

**Department of biology**

**((Parasites))**

**2 stage**

**Lab 1**

**By**

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**Flukes**

Flukes are a kind of parasitic flatworm under the class trematoda inside the phylum platyhelminthes. Most trematodes have an intricate life cycle with at least two hosts. The primary host is a vertebrate, where the flukes reproduce sexually. The intermediate host is typically a snail, where asexual reproduction occurs.

fluke, any member of the invertebrate class Trematoda (phylum Platyhelminthes), a group of parasitic flatworms that probably evolved from free-living forms millions of years ago. There are more than 10,000 species of flukes. They occur worldwide and range in size from about 5 millimetres (0.2 inch) to several centimetres; most do not exceed 100 millimetres (4 inches) in length.

Life cycle of flukes

Liver fluke disease (fasciolosis) is caused by the trematode parasite Fasciola hepatica. Disease can result from the migration of large numbers of immature flukes through the liver, or from the presence of adult flukes in the bile ducts, or both. Liver fluke can infect all grazing animals (and man) but mainly affects sheep and cattle. It is most pathogenic in sheep.

Compared to other helminths, the lifecycle is complex and involves an intermediate host, the mud snail Galba (Lymnaea) truncatula and several free-living stages. The role of the snail, which prefers muddy, slightly acidic conditions, particularly areas associated with poor drainage, means the incidence of liver fluke is far greater in the wetter areas of the country and in years when there is high summer rainfall. With the capacity of the snail to multiply rapidly (100,000 offspring in three to four months) along with the multiplication of the parasite within the snail, there is potential for very large numbers of parasites.

Adult fluke lay eggs that are passed out onto pasture in the faeces. At suitable temperatures, a miracidium develops within the egg, hatches and migrates in thin films of moisture, actively seeking the snail host. Miracidia can only survive for a few hours outside the snail. Within the snail they undergo two further developmental stages, including multiplication, eventually becoming infective cercariae, which emerge from the snail when the temperature and moisture levels are suitable.

The cercariae migrate onto wet herbage, encysting as metacercariae, the highly resilient infective stage of the liver fluke. Following ingestion, the young flukes migrate to the liver, through which they tunnel, causing considerable tissue damage. The infection is patent about 10-12 weeks after the metacercariae are ingested. The whole cycle takes 18-20 weeks.

