

CHAPTER 15

SLIDES OF FISHES

26. V. S. of skin of Shark

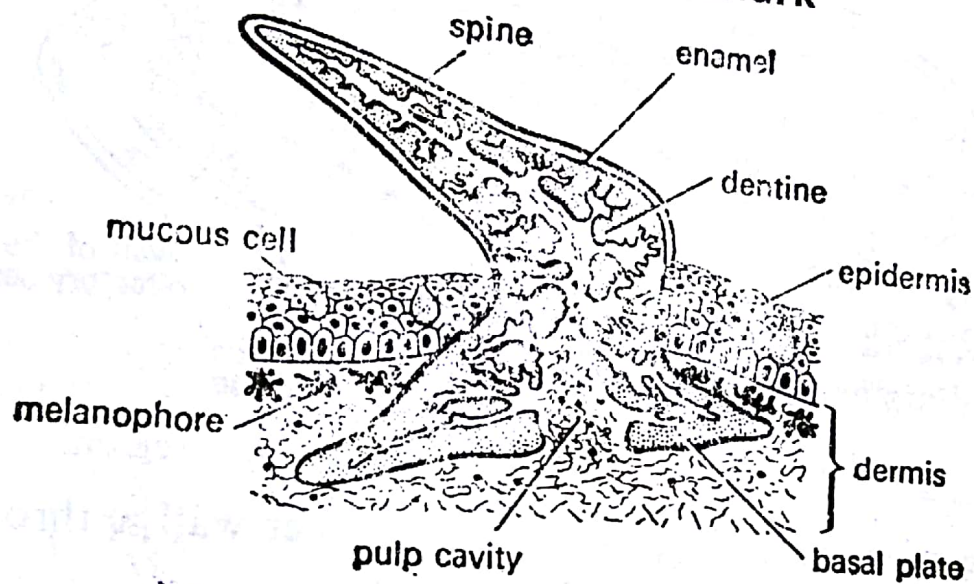


Fig. 278. V. S. of skin of Shark.

Comments :

Vertical section of skin of Shark exhibits the following structures :

1. It consists of two layers, *i.e.*, an epidermis and a dermis.
2. The **epidermis** is made up of stratified squamous epithelium which contains a few mucous secreting cells.
3. The **dermis** is made up of connective tissue and **melanophores** which lie close to the epidermis.
4. The section of placoid scale is also seen.
5. A placoid scale in section consists of a central pulp cavity surrounded by a thick layer of **dentine** and this is covered by a surface layer of **enamel**.
6. The **enamel** is the hardest product of the animal tissue.
7. The pulp cavity contains blood vessels, nerves and odontoblast cells.

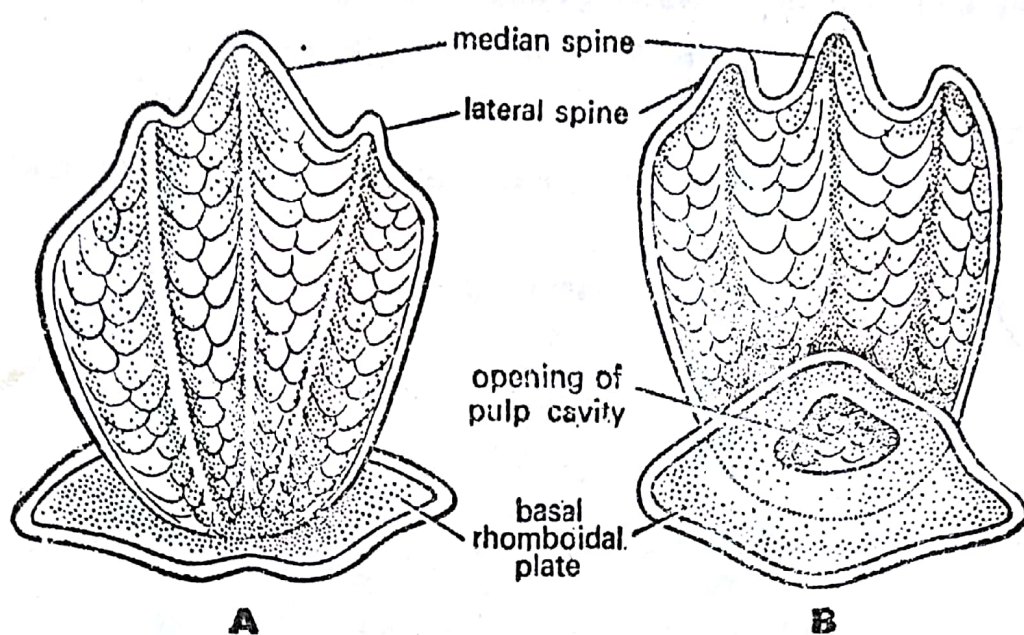
34. Placoid scale of Scoliodon (Whole mount)

Comments :

1. The placoid scales are arranged in regular oblique rows covering the entire surface of the body and form the exoskeleton of the shark.

