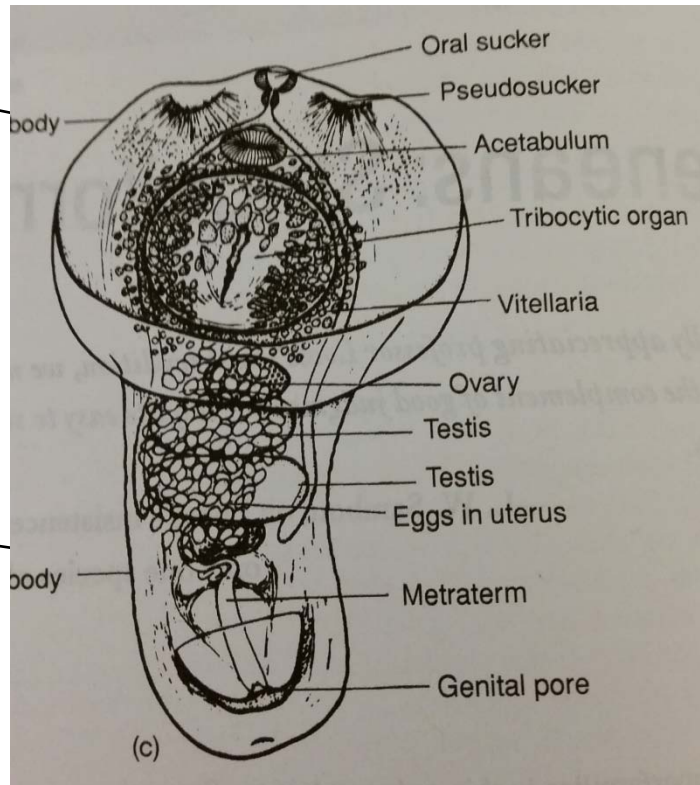


Phylum Platyhelminthes – For the Trematodes (the Digenea) we follow the phylogeny on page 232 of our book.

Class Digenea

Forebody

Hindbody



Most strigeid trematodes have an expanded front end called, the forebody.

These are common trematodes in raptors and lots of other water birds. Common also in carnivores that dine on prey that are involved with aquatic organisms. Recall the life-cycle of *Alaria Americana* or other species of *Alaria*.

The ones to know here are *Alaria*. The other interesting one to know is the species *Cotylurus flabelliformis* – this species has a cool life history that changes depending on the species of snail that the miracidium penetrates.

Cotylurus flabelliformis.

Duck. -----→ eggs pass into water (3 weeks) ----→ miracidia hatch -----→ pent. Snail.

Miracidia penetrate snails: *Lymnaea* or *Stagnicola* -- → 2 sporocysts in snail and then cercaria – (6 weeks) -- furcocercous cercaria are produced, --- cercariae exit and hit another snail. If it is a Lymnaeidae it transforms into an encysted **tetracotyle metacercaria** where it waits for a duck to eat the snail and matures in the duck.

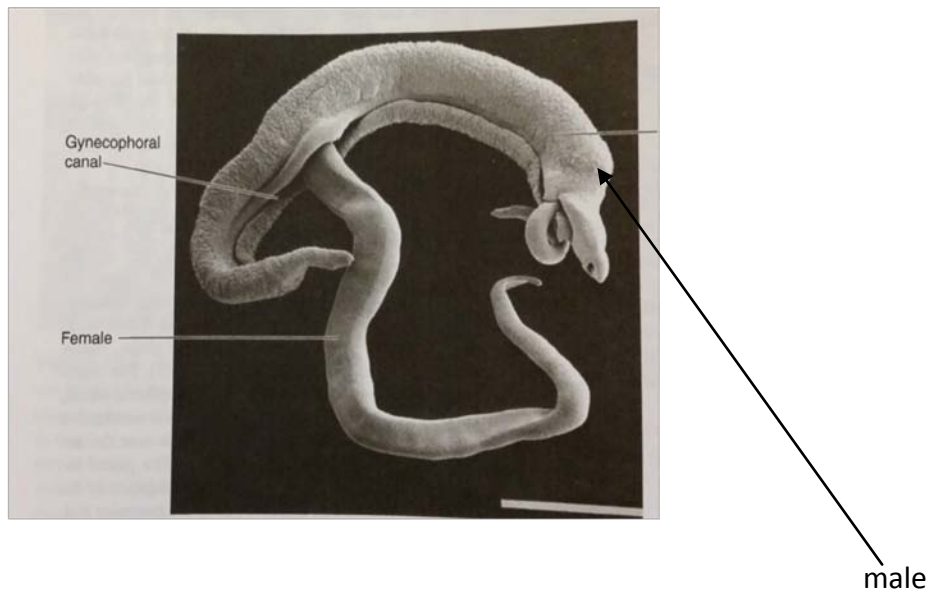
If the cercaria penetrates a Planorbidae or Physidae snail, the cercaria eats any other species of sporocysts or rediae present in the snail and then transforms into a **tetracotyle metacercaria** and waits to be eaten by a duck. Etc..

