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Winter Workshop - Maine Entomological Society

Agenda

9:30-10:30 How to collect Hymenoptera? (Warm up discussion)

10:30-11:30 [The diversity and evolution of Hymenoptera](#) (István)

11:30-12:00 Hymenoptera and Biological control (Hillary, István)

12:00-1:00 Brown bag lunch and discussion, stories related to Hymenoptera from our everyday life

1:00-1:30 Basic morphology and available resources for Hymenoptera ID

1:30-3:30 Hymenoptera ID jamboree

Useful links:

[Key to families](#) best key, not available in print, link here to online download

Hymenoptera of the world: An identification guide to families

[Discoverlife](#)

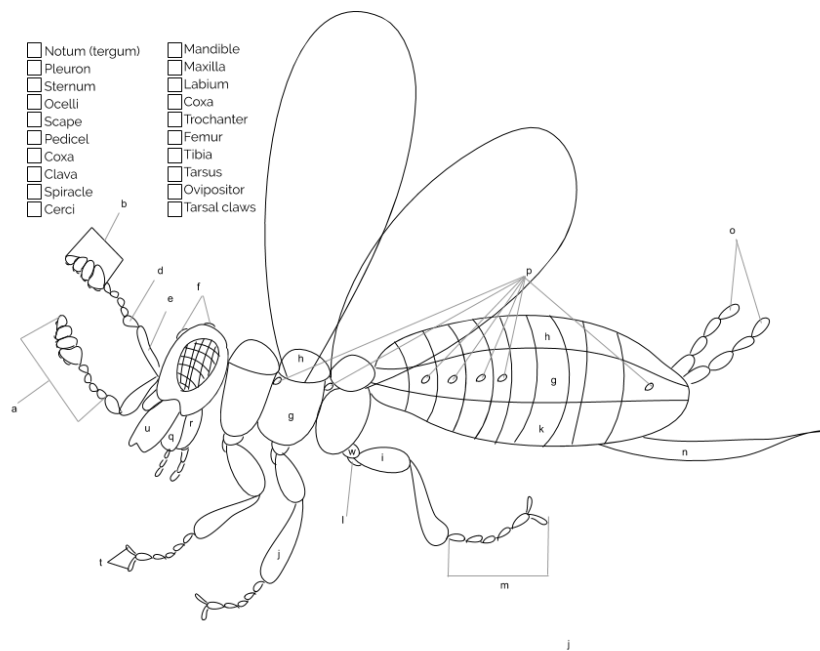
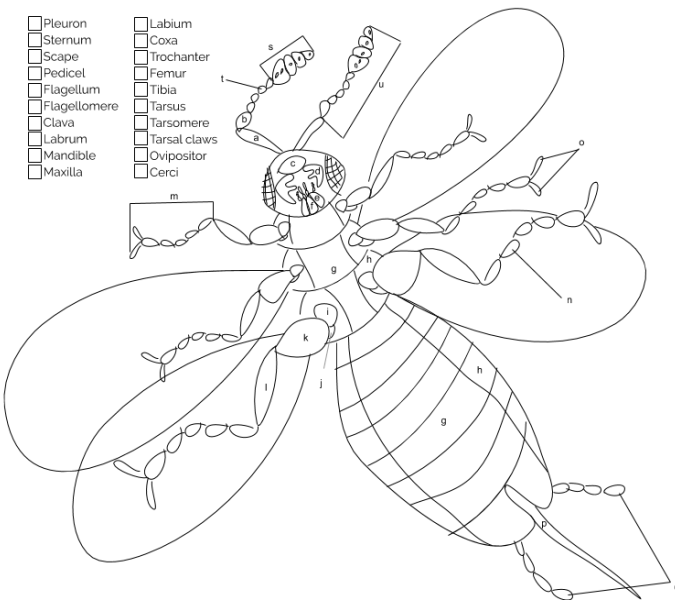
[International Society of Hymenopterists](#)

[HAO portal](#)

[Origami wing folding](#)

[And paper about wing folding cockroach parasitoids](#)

Basic anatomy



Hymenoptera ID jamboree

Please answer the questions below using the terminology from the insect cartoons and the internet! In each case you should identify what family the specimens in each unit tray (referred below as "Box") belong to. Useful, but not exclusive, resources are Bugguide (<https://bugguide.net/node/view/3/bgpape>), flickr (<https://www.flickr.com/search/>) or simply google images (<https://images.google.com/>).

