

SPONGES

Phylum: Porifera

The early naturalists were unsure about classifying these organisms as plants or animals. There is still some question as to whether an individual sponge is one animal or a colony. Sponges are the most primitive of the multicellular animals and lack organs or organ systems. They have specialized cells for different functions.

The body is porous with two types of surface openings: water currents flow in through microscopic ostia and flow out through oscula cells. Oscula are usually small, but may grow up to ¼" or more in diameter. Water currents, generated by special cells lining the internal body cavities, bring oxygen and food and carry away waste materials. Sponges are usually asexual, but sexual reproduction can occur, though details about this are obscure—the sexes are not distinguishable and most individual sponges are assumed to be hermaphroditic, containing both male and female organs.

The phylum Porifera has members living in all seas, from lower intertidal zones to great depths. Marine forms can grow in brackish waters sustained by minimum salinity levels of 10 parts per thousand, and a few species live in almost fresh water. Fresh water sponges generally exhibit little movement.

Red Bearded Sponge

Family: Microcionidae

Microciona prolifera

Description

Characteristics: Outer surface is covered by pinocytes (flattened, polygonal cells); its skeleton, composed of pointed calcium particles (calcareous spicules), provides a supporting framework; its branches are connected; raised lobes or cups are scattered throughout the body; irregular, symmetrical growth patterns; growth rate varies according to surroundings; it must constantly circulate water through itself to breathe and eat.

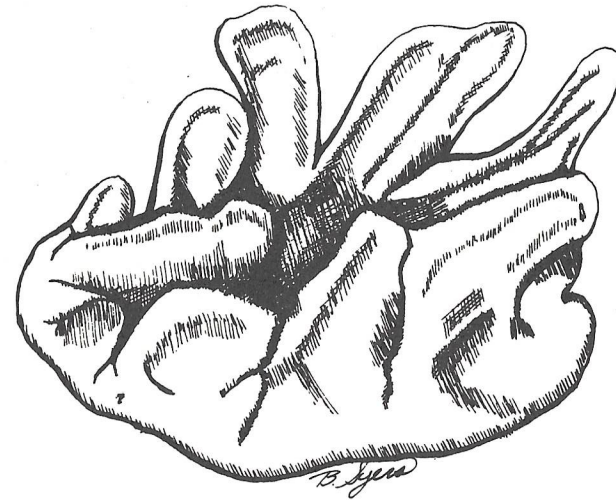
Color: Living sponges are red; when found on the beach they are brown.

Habitat

Live in shallow water and attach to any hard surface; found around Sandy Hook ocean and bay regions.

Edibility

Inedible.



Red Bearded Sponge

ANEMONES, HYDROIDS AND JELLYFISH

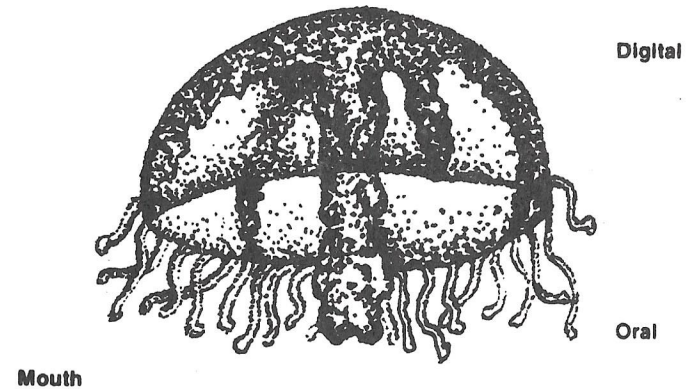
Phylum: Cnidaria

Most members of this group are marine or brackish water animals, and although they come in many shapes and sizes, there are a few general characteristics common to all. Cnidarians are radially symmetrical, with parts arranged around the center like spokes of a wheel. They do not contain complex organs and generally possess a single gastrovascular cavity where absorption and digestion of food occurs. There is only one opening—the mouth.