Superfamily Schistosomatoidea

Family Schistosomatidae

This is one of the most deadly and dangerously easy to get of the parasitic diseases of humans.

The disease is called Schistosomiasis or Bilharziasis.



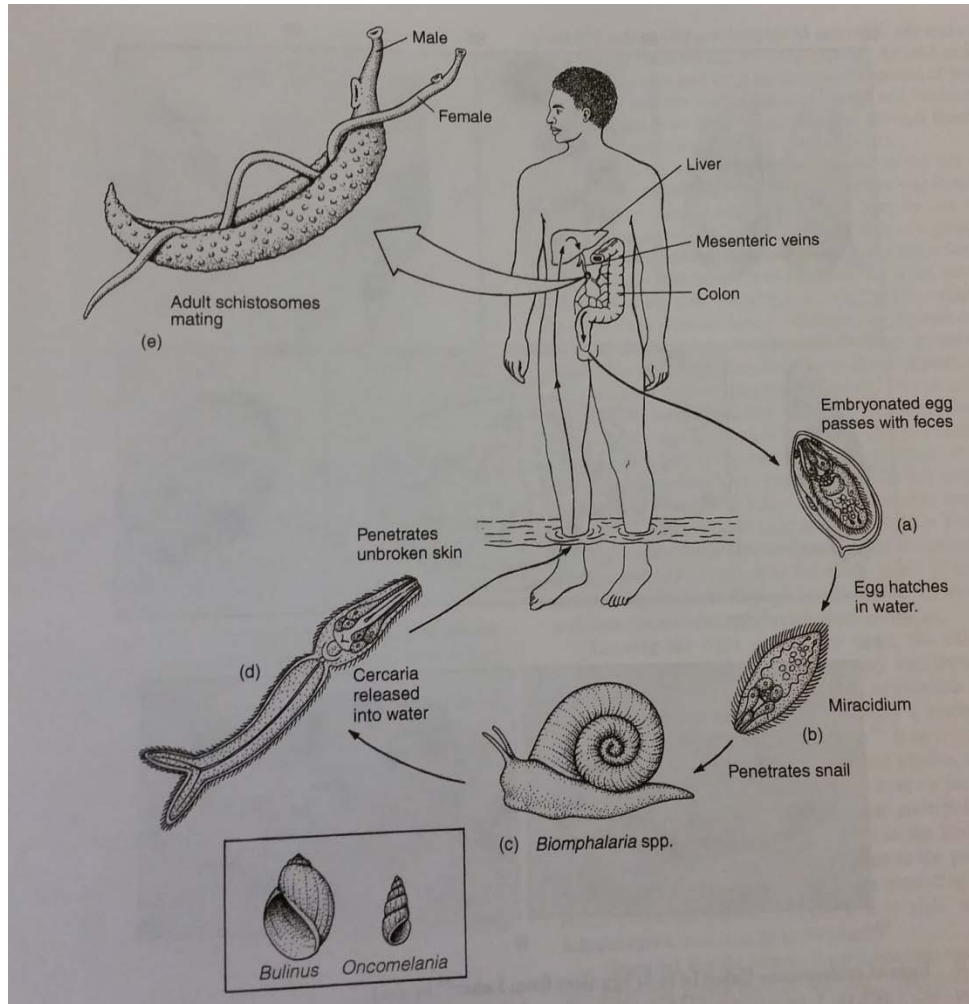
Weinland 1858 (*Schistosoma haematobium*)

Cobbold – 3 months later 1858 named the same species (*Bilharzia*)

Complicated arrangement – turns out that there are more than 12 species of schistosomes in Africa.

Eggs produced in mammals with different characteristics:

Life cycle of *Schistosoma mansoni*



Miracidium -- Snail --- Sporocyst --- Daughter Sporocysts --- Furcocercous Cercaria
 Cercaria are produced for up to 7 weeks from a single infection.

<i>Schistosoma haematobium</i>	<i>S. mansoni</i>	<i>S. japonicum</i>
Egg. Sharp terminal spine	Sharp lateral spine	Tiny or remnant lateral spine
Snail: <i>Bulinus</i>	<i>Biomphalaria</i>	<i>Onchomelania</i>
In veins of bladder	In veins of large intestine	In veins of small intestine
Africa, South America Asia	Africa, South America	Asia

These worms are diecious and must get together to mate and produce eggs. Interestingly the male has a split body and the female lies in the gynecophoral canal permanently in copula.

Pathology: eggs cause inflammation in tissues and liver.

Control: no swimming, drinking filtered water, control of sewage.

Swimmers itch – caused by the cercaria of other species of trematodes, some *Schistosoma*, but many species in ducks, including: *Trichobilharzia*, *Gigantobilharzia*, *Ornithobilharzia*, *Microbilharzia*, and *Heterobilharzia*

Story of the ducks at Fremont Lakes.

Story of flags of *Ochomelania* in Japan - Honshu