

# CAPTURE AND CULTURE FISHERIES

VIRAL DISEASES

**IV SEMESTER MSc ZOOLOGY**

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# Viral Disease II

## INFECTIOUS DROPSY Sprig viraemia

- ❑ infectious dropsy is a viral disease.
- ❑ It is caused by Rhabdovirus carpio, an RNA virus.
- ❑ The affected fish turns dark in colour.
- ❑ Abdomen is distended.
- ❑ Balance is lost.
- ❑ Haemorrhage on the skin and gills.

## VIRAL HAEMORRHAGIC SEPTICAEMIA (VHS)

- ❖ It is a viral disease affecting rainbow trouts.
- ❖ It is also called Egtved disease after the Danish village where it was first noticed.
- ❖ It is caused by RNA virus.
- ❖ Anaemia develops.

- ❖ Discolouration of gills.
- ❖ Sores on the skin.
- ❖ Anus is protruded.
- ❖ Kidney and liver are affected.
- ❖ Swelling of eyes and belly,
- ❖ Oedema of muscles.
- ❖ Inflammation of intestine.
- ❖ Haemorrhage in most tissue.
- ❖ The fish moves rarely.

## ERYTHROCYTIC NECROSIS.

- ✓ It is a viral disease.
- ✓ It is caused by Iridovirus.
- ✓ This disease is characterized by the destruction of erythrocytes.
- ✓ It leads to depletion of total blood cell count and anaemia.
- ✓ This affects transport of oxygen and carbondioxide.

## INFECTIOUS HAEMATOPOIETIC HYPODERMAL NECROSIS (IHHNV)

It is caused by the virus, SEMBV (Systemic Ectodermal and Mesodermal Bacul virus)

## PROTOZOAN DISEASES

1. White Spot disease - Ectoparasitic
2. Costiasis - Ectoparasitic
3. Whirling disease - Endoparasitic
4. Knot disease - Ectoparasitic
5. Trichodiniasis - Ectoparasitic  
Trichodinelliasis
6. Cryptobiasis - Ectoparasitic

## White Spot Disease

- ✓ It is a protozoan parasitic disease characterized by white spots on the body
- ✓ It is also called itch disease as it causes itching.
- ✓ It is caused by protozoan ciliate Ichthyophthirius. Hence this disease is also called Ichthyophthiriasis.
- ✓ Infected areas of fish include skin, scales, fins, operculum, and gills.
- ✓ Ichthyophthirius is seen in water. When it see a fish , it binds to the fish and seen in between the epidermis and dermis and the parasite grow there
- ✓ When it reaches 1mm size, it detach from fish and settled in bottom of pond. Then they form cyst and multiply to get more number of offspring search for another host in the water

✓The skin, fin rays and operculum become covered with many white protuberant pustules. These white dots are a proliferation of epidermal cells with mucous secretion because of the irritation caused by the drilling of parasites on the epidermis . In a serious case the skin is covered with a white membrane.

✓The parasite causes itching. Hence the fish continually rubs itself against other objects or jumps out of the water.

✓The diseased fish responds to stimulus slowly and swim most of the time near the surface.

✓When the skin is infected , epidermal inflammation local necrosis , splitting of fin rays occur.



- ✓ When branchial tissues are infected , excess secretion of mucus and destruction of gill lamellar occurs.
- ✓ When gills are affected , the veins are ruptured and anaemia will occur.
- ✓ The damage caused by the parasites and secondary bacterial infection results in epidermal inflammation, local necrosis and the rotting and splitting of fin rays.
- ✓ Ichthyophthiriasis results in mass mortality because of dsypnea and starvation.
- ✓ Causes a drop in temperature.

### TREATMENT:

Dip treatment in 1:5000 formalin water solution for 1hr for a week.  
Dip treatment in 2% common salt solution for a week.

❑ Dip treatment of methylene blue 2ppm daily

❑ Immerse fingerlings in 0.4ppm malachite green for hours.

### COSTIASIS:

❖ Parasitic disease caused by the flagellate protozoan *Costia necatrix*

❖ It is an ectoparasitic disease.

❖ It is found on the skin, fins, and gills.

❖ The parasite causes lesions.

❖ Red patches appear on the skin.

- ❖ Gills turn brown.
- ❖ Gills are partially destroyed.
- ❖ loss of appetite.
- ❖ Fish become weak and finally die.
- ❖ This disease appears when there is scarcity of food and when the Ph of the water is acidic.

### ❖ TREATMENT:

- ❖ Dip treatment in 3% common salt.
- ❖ Dip treatment in 1: 2500 formalin water solution for 10 minutes.