# TREMATODE INFECTIONS-LUNC/PHARYNGEAL

**DISEASE: Clinostomiasis**
AGENT
***Clinostomum cornplenaturn***
RECOGNITION
**Syndrome:** Human: Sporadic cases, often asymptomatic. Cough, pharyngit is.
Animal: Unknown.
**Incubation period** Unknown.
**Case fatality rate:** None.
**Confirmatory tests:** Microscopic examination of fresh feces for presence
of ova of C. ***cornplenaturn.*** Adult flukes may occasionally be found in oral cavity.
**Occurrence:** Japan, Middle East. Reservoir is in fish-eating birds and some reptiles.
**Transmission:** Ingestion of raw freshwater fish harvested in water contaminated with feces of infected **host** animals.

CONTROL AND PREVENTION

**Individual/herd:** Treat with bithionol, niclofolan, or praziquantel. Avoid eating raw, freshwater fish in endemic areas.

**Local/community:** Education regarding method of transmission.

**National/international:** None.

**DISEASE: Paragonimiasis**

AGENT

***Purugonimus*** spp. ***(P. westermuni,*** possibly other species)

RECOGNITION

**Syndrome:** Human: Often asymptomatic. Cough, hemoptysis. Central nervous system disturbances, if brain is invaded.

Animal: Cough, dyspnea in dogs.

**Incubation period:** Long (weeks) and variable.

**Case fatality rate:** Low, unless ectopic localization of parasite occurs.

**Confirmatory tests:** Microscopic examination of feces or sputum for ova of ***Purugonimur*** spp. Paired sera for complement fixation or indirect hemagglutination testing. Intradermal **skin** test.

**Occurrence:** Southeast Asia, Philippines, Africa, Pacific coast of South America. Reservoirs are humans, canids, felids, pigs, and wild carnivores.

**Transmission:** Ingestion of freshwater crustaceans containing metacercariae. Cercariae develop in snails inhabiting ponds contaminated with feces or sputum of infected host animals.

CONTROL AND PREVENTION

**IndividuaVherd:** Treat with bithionol, praziquantel, or niclofolan. Cook crustaceans gathered in potentially contaminated water, before eating.

**Local/community:** Education regarding method of transmission. Proper fecal waste disposal. Eliminate stray dogs and cats. Snail control.

**National/international** None.

**DISEASE: Schistosomiasis**

AGENT

***Schistosoma*** spp. (**S**. ***mansoni,*** **S.** ***japonicum,*** **S.** ***hematobium)***

RECOGNITION

**Syndrome:** Human: Pruritis from larvae entering through **skin. Syn**drome varies from subclinical to fever and hepatosplenomegaly. **S.** ***mansoni*** and **S.** ***japonicum*** produce colitis; **S.** ***hematobium*** produces **a** self-limiting cystitis and hematuria.

Animal: With heavy burden of parasites, diarrhea, dehydration, anorexia, and weight loss. Recovery is usually spontaneous.

**Incubation period: 4-6** weeks.

**Case** fatality **rate:** Low.

**Confirmatory tests:** Microscopic examination for ova of ***Schistosoma*** spp. in feces, urine, or biopsy specimens. Paired sera for ELISA, or indirect fluorescent antibody testing.

**Occurrence: S. *mansoni*** in Africa, **South** America, and the Caribbean. Reservoirs are primarily humans and rodents. **S. *japonicum*** in Southeast Asia. Reservoir is primarily humans but also found in dogs, cats, pigs, cattle, rodents, and nonhuman primates. **S. *hematobium*** in Africa and the Middle East. Reservoir is almost completely humans.

**Transmission:** Ova are passed into water in urine or feces and develop

into larvae (miracidiae), which penetrate into the snail intermediate host. Larvae develop into cercariae in the snail intermediate hosts, escape and penetrate the skin of human and other definitive hosts, and develop into schistosomula. After a period of time in the lungs and liver, they reach the intestine (**S. mansoni** and **S. *japonicum)*** or urinary bladder (**S**. ***hematobiurn).***

CONTROL AND PREVENTION

**Individual/herd** Treat with praziquantel. Wear rubber boots, if wading
in water is required in endemic areas.

**Local/community:** Education regarding method of transmission. Sanitary disposal of fecal and urinary waste. Mass therapy of infected individuals. Snail control.

**National/international** None.