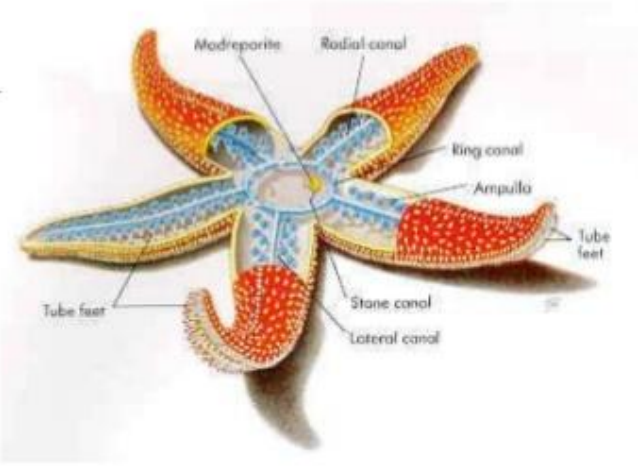
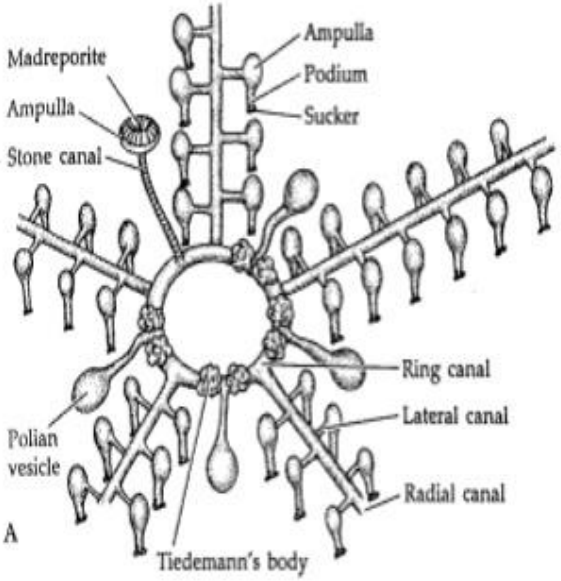
Introduction

- The water vascular system is a modified part of coelom.
- It is otherwise called the **ambulacral system**.
- Peculiar to echinoderms
- Consisting of sea water filled canals and certain corpuscles.



The essential parts of the system are:

1. Madreporite
2. Stone canal
3. Ring canal
4. Radial canals
5. Tidemann's bodies
6. Polian vesicles
7. Lateral canals
8. Tube feet



1.Madreporite

- The madreporite is a rounded calcareous plate
- present on the aboral surface of the central disc in inter-radial position.
- Its surface bears a number of radiating, narrow, straight or wavy grooves or furrows.
- Each furrow contains many minute pores at its bottom.
- Each pore leads into a very short, fine, tubular pore-canal.
- Which passes inward in the substance of the madreporite.
- There may be about 200 pores and pore-canal.
- The pore-canals unite to form the collecting canals.
- Which open into an ampulla beneath the madreporite.

2.Stone canal

S-shaped canal

Walls are strengthened by a series of calcareous rings

Internally lined with cilia

Draws the sea-water from outside into the canal.

One end of the opens to the outside through the madreporite.

The other end opens into a ring canal.

The lumen of the stone canal is occupied by a ridge with spirally coiled lamellae.

3.Ring canal

- It is a wide pentagonal ring-like vessel lying around the mouth.