Two fundamental body forms have evolved—the polyp and the medusa. Sea anemones exemplify the first form and jelly fish exemplify the second. Polyps are generally cylindrical and attached at the base to a firm support surface; the mouth is at the opposite end and is surrounded by a circular ring of tentacles. Most medusae are umbrella-, bell-, or saucer-shaped with a mouth in the center and tentacles extending out around the edge. Medusae swim by means of slow-motion jet propulsion with the mouth facing downward.

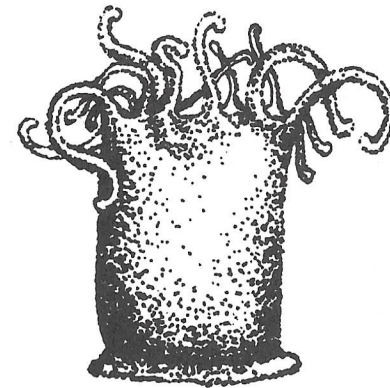
Cnidarians defend themselves by means of nematocysts (stinging cells) which are unique to this group. Nematocysts are microscopic egg-shaped capsules embedded in special cells, each with a trigger-like bristle projecting from its surface. Inside, a long tube lies neatly coiled. When the trigger is disturbed, the tube is ejected and becomes embedded in whatever caused the disturbance, releasing a small dose of poison. This is the jellyfish's sting and is used to catch prey or to ward off predators.

Cnidaria Two basic body shapes



MEDUSOID

Mouth



POLYPOID

Striped Anemone

Family: Aiptasiomorphidae

Haliplanella luciae

Description

Size: Tentacles are 1/4" wide, 3/4" long.

Characteristics: Head has 50 tentacles with the mouth in the center; for its muscular system to function, this anemone constantly draws water into itself to maintain its internal fluid pressure.

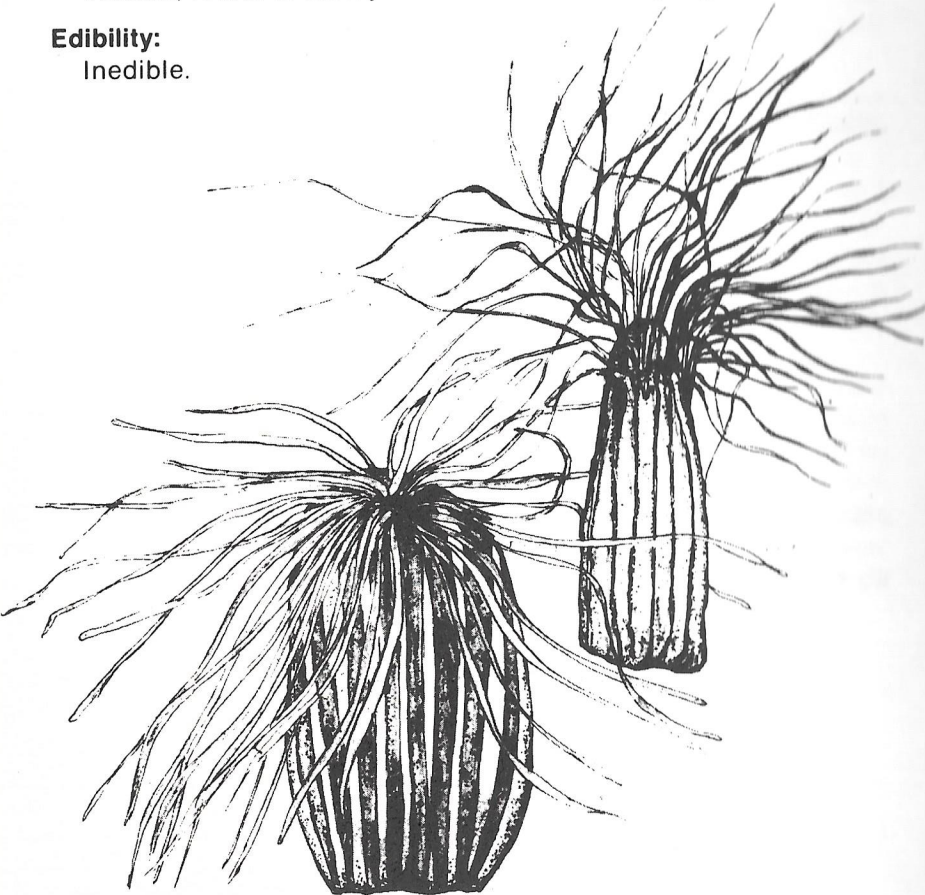
Color: Body stalk is dark green with dull yellow to white vertical stripes.

