

F. Relations between hosts and parasites

F.1 Notion of parasite and long-lasting interaction

- Flow of energy
 - Differences with the relation between predators and preys
- > Shadowness and durability



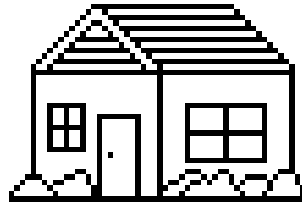
- 1) parasite's genome-> modification of the host's phenotype
- 2) « double » genome-> evolution/simplification of the parasites
- 3) parasite -> contribution of new genes
- 4) Side exchanges of genes



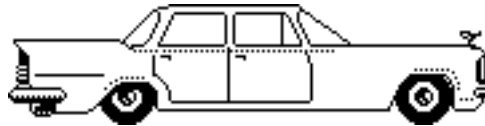
Parasites-hosts -> relationship cost/profit

Advantages of parasitism

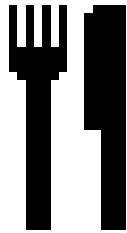
Progressive
evolution



The environment



The mobility



The energy

- red seaweeds parasites of red seaweeds
- Fungi parasites of fungi
- lichens parasites of lichens
- birds parasites of birds
- insects parasites of insects
- fishes parasites of fishes...



Example...of a visible parasite...

QuickTime™ et un décompresseur
Photo - JPEG sont requis pour visualiser
cette image.

Oral incubation
Protection of youth

Cichlid
Lake Tanganyaka
Burundi

Synodontis multipunctatus
Parasite Catfish



F2 Co-evolution between host and parasite

Durability - Genome in narrow interweaving

- modify the host's physiology -> optimal exploitation**
- decrease the immune system**
- manipulate the host's behavior ->optimal transmission**



Example of host manipulation...

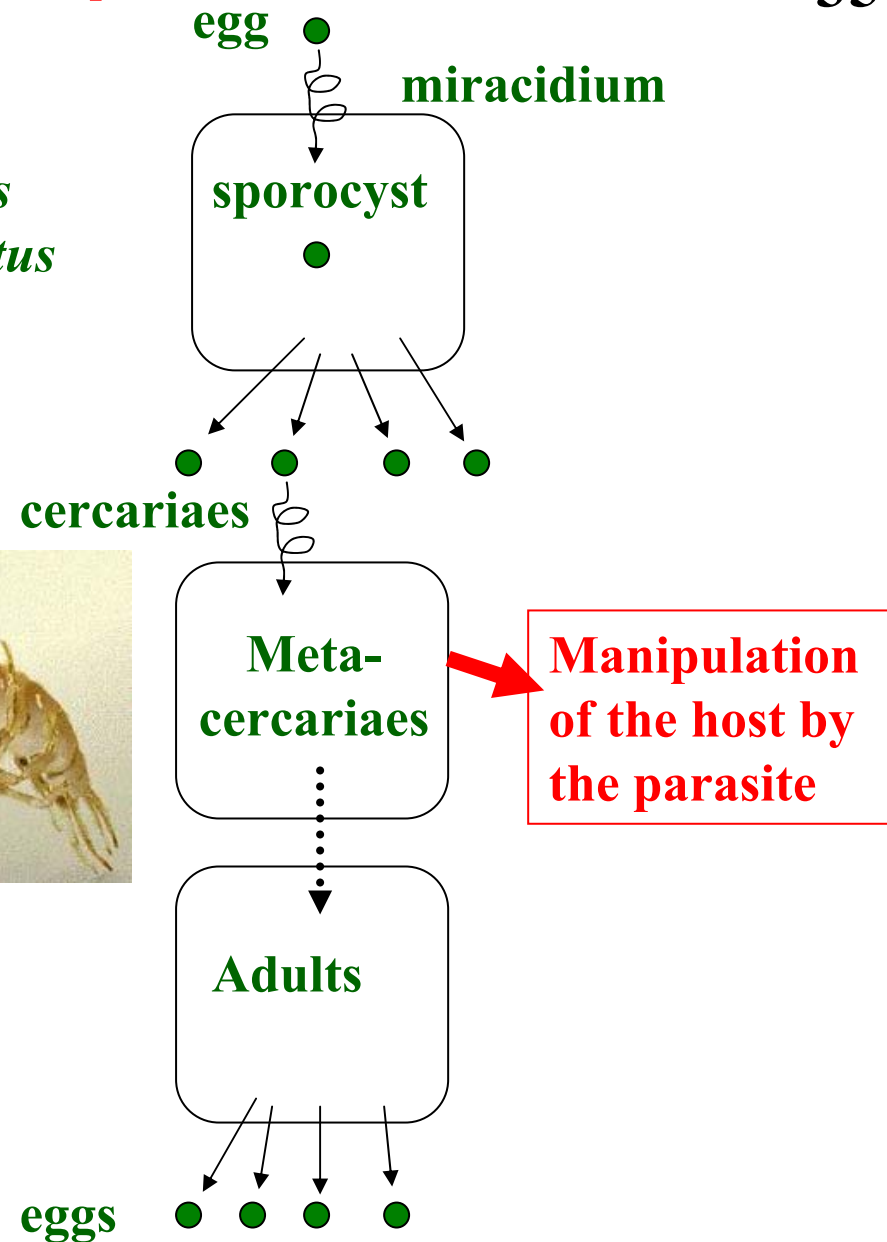


Microphallus papillorobustus
-> trematod
Gastropod
Mollusc

Crustaceans
(gammarus)



Gull



Co-evolutions **hosts** parasites : Processes...

1) **The meet the host**

2) **To avoid the parasite**

3) **To kill**

4) **To survive**



To meet...

- Favourisation

- Emission of infested stages :
 - chemical and vibratory detection
 - chronology (*Schistosoma*, bilharziosis, human, rodents)
- Parasite and prey / predator
 - weakening of the prey
 - manipulation (cf gammarus)
 - = orientation of predation
 - = favored transmission

