# Practical no. 16

## Study of Principle representative class of Phylum Echinoderms

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# Kingdom Animalia
# Phylum Echinoderms

- All marine and bottom dwellers
- Aprox. 7000 species
- Known as spiny-skinned animals
- Deuterostomes
- Feed on snails, bivalves, crustaceans, corals, detritus, etc.

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# Classes

1. **Crinoidea** e.g. sea lilies , feather stars
2. **Asteroidea** e.g. sea star
3. **Ophiuroidea** e.g. brittle star
4. **Concentricycloidea** e.g. sea daisies
5. **Echinoidea** e.g. sea urchins, sand dollars
6. **Holothuroidea** e.g. sea cucumbers

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FRANCE
UNDERWA



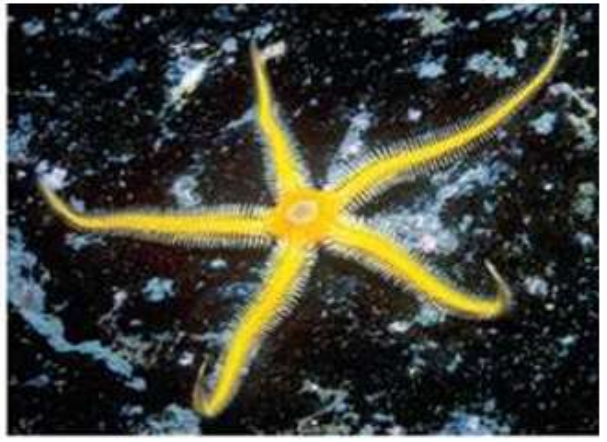








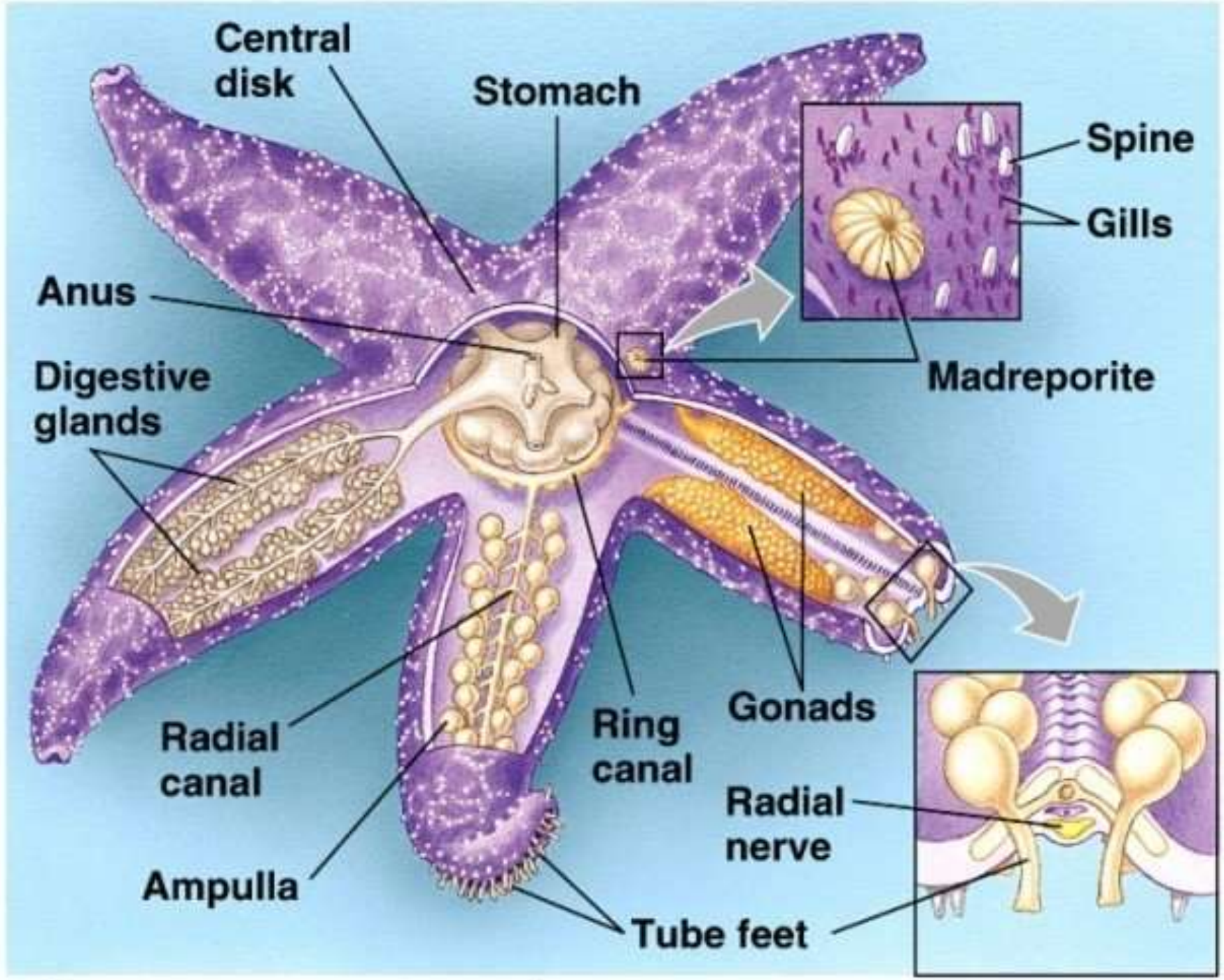




# Characteristics

- Triploblastic, lack segmentation, coelomate
- Pentaradial symmetry in adults and bilateral in larval forms
