

المحاضره السادسه / مرحله ثانيه / قسم علوم الحياة / الحشرات و اللاسعات والاسفنجيات / الأستاذ الدكتور خيري عبدالله داود

Hydra and Sponges

Phylum Cnidaria

Hydra

1 – **Hydra** (hydrozoan) found as marine and fresh water ponds .

2 – Hydra discovered by Leeuwenhock 1632 and named by Linnaeus 1758 .

3 - hydra clothed by highly specialized cells called cnidocytes .

4 – When hydra bud separate from the parents become independent individual .

5 - Body of Hydra have head , foot and two layers , ectoderm and endoderm between them mesoglea , tubule in the middle .

7 – Hydra reproduce sexually (represented by ovary and testes), asexually (by budding) , Sexual reproduction occur in Fall , the Zygote become covered and protected by a shell , hatching during spring .

9 - Multi headed hydra can be cut to several pieces and can grow all .

10 – Tissue regeneration , root regeneration without cell division .

11 – Hydra are radially symmetric , its length 1 - 10 mm



12 - Glands in basal disc secret sticky (adhesive) substance to stick hydra on rocks other objects .

13 - Mouth opening at the top of the body surrounded by 1 – 12 mobile tentacles .

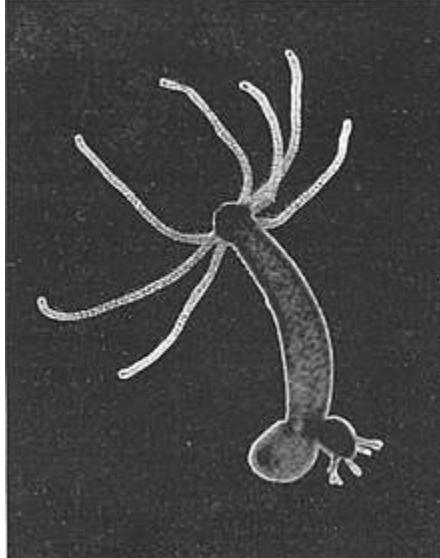
14 – Cindocytes located in epidermis espacialy in tentacles can penetrate the prey and secret toxic substance that immobilize the prey .

15 – By contraction of contractile cells , the hydra can shorten length or bend its body .

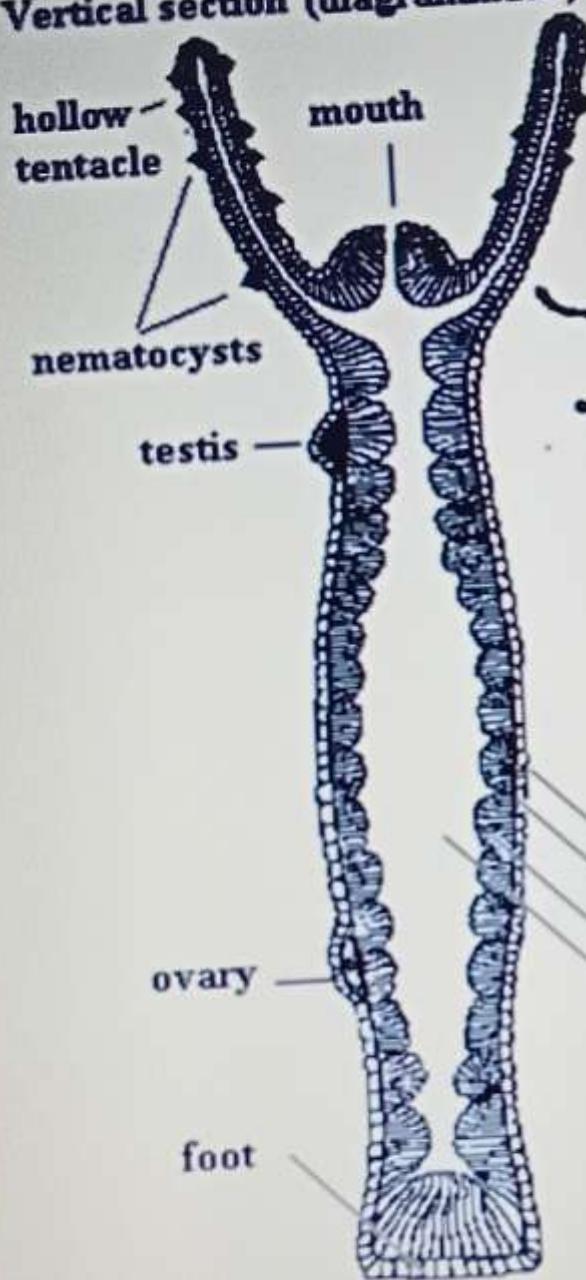
16 – Many hydrozoan form colonies consisting hundreds or thousands of individual (colony reproduce by budding

17 – Hydra can move 100 mm per day from one place to another .

18 – IF HYDRA cut from the middle can be regenerate the head .



