

Unit II: Trematodes

Instructor:

Dr R. K. Sharma

Assistant Professor

Department of Veterinary Parasitology

Bihar Veterinary College, Patna.

Trematoda : Introduction

- The word trematos means "pierced with holes".
- The name is given because of their conspicuous suckers, the organs of attachment.
- They are called **flukes**, cause various clinical infections in animals and human beings.
- These are unsegmented, leaf-shaped flattened dorsoventrally worms.
- They bear 2 suckers, one surrounding the mouth (oral sucker) and another on the ventral surface of the body (ventral sucker).
- These suckers serve as the organs of attachment.

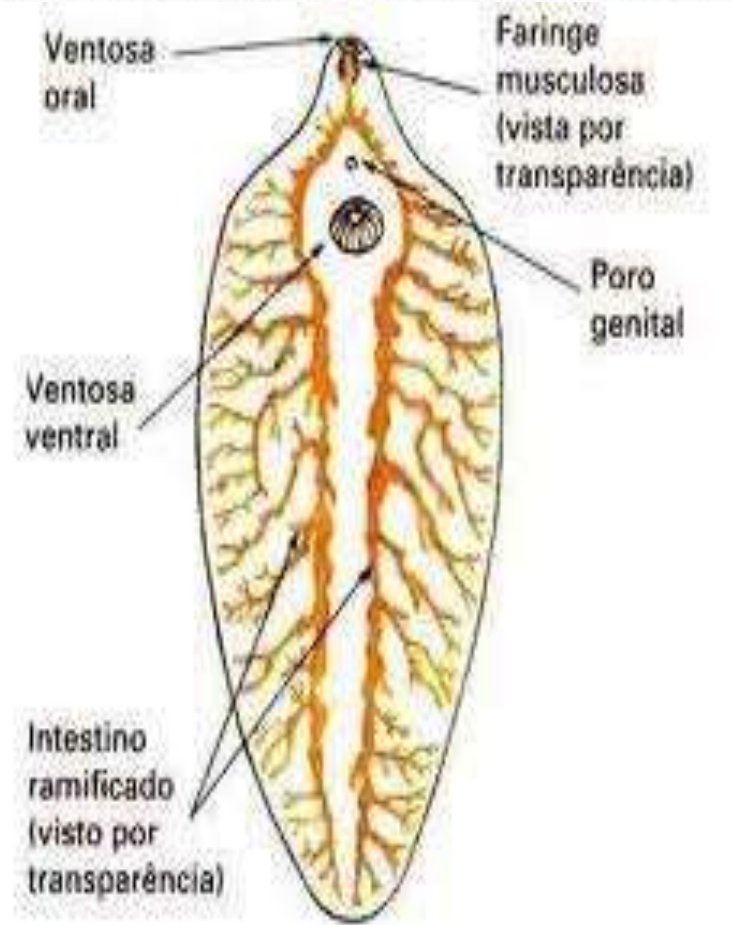
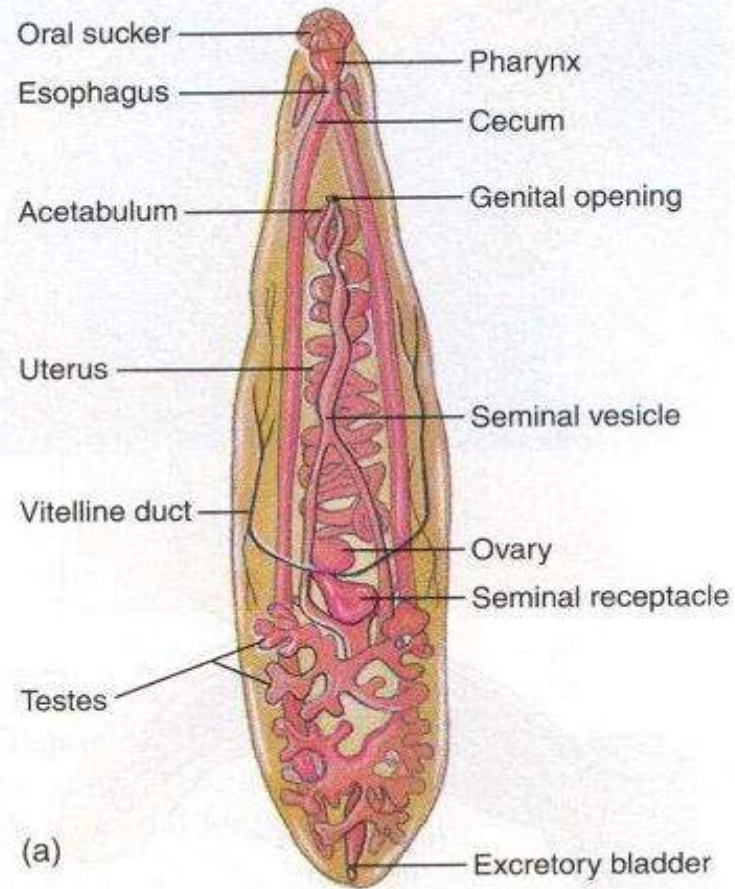
Trematoda



Trematoda



Trematoda : Parts of Body



Trematoda :General characteristics

- The body surface of trematodes comprises a tough syncitial tegument.
 - There are no respiratory organs.
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- The mouth opens into a muscular, pumping pharynx, connects via a short oesophagus.
 - There is no anus, and waste material must be egested through the mouth.
 - The excretion occurs mostly through the tegument, Some of the species of trematodes possess an excretory system, which consists of two or more protonephridia.
 - The brain consists of a pair of ganglia in the head region, from which two or three pairs of nerve cords .
 - Trematodes generally lack any specialized sense organs.
 - Most trematodes are hermaphrodites.

