Topic: Morphology and Life history of Obelia

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Paper- I

Group – A

Faculty Name : Dr. Kumari Sushma Saroj

Department: Zoology

College: Dr. L. K. V. D College, Tajpur,Samastipur

Structure of Obelia

- Obelia throughout its life cycle takes two forms: polyp and medusa. The first form is diploblastic, two true tissue layers – an epidermis (ectodermis).
- In contrast, the second form is gastrodermis (endodermis), with a mesoglia which is jelly-like filling the area between the two tissue layers.
- These animals carry a nerve net but have no brain or ganglia.
- Furthermore, the gastrovascular cavity is present where the beginning of digestion takes place. Afterwards, this cavity becomes intracellular.

- The hydrocaulus bears zooids or polyps on either side in a cymose formation.
- At the growing ends of the main branches are immature club-shaped polyps.
- Each polyp has a stem and a terminal head called a hydranth.
- The hydranths are feeding polyps, they feed by capturing minute animals and larvae.
- Towards the base of the hydrocaulus in the axils of the polyps, are reproductive polyps called blastostyles.

- The polyps, their tubular connections and blastostyles are made of ectoderm, mesogloea and endoderm,
- These layers are together called coenosarc and its cavity is an enteron
- which is continuous and common to all the members, through the enteron digested food is distributed in solution.

- The entire colony is covered by a tough, yellow chitin secreted by the ectoderm, this covering is known as perisarc.
- The perisarc constitutes the exoskeleton and it covers the hydrorhiza, hydrocauli and their branches, and at the base of each polyp,
- It forms a clear, wine glass-shaped hydro theca.

- The hydrotheca has a shelf across the base which supports the hydranth, and the hydranth can contract and withdraw into the hydrotheca.
- The perisarc around a blastostyle is a gonotheca, the blastostyle and gonotheca are together called a gonangium.
- The perisarc is an exoskeleton, at first it is continuous with the coenosarc but on growing thick,
- It separates and is joined to the coenosarc only at intervals by minute projections, at these places it gets ringed which allows bending.