

18 February 2015 – JB

Invertebrates

The purpose of this lab is to gain a better understanding of the complexity of invertebrates. The simplest invertebrates are sponges in the Porifera phylum. The rest of invertebrates have more complex tissue. Some of those have radial symmetry, meaning circular symmetry, and others have bilateral symmetry, meaning symmetrical from left to right. Invertebrates that live in the soil are called Anthropods, which is what we studied in this experiment. Most are very small, so they are classified as microarthropods.

In this lab we first observed three types of worms, acoelomats, pseudocoelomates, and coelmates under a microscope; noting the complexity of their shape and movement. We then observed an organism from each of the five major classes: arachnida, diplopoda, chilopoda, insect, and crustacean. We observed their body parts, body segments, and the number of appendages. We then analyzed the invertebrates that we collected with our Berlese Funnel. We poured some of the sample into two separate petri dishes, one dish being the top of our liquid sample, and the other dish being the bottom. Then we observed and identified the arthropods found in the dish. Lastly, we drew conclusions about the types of invertebrates that might inhabit transect one, the marsh.

Acoelomats, Pseudocoelomates, and Coelmates

Worms	Movement	Structure
Planaria	None (dead), structure requires minimal movement	Three layered, 2mm Ectoderm, mesoderm, endoderm
Nemotodes	Minimal movement	2 ectoderms, 2 mesoderms , 3 mm
Annelida	Movement minimal due to radial structure	Muscle, with a resemblance to radial symmetry

Berlese Invertebrates

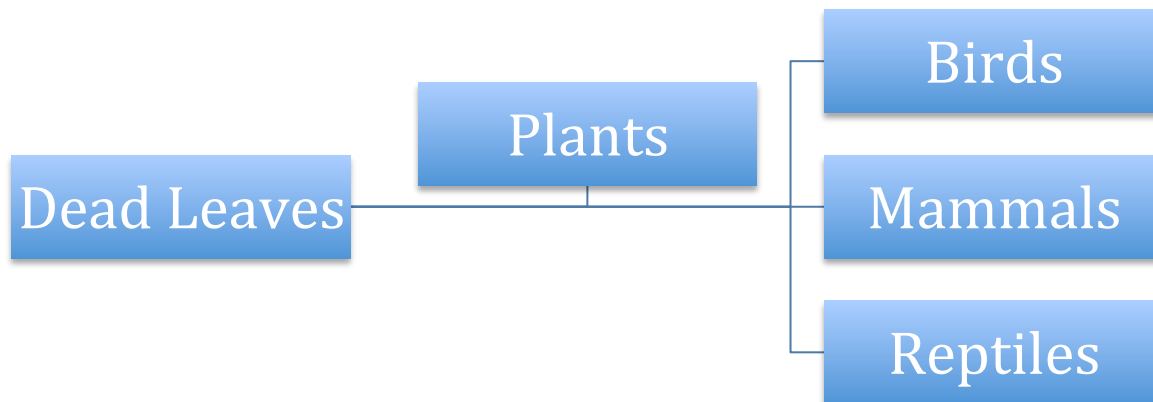
Organisms and top/bottom	Length in mm	Number in Sample	Description of Organism
Homoptera Hopper - Top	3mm	1	Looks like a bee, antenna and tail,
Collembola Striped Springtail - Top	5 mm	1	2 bold antenna, 6 legs, hairy looking
A termite - Top	2 mm	4	Large abdomen, many legs
Nematoma - Top	4mm	1	Rounded body, worm like
Isopoda - Top	8 mm	3	Many legs, segmented

The size range of the organisms observed was 2mm to 8mm. The Isopoda is the largest and the termite is the smallest. The most common type was the termite.

Vertebrates that may inhabit the marsh

Vertebrates	Phylum	Class	Order	Family	Genus	Species
Bird	Chordate	Ave	Passeriformes	Emberizidae	Melospiza	melodia
Bird	Chordate	Ave	Strigiform	Strigidae	Tyto	capenesis
Skunk	Chordate	Mammalia	Carnivora	Mephitidae	Mephitis	macroura
Raccoon	Chordate	Mammalia	Carnivora	Procyonidae	Procyon	lotor
Lizard	Chordate	Reptilia	Squamata	Anguidae	Zootoca	vivipara

The biotic factors that would benefit all of the species would be plants. They serve as a good food source. Insects are also helpful for the lizards. Worms are helpful to birds as a food source. The plants keep the smaller things alive helping each species get the appropriate food source. The plants also serve as a good device for shelter – bird nests, burrows, and other structures. The abiotic factors that would help include rocks and dirt. The dirt serves as a habitat and the rocks can also be a protection factor for small species to hide under. Water will also help all of them to stay alive. The community is interrelated. The trophic levels fan out as species range from minuscule decomposers to large omnivores, carnivores, and herbivores.



All in all this transect is very unique in its marsh depiction. It is atypical to the common generalized idea of a marsh. The species are diverse and the land is unique. The trophic levels are organized in a form of complexity.