

• TYPES OF SCALES IN FISHES

➤ Placoid scales

Non placoid scales:

Cosmoid scales.

Ganoid scales

Cycloid scales

Ctenoid Scales.

- **Exoskeletons:** Outer covering of the body is made up of 2 types of scales.

1) Epidermal scales. 2) Dermal scales.

1) Epidermal Scales: Cornified derivatives of malpighian layer of epidermis.

- Ex. Reptiles, birds, mammals.

2) Dermal Scales:

- Mesenchymal in origin developed in fishes.
- a) Origin: Secretory activity of both dermis and epidermis. Ex. Placoid scales of elasmobranchs.
- b) Dermis: Cosmoid, Ganoid, Cycloid, Ctenoid.

• Placoid scales.

- The placoid scales or dermal denticles of elasmobranchs (sharks, rays, Skates).
- Closely set but don't overlap each other.
- Placoid scales consists of 2 parts the basal plate and trident spine.
- Arise from rounded or Rhomboidal basal plate embedded in dermis.

• Basal Plate :

- Shape : diamond or rhomboidal Plate formed of cement like material.
- Basal plate embedded in derm. & attached to strong fiber of connective tissue.
- Basal plate having small openings which leads in to the pulp cavity of the spine.
- Pulp contains : vascular connective tissue, blood vessels, nerves, lymph channels & numerous odontoblast cell.

• The Spine:

- Shape : flat , backwardly directed trident structure project over the skin surface. Surface : stratified.
- Chemical composition: Dentine (calcareous substance), traversed by minute parallel canaliculi with delicate branches.
- Dentine is covered by vitrodentine (hard, translucent).
- Secreted by : epidermis of the skin .

- Placoid scales derived partly from epidermis & partly from dermis.
- The basal plate and dentine of the spine are mesodermal derivatives, enamel is ectodermal in origin.

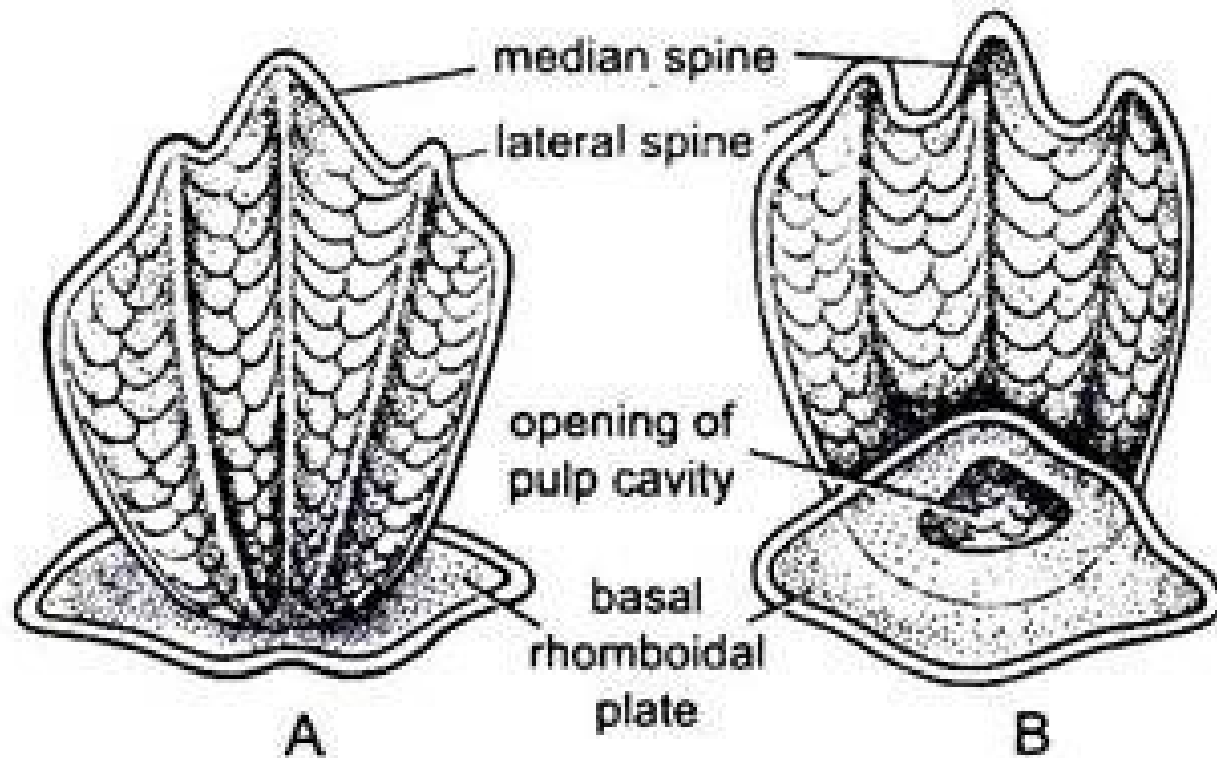
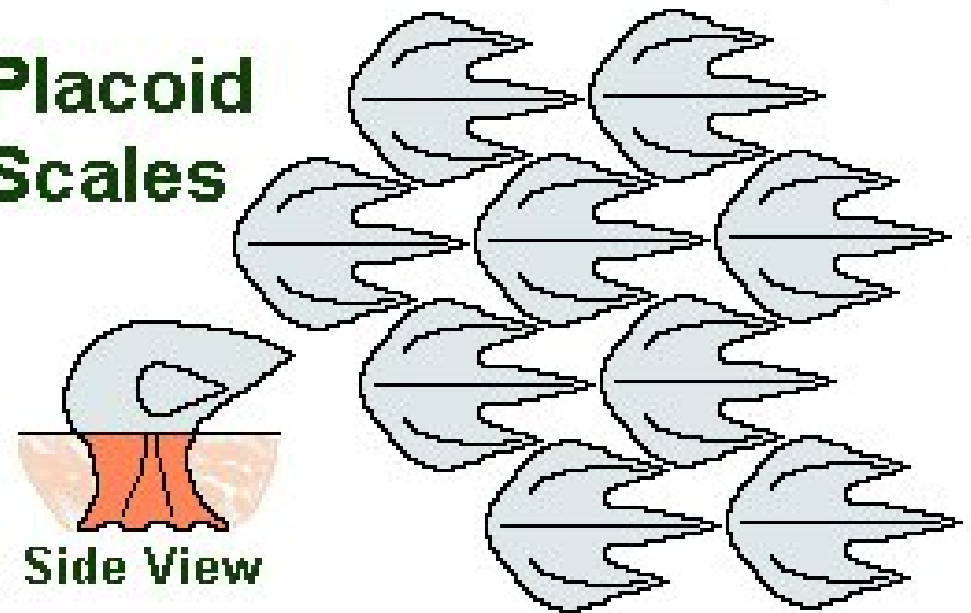


Fig. 14.4. *Scoliodon*. Placoid scales. A–Dorsal view; B–Ventral view.

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Placoid Scales



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THANK YOU