

Phylum : Echinodermata

Pentaceros : Sea Pentagon or Starfish

Classification :

Kingdom.....Animalia

PhylumEchinodermata

ClassAsteroidea

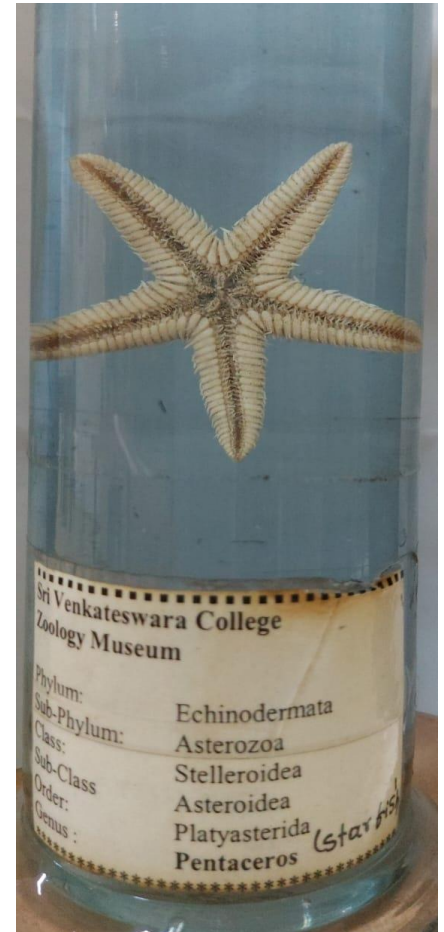
Genus*Pentaceros* (Starfish)

Habit and habitat :

Pentaceros is the most common eleutherozoan echinoderm found in sea from shallow water to 1,000 fathoms.

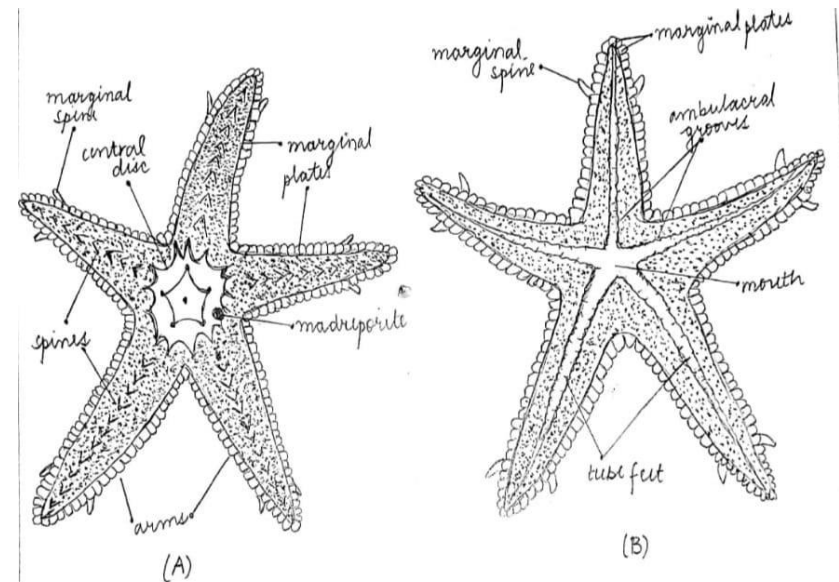
Distribution:

It is found in U. K., U.S.A., India, Panama and South America.



Comments :

- Commonly called as sea pentagon or starfish.
- Body is enclosed in a tough, hard and leathery integument containing several ossicles.
- Arms are 5 in number and symmetrically arranged in the form of star around the central disc. Body is differentiated into oral and aboral surfaces.
- Aboral surface is brown and convex, containing rows of definitely arranged spines. The marginal plates are large and distinct.
- There is a rounded sieve plate or madreporite plate in one of the inter-radii. It forms the first part of the water vascular system which is well developed.
- Ambulacral groove contain double rows of locomotory organs of tube foot.



Pentaceros A: Aboral view
B: Oral view

Antedon

Classification :

Kingdom.....Animalia

Phylum Echinodermata

Class Crinoidea

Genus *Antedon* (The feather star)

Habit and habitat :

Antedon is marine and occurs about 2 fathoms deep and remains attached to rocks by cirri from central disc. They are gregarious forms and feed on microscopic living organisms.

