Paragonimus species

**Introduction**

*Paragonimus* species is a lung trematode found in West Africa, Asia, North, Central and South America, China, the Far East and Japan.

**Life cycle**

**Humans (definitive host)**
Worms mature in the lungs, often in pairs. A fibrotic capsule forms around them to form a pocket.

Humans are infected by ingesting uncooked crabs or crayfish infected with metacecariae.

Eggs leave the pocket and are deposited in the bronchioles, coughed up in the sputum, or swallowed and passed out in the faeces.

The eggs hatch in water to release miracidia.

**1st intermediate host**
The miracidia infect snails, form sporocysts followed by redia and eventually release cecariae.

**2nd intermediate host**
Crabs and crayfish ingest cecariae or infected snails. Cecariae encyst to become metacecariae.

Clinical Disease

Symptoms due to *Paragonimus* species depend on the worm burden. Light infections may be asymptomatic although the lesion caused by the cyst can be detected on X-ray examination. A cough develops which produces viscous blood-tinged sputum. This is associated with chest-pain and may be misdiagnosed as tuberculosis.

Extra-pulmonary lesions may occur of which the most serious are intracranial. Symptoms include headache, convulsions, meningitis, visual disturbances, and hemplegia.
Laboratory diagnosis

Laboratory diagnosis depends on the recovery of characteristic eggs from a sputum sample or formol ether concentrate of faeces. The eggs are ovoid, brownish-yellow, thick shelled and unembryonated. The eggs have an operculum at one end with opercular shoulders. They measure 65 - 90μm by 40- 50μm. The eggs of Paragonimus species can be confused with those of Diphyllobothrium latum whose eggs are ovoid, operculate, yellow brown in colour and of similar size. However, the eggs of Paragonimus species, unlike those of D. latum have opercular shoulders with a thickened wall at the apopercular end.

Ova of Paragonimus species