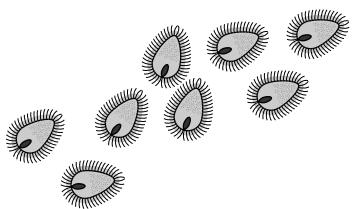


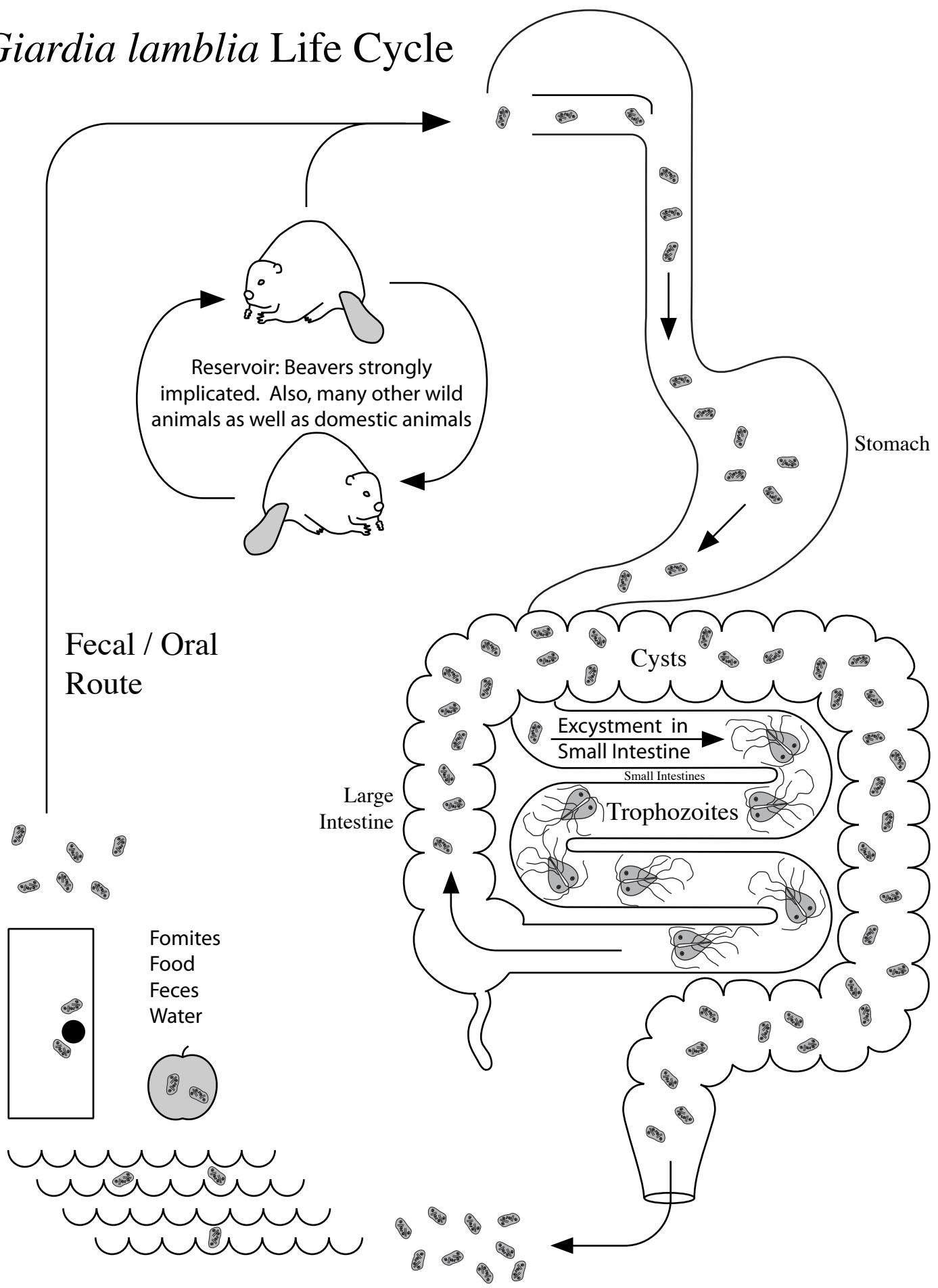
Eukaryotic Parasites

An Illustrated Guide to
Parasitic Life Cycles
to Accompany Lecture