Habitat

Lives in coastal waters attached to rocks, shells and submerged timbers; found in Sandy Hook's ocean and bay regions.

Edibility:

Inedible.



Striped Anemone

Ghost Anemone

Family: Diadumenidae

Diadumene leucolena

Description

Size: 1 1/2" high, 1/2" wide.

Characteristics: 40-60 tentacles surround the mouth; there are small, dark bumps on the body stalk.

Color: Pale, translucent white or pink.

Habitat

Lives in coastal waters under rocks, pilings, or hard bottom surfaces; found in the bay and ocean regions of Sandy Hook.

Edibility:

Inedible.

Frilled Anemone

Family: Metridiidae

Metridium senile

Description

Size: Up to 4" high, 3" wide in the open oceans, much smaller along the coast; the largest anemone species found along the Sandy Hook coast.

Characteristics: As many as 1000 tentacles surround the mouth; the stalk is smooth.

Color: Stalk may be streaked or mottled with orange or yellow.

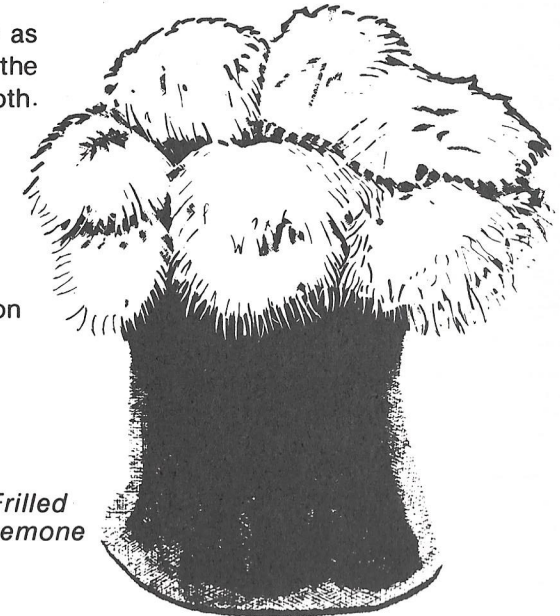
Habitat

Lives in coastal waters on hard bottoms, rocks, pilings or around clam or oyster beds; found in the bay and ocean waters of Sandy Hook.

Edibility

Inedible.

Frilled Anemone



Lion's Mane (Red Jellyfish)

Family: **Cyanidae**

Cyanea capillata

Description

Size: The bell is usually 5" in diameter; may reach up to 6' across.

Characteristics: Mouth-arms and tentacles grow in eight clusters.

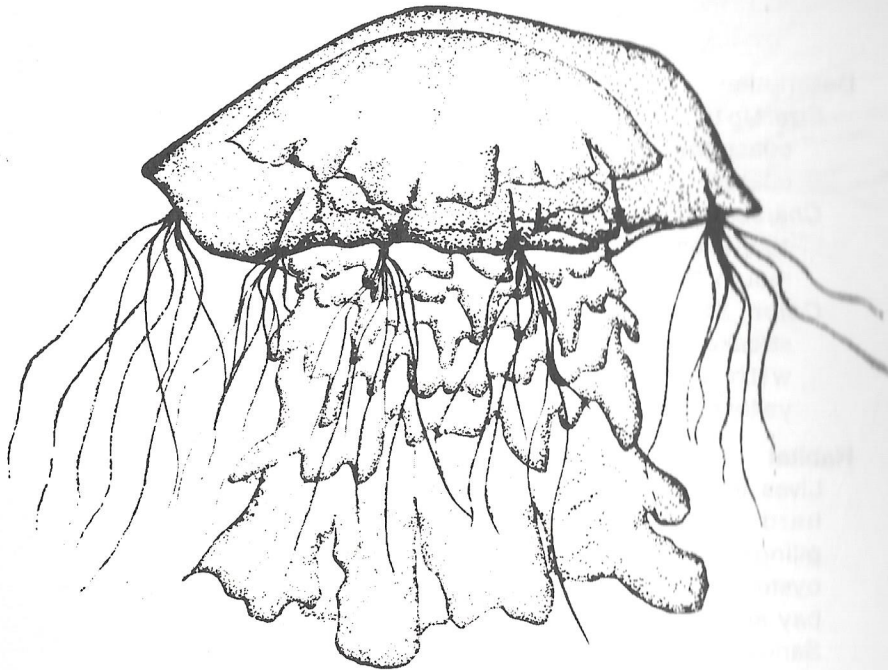
Color: Gonads and other internal organs may be deep orange, pink or red; color and size may vary with geographic location.

