Paramecium (Slipper Animalcule or Chauson)
└ Foot wear

P. Caudatum → The most common species

P. Aurelia

P. bruseria

P. Micromultinecleatum

* Classification

Kingdom → Protista
Phylum → Protozoa
Sub-phylum → ciliophora
Class → Ciliata
> cilia bearing locomotory organelle & nucleus → 2 or many
Sub-class → Holotrichia → cilia are simple, upon whole or parts of b
Order → Hymenostomatidia → Body cilia are uniformly distributed.
Genus → Paramecium
Species → Caudatum, Aurelia, Bruseria, Micromultinecleatum

P. Caudatum

- **Habitat** :- Paramecium found in stagnent fresh water with plenty of decaying organic matter. So, called infusorial organism.
- **Habit** :- Free swimming ciliate.
- **Body structure** → slipper shaped, due to presence of pellicle.
  └ shape दिल (if भएन भने irregular shape)
  → anterior :- Rounder or blunt
  → Posterior → pointed
  → 2-surface i.e. → oral surface or ventral surface
  └ is flat due to presence of oral groove.
  └ so, body → assymmetrical
  → aboral surface or dorsal surface
  → commonly called slipper animalcule or Chauson.
  └ foot wear
  → cytoplasm is differentiated into outer clear portion called ectoplasm and inner dense portion called endoplasm.

- ectoplasm → Trichocyst
- endoplasm → Food vacoules, nuclear apparatus, contractile vacoules