By Noel Ways

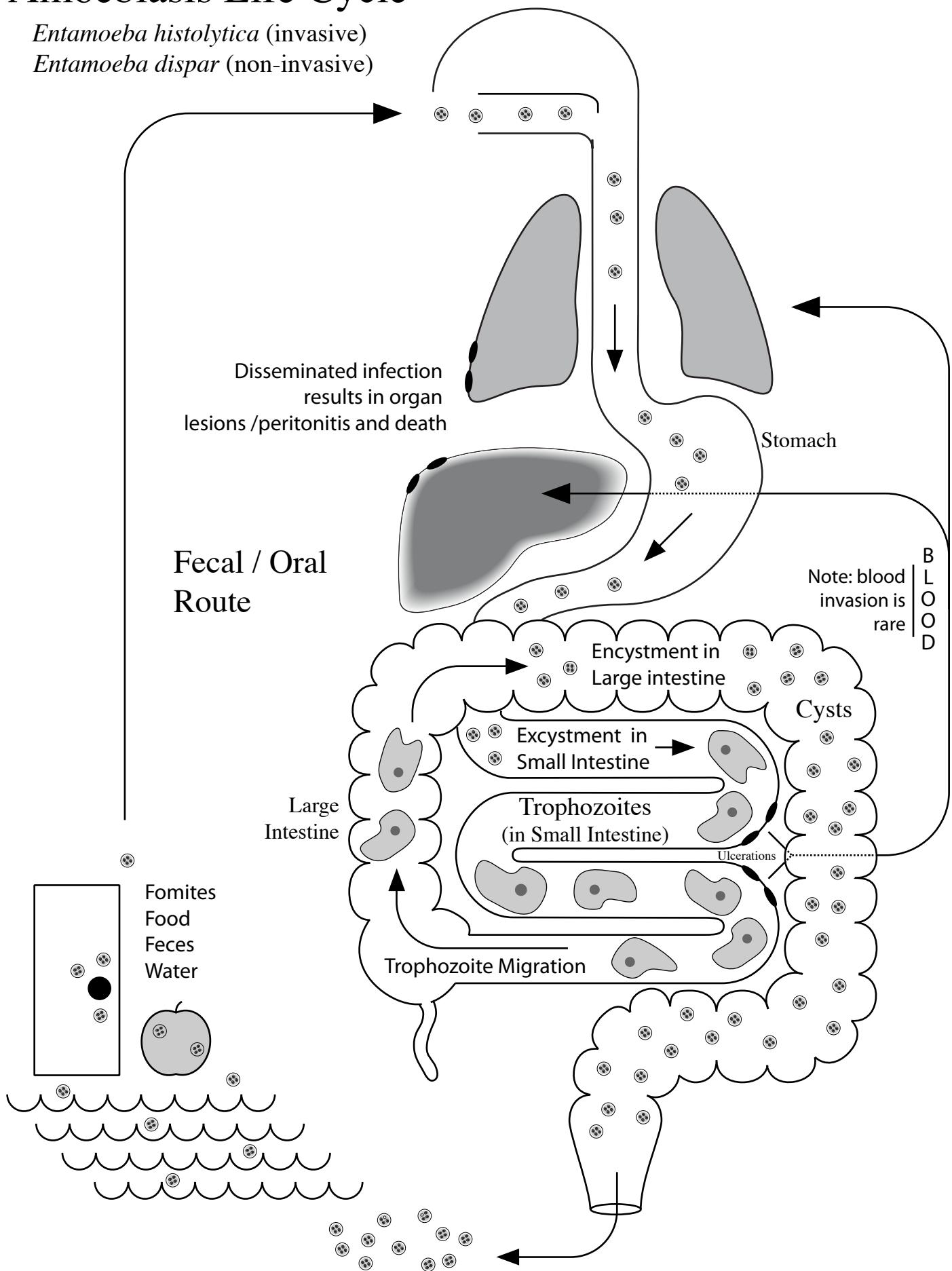
Giardia lamblia Life Cycle



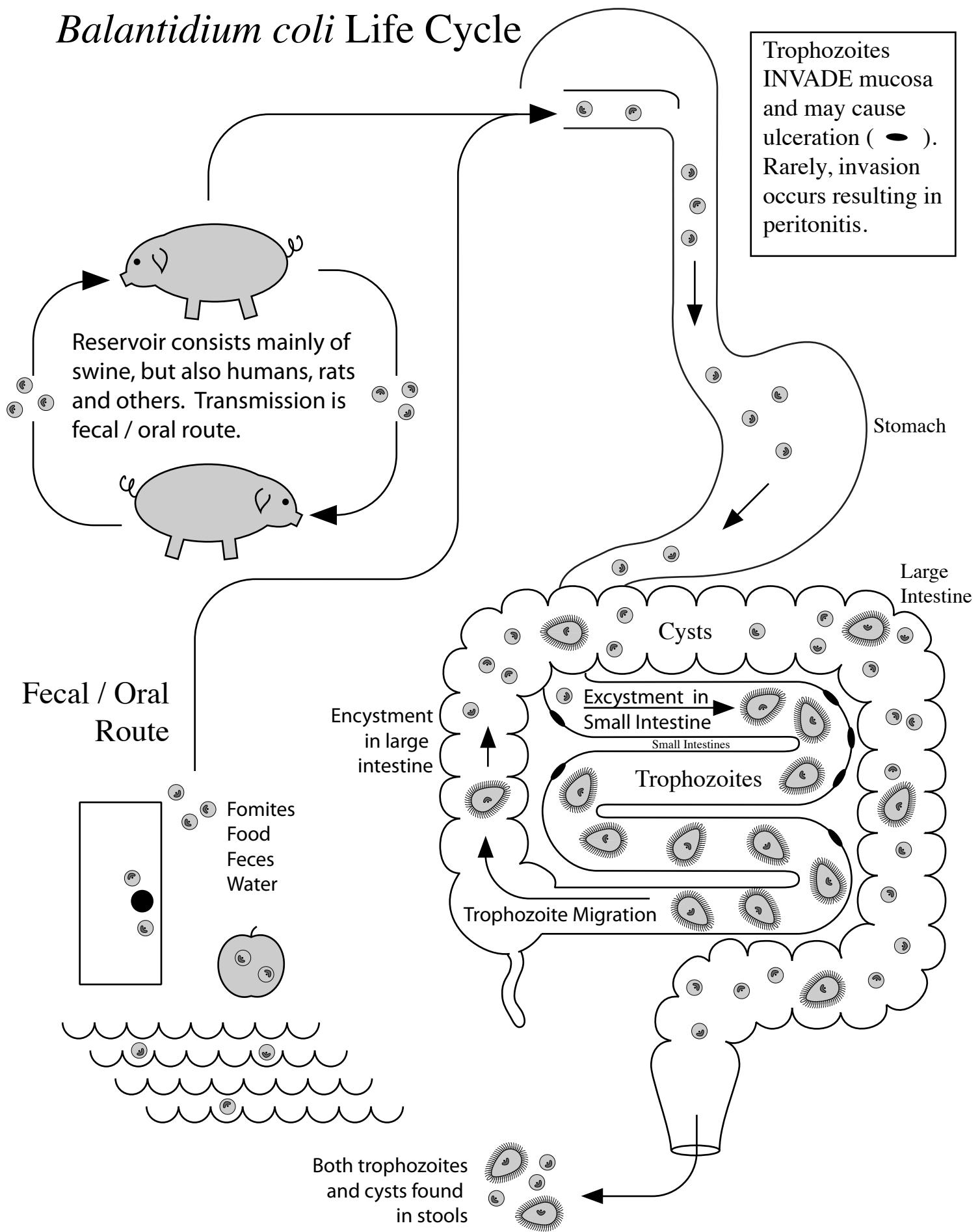
Amoebiasis Life Cycle

Entamoeba histolytica (invasive)

