



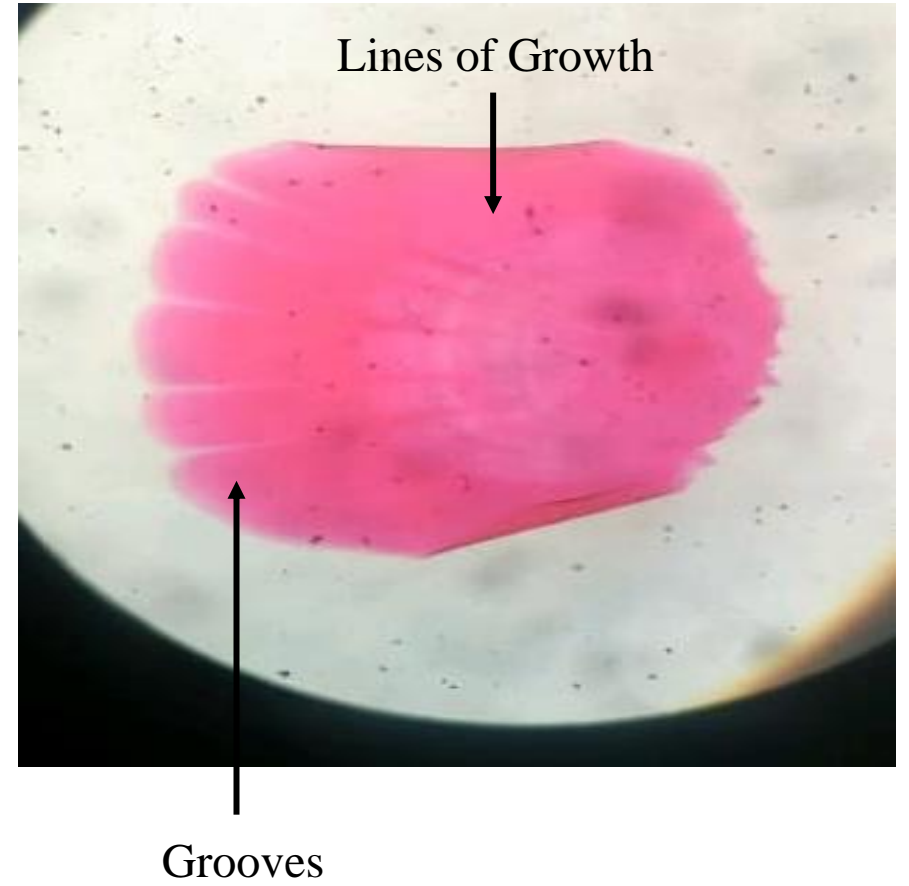
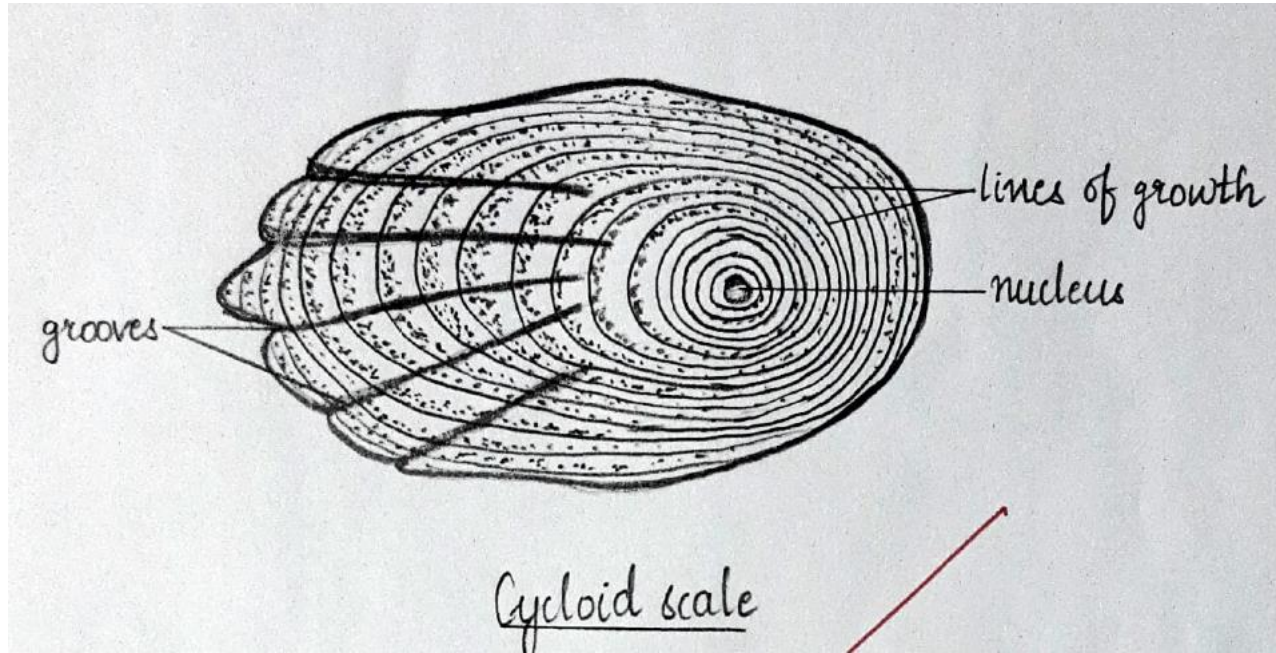
# Types of Scales in Fish

