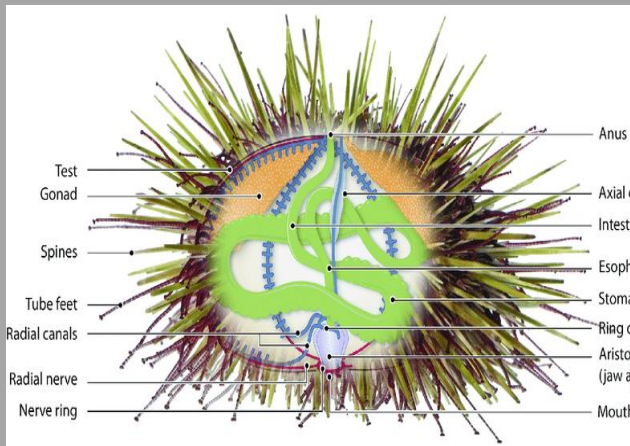


Reproduction of the Sea Urchin

Fertilization is external. Female Sea Urchins release several million tiny, jelly-coated eggs at a time. Eggs or sperm are released through five gonopores. As they develop, the tiny larvae (called the pluteus, which have bi-lateral symmetry) swim in the sea and are a component of zooplankton. It takes several months for juvenile sea urchins to form. The time from fertilization to a reproductive adult is from 2 to 5 years.

Diagram of the Sea Urchins.



Where do they live?

- Intertidal zone
- brown seaweeds
- BC rocky coastlines
- rock pools
- mud
- on coral reefs
- sea grass beds

The red sea urchin most found in the northern Pacific oceans.

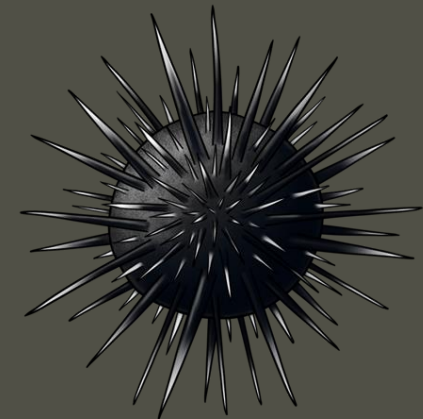


Names of the Sea Urchin

- Latin name is Echinoidea
- Heart Urchin (Spatangoida) This type also known as Sea Potatoes
- .-Common Sea Urchin (Echinus Esculentus)
- The Rock Boring Urchin (Echinometra Lucunter)
- Red Sea Urchin (Mesocentrotus Franciscanus)
- Pea Urchins (Echinoryamas Pussilus)- Green Sea Urchins (Strongylocentrotus Droebachiensis)
- Sea urchins are often referred to as sea eggs

Sea Urchin

By: Leo and Mitch



Interdependence



In what ways is the sea urchin dependent on other species?

It depends on some animals to go near it for it to eat its prey, for example for sea urchins to eat planktons the plankton needs to be closer to the Sea Urchins.

In what ways do other species depend on sea urchins.

If the sea urchin population ceased to exist, their predators will die off due to starvation. For example, the sea otter will go extinct because their main source of food are sea urchins. If sea Urchins no longer existed, reefs will die due to overwhelming amounts of algae, kelp and seaweed.

In what ways do the abiotic features of British Columbia and the sea urchins interact?

The sea urchins live in cold climates in water temperatures from 0 to 15 degrees Celsius. Green sea urchins are found between intertidal zones to about 1200 meters.

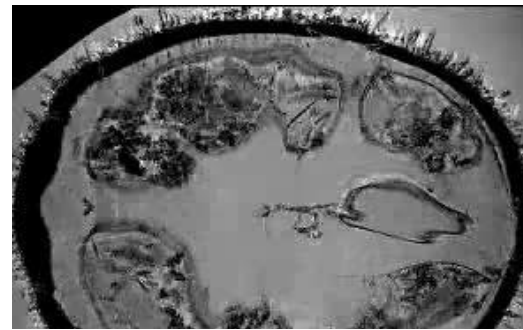


First people's utilization of the species

How you eat them- Sea urchins were used as food and medicine, you eat them raw after cracking the shell and scooping out the gonads or the juices were sipped, or they are boiled.



Medicinal properties- Emotional, muscle healing, joint healing, soothing weak liver and digestive system, relief of headache symptoms, used by athletes to build and protect healthy muscles and tissues, used for calcium deficiency and spiritual beliefs is that it helps to mend your body.



benefits-

Good source of protein and healthy fats, low on calories

Used for weight loss

Anti-oxidant

Healthy nutrients with minimal calories



Harvesting methods-

Sea urchins Can be picked at low tide by using protective gloves

Three pronged poles used to bring them to the surface from deep waters

Collected by spears from canoes

Nets when there is shallow waters



Traditions practices and sustainability

- Restaurants have sea urchins on menus
- Sea urchin product production has dropped
- Methods have changed by people diving into the water and collecting them
- First nation people have their own catch limits
- Daily limit for recreational sea urchin harvest is 12 gear is limited to hand picking

Sea urchins have several adaptations to help them survive. To protect themselves from predators, sea urchins will react immediately if something sharp touches their shell and they will point all their spines towards the area being poked. They are also light-sensitive. They also need good water conditions.

Sea are interrupting the sustainability of the sea urchin
The water can't be too cold or too hot

The gonads were used as bait to catch fish
Gonads are apart of the sea urchin

The kwakiutl branded empty sea urchin shells with fire so spirits did not eat them.



current uses and sustainability

Haida Gwaii people are saying that the biggest threat to sustainability of red sea urchin are the sea otters. If otters return to haida Gwaii area there will be no commercial fishing (eurchin and abalone) and there will be no recreational fishing.

The Haida elders say “long ago our people new how to harvest and how to keep balance so the eco system still had all parts intact”.

There has to be a balance and interdependence between sea urchin, sea otter population and kelp growth.

As a result first nation communities and marine ecologists are working together to restore balance to the ecosystem and to insure the sustainability of sea urchin.



