

Sarcotaces

I. Causative Agent and Disease

Sarcotaces arcticus is an endoparasitic copepod several centimeters long found encysted under the skin and in the muscle tissue of marine fish. The juvenile copepod inserts its head into the flesh and is eventually covered by the host skin except for the last pointed body segment that maintains connection with the outside seawater. When the parasite dies, after growing to an enormous size, the tissue forms a closed cyst. In Alaska, this parasite is commonly found in rockfish (*Sebastes* spp.) encysted near the anus where surrounding intestinal tissue forms a sac-like process. When fish are filleted the ruptured cysts release black fluid, a breakdown product of blood that the parasite has engorged.

II. Host Species

This parasitic copepod is found most commonly in species of *Sebastes* spp. in the northern Pacific Ocean and in other genera of teleosts in European waters.

III. Clinical Signs

Sarcotaces parasites are difficult to detect externally because of the subdermal location of the cyst. If the cyst lies over a bony surface, swelling of the skin may occur. In parasitized rockfish, the anal cysts are generally obvious.

IV. Transmission

The life cycle is direct by horizontal transmission. Larval copepodids are released into ambient seawater from the encysted adult female after fertilization by a much smaller male that has entered through the open portal of the cyst. The juveniles seek out a new host to continue the life cycle.

V. Diagnosis

Diagnosis is made by internal examination of the fish for characteristic pear-shaped cysts exuding black fluid and morphological identification of the larger female parasite. The body is oval with ill-defined transverse bands corresponding to segments and a double rosette is often visible around the mouthparts.

VI. Prognosis for Host

Prognosis for the host is good if infestation is minimal and there are no significant environmental stressors present. Infestations by *Sarcotaces* are associated with lower fecundity in rockfish and fish flesh becomes unappealing when fillets are tainted with the fluid leaking from cysts.

VII. Human Health Significance

There are no human health concerns with *Sarcotaces*.



Left: *Sarcotaces* encysted in intestinal tissue protruding from anal area of a rockfish;
Right: Removed paired cysts.



Adult female *Sarcotaces* dissected from a cyst (in mm)