Habitat

Lives in surface waters of the open ocean; tides and currents carry masses of jellyfish throughout Sandy Hook's bay and ocean regions from July to September.

Edibility

Inedible.



Lions Mane

Star Coral

Family: **Astrangiidae**

Astrangia danae

Description

Characteristics: Composed of colonies of low, cup like coralites, joined together by a crust or solid mass of calcium carbonate from dead and decaying members of the colony; the skeletal configuration is due to the colony's growth pattern and the arrangement of polyps; occasionally dead pieces are used as jewelry because of their beauty.

Color: Polyps may be colorless, pinkish, or greenish; dead pieces may be black or white.

Habitat

Lives in shallow coastal waters attached to pilings, shells and rocky structures; found in the bay and ocean waters of Sandy Hook.

Edibility

Inedible.



Star Coral

Tubularian Hydroid

Family: Tubulariidae

Tubularia crocea

Description

Size: to 2", generally smaller.

Characteristics: Long-stemmed, unbranched and flower-like; tentacles are divided into groups, one whorl has long tentacles below the flower-like body, one or more whorls have shorter tentacles above the body.

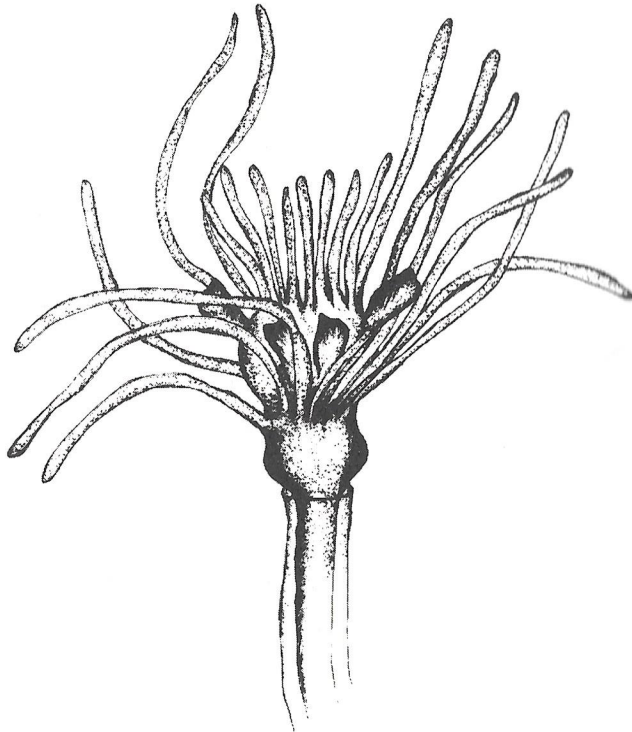
Color: Pink or tinted pink

Habitat

Lives in shallow to moderate bay and ocean water; found at Sandy Hook attached to hard bottoms, pilings, buoys and jetties.