Trematoda :Classification

- Phylum : Platyhelminthes.

- Class : Trematoda

- Subclass : Digenea

- Families :

- *Fasciolidae*

- *Dicrocoeliidae*

- *Opisthorchiidae*

- *Paramphistomatidae*

- *Schistosomatidae*

- *Prosthogonimiade*

- *Paragonimidae*

Life cycle : different stages

Egg :

The egg is found in the faeces, sputum, or urine of the definitive host. It will either be non-embryonated (immature) or embryonated (ready to hatch). The eggs of all trematodes are operculated. except [schistosomes](#) .

Miracidium :

Miracidia hatch from eggs either in the environment or in the intermediate host.

Sporocyst :

Sporocysts are elongated sacs that produce either more sporocysts or rediae. This is where larvae can develop.

Mother Sporocyst: These have loose plates (cilia) .

Daughter Sporocyst: These are an asexual production of cercariae; they absorb nutrients while having no mouth.

Life cycle : conted.....

Redia :

After the sporocyst form the larva. The first development from it forms the redia. Which further either produce more rediae or start to form cercariae.

Cercaria :

A cercaria has a tapering head with large penetration glands. It may or may not have a long swimming "tail", depending on the species. The motile cercaria further develop to a mesocercaria, or a metacercaria, according to species.

Mesocercaria :

They have a hard shell, by means of which the parasite is able to infect the definitive host.

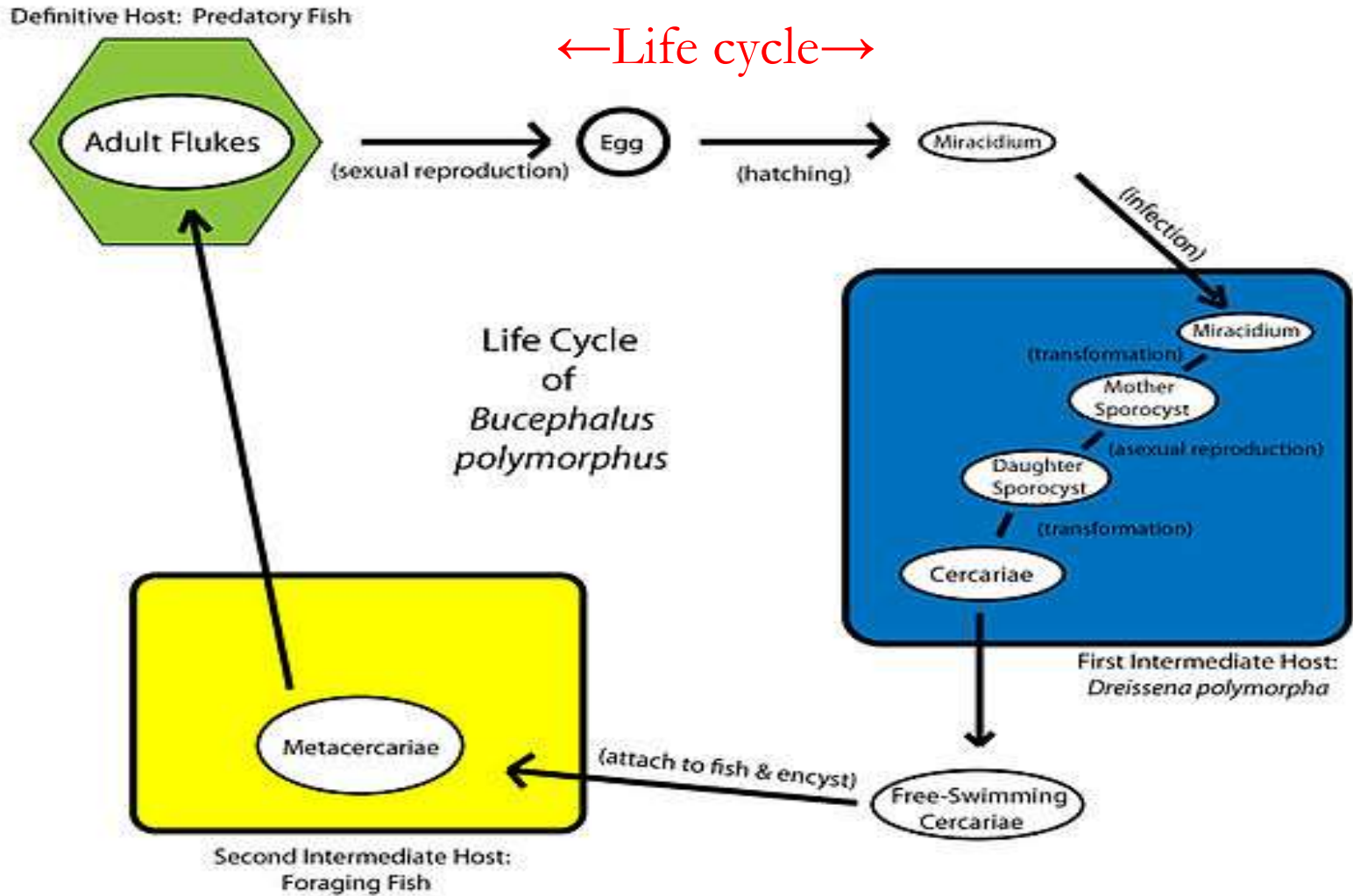
Metacercaria :

