

Fusobacteria-like Agent

I. Causative Agent and Disease

An external skin and/or gill infection is caused by long, non-motile, Gram-negative bacterial rods that are sharply pointed at both ends. The bacteria, commonly referred to as fusobacteria, infect cultured salmonid fish in fresh water during periods of very cold water temperatures, usually less than 5°C. Infection produces excessive mucus externally and on the gills causing respiratory distress.

II. Host Species

This organism has been detected on cultured salmonid fishes at various life stages from alevin to pre-smolt in the Pacific Northwest and Alaska. Chinook and coho salmon have been the most commonly affected species.

III. Clinical Signs

The skin of infected fish has excessive mucus production and gill infections result in lamellar hyperplasia and increased respiration.

IV. Transmission

These bacteria are probably transmitted horizontally through the water from fish to fish.

V. Diagnosis

Diagnosis includes observation of Gram-negative, non-motile, bacterial rods with a beaded appearance having characteristic attenuated ends on the skin and/or gills of infected fish. The biomass of bacteria is often extensive. This bacterial organism has not been cultured successfully on conventional bacterial media but minor temporary success has been achieved on swabs aerobically incubated in 50% MEM and lake water at low pH (4.5).

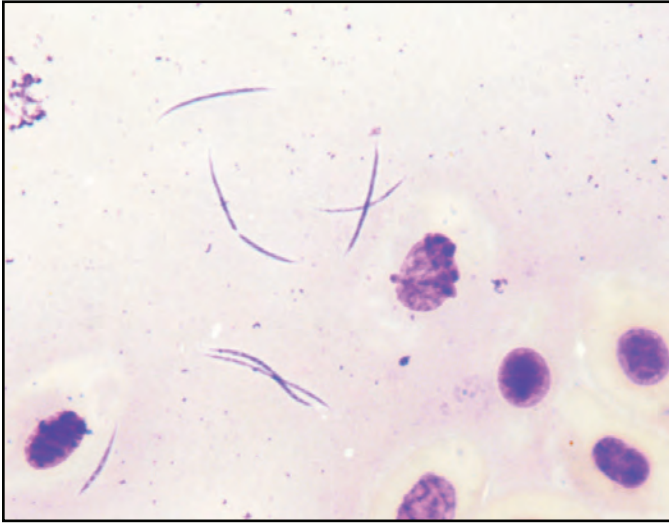
VI. Prognosis for Host

External infection by these bacteria results in high fish mortality if there is no intervening therapy. One or two external applications of formalin or hydrogen peroxide have been successful treatments.

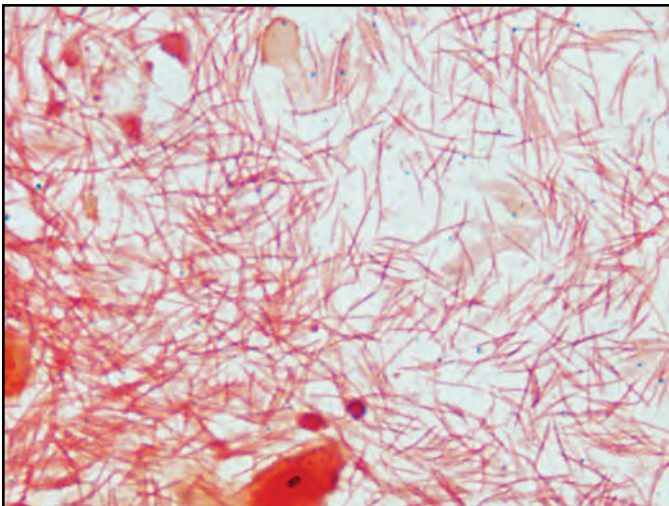
VII. Human Health Significance

There are no known human health concerns associated with this fusobacteria-like agent.

BACTERIA



Fusobacteria stained with Giemsa showing typical fusiform shape with pointed ends and beaded appearance, X 1000.



Gram stain of skin scrape showing high biomass of fusobacteria, X 1000.