Edibility

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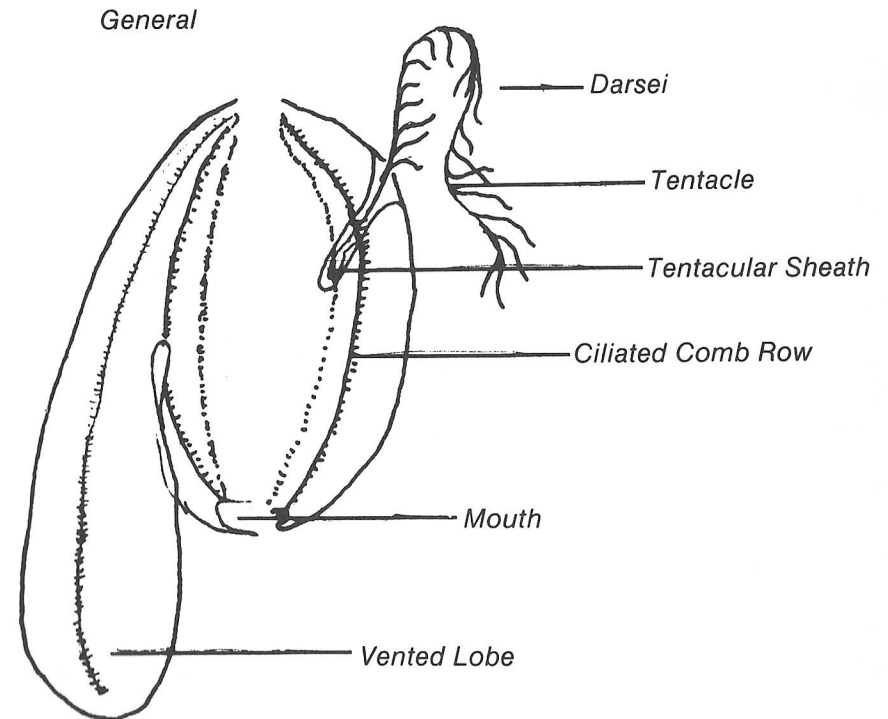
Tubularian Hydroid

COMB JELLIES

Phylum: Ctenophora

Ctenophores are clear, similar to jellyfish, and commonly known as comb jellies or sea walnuts. Ctenophores are not true jellyfish and they do not sting. Some bioluminesce (give off a cool green glow when touched). General body type is clear sac-like body with eight ciliated comb rows. They may have lobes or tentacles. The mouth is located ventrally in the center of the body.

They are planktonic (that is they have no choice of where they go—they are pushed by currents). The ciliated rows give them minimal mobility.



Leidy's Comb Jelly

Family: Mnemiidae

Mnemiopsis leidy

Description

Size: to 4"

Characteristics: Overall appearance is pear shaped, while the main body is a simple oval. The oval body has two flattened lobes which hang from it's sides. The lobes act as a funnel to direct plankton into the mouth at the bottom of the oval. Does not sting.

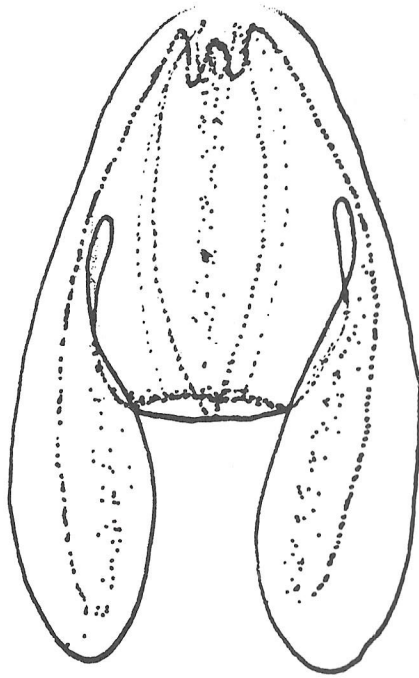
Color: Clear with iridescent rows of cilia. Bioluminesces when touched.

Habitat

Sandy Hook Bay and adjacent coastal waters

Edibility

Inedible



Leidy's Comb Jelly

Sea Gooseberry

Family: Pleurobrachiidae

Pleurobrachia pileus

Description

Size: 3/4-1 1/8"

Characteristics: Clear spherical body with two long contractile tentacles. Eight rows of comb-like cilia. These are not true jellyfish. They do not sting.

Color: Clear body, cilia rows are iridescent in sunlight.

Habitat

Bay and ocean on Sandy Hook

Edibility

Inedible



Sea Gooseberry