Vertical section (diagrammatic)



Two hydras on dead leaf

Vertical Section of Hydra

Sponges :

1 – Sea sponges Metazoan (phylum porifera)

2 – Sponges multicellular aquatic animals , number 5000 species known .

3 - Simple animal with many cells but no mouth no heart

No muscles no brain .

4 - Basic body is made of non - living jelly like layer between two thin layers of cells .

6 – The body is full of pores and channels allowing water to circulate through them .

7 – Most of them feed on bacteria and small crustacean (filter feeder).

8 – More than 10000 species of sponges most of them live in in the oceans , very few live in fresh water .

9 - Sponge larva have flagellum .

10 – size of sponges 1 - 200 cm and its shape , ball like , cups , Vases .

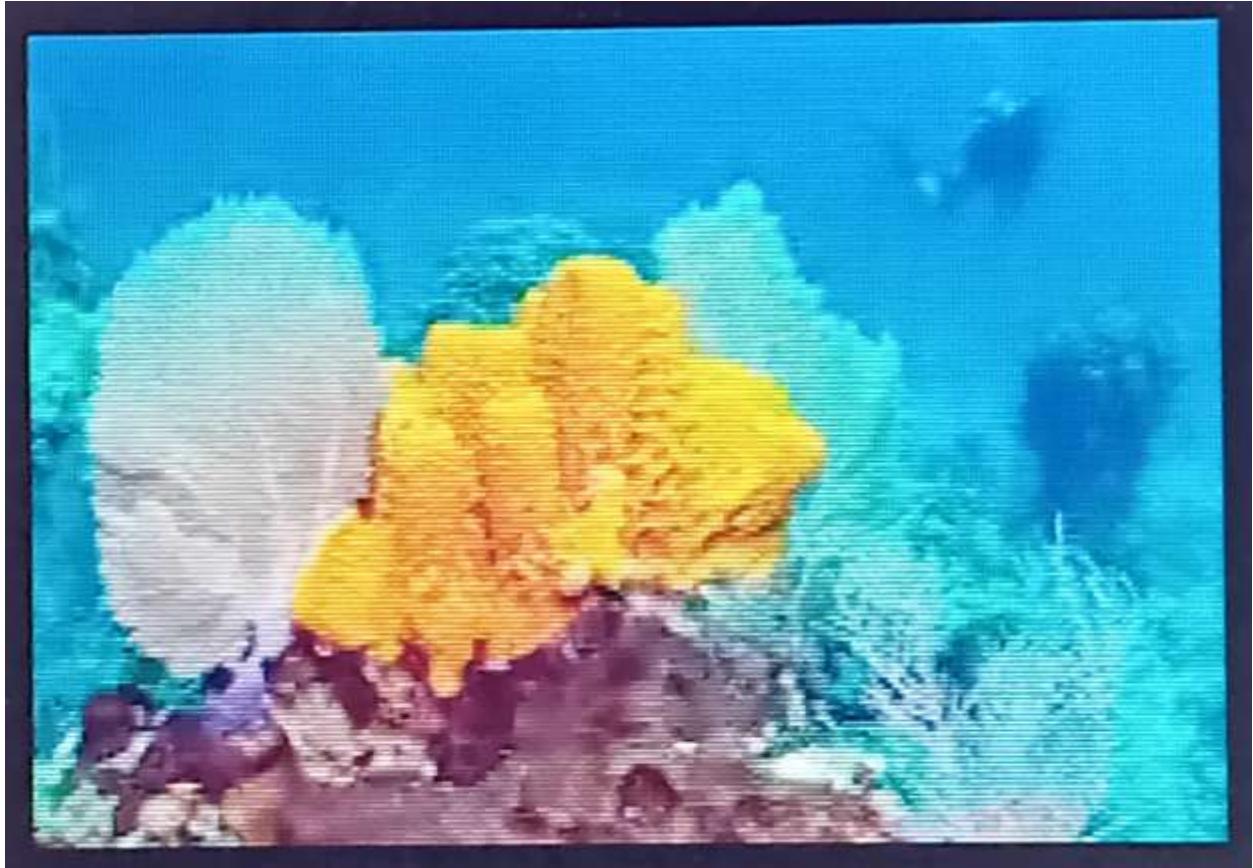
11 - Color of sponge , green , orange , red , yellow , and purple .

12 - Sponges are hermaphrodites , same individual can produce eggs and sperms , fertilization with other sponges .

13 – Sponge can act as predators by releasing a chemical active toxin .

14 - Reproduction asexual when little pieces break off, it will grow to become new sponges





Quiz : 1 - Hydra live in ?

- A – Marine water B – Fresh water C – Both D – Lake**
- E – Marshes**

2 – Hydra reproduce ?

- A – Sexually B – Asexually C – both D – budding**
- E – Spore forming**

3 – Sponge have ?

A – Muscles B- Brain C- both D – no muscle no brain

E – Liver

4 – Sponges are ?

A – Males B – Females C – Hermaphrodites D – No Sex

E – Only Sponges