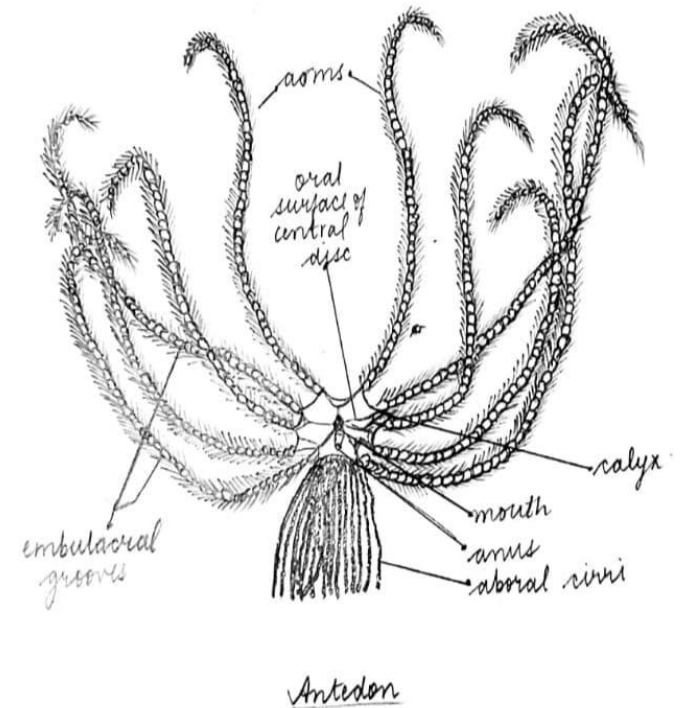
Distribution :

It has world-wide distribution found in all seas and at all depths down to 5,800 meters



Comments :

- Commonly called on sea-lily or feather-star.
- On the aboral side calyx bears a knob-like structure called as centrodorsal plate or stalk.
- The calyx is differentiated into an upper convex oral surface, having mouth and anus and the lower flat aboral surface, into which anus and cirri are inserted.
- On the aboral side calyx bears a knob-like structure, called as stung of the stalk.
- The oral surface is covered by a leathery skin in which numerous calcareous plates are embedded. It is directed upwards.
- There are 10 arms having extensions of viscera and each bears numerous pinnules containing gonads.
- The cirri are emerging from aboral surface and are composed of skeletal ossicles.



Echinus

Classification :

Kingdom.....Animalia

Phylum Echinodermata

Class Echinoidea

Genus*Echinus* (Sea urchin)

Habit and habitat :

Echinus is a benthic animal occurring from inter-tidal zone to a depth of 5000 meters.

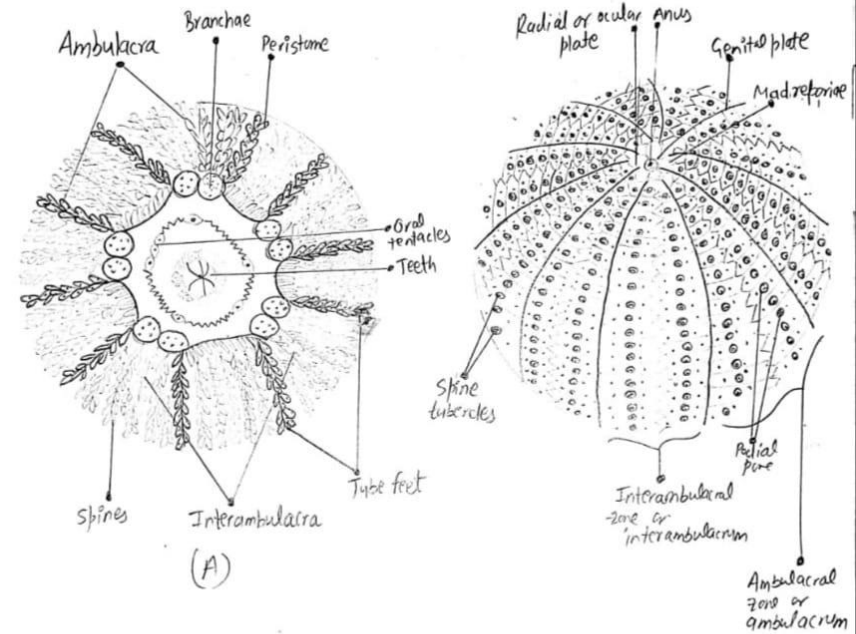
Distribution :

It is widely distributed in the Atlantic, the Mediterranean and Pacific waters.



