marine Sanctuary