Larval *Diplostomulum* of the Eye

I. Causative Agent and Disease

Eye fluke is caused by digenean larval trematodes of the genus *Diplostomulum* that parasitize the eye of many fish species. A common trematode found in the lens is *D. spathaceum* while other species are found in the vitreous chamber of the eye. The parasites can remain in the eye for a long time often resulting in cataracts and blindness in the fish host.

II. Host Species

Many salmonids and other fresh water fish are susceptible throughout North America and Europe.

III. Clinical Signs

The fish may have cataracts and the eye appears opaque.

IV. Transmission

As with other digenean trematodes, the fish becomes parasitized horizontally through the water from infested snails. The invasive cercariae from a snail (first intermediate host) penetrate the fish (second intermediate host), usually through the skin, and migrate to the eye where they develop into the metacercarial form. The life cycle is completed when the fish host is eaten by a piscivorous bird where the adult fluke develops in the gut and releases eggs into the water.

V. Diagnosis

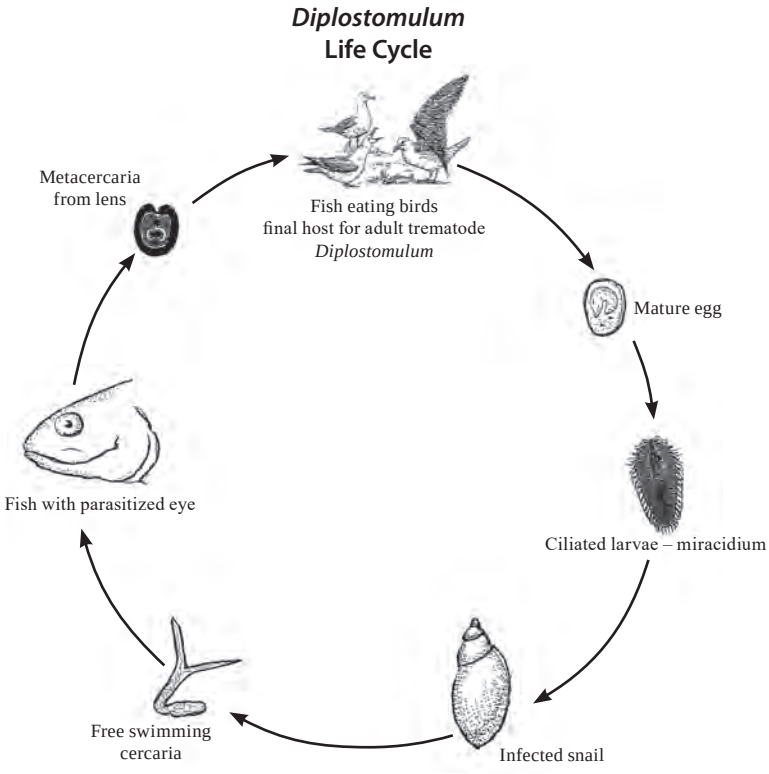
This condition is diagnosed by wet mount observation of metacercariae in the lens or vitreous humor of the eye in a parasitized fish. Typical metacercariae can also be identified using histological methods.

VI. Prognosis for Host

If parasitized bilaterally, complete blindness may result, and the fish host will probably die from predation or inability to find food. When only one eye is parasitized, the host fish may survive for an indefinite period of time.

VII. Human Health Significance

There are no human health concerns associated with this parasite.



Metacercarial form of the eye fluke *Diplostomulum* from an Arctic grayling, X 200.