

# Trypanorhynch Cestode Plerocercoids

## I. Causative Agent and Disease

Trypanorhynch cestodes belong to the phylum Platyhelminthes, class Cestoda, order Trypanorhyncha and those having decapod crustaceans as intermediate hosts are found as adults in the alimentary tracts of elasmobranch final hosts. Reports of trypanorhynchid plerocercoids in crustaceans have largely been restricted to shrimp where high prevalences and intensities have been observed. In some shrimp species the worms are destroyed by host reaction causing granulomas in the hepatopancreas but no significant related mortality has been recognized. In a report of trypanorhynch plerocercoids (*Trimacracanthus aetobatidis* and *Dollfusiella martini*) in green crabs the worms cause epithelial metaplasia and loss of surrounding secretory parenchyma in digestive gland tubules and are also destroyed by a host mediated inflammation and encapsulation. In heavy infestations crab survival may be reduced.

## II. Host Species

Penaeid shrimp species within Gulf coast waters of North America are the most common crustacean hosts reported to harbor trypanorhynch plerocercoids but the distribution of this order is worldwide and likely occurs in many other crustacean species such as reported from green crabs in Australia. In Alaska, a single unencysted specimen of a trypanorhynchid plerocercoid was recovered from the hepatopancreas of a captive red king crab collected from southeast waters.

## III. Clinical Signs

There have been no significant clinical signs of plerocercoid infestation re-

ported in decapod crustaceans except for encapsulation and granuloma formation in the hepatopancreas and possibly other tissues. Conceivably, some host mortality or debilitation could result from heavy infestations.

## IV. Transmission

Trypanorhynchid life cycles involving decapod crustaceans can include two general pathways starting with eggs released with feces from the elasmobranch final host followed by: eggs or hatched free-swimming ciliated coracidia are eaten by or infest a bivalve mollusc that is eaten by a decapod crustacean that is eaten by an elasmobranch; alternatively eggs or coracidia are eaten by or infest small crustaceans (copepod, amphipod) that are eaten by a larger decapod crustacean that is eaten by an elasmobranch. Coracidia develop into proceroids in the first intermediate host that later develop into plerocercoids in the last intermediate host.

## V. Diagnosis

Diagnosis may be made by gross or histological observation of plerocercoids within the tissues of infested crustaceans. The scolex or head of a trypanorhynch plerocercoid has 2-4 bothria and 4 spiny eversible proboscides (tentacles).

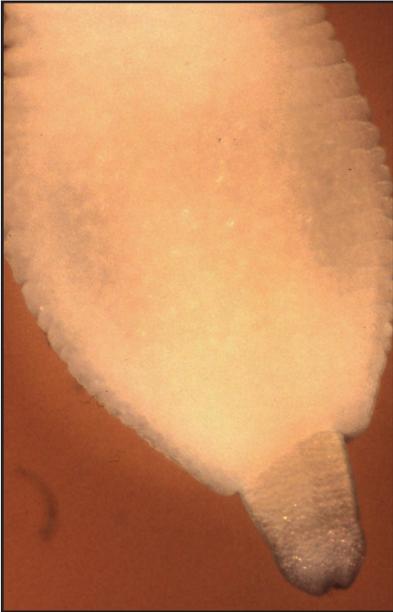
## VI. Prognosis for Host

There are no reports of significant decapod crustacean mortality or pathology associated with larval trypanorhynch infestations. An exception may be the trypanorhynchid plerocercoids infesting Australian green crabs where the parasites may possibly contribute to reduced crab survival.

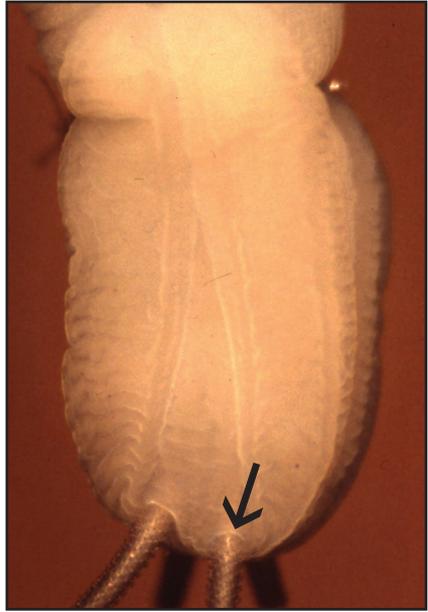
**VII. Human Health Significance**

There are no zoonotic human health concerns with the presence of trypano-

rhynch cestode larvae in the tissues of decapod crustaceans.



Trypanorhynch plerocercoid from red king crab showing posterior end



Trypanorhynch plerocercoid from red king crab showing scolex with bothria and 4 spiny proboscides (arrow)

**Trypanorhynch Cestode Life Cycle**

