Unidentified 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 are commonly referred to as fusobacteria and infect cultured salmonid fish in fresh water during periods of very cold water temperatures less than 5°C.

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. It has most commonly affected Chinook and coho salmon.

III. Clinical Signs
The skin of infected fish have 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 is made by observing Gram-negative, non-motile, bacterial rods with characteristic attenuated ends on the skin and/or gills of infected fish. The biomass of bacteria on the fish surface is often extensive. This bacterial organism has not been cultured successfully on conventional bacterial media but some temporary success has been achieved in nutrient broth at low pH.

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.
Fusobacteria stained with Giemsa showing typical fusiform shape with pointed ends