A cercaria encysted and resting . They are only involved when there are 3 intermediate host life cycles.

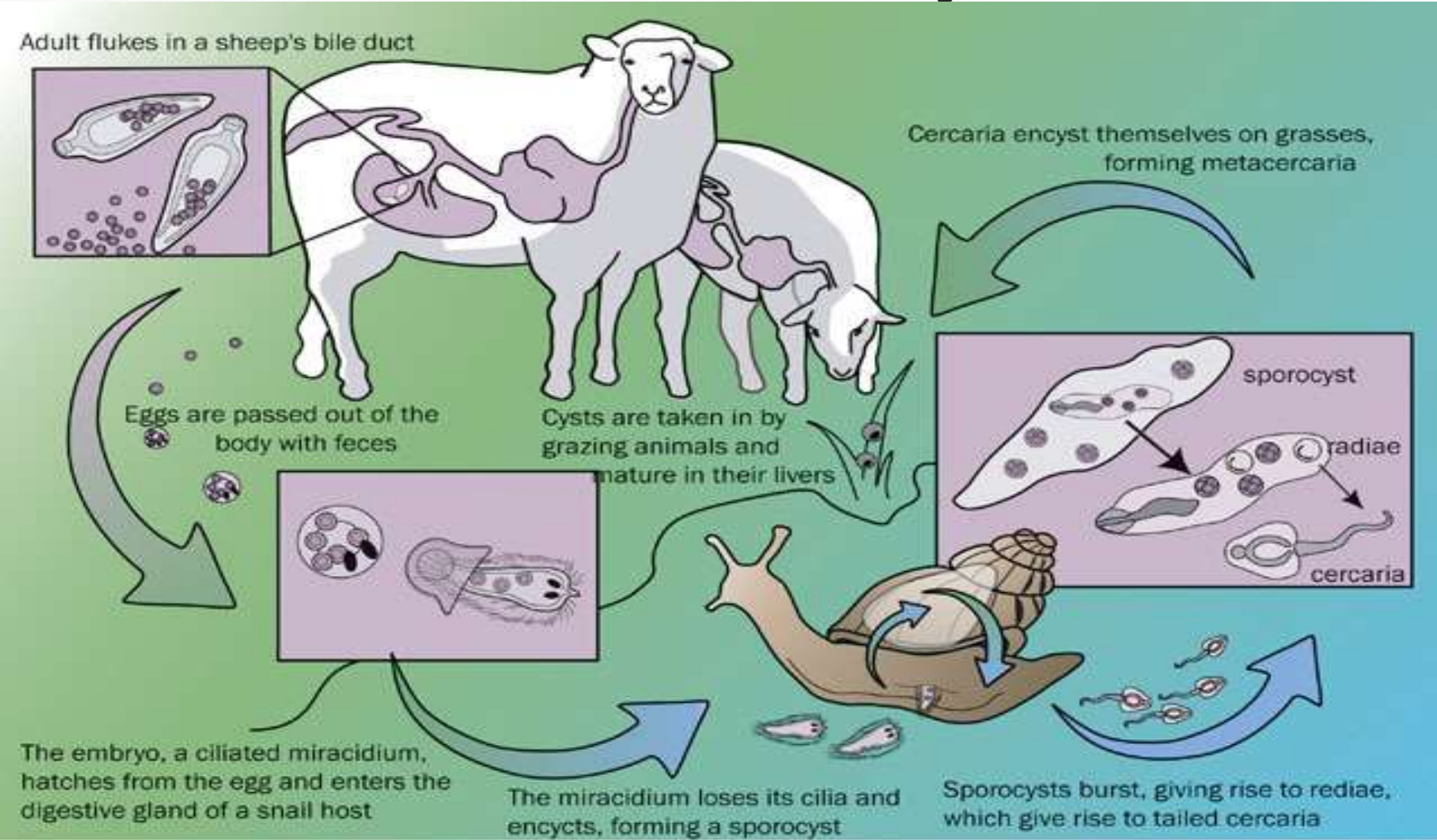
Adult :

The fully developed mature stage. As an adult, it is capable of sexual reproduction.

Trematoda : Life cycle



Trematoda :Life cycle



Morphology of development

← Stages →



egg



miracidium



sporocyst



cercarium

♀



adult