Evolution and Classification of Insects

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Objectives
Course objectives include principles of systematic entomology, speciation, phylogeny, and evolution; modern techniques in insect taxonomy; description, illustration of insects and preparation of identification keys; phylogeny, classification and biology of the orders of North American insects; non-insect arthropods; use of identification keys for adults; major sources of literature. A collection of adult insects is required.

Texts and Special Teaching Aids

Required Text:

Reference Texts:

SYLLABUS - LECTURE

1. Introduction; history of systematic entomology.
2. Taxonomic categories; criteria of species; old and new species concepts.
3. Infraspecific categories; classification of higher taxonomic categories.
4. Types of insect collections; identification procedures.
5. Taxonomic characters and procedures.
7. Preparation of keys and illustrations.
12. Different concepts on the phylogeny of arthropods and insects.
14. Phylum Arthropoda
15. Review of the orders

Field trips: A Saturday of choice.

A review of the Higher Classification (Phylogeny) of a Group of Insects
(10 page maximum)

Select a group of insects, could be at the order, family, subfamily, tribe or generic level.

Brief summary of procedures
1) Literature review
2) Provide summary of the classification/phylogeny of the group

Insect Collection

10% of this course is an insect collection. Each person will turn in a collection. The collection must include the following taxa:

Collembola 1 family
Thysanura order
Ephemeroptera 1 family
Odonata 2 families
Orthoptera 5 families
Dermaptera 1 family
Isoptera 1 family
Plecoptera 1 family
*Phthiraptera order
Thysanoptera 1 family
Hemiptera 10 families
Neuroptera 2 families
Coleoptera 10 families
Hymenoptera 10 families
Trichoptera 1 family
Lepidoptera 5 families
Diptera 10 families
*Siphonaptera order

Organization, diversity, effort, and proper techniques will be important.
* Special Credit