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Diagram Credits: **Ms. Shalini Panwar (B.Sc. (H))**

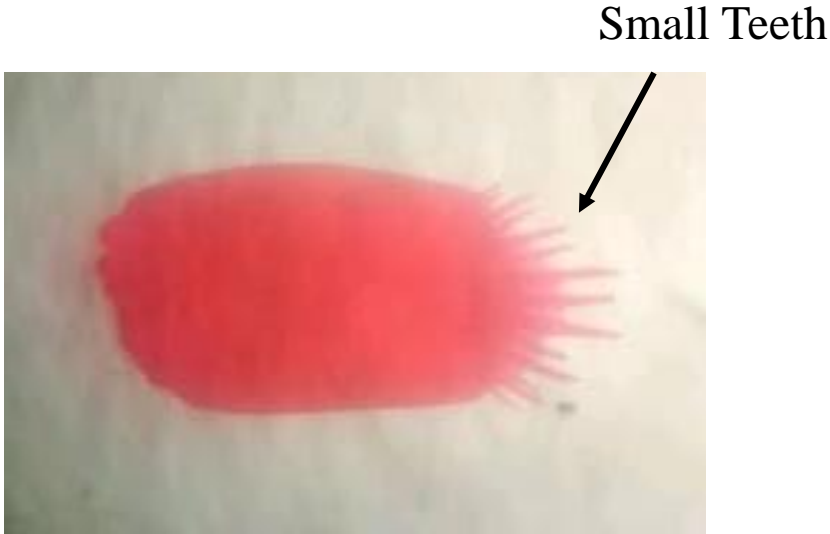
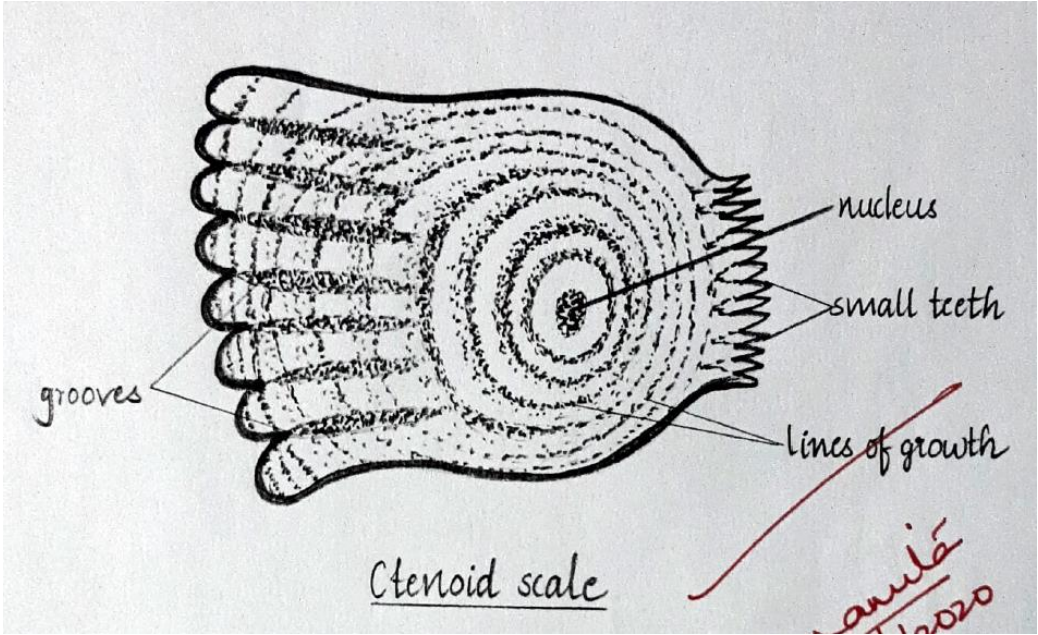
**Zoology, 2021 Batch**

