

Practical No -3-

Age Determination Studies

The aim of Age determination of Fishes:

1. Select the kind of fish that have high growth rates and have filleted flesh. "Economic use".
2. Select type of fish for fish farming, by comparing between growth of all species.

-The structure that used for Age determination of Bony fishes, There are five structure, as the followings:

1. Scales, if present from the area just posterior to the operculum.
2. Otolith bone.
3. Operculum bone.
4. Vertebra from the abdominal region.
5. Dorsal spine, if present.

The practical part:

1. Examine the specimen provided and remove the following structures: scales, otolith bone, vertebra, dorsal spine and operculum.
2. Examine each of the above structures and observe the marks on it.
3. Observe the continuity and / or discontinuity of the circle, the discontinued ones are false rings while the others are true ones. **(Fig.4.)**
4. Determine the age of your specimen. Note that each circle represents one year.
5. Make drawing of the structures removed.

Notes:

-All fishes share in these structures "Bony fishes"

1. Vertebrae.
2. Otolith bone.
3. Operculum.

-Many species of fishes don't have scales, e.g. *Bagrus bayad*.

-A fish may have many determinations of age according to differences between circles in the different structures; the reason may be pathogenic.

-Broad circle means abundance of food.

-Maturity may show wide circles also.

Structures That Determine Age of Fishes