

Echinodermata

Echinoderm is Greek and means “spiny skin.” All echinoderms have spiny skin, and a five-part body plan. They are radially symmetrical... mostly. Echinoderms, like the vertebrates, are deuterostomes, which means their mouths formed after the other end of their digestive tract (deuter = second and stome = mouth).

Sub-phyla

- † Homalozoa, extinct – some have plates or stinging cells, may be ancestral
- Crinozoa, sea lilies and feather stars
- Asterozoa, sea stars, brittle stars, basket stars, sea daisies
- Echinozoa, sea urchins, sea cucumbers, sand dollars
- † Pelmatozoa, extinct sea lilies
- † Blastozoa, extinct sea lilies

Morphology (body plan)

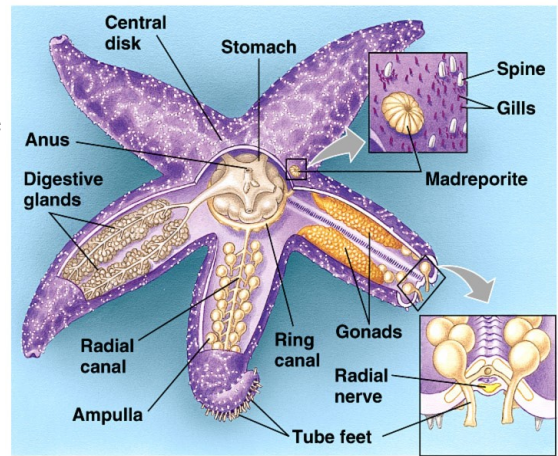
Echinoderms have a skeleton composed of calcified modules. They can cause this skeleton to grow. Some may have spines, such as a sea urchin, and these can regrow if lost. Some echinoderms root themselves to the underlying rocks, such as sea lilies and basket stars, but others, such as starfish, urchins, etc. roam freely.

They move through a water vascular system, like the hydro-pressure system of the arthropods. Most of the echinoderms use their limbs to propel food to their mouths, located at the center of the arms. For a starfish, this is on the top, and the exiting end of the digestive tract (anus) on the top.

Echinoderms have tube feet, which can work like tiny suction cup. They can use these to help pry apart shells of mollusks. They can evert (expel) their stomachs through their mouths, digest their food, and then re-swallow their stomachs. Nasty, right?

Reproduction

Most echinoderms reproduce by releasing their sperm and eggs into the open water, although some will have breeding bags that hold the eggs. There are some sea cucumbers that keep the young in body cavities. While not a primary means of reproduction, many sea stars can reproduce asexually.



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