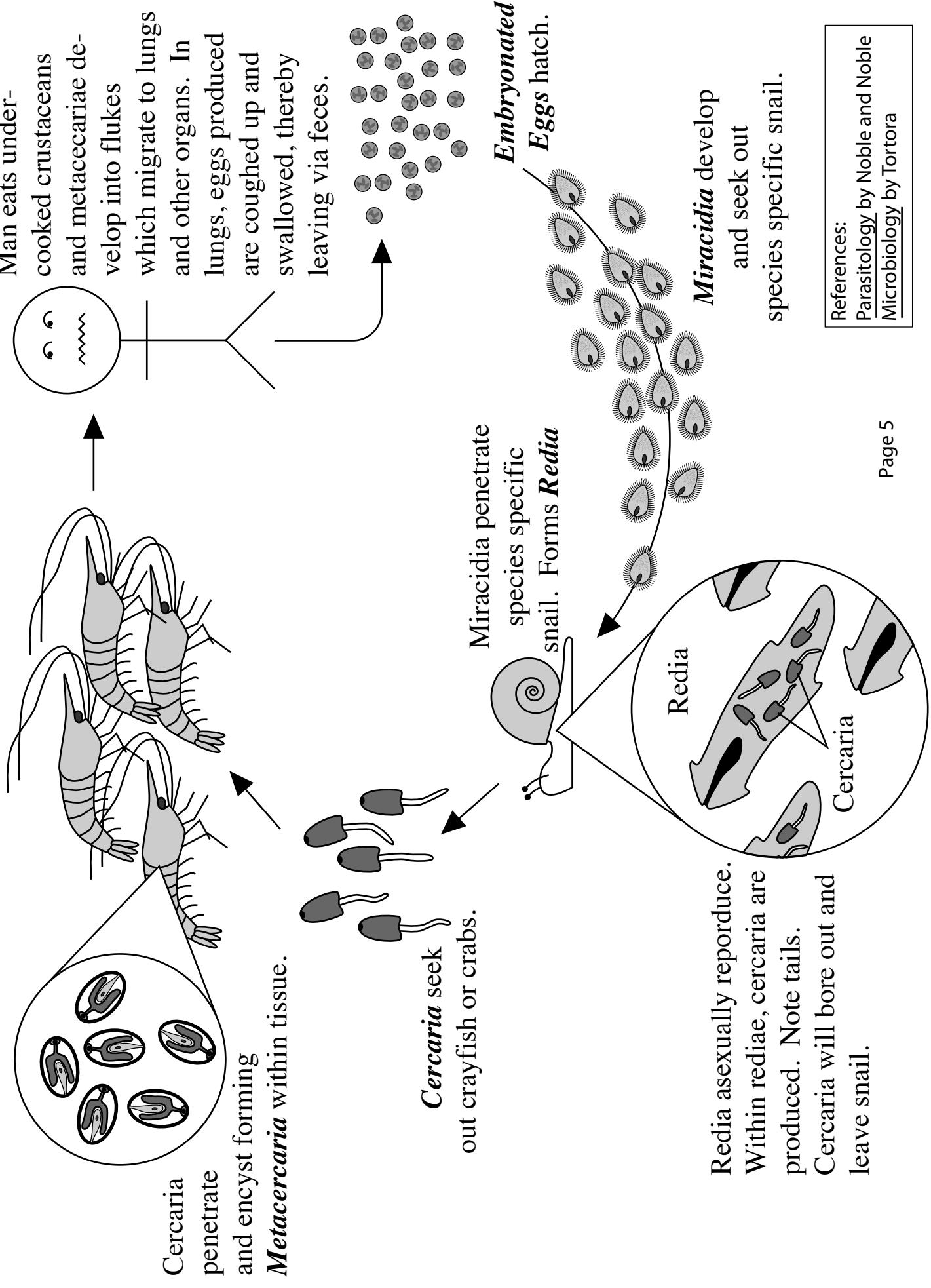
Entamoeba dispar (non-invasive)