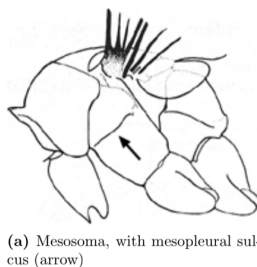
We want you to go through as many questions as it is possible , so please **ask as (Don, István Hillary)** if stuck with a question! Use your cell phone, tablet, or laptop! Please make as many photos of insects with your phone with or without microscope as you can!

****IMPORTANT! ACCURATE IDENTIFICATION OF ANY INSECT, EVEN THE HONEY BEE, SHOULD BE CONFIRMED SPECIALIST BEFORE ANY LEGAL OR SCIENTIFIC ACTION IS TAKEN. E.G. MANAGEMENT EFFORTS SHOULD NEVER TAKE PLACE BEFORE THE PEST IS PROPERLY IDENTIFIED.BY A**

There are 4 sneaky flies hiding amongst the hymenopterans. Can you find and ID-them (family level)?



Vespidae



Pompilidae

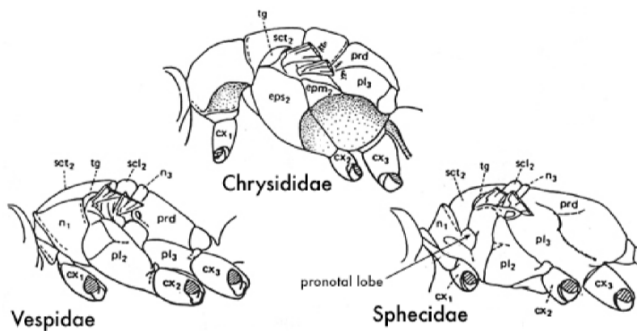


Figure 1: Aculeate mesosomata

Question:	Answer
Box 100 1. What is the difference between us and the vespids (e.g. yellow jackets and paper wasps). 2. What do our larvae feed on?	Family:
Box 200 1. Am I native to the US? 2. I am introduced to North America, still people like me! Why?	Species:
Box 300 1. I am economically important. Why? 2. Why I am so hairy?	Genus:
Box 400 1. Are we wasps or bees? 2. We do something special with our wings. What and why? 3. We look really innocent, would you pet us?	Family:
Box 500 1. Do we have a "wasp waist"? 2. We use a strong material to build our nests. What is it? 3. What is our common name?	Family:
Box 600 1. We not only eat on plants but are able to alter their development and force the plant to creates that provides shelter and food source for our offsprings. 2. Native Americans used this plant structure for....	Family:
Box 700 1. Am I a wasp or a bee? 2. How do you know? 3. Can I sting you?	Genus:
Box 800 1. Are these insects herbivores or predators? 2. Why do some of them warning coloration? 3. Are they poisonous? 4. Where do they get the poison from?	ORDER:

Box 900 1. We surely have a huge head. Why?	Family:
Box 1000 1. Are we wasps or bees? 2. Are we social? 3. We do some not nice things with our fellow hymenopterans in box 700. What is that?	ORDER:
Box 1100 1. What is the function of our enlarged hind femur? 2. One of our species can even lay eggs inside and antlion. Can you figure out how?	Family:
Box 1200 1. We look really dangerous. Are we really?	Family
Box 1300 1. Are we bees or wasps? 2. We have some really interesting white patches on our front head. What are they?	Family
Box 1400 1. Our wing venation is really characteristic... 2. What are our host?	Family
Box 1500 1. Are we rare? 2. Why do we have enlarged hind femora? 3. What is on our head? A crown?	Family:

Box 1600 1. Our antenna is really unique. It is like we have a pair of on our head. 2. Do we have a wasp waist? 3. How old are we?	Family:
Box 1700 1. What are our hosts? 2. Our metasoma is really weird...why?	Family
Box 1800 1. Our wing venation is unique. Why? 2. How many species are in our superfamily?	Family
Box 1900 1. What family do we belong to? 2. We develop inside thes of other insects. 3. Our family is economically very important. Why?	Genus:
Box 2000 1. What are we parasitizing? 2. What is geographic parthenogenesis?	Species
Box 2200 1. We are really beautiful. Are we also beneficial? 2. Do we have a "wasp waist" 3. Some people don't like us. Why? 4. Are we native to North America?	Genus
Box 2300 1. What are our hosts? 2. What is our superfamily and why can you tell easily that we belong to this superfamily?	Family
Box 2400 1. Is there anything in this vial? 2. Our head is crazy, why?	Superfamily