**GENERAL CHARACTERS of ECHINODERMATA**

Animals belonging to phylum Echinodermata bears spine like structures on the skin and hence given the name ‘Echinodermata’. Echinoderms are exclusively marine organisms. Body of these animals is dorsoventrally flattened and body system is compressed. Body symmetry is generally pentamerous and head is absent in these organisms. Characteristic feature known as tube-feet is present in echinoderms which helps the animals in locomotion as well as respiration. Echinoderms contains peculiar body system called ‘Water vascular system’ which helps osmoregulation i.e., maintenance of water in the body of the animal. Development of these organisms is indirect which takes place through various larval forms.

Phylum Echinodermata includes around 5300 known species and contains the only major group of deuterostome invertebrates. They are distinguished from all animals by a number of characteristics:

1. Echinoderms have organ-system level of body organization.
2. They are triploblastic, coelomate, radially symmetrical animals and often pentamerous.
3. Body is unsegmented with different shapes such as globular, star-like, spherical, discoidal or elongated.
4. Head is absent; body surface is marked by five symmetrically radiating areas called ambulacra and five alternating interradii called inter-ambulacra.
5. Endoskeleton is of dermal calcareous ossicles with spines and covered by the epidermis.
6. Water-vascular system is of coelomic origin which includes podia or tube feet for locomotion and generally with a madreporite.
7. Enterocoelous type of coelom is present which constitute the perivisceral cavity and cavity of the water-vascular system. Coelomic fluid contains coelomocytes.
8. Digestive tract is either straight or coiled.
9. Vascular system and haemal system are covered by coelomic perihaemal channels.
10. Respiratory organs include dermal branchiae, tube feet, respiratory tree and bursae.
11. Nervous system consists of a circumoral ring and radial nerves. Brain is absent.
12. Sense organs are poorly developed and includes tactile organs, chemoreceptors, terminal tentacles, photoreceptors and statocysts.
13. Excretory organs are absent.
14. Echinoderms are usually dioecious. Gonads are large and single or multiple. Fertilization is external. Development is indirect through free-swimming larval forms.