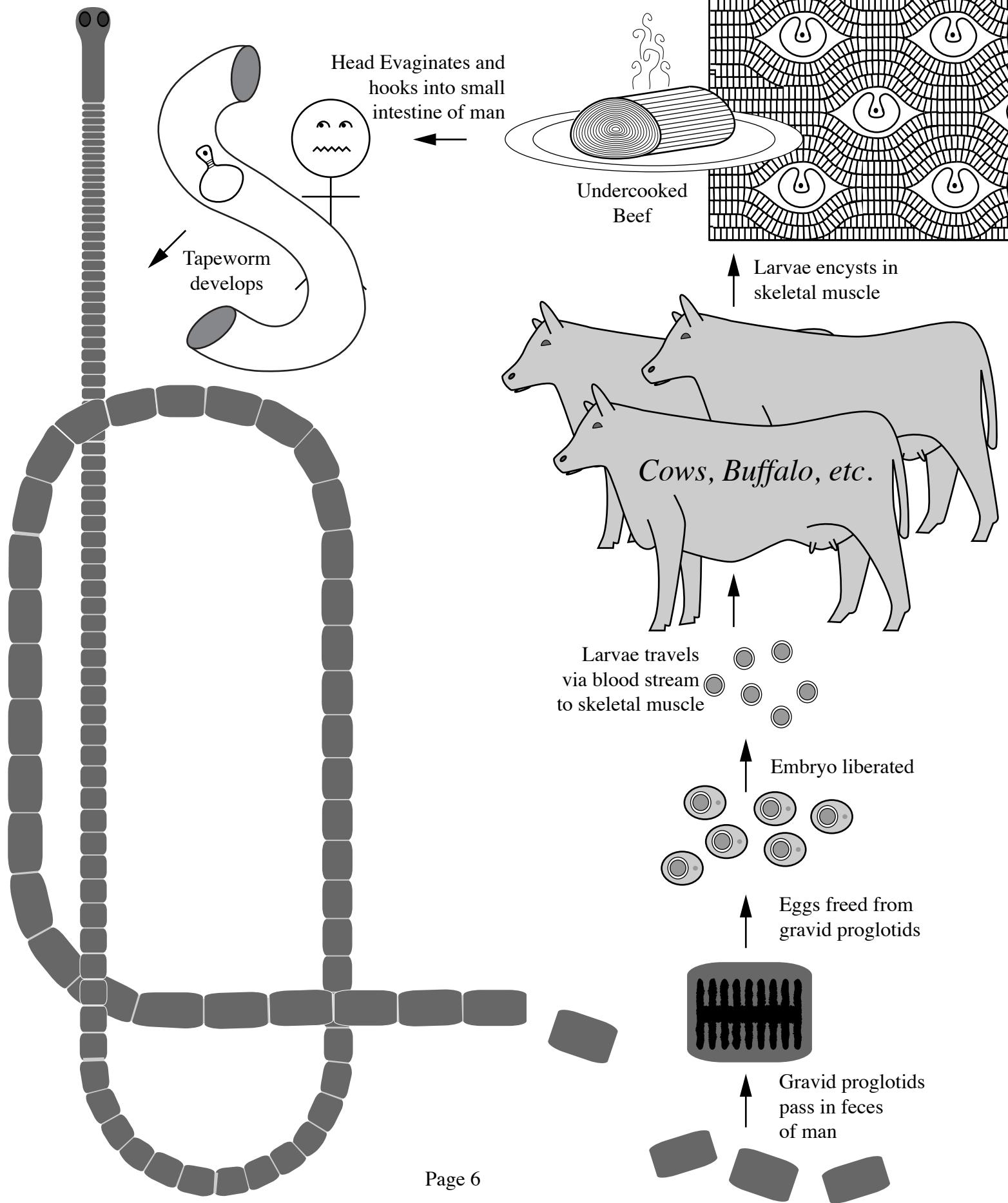
Balantidium coli Life Cycle



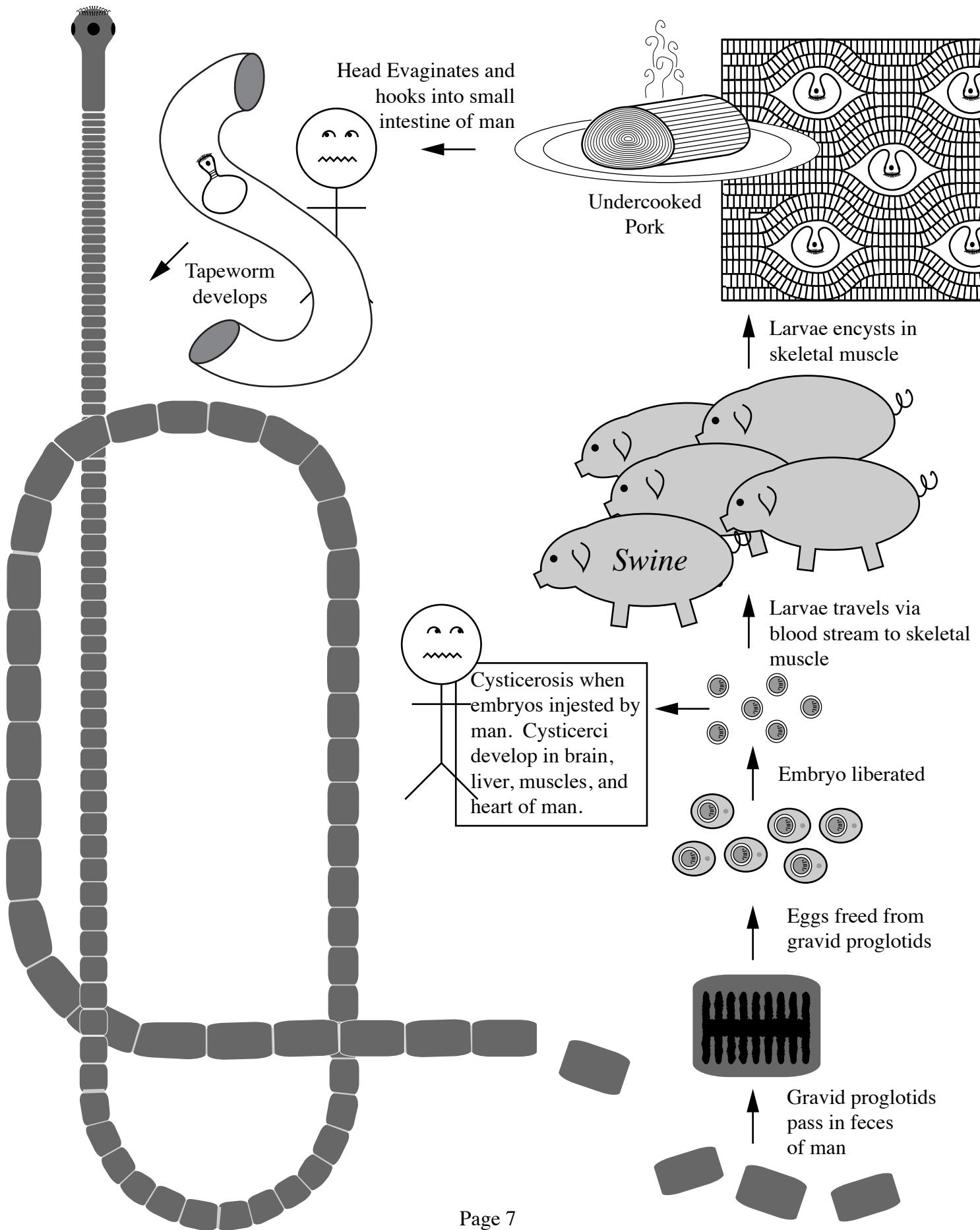
Paragonimus westermani Life Cycle



Taeniarhynchus saginatus Life Cycle

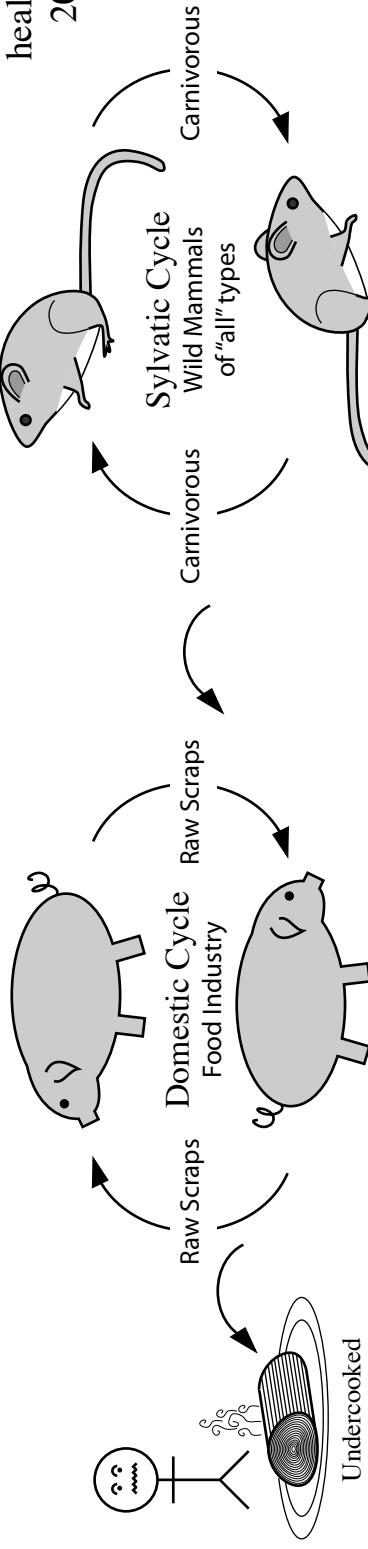


Taenia solium Life Cycle



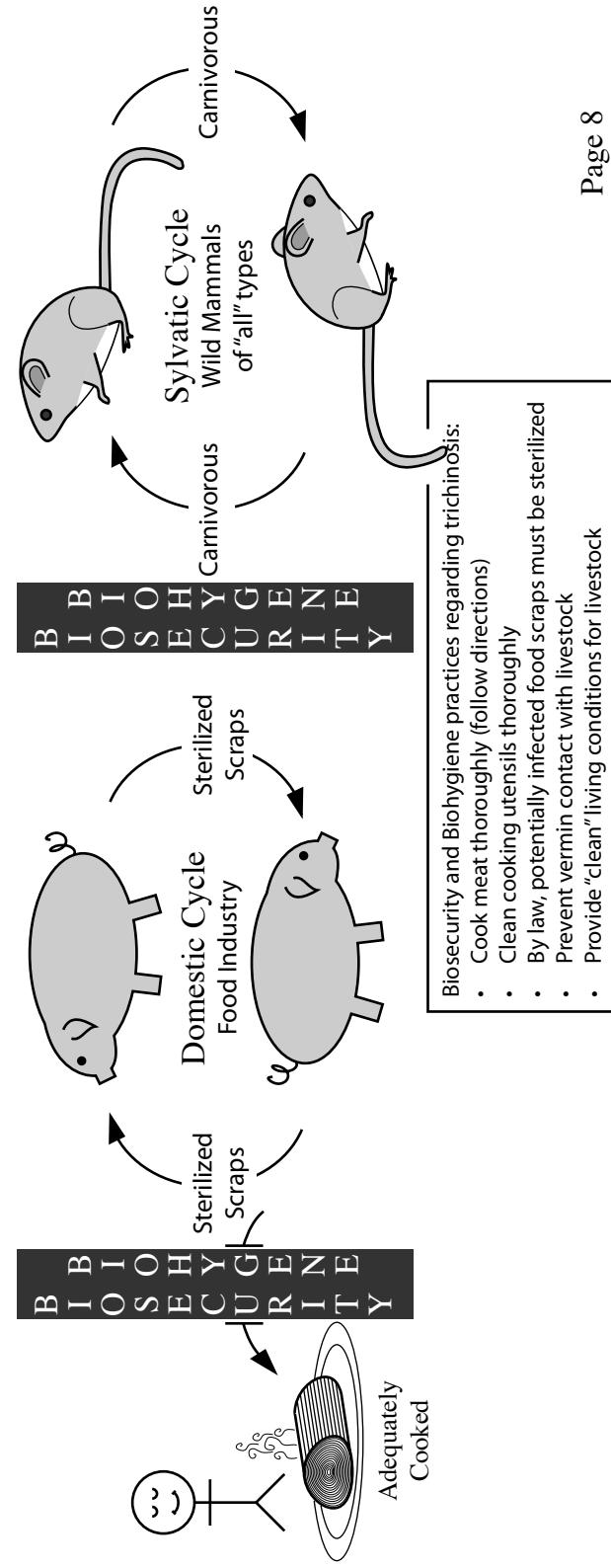