Comments :

- Commonly called as sea urchin.
- Body is spherical and brownish and is differentiated into flat, oral and domed aboral surfaces along vertical oral aboral axis.
- Entire surface, except peristome and periproct, is covered by movable articulated spines to the test.
- Test is distinguished into ambulacral and inter-ambulacral zones. Water vascular system is well developed. Ambulacral groove closed.
- Test bears numerous spines and rows of tube feet in ambulacral areas.
- Dried test contains ocular plates, anus, genital plate, madreporite plate and double row of podia.



Echinus: (A) ORAL VIEW (B) SKELETON IN ABORAL VIEW

Clypeaster

Classification :

Kingdom.....Animalia

Phylum Echinodermata

Class Echinodea

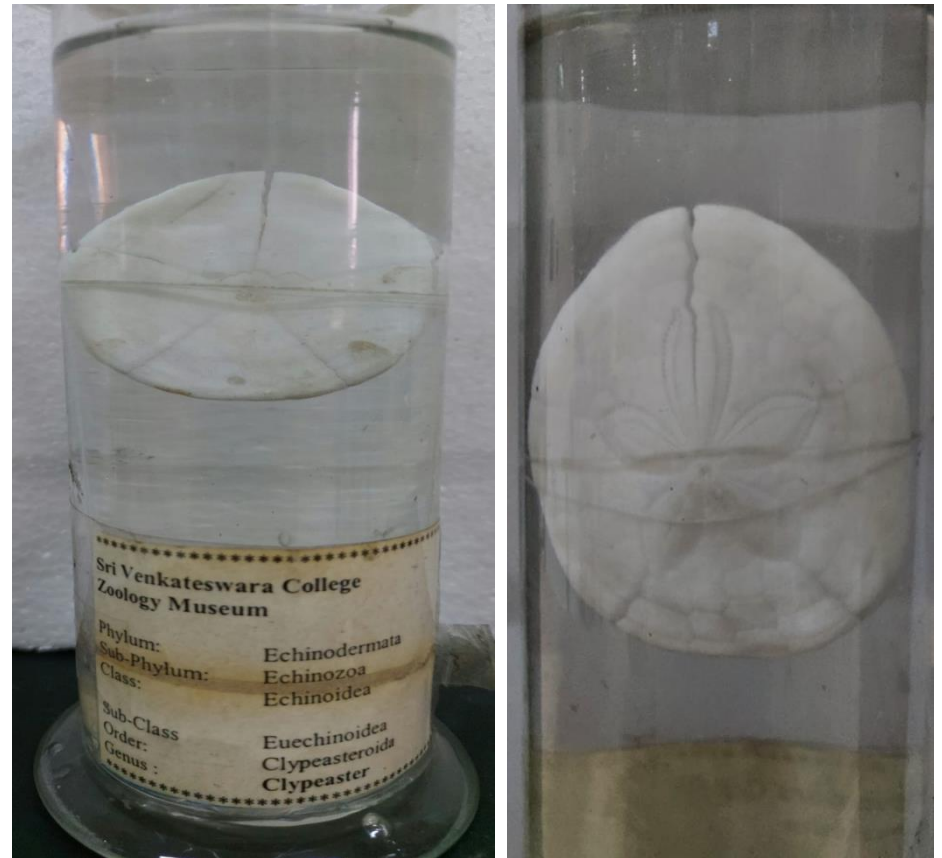
Genus*Clypeaster*

Habit and habitat :

Clypeaster is found creeping on the bottom or partly buried in sand. It shovels sand by its tube feet.

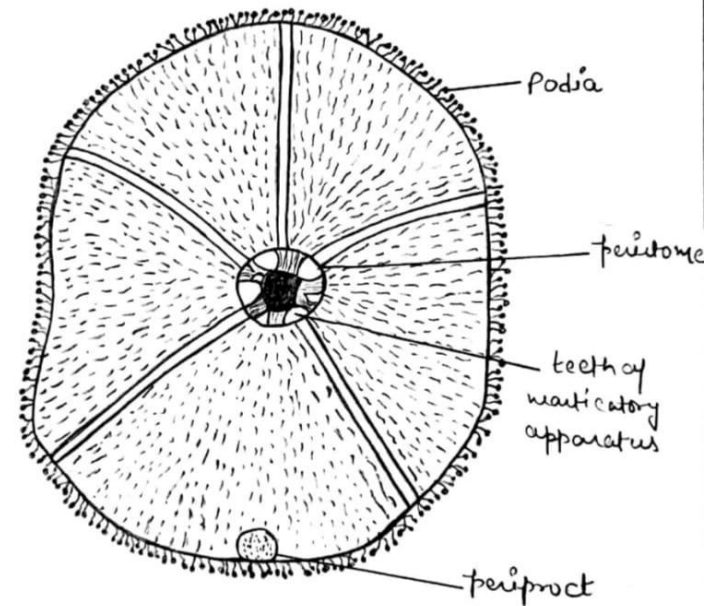
Distribution :

