

Subject - ZOOLOGY Class - BSc Part-I

Topic - Abinities of Sponges with Metazoa & Protozoa

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Introduction :- Sponges were considered as

Plants before Ellis. ELLIS told them

animals. Linnaeus, Lamarck and Cuvier classified them under Zoophyta of the phylum Coelenterata. Robert Grant classified them in a separate phylum Porifera.

These show abinities with both

Metazoa & protozoa.

Abinities with Metazoa :-

Only Coelenterates resemble

with porifera -

i) Both - sedentary habit.

ii) Both - diploblastic and acoelomate.

iii) Outer opening of sponge cavity by osculum may be compared by gastrovascular cavity of Coelenterates which opens by mouth pore.

iv) presence of nucleic acid and amino acid like Metazoa.

v) Both - Asexual reproduction and by budding.

- vi) Gastrula in both is radial symmetrical.
- vii) Parenchymula larva of sponges is alike of Planula larva of Coelenterates.

Similarities with protozoa :-

- i) Lack of organs and digestive cavity in both digestion intracellular.
- ii) Cells are self dependent relatively.
- iii) Skeleton - made up of one cell or group of cells.
- iv) Presence of Amoeboid and Collar cells.
- v) Each cell is free for its work and works separately in both.

Differences with Metazoa :-

- i) Cells of sponges - less specialized and dependent on each other.
- ii) Generally sponges cell is found as single in the jelly.
- iii) No tissue formation. Only one the layer. epithelium membranes are present.
- iv) Funnel cells but not in Coelenterates.
- v) No nervous system.

Differences with protozoa :-

- i) Presence of Canal system in sponges.
- ii) special type of skeleton in sponges.
- iii) Multicellular body of sponge from a single fertilized egg.
- iv) Due to cellular differentiation, sponges are more complex than protozoa in labour division.

The end.