Sylvatic and Domestic Life Cycles

Sylvatic: “of the forest”. If something is referred to as sylvatic, then it occurs in the wild. The opposite of sylvatic is domestic. In discussions regarding parasites, sylvatic cycles often refer to the maintenance and relationships between a parasite and its host(s) in nature through time. However, there are many instances where a parasite that is maintained in nature “slips” into our domestic affairs / concerns.



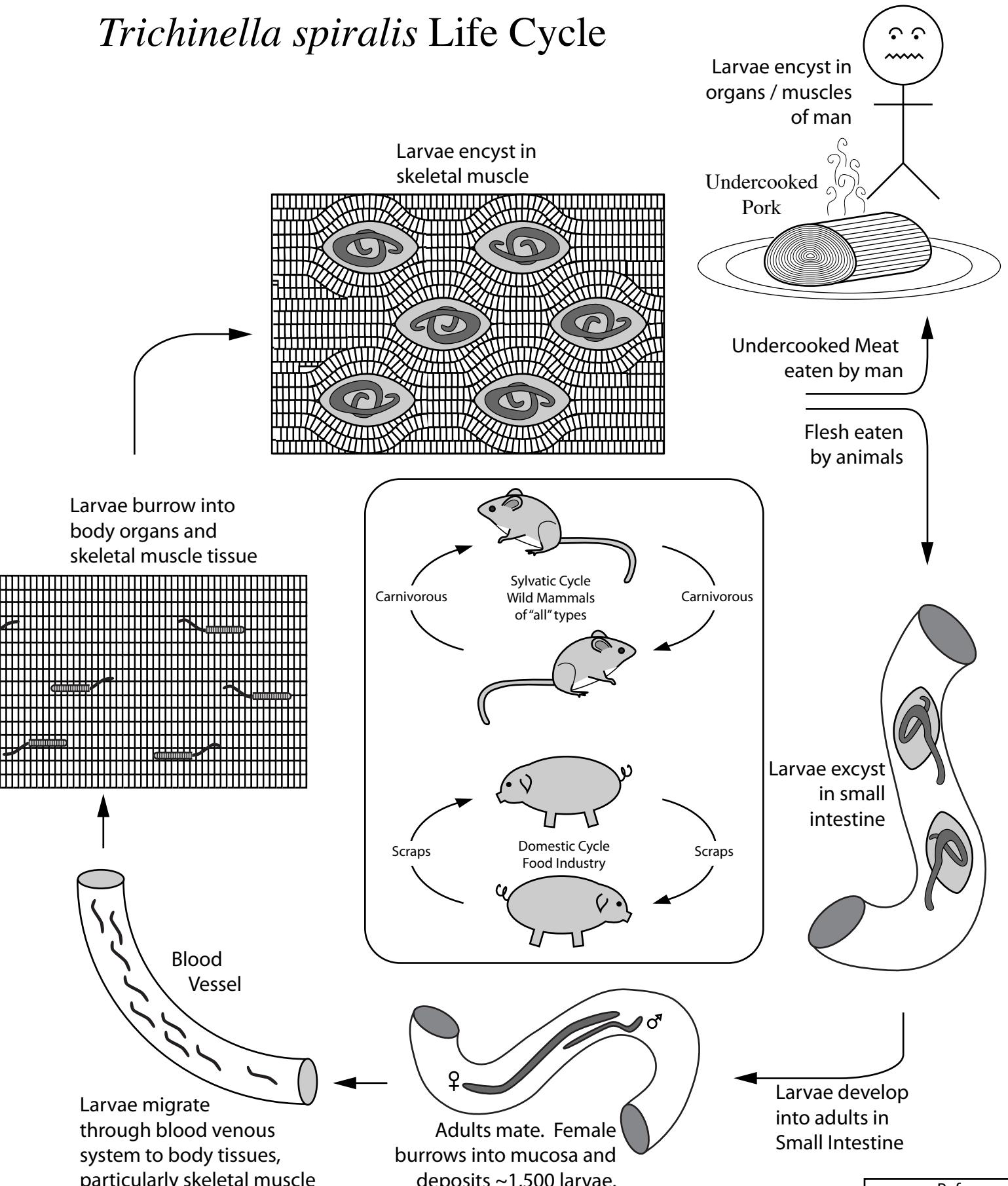
In the case of *Trichinella spiralis*, the parasite is alive and well all around us in raccoons, rats, lynx, opossums, beavers, etc. etc. (the list is huge). And, 100 years ago, trichinosis was a major health issue with about 20% of the American population harboring cysts by old age. Migration from the sylvatic community into the domestic community was straight forward.