# Cycloid Scales



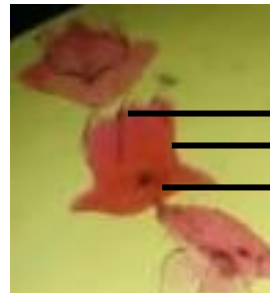
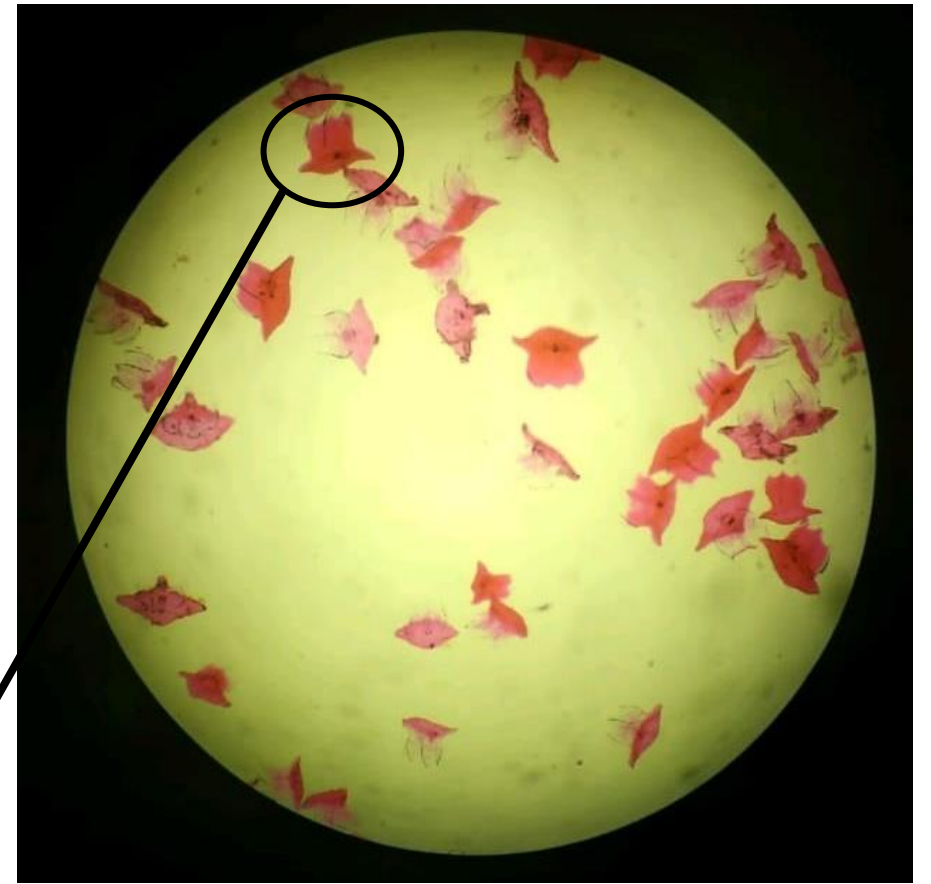
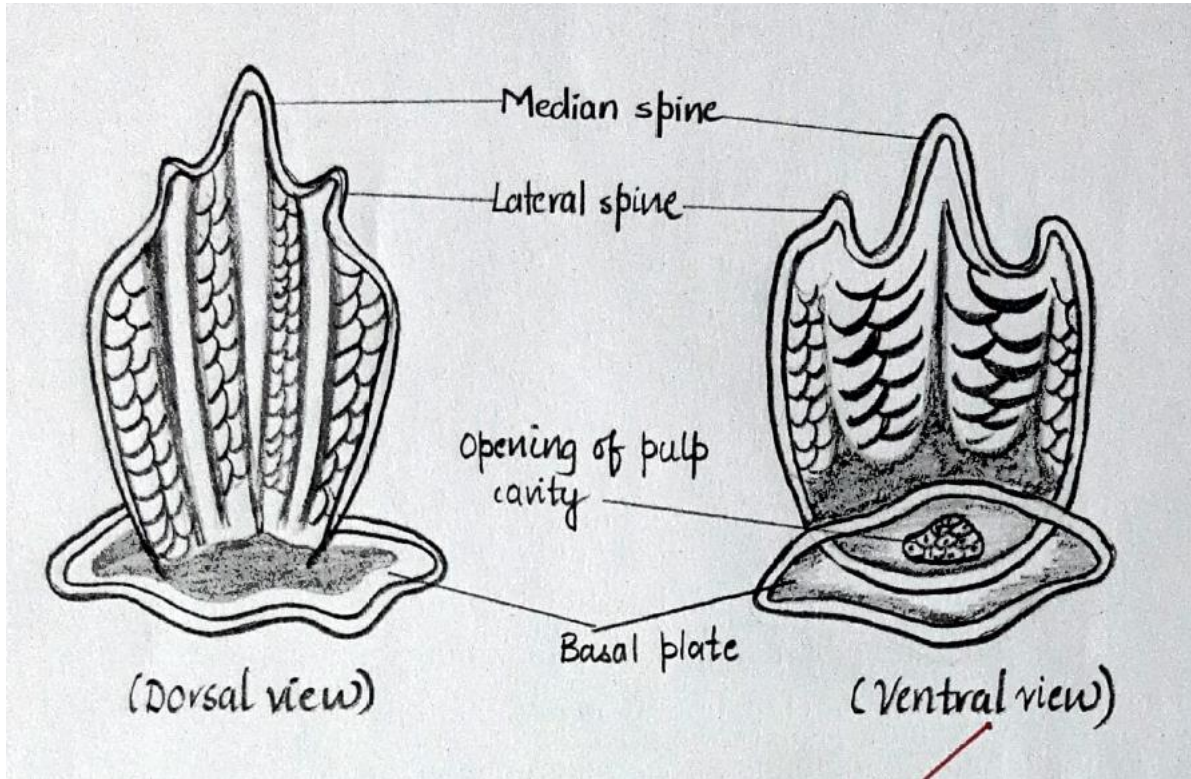
- Thin, flexible, translucent plates.
- Circular in outline, thicker in the centre and marked with several concentric lines of growth which can be used for determining the age of the fish.
- They are found in a large number of teleost fishes having soft rayed fins, such as Labeo, Catla, Barbus, Cirrhina, etc.
- The central part of the scale is called the focus and is the first part to develop. In many species, oblique grooves or radii run from the focus towards the margin of the scale.

# Ctenoid Scales



- The ctenoid scales are also circular and can be distinguished from the cycloid scales by having a more or less serrated free edge.
- Several spines are present on the surface of the posterior area of the scale. These scales are characteristic of modern higher teleosts such as perch, sunfish, etc.
- They are more firmly attached and their exposed free hind parts which are not overlapped, bear numerous small comb-like teeth or spines.

# Placoid Scales



Median Spine

Lateral Spine

Basal Plate

Three arrows point from the labels to the corresponding parts of the magnified scale: Median Spine, Lateral Spine, and Basal Plate.

- Characteristic of elasmobranchs only.
- Disc-like basal plate embedded in the dermis and a spine projecting out through the epidermis.
- Resembles a tooth.
- External covering of enamel-like, hard, transparent material called **vitrodentine**, followed by a layer of **dentine** enclosing a pulp cavity from which several branching dentine tubules radiate in different directions.