

Ichthyobodo-Like Protozoan

I. Causative Agent and Disease

Protozoa of the genus *Ichthyobodo* belong to the family Bodonidae, order Kinetoplastida of the class Kinetoplastida within the flagellate phylum of Mastigophora. *Ichthyobodo necator* (synonym *pyriformis*) is a serious obligate ectoparasite of fishes in both the freshwater and marine environments but similar protozoa have not been described occurring on the surface of bivalve molluscs. Therefore, the disease potential of this ectoparasite in bivalves is unknown.

II. Host Species

There are no reports of a similar appearing parasite occurring on the surface tissues of bivalve molluscs, therefore the potential host species are unknown. In Alaska, this parasite has been observed attached to mantle epithelium from 8 of 15 adult weathervane scallops collected in Yakutat, Alaska during December 1990. No mortality or clinical disease were associated with this finding.

III. Clinical Signs

No gross clinical signs are evident but the parasite can be observed attached to mantle epithelium by histological examination.

IV. Transmission

The route of transmission is unknown but presumed to be horizontal via seawater by a motile flagellated non-feeding form as described for this group of organisms. The parasite alternates between a free swimming and a non-motile feeding stage that attaches to a host epithelial cell. Replication of the protozoan in fish is by asexual longitudinal fission where one cell produces two motile daughter cells, each with

two flagella, that parasitize the same or a different host. Motile forms attach by means of a flat disc with two small microtubules extending into the host cell, but retain flagella.

V. Diagnosis

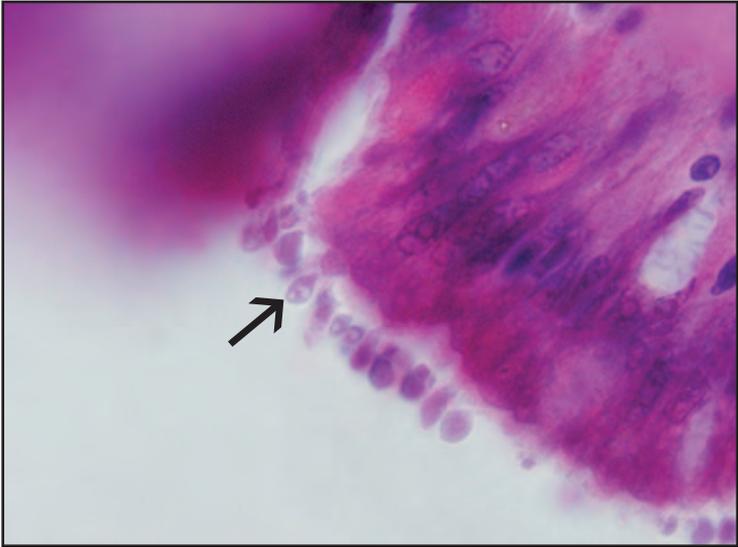
Diagnosis is by histological examination showing very small pyriform-shaped (5-10 μm) feeding forms of the parasite attached to epithelial cells of the mantle surface.

VI. Prognosis for Host

The prognosis for the host is unknown but in this case the parasite is presumed to be relatively harmless based on the lack of significant tissue pathology. However, it is plausible that high parasite intensities on juvenile animals could result in significant pathological changes.

VII. Human Health Significance

There are no zoonotic human health concerns regarding the occurrence of this parasite on external tissues of bivalve molluscs.



Histological section of *Ichthyobodo*-like protozoa (arrow) attached to the mantle epithelium of weathervane scallop