Federal Biosecurity and hygiene guidelines as well as general public awareness of the existence of this disease, has resulted in a huge decrease in incident rate. Most cases in the US now come from hunters who improperly prepare their wild meats.



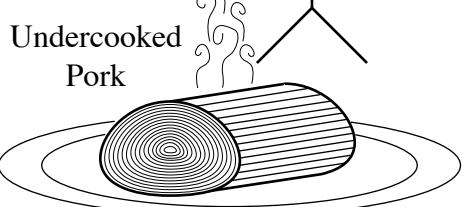
- Biosecurity and Biohygiene practices regarding trichinosis:
- Cook meat thoroughly (follow directions)
 - Clean cooking utensils thoroughly
 - By law, potentially infected food scraps must be sterilized
 - Prevent vermin contact with livestock
 - Provide “clean” living conditions for livestock

Trichinella spiralis Life Cycle



Larvae encyst in organs / muscles of man

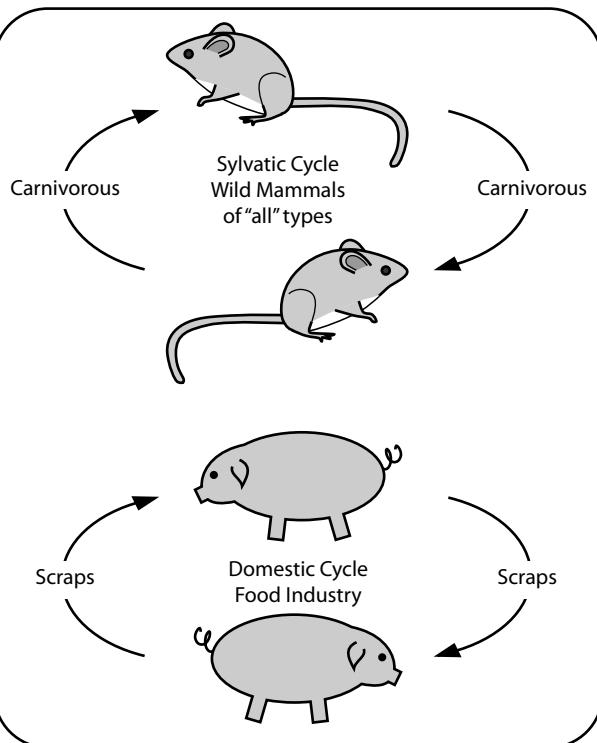
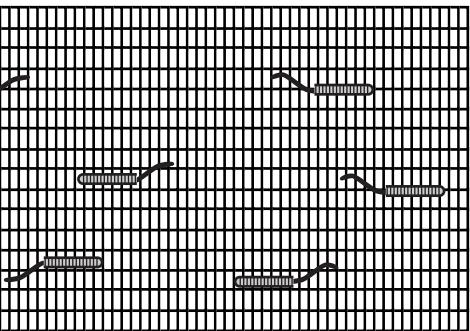
Undercooked Pork



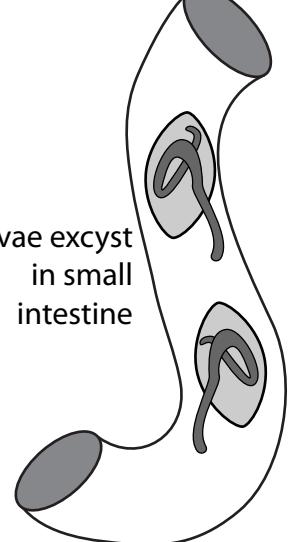
Undercooked Meat eaten by man

Flesh eaten by animals

Larvae burrow into body organs and skeletal muscle tissue



Larvae excyst in small intestine



Blood Vessel

Larvae migrate through blood venous system to body tissues, particularly skeletal muscle

Adults mate. Female burrows into mucosa and deposits ~1,500 larvae.

Larvae develop into adults in Small Intestine

Ascaris lumbricoides Life Cycle

