**Heterophyes heterophyes**

**Introduction:**

_Heterophyes heterophyes_ is a small parasitic fluke that infects humans who eat raw or undercooked fish infected with the metacercaria stage of the parasite. The adult parasite lives in the intestinal villi of humans (the definitive host). The first intermediate host of _H. heterophyes_ are snails, _Cerithidia_ sp. and _Pironella_ sp. which are found in Asia and the Middle East respectively. _H. heterophyes_ is commonly found in the Middle East, Philippines, Taiwan, Korea, China and Japan.

**Life cycle**

**Humans**

The adult worms are found in the host’s small intestine. Cats and dogs can also become infected.

Eggs are passed in the host’s faeces.

The eggs are ingested by the first intermediate host (snail) where the miracidium hatches.

**Fish**

Cercariae encyst to form metacercariae.

**Snail**

The parasite develops and reproduces asexually and cercariae are liberated.

The cercariae encyst under the scales or in the flesh of the second intermediate host (fresh-water fish).

**Morphology:**

**Ova:** The egg is ovoid, operculate, elongate and light brown (almost yellow) in colour. The egg contains the embryo (miracidium). It measures 27 - 30µm by 15 – 17µm.

**Adult:** The mature adult measures 1.0 to 1.7mm by 0.3 to 0.4mm. The body is covered by scales. The female fluke ovary is located near the end of the body.

**Diagnosis:**

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Laboratory diagnosis of *Heterophyes heterophyes* is by stool microscopy. The ova of *H. heterophyes* are difficult to distinguish from other heterophyid species and some other flukes but collection of the adult worm allows accurate identification of the species.

**Clinical Features:**
Infection usually remains asymptomatic and mild. Symptoms of a heavy infection include abdominal discomfort, loss of appetite, chronic mucous diarrhoea, nausea and inflammatory reactions in the area where the parasite entered the intestine. Eggs can occasionally leave the intestine and move through the lympho-vascular system and blood of their host. Eggs can enter the heart resulting in lesions in the myocardium. Brain involvement has been reported.

**Ova of Heterophyes heterophyes**