- Calcareous endoskeleton known as the test or ossicles with protruding spines
- Ventral surface called the oral surface where **mouth** is located
- Dorsal surface known as aboral surface where **anus** is located
- Have a nervous system but no head or brain in adults
- No circulatory, respiratory, or excretory systems

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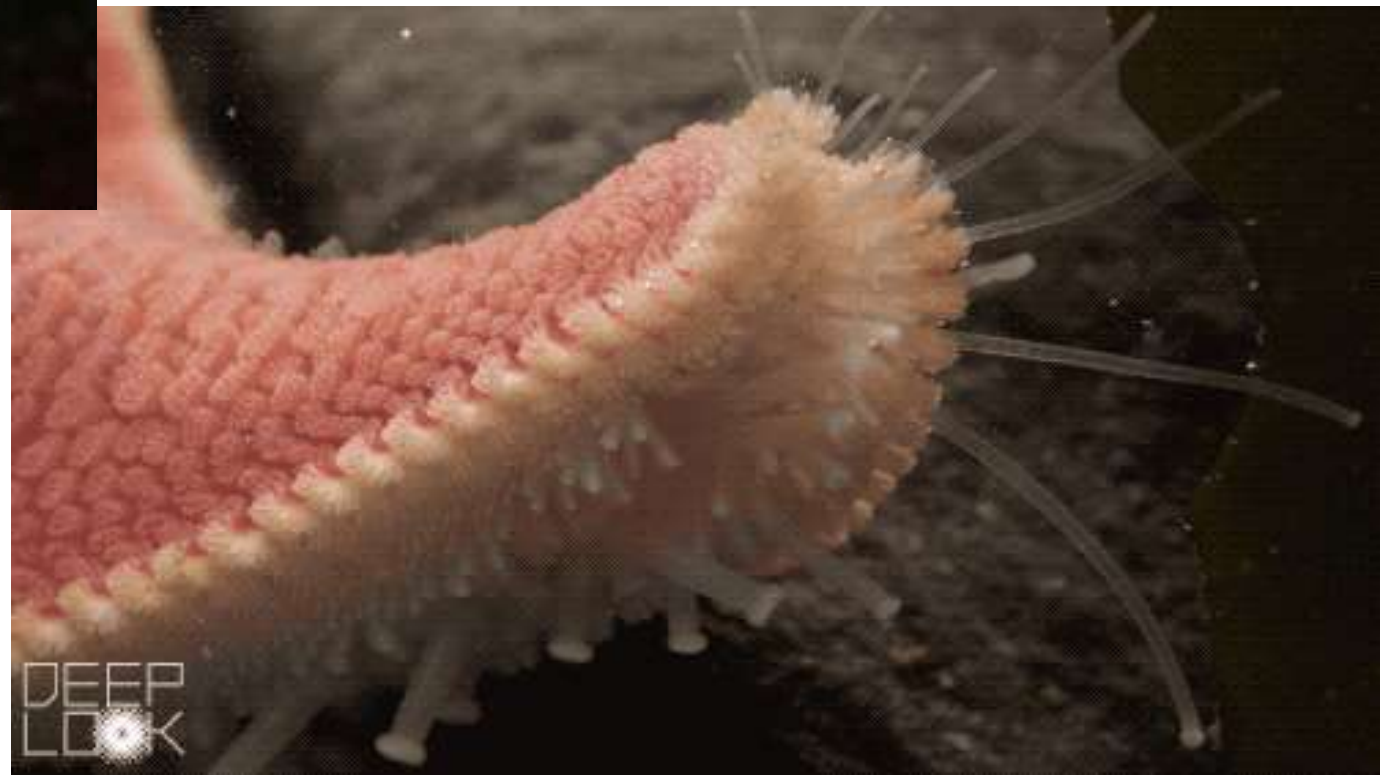

Central disk
Stomach
Spine
Gills
Anus
Madreporite
Digestive glands
Radial canal
Ring canal
Gonads
Radial nerve
Ampulla
Tube feet

# Characteristics

- Capable of extensive regeneration
- Free-swimming larva to sessile or sedentary adult
- Have a network of water-filled canals called the water vascular system to help move and feed
- Tube feet on the underside of arms help in moving and feeding
- One-way digestive system consists of mouth with oral spines, gut and anus
- Separate sexes
- Reproduce sexually and asexually

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DEEP
LOOK

# REGENERATION IN STARFISH

