

## *Trichophrya (Capriniana)*

### **I. Causative Agent and Disease**

*Trichophrya* is a protozoan (30-40 um) in the subclass Suctorina that attaches to the gills, skin or fins of a fish host. The protozoan has suckorial tentacles, which are used to feed on plankton and other ciliates in the water and on fish mucus and epithelial cells. When present in very large numbers, the ciliates can cause pathological changes in the gills including hyperplasia and necrosis that interfere with respiration.

### **II. Host Species**

This protozoan is commonly found on the gills of many freshwater teleosts in North America and Eurasia.

### **III. Clinical Signs**

Nonspecific gill hyperplasia is the principal clinical sign of infestation often accompanied by flashing behavior typical of any external parasite infestation. The parasite may be observed on the gill lamellae by microscopic examination. In Alaska, the occurrence of this parasite is generally incidental to other more significant etiologies.

### **IV. Transmission**

This ciliate is horizontally transmitted from fish to fish. Water with high organic loads, as occurs in lake rearing, favors growth of this organism.

### **V. Diagnosis**

Diagnosis is made by observing wet mounts of skin scrapes or gill tissues. The organism has an oval or irregularly elongated body which adheres to the gill lamella with a flattened broad attachment surface and the upper surface exhibits tentacles. The body of the parasite appears orange to brown. The dorsal tentacles are prominent and can

retract into the cell if disturbed. Overall, *Trichophrya* resembles a pincushion.

### **VI. Prognosis for Host**

Prognosis for the host is good when infestations are light, and the fish are not otherwise stressed. When present in large numbers gill hyperplasia can interfere with respiration and predispose fish to infections by bacteria and fungi. *Trichophrya* in Alaska has been resistant to formalin treatments while exposure to seawater when fish are transferred to marine net pens has been more effective in eliminating the parasite.

### **VII. Human Health Significance**

There are no human health concerns associated with *Trichophrya*.

PROTOZOA



*Trichophrya* protozoan showing suctorial tentacles, sometimes appearing as a pin cushion; phase contrast microscopy, X 200.



*Trichophrya* attached to gill tissue, X 400.