MICROBIAL DISEASES OF PRAWNS

Microbial diseases are caused by viruses, bacteria, fungi, and protozoans. The viruses that have been recognized in **Penaeus monodon** so far are the monodon baculovirus (MBV), the infectious hypodermal and hematopoietech necrosis virus (INHHNV), and the hepatopancreatic parvo-like virus (HPV). IHHNV is believed to have come to the Philippines through the introduction of contaminated live **P. stylirostris** or **P. vannamei** from South or Central American countries. They have caused 70-90% cumulative mortalities in prawns (post-larvae to adults). Viral diseases may be controlled through avoidance, sanitation, proper nutrition, absolute quarantine, and when already present, through eradication.

Pathogenic bacteria may also attack prawns. The most serious disease at present is the luminous bacterial disease caused by **Vibrio harveyi** and **V. splendidus.** Affected prawns (larvae to post-larvae) and luminescent in the dark and often suffer heavy mortalities. The disease may be prevented by disinfection of rearing water with chlorine, elimination of sediments and waste materials on tank bottom, and more frequent water change. Screeing of drugs for treatment of the disease is being undertaken at SEAFDEC AQD. So far some nitrofurans have proven to be quite effective under laboratory conditions. Other bacterial diseases of prawn are the filamentous bacterial disease and the shell disease. The filamentous bacteria **(Leucothrix)** may be found on the external surfaces of the prawn and thrive in waters rich in organic and in-organic substances. The **Vibrio** and **Aeromonas** species found on the eroded areas of the shell of juveniles and adults are also present in sea water and could be secondary invaders after physical trauma of the shell and underlying membranes.

The most important fungal disease of prawn is larval mycosis caused by **Lagenidium** spp., **Haliphthoros philippinensis,** and **Sirolpidium** sp. These fungi may replace the internal tissues of the prawn and may cause 100% mortalities within 2 days. Chemical prophylaxis includes disinfection of spawners with Treflan R (5 ppm for 1 h) or eggs with Tide (20 ppm for 2 h) while chemo-therapy consists of Treflan R or Trifluralin baths at 0.2 ppm for 24 h.

Protozoans that invade prawns include the ciliates **Zoothamnium, Vorticella, Epistylis, Ephelota,** and **Acineta** which, when present in large numbers on the prawn shell and gills, may cause respiratory and locomotory difficulties and may form a fuzzy mat on the shell. Ciliate infestation may be controlled by avoiding heavy sutation, high nutrient load, turbidity, and low oxygen tension. Endoparasites include gregarines which may interfere with particle filtration in the digestive tract of larvae and microsporidia which may cause ovaries and, consequently, parasitic castration among female prawns.

Source: Lecture Notes of Ma. Cecilia L. Baticados, Head, Fish Health Section, SEAFDEC AQD, 1988.