

Pseudomonas Septicemia and Red-Spot Diseases in Eel: Etiology, Signs, and Management

Augustine Ehireme Okonofua *

Department of Fisheries, Federal College of Fisheries and Marine Technology, Lagos, Nigeria

ABOUT THE STUDY

Disease of fresh water fish occasionally found affecting marine species. The distribution is worldwide, both cold water and warm water species are affected.

Etiology

Pseudomonas fluorescens is a facultative pathogen often found in superficial lesions. It is also found in the mechanism of fish hook wounds. *Pseudomonas* affects *Cyprinus carpio* where it causes subcutaneous hemorrhages. In the Philippines *Amphiprion percula*, an ornamental fish of economic importance continues to be infected with *Pseudomonas* sp. with disastrous consequences usually within 24 hrs after appearance of clinical signs such as abdominal dropsy, skin lesions, and fin rot. Physical Characteristics include,

- If Gram negative motile-rods occurring singly or in pairs.
- Cytochrome oxidase positive.
- In glucose media, it is either oxidative with no fermentation or not oxidative and no fermentation.
- Will produce a fluorescence pigment.

Clinical signs include,

- Infected fish will show pustules particularly on the dorsal surface which eventually rupture leaving open red ulcers.
- Ascites.
- Exophthalmia.
- Haemorrhagic septicemia.

The disease is stress related and not very easy to separate from MAS. *Pseudomonas fluorescens* is frequently found occurring with Hydrophylia. In Japan, the diseases are prevalent in polluted water where it constitutes a serious problem to *Osphronomas gouramy*.

Control: Feeding of such antibiotics as tetracycline, chloramphenicol at rates used in toxicity MAS.

Red-Spot diseases of Eel

Disease of eels found mostly in the Far East where the fish are cultivated on a large scale. It is also common in central Europe of Scotland where eels of different sizes are affected regardless of the season. Its Etiology is *Pseudomonas anguilliseptica*. Physical characteristics include,

- Gram negative rods measuring between $0.8 \mu\text{-}2.0 \times 0.5$
- Polar monotrichous and extremely motile up to 25°C .
- In glucose medium at 18°C - 20°C , the organism produces acid and gas within 2-3 days.
- Grows best in media with $\frac{1}{2}\%$ -1% NaCl.
- Cytochrome oxidase positive.
- Will not attack organ.
- Will grow between 5°C - 25°C with optimal growth at 15°C - 25°C . No growth at 27°C . Fish injected with bacteria and feed at 27°C survived the infection (non-motility at 27°C).
- Will not produce fluorescence pigment with .

The disease is confined to Japan Taiwan, and Central Europe and most epizootic have occurred in slightly saline ponds. It is seasonal in these areas occurring when temperature rise up to 25°C . Experimental infection of the high *Plecoglossus* sp. has occurred and indeed infection of these species in the wild and in culture facilities has been widely recommended.

The disease is possibly propagated during the migration of the eel. In diseased waters, infection is established following stocking of these bodies of waters with fish possibly contaminated with the pathogen in the different river systems. The disease also attacks isolated individuals but may also give to more mortality.

Acute infection is normally accompanied with the production of large number of bacteria organisms in the blood system and such organs as the heart may be seriously affected. The elasticity resulting in the destruction of the blood capillaries. The disease may also continue without any external clinical signs (manifesting). In such cases, the eels swim with slow irregular movements, and come to the surface shortly, before death in a slightly curved position.

Correspondence to: Augustine Ehireme Okonofua, Department of Fisheries, Federal College of Fisheries and Marine Technology, Lagos, Nigeria, E-mail: fishvet043@gmail.com

Received: 21-Nov-2022, Manuscript No. PFW-22-20807; **Editor assigned:** 23-Nov-2022, Pre-QC No: PFW-22-20807 (PQ); **Reviewed:** 07-Dec-2022, QC No: PFW-22-20807; **Revised:** 15-Dec-2022, Manuscript No: PFW-22-20807 (R); **Published:** 22-Dec-2022, DOI: 10.35248/2375-446X.22.10.211

Citation: Okonofua AE (2022) *Pseudomonas* Septicemia and Red-Spot Diseases in Eel: Etiology, Signs, and Management. Poul Fish Wildl Sci. 10:211

Copyright: © 2022 Okonofua AE. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Clinical signs include,

- Small petechial haemorrhage on the skin especially in the cephalic region.
- Whitish lesions which become ulcerated with distinct pink margins. Ulcer formation is also conformed to the cephalic region.
- Internal organs will be inflamed with signs of haemorrhage.

Control: It is difficult to successfully control this disease chloromycetin therapy has been attempted with mixed result.

This condition generally is a serious one, however it could be controlled if detected early enough, for *Pseudomonas* septicemia to be easily diagnosed, the presence of a characteristics skin lesion commonly known as *Ecthyma gangrenosum* could be noticed.