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الجزء العملي

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General diagnosis of fish diseases



3- Clinical examination

❖ A-Fish reflexes

1-Escape reflex

2-Defense reflex

3-Ocular reflex

4-Tail reflex

❖ B-Behavioral signs of disease

1-Feeding

2-Color

3-swimming behavior



Types of fish reflexes

☒ 1-Escape reflex

- Healthy fish are usually very active (by white muscles) and react to external agitation such as quick motion or knocking on the transportation vessel

- Sick fish loss the activity and do not react to external agitation therefore it can be easily caught by dip net or by hand



2-Defense reflex

- ⌘ Healthy fish jumps intensively and flaps about when left on a board then lies quiet and repeats this many times.
- ⌘ Diseased fish lies calm without flapping.



3-Tail Reflex

- ☒ Catch the fish from its head or anterior part and leave the rest of the fish hanged dawn freely. The healthy fish tries strongly to keep its tail in a horizontal position and stretches its tail fin in fan shape.
- ☒ Diseased fish dose not response and hanged dawn.



4- Ocular (Eye) Reflex

- ⌘ Carry the fish in a horizontal position (normal swimming position) and roll the fish around its longitudinal axis to right and left side
- ⌘ a- The eye pupil disappeared in the orbit healthy fish
- ⌘ b- The eye ball remains exposed and not disappeared ... diseased fish.



Behavioral signs of disease

1. Feeding.
2. Color.
3. Swimming behavior.



Behavioral signs of disease

☒ **1-Feeding**: Fish feed vigorously when food is presented

☒ (anorexia)

Decrease feeding rate

Normally: breeding season

Decrease temperature in tilapia

Abnormal in any diseases





Behavioral signs of disease

⌘ **2-Color** (under neuro-endocrine control)

Normally: breeding season

Abnormally: septicemic, whirling diseases(black tail diseases)



Behavioral signs of disease

☒ 3-Swimming behavior

- Normal swimming called balanced swimming behavior due to swim bladder

- **A-Circling (tail chasing) swimming**

- occur in unilateral eye affection
- unilateral pectoral fin affection

- **B-whirling (spiral) swimming**

- occur in whirling disease

- **J-Erratic swimming**

(move or swim in different direction)

eg Nervous diseases

- **C-drifting swimming**

(passive movement with water current occur at late stage of the disease)



Swimming behavior

-E- flashing swimming

flashing body against side or bottom of aquarium as in parasites

-F- inverted (up side down) swimming

- Barbel (normally)
- over inflation of swim bladder with gas (GBD) or before death

- D-tail walking swimming

head up tail down due to loss of balance



- **H-Jumping swimming**

Feeding time- Flying fish (normally)

Irritant materials

- **I-piping swimming**

- Cat fish- Lung fish (normally)

- Lack of DO

- Gill affection

- Anemia

- **G-Surface swimming**

- Normal: Leaf fish

- Abnormal: Turbid water- Respiratory signs



General Clinical Signs of Fish Diseases

- ⌘ Sluggish movement.
- ⌘ spiral mov.
- ⌘ Faded pigment.
- ⌘ Darkened pigment.
- ⌘ Exophthalmia.
- ⌘ Hemorrhages.
- ⌘ Erosion of the jaws and mouth.
- ⌘ Ulcers.
- ⌘ Furuncles / abscesses.
- ⌘ Hemorrhagic protruded vent.
- ⌘ Off food.
- ⌘ Emaciation.
- ⌘ Swimming near the water surface.
- ⌘ Gasping of air.
- ⌘ Gill damage.
- ⌘ White nodules on the gills.
- ⌘ Fin rot.
- ⌘ Tail rot.
- ⌘ Distended abdomen.



Thank You