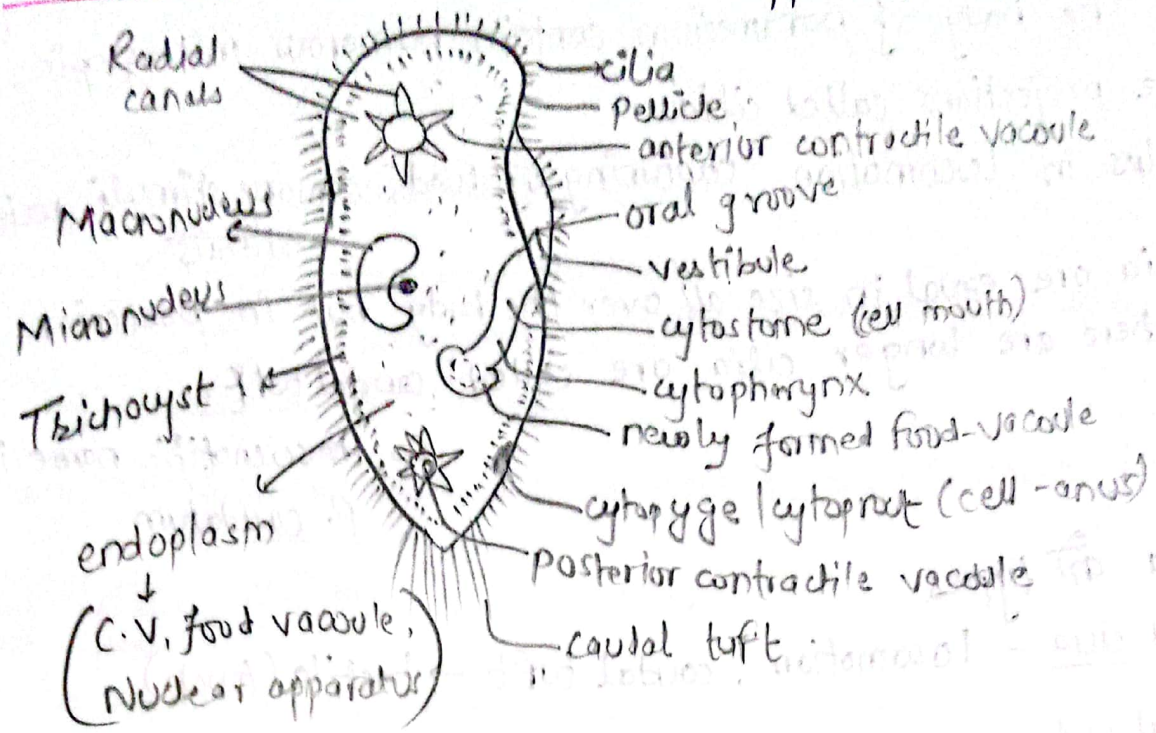

Fig:- structure of P. caudatum

External features

1. Cilia
2. Pellicle
3. Oral groove
4. Cytophyge

Internal features

1. Trichocyst
2. C.V.
3. Food vacoule
4. Nuclear apparatus

Q. Correct about contractile vacoule of paramecium?

(a) Anterior C.V works faster than Posterior

(b) Posterior C.V. works faster than anterior (bcz post recieve 1st ly water).

Q. Food vacoule of paramecium is analogous to:- (digestion ξ-ξ)

(a) typhlosole of earth worm

(b) Nematocyst of Hydra

(c) Coelentron of Hydra — also called gastro vascular cavity. ↳ digestion occurs.

(d) Trachea of insects

External Features / Morphology

① Cilia :- The body of paramecium contain numerous microscopic hair like projections called cilia.

→ helps in locomotion, capturing of food, sensory stimuli recieve ग्रहण करना.

→ Cilia are equal in size all over the body but in posterior end there are longer cilia are called caudal tuft.

So, the scientific name is P. caudatum

Cilia के types

ⓐ Body cilia :- locomotion, caudal tuft → tactile (touch)

ⓑ Oral cilia :-

oral groove की cilia → vestibular cilia → (4-6) on dorsal wall of vestibule
(6-8) on ventral wall of vestibule.

↳ capturing of food & then drive it into vestibule.

Q. Cilia present on the dorsal wall of vestibule → Quadrulus

Q. Cilia present on the ventral wall of vestibule → Penniculus.

• Quadrulus and penniculus cilia help in selection and rejection of food material. So, paramecium is called Filter feeder.

* Longitudinal beating of cilia is called metachronous

* transverse beating of cilia is called Synchronous

→ Ciliary beating is controlled by neuromotor or infraciliary system.

↳ pellicle का हुन्छ।

Q. In paramecium, the ~~ciliary~~ neuromotor system is associated with → locomotion

② Pellicle :- The entire body of paramecium is covered by thin, elastic, living and form like membrane called pellicle.

- Due to pellicle, paramecium maintains its definite shape. i.e. slipper shaped.

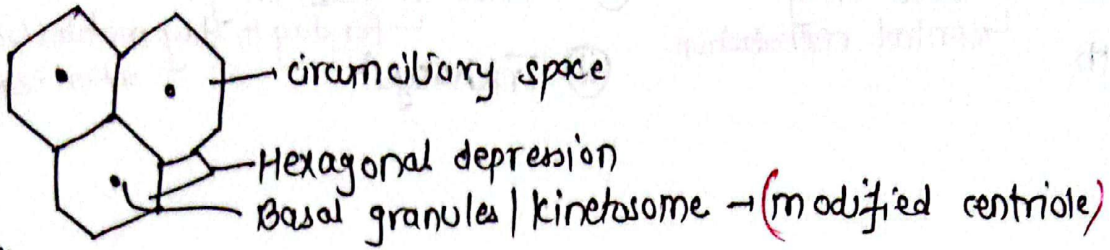

Fig: Histological str. of pellicle

Q. In paramecium, each cilium arise from → Kinetosome / Basal granule (TU

③ Cytopyge :- cell anus of paramecium.
cell Anus

→ in ventral surface just below the oral groove.
→ Temporary opening.
→ helps in egestion.
→ also known as cytoproct or cell-anal spot.

④ Oral-groove :- also called peristomial groove at anterior end on oral surface.
→ Oral groove leads into vestibule.
↳ leads into s-shaped buccal cavity
opens into cytopharynx through cytostome.

* Feeding apparatus
Oral-groove → vestibule → buccal cavity → cytostome → cytopharyn
↓
not in Feeding → (newly formed food vacoule.)
apparatus helps in digestion.

Internal Features

① Nuclear apparatus :-

Q. Nuclear dimorphism exhibit by :-
(a) Amoeba (b) Paramecium (c) Euglena (d) Plasmodium

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