

ISOLATION OF VIBRIO HARVEYI FROM DISEASED BLACK TIGER SHRIMP PENAEUS MONODON IN SRI LANKA

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Vibrio harveyi is one of the most important pathogenic bacteria, causing diseases in a variety of aquatic animals. Mass mortalities of black tiger shrimp (*Penaeus monodon*) caused by this bacterium have been reported from many parts of the world including India. The bacterial species is capable of emitting luminescence in the dark; hence the disease caused by this organism is called luminous disease. In Sri Lanka luminous disease has been observed in many farms but no systematic study has been carried out on the subject. This communication is a part of a study which was designed to identify different bacterial species causing diseases in shrimp in Sri Lanka.

Shrimp that showed retarded growth and size- variations were collected from two farms (A and B). Water samples from the ponds as well as from the water sources were collected. Shrimp that were clinically healthy were also collected from each farm.

Haemolymph of both diseased and healthy shrimp were drawn aseptically using 23 G needles. Each sample of haemolymph was cultured on TCBS (thiosulphate citrate bile salt sugar) agar and TS (tryptic soya) agar. Water samples from ponds and water sources were also cultured similarly. The plates were incubated at 37°C for 18 hours and the isolated bacteria were subject to a series of biochemical tests to confirm their identity. Tissues taken from diseased and healthy shrimp were fixed in Davidson's fixative for 12 hours, then transferred to 70% alcohol and sections were prepared for histological examination.

Round green colonies appeared on TCBS agar from haemolymph of diseased shrimp from both farms. Similar results were obtained from water samples of farm A and the water source supplying this farm. The bacterium was a Gram negative curved rod which produced luminescence in the dark. No bacterial growth was seen on agar plates where haemolymph from healthy shrimp was cultured. In farm B, pond water and its water source did not result in any green bacterial colonies.

When tissue sections from diseased shrimp were examined, accumulation of bacteria could be seen in hepatopancreatic tubular walls. No such accumulation was seen in tissue sections taken from healthy shrimp.

Colony and microscopic morphology and biochemical characters of the bacterium as well as the production of luminescence in the dark are indicative of *Vibrio harveyi*. This is the first record of the isolation of the organism in Sri Lanka.

This study was financially supported by NSF.