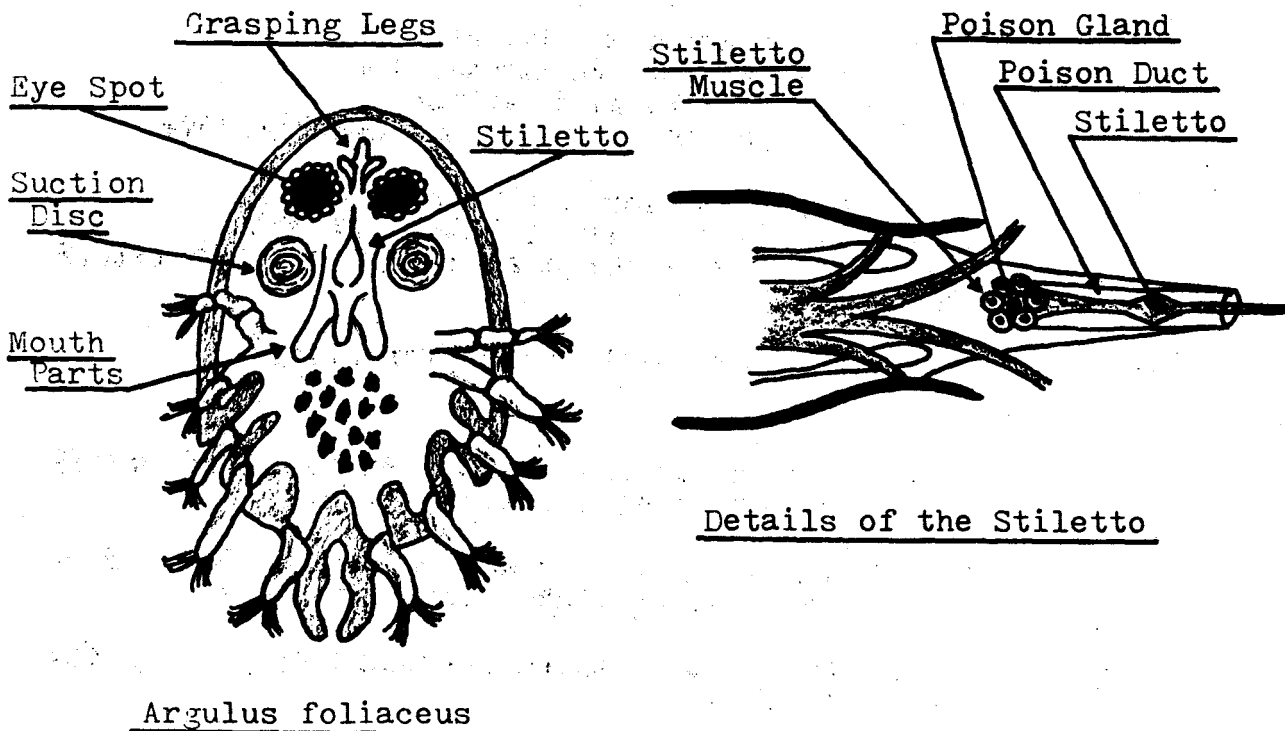


ARGULUS: THE CARP LOUSE

By John Fraboni

Of all the crustacean parasites inhabiting our freshwater lakes and streams, the most widely known are from the genus *Argulus*. There are approximately fifty species of Argulidae which plague the fishes of the world. This is a relatively large parasite, and can be easily seen with the naked eye. These parasites are very highly adapted for their niche in the ecosystem. Specialized mouth parts and digestive system make them totally dependent on fishes and aquatic amphibians for their nourishment.



Argulus begins its life as an egg attached to aquatic vegetation or rocks on the bottom of a stream. After a four week gestation period, they hatch and become free swimming parasites. Shortly after hatching, they attach themselves to a host, and begin taking tissue fluids for nourishment. They remain attached for five to six weeks, after which time they detach as sexually mature adults. A single parasite is not dangerous, but its bite is extremely irritating and does contain a small amount of poison. Smaller fish may succumb to repeated bites, but larger specimens seem to be able to handle the toxin. These parasites can live several weeks without contact with a host, but eventually they must seek out another host.

Argulus attaches itself by means of a pair of sucking discs and

specially adapted mouth parts. After attachment is achieved, a stiletto is repeatedly injected into the dermal layer of the host. Through the stiletto a poison is introduced into the system of the host. Tissue fluids are extracted to give the parasite nourishment. The toxin is very strong, and produces a cellular degeneration as well as a lymphocytic degeneration. This action lowers the resistance of the fish to other diseases. Argulus is also suspected of carrying the organisms responsible for IPN (infectious pancreatic necrosis), BHS (bacterial hemorrhagic septicemia), Cryptobia, and several fungi. Although the parasite is not deadly in itself, it can indirectly cause the loss of many fish. Almost any fish species is subject to the bite of some species of Argulus, and many amphibians too are subject to the same threat. After the adult parasite leaves the host, it will lay from twenty to two hundred and fifty eggs in neat little rows on the bottom strata or some aquatic vegetation. This is a large parasite, from 8.5 mm to 13 mm in length. It is a hardy and dangerous species that inhabits our streams and lakes.

SYMPTOMS: 1) Reddened swollen areas of the skin
2) Opacity at the base of the dorsal fin
3) May develop an epithelial neoplasm
4) Secondary mycosis may be a further complication

TREATMENT: 1) Bathe in lysol: 1 cc per 5 liters of water
2) Bathe in priasol: 1 cc per 5 liters of water
3) Bathe in potassium permanganate: 1 gm per 100 liters of water

PREVENTION: Disinfect all tanks with lye or formalin.

DEFINITION OF TERMS:

- 1) Lymphocytic degeneration: the destruction of white blood cells which fight bacterial infection.
- 2) Opacity: thickening of tissue so as to make that tissue impenetrable by light rays and x-rays.
- 3) Epithelial neoplasm: a tumor consisting of rapidly growing skin cells.
- 4) Mycosis: a general term for all fungus infections.

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