2. Placoid scales are small pointed and tri-radiate denticles found embedded in the dermal layers of the skin.

3. A typical placoid scale consists of a diamond-shaped or rhomboidal basal plate having an opening of the pulp cavity and flat trident spine.



✓ Fig. 286. Placoid scale of *Scoliodon*.
A—Dorsal view ; B—Ventral view.

4. The basal plate is formed of a trabecular calcified tissue, the cement.

5. The spine is composed of a hard calcareous substance, the dentine which is coated externally with a hard and dense enamel.

6. The pulp cavity contains the vascular connective tissue, pulp containing numerous odontoblasts, blood vessels, nerves and lymph chambers.

7. Placoid scales are found in sharks, rays and skates.

35. Cycloid scale (Whole mount)

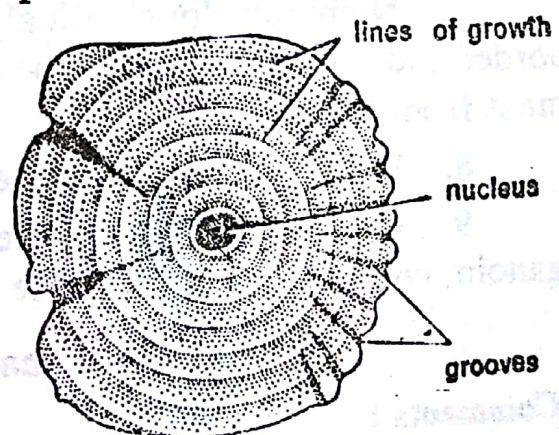
Comments :

1. Cycloid scales are found in teleosts and dipnoi.
2. These are soft and dermal plates.
3. Each cycloid scale is roughly circular and flattened.

4. Each scale is composed of a central nucleus and numerous lines of growth.

5. The free or anterior border is more or less rounded and remains exposed

6. The posterior part of the scale is having numerous longitudinal grooves for sucking the nourishment from the skin.



✓ Fig. 287. Cycloid scale.

7. Pulp cavity and dentine are entirely absent.
8. Cycloid scales are derivatives of the ganoid scales in which ganoin and cosmine layers and bone cells are lost.

36. Ctenoid scale (Whole mount)

Comments :

1. Ctenoid scales are commonly found in teleosts and actinopterygian fishes.

2. These are soft and dermal plates.

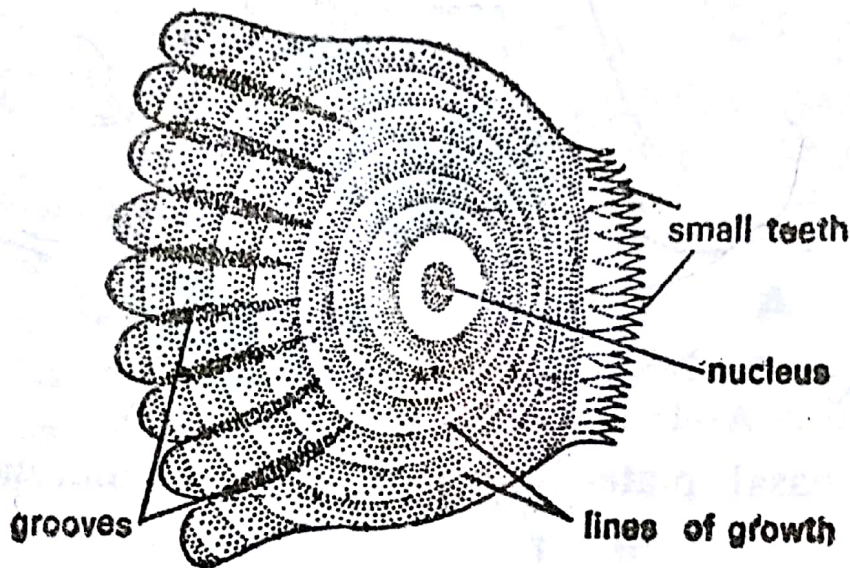


Fig. 288. Ctenoid scale.

3. Each ctenoid scale is flat and somewhat oval in shape.
4. Each scale is composed of a central nucleus and numerous lines of growth.
5. The anterior free border bears numerous small teeth-like structures.
6. The posterior border remains embedded in the skin and slightly wavy.
7. Numerous longitudinal grooves are present on the posterior border and as such these grooves are used for sucking the nourishment from the skin.
8. Pulp cavity and dentine are entirely absent.
9. Ctenoid scales are derivatives of ganoid scales in which ganoin, cosmine layers and bone cells are lost.