It is found in tropical, sub-tropical region, Red Sea and North Carolina to Brazil.



Comments :

- Commonly called as cake urchin.
- Body is flattened and is exhibiting bilateral symmetry.
- Body differentiated into oral and aboral surfaces.
- Shell more or less five sided, each petaloid area being wide and well marked and each pair of ambulacra.
- Aboral surface is slightly convex. Aboral ends of 5 ambulacral areas are bordered, each by two rows of flattened, respiratory tube feet, which are arranged in such a way that they appear like petals of flowers and are hence called as petaloids.
- At the beginning of each ambulacral area near the peristome there exist two sphaeridia which are immovable and devoid of nerve ring.
- Genital plates are fused with the central pentagonal plate. Radial ocular plates are distinct.



CLYPEASTER (cake-urchin)

Cucumaria

Classification :

Kingdom.....Animalia

Phylum Echinodermata

Class Holothuroidea

Genus *Cucumaria* (The sea cucumber)

Habit and habitat:

Cucumaria inhabits approximately 200 fathoms deep wholly or partially buried in the mud. It feeds on detritus and plankton.

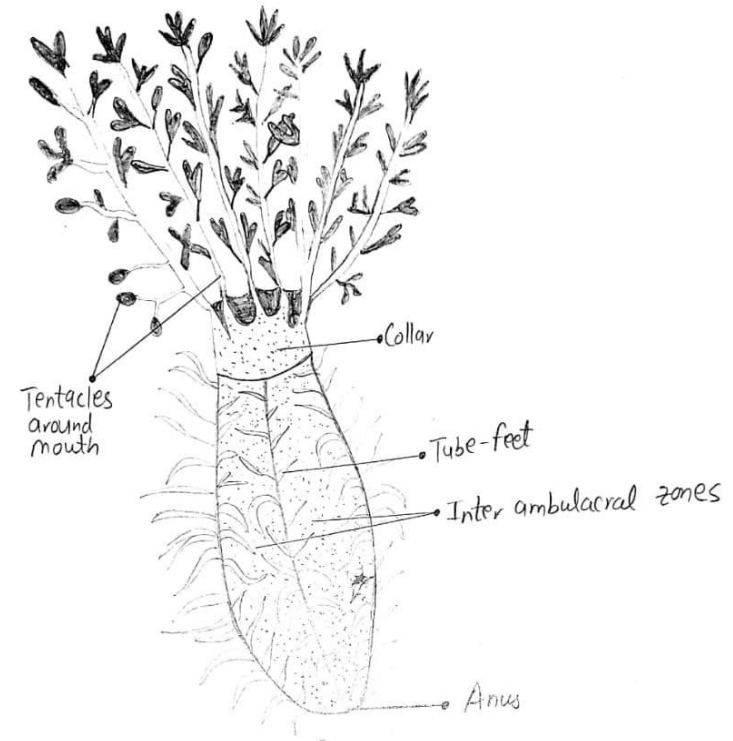
Distribution :

It has cosmopolitan distribution and is specially found in Europe, U.S.A. and India.



Comments :

- Commonly called as sea cucumber.
- Body is elongated horizontally along the oral aboral axis. Colour of the body may be whitish, reddish or brown.
- Oral end contains a whorl of 10 dendritic bushy, pinnately branched tentacles surrounding the terminal mouth. Tentacles are modified tube feet.
- Anterior region is called as collar which contains mouth at anterior extremity.
- Rest of the body differentiated into 5 ambulacral and 5 inter ambulacral zones. Ambulacral grooves are covered and run longitudinally.
- Tube feet, when present, usually possess suckers and are either arranged in rows or are irregularly scattered.
- Body wall which is dermo-muscular contains very small separate ossicles.
- Larva are Auricularia Doliolaria.



Cucumaria