

Host specificity:

- Taxonomic / phylogenetic
- physiological
- Ecological

^ Some parasites are very host specific, others have a broad host specificity

- phylogenetic analysis (PAUP*, MEGA-X):
 - Shows evolution of parasites alongside their hosts
 - contemporary - Exists in modern species through co-speciation or perhaps a "switching over" of hosts.
 - Ancient - present in species upstream in the phylogenetic tree; continued down to modern species

^ Ecological host-switch - Caused by extreme

Natural conditions (Tectonic Plate shift) and
by human intervention (invasive species; etc.)

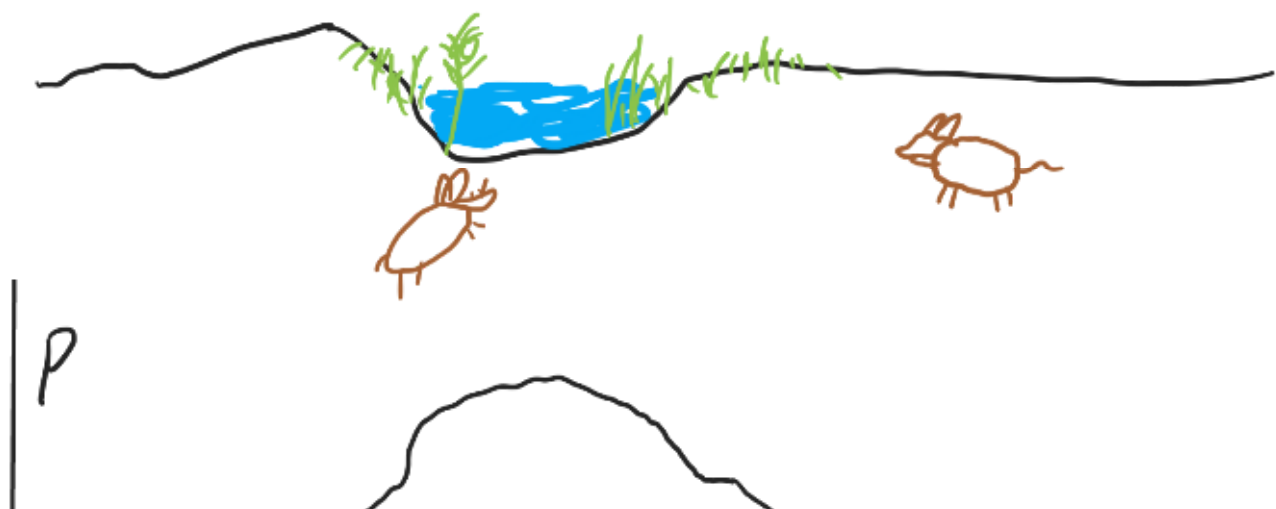
↓
Anthropogenically mediated host-switching
(Phylogenetic Host specificity) ↑

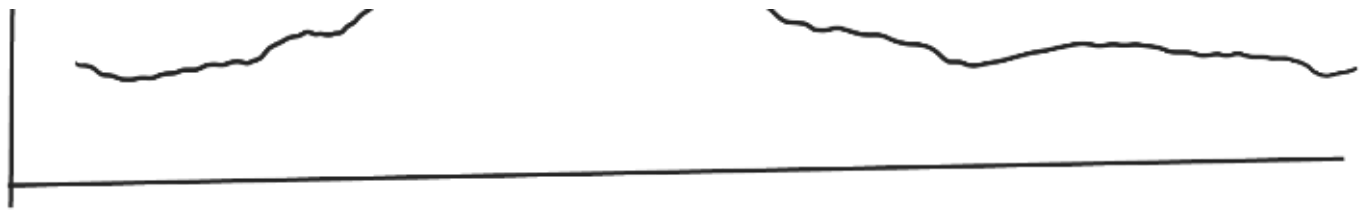
• Physiological host specificity:

- Enzymatic activity in the host
- Microbiome of the host
- Method of caloric intake/expulsion

• Ecological Host Specificity:

- Wet areas show greater parasite population





Distance

P = relative amount of parasites

- Tapeworms use an intermediate host which also has a greater population in wetter areas

A collembola (springtails) - thought to be the intermediate hosts for tapeworms