
Introduction to Applied Entomology
Exam 1, 2007

1. Briefly define, describe, or give the function of each of the following. Be complete enough to clearly distinguish the structure or process. (10)

Ametamorphosis

Chitin

Crochet

Crop

Diapause

Ganglia

Halteres

Parthenogenesis

Spiracle

Synapse

2. Give the common name for each of the following family names. (10) (16 opportunities to get 10 correct; extra credit is possible.)

Scientific Name	Common Name	Scientific Name	Common Name
Aphididae		Miridae	
Apidae		Papilionidae	
Chrysomelidae		Pentatomidae	
Cicadellidae		Saturniidae	
Coccinellidae		Sphingidae	
Culicidae		Syrphidae	
Curculionidae		Tabanidae	
Formicidae		Vespidae	

3. Place these taxonomic terms in order from broadest and most general to narrowest and most specific: (3)

class, family, genus, order, phylum, species

_____ (most general)

_____ (most specific)

4. Describe two ways in which adult ants differ from termites. Give morphological traits, not behaviors or food needs. (2)

Termites	vs.	Ants
	vs.	
	vs.	

5. What is the scientific name of the order that contains the bristletails? (1)

6. What is the scientific name of the order that contains the thrips? (1)

7. What is the scientific name of one order in which a significant number of groups or species are parasites (or parasitoids) of other insects? (1)

8. Answer true or false for each of the following: (3)

_____ Insects are arthropods.

_____ Earthworms are arthropods.

_____ Ticks are arthropods.

_____ Spiders are arthropods.

_____ Clams are arthropods.

_____ Crabs are arthropods.

9. Give the scientific names of the two suborders of Coleoptera. (2)

_____ and _____

What segment(s) of the hind leg is key in separating these two suborders? (1)

10. Describe four ways in which butterflies differ from moths. (4)

Butterflies	vs.	Moths
	vs.	
	vs.	
	vs.	
	vs.	

11. What organ in the Hymenoptera is modified to form the stinger? (1)

12. Mark an X in the blank before the names of insects that are true flies in the order Diptera. (3)

_____ firefly

_____ blow fly

_____ house fly

_____ caddisfly

_____ whitefly

_____ deer fly

13. What morphological characteristic(s) allow(s) identification of the following orders or families?
(3)

Order Thysanoptera: _____

Family Miridae (in the Heteroptera): _____

Family Aphididae (in the Homoptera): _____

14. For each order or suborder listed for numbers 1-14, enter the letter(s) of any and all common names, characteristics, or descriptions that match that order. All blanks have at least one correct answer. Several blanks require the entry of multiple letters for complete credit. (32)

- | | |
|---------------------------------|---|
| _____ 1. Blattaria | A. springtails |
| _____ 2. Coleoptera | B. leathery forewings (tegmina) characterize the order |
| _____ 3. Collembola | C. fore legs modified for grasping prey characterize this order |
| _____ 4. Diptera | D. genal and/or pronotal combs may be present |
| _____ 5. Ephemeroptera | E. immatures are all aquatic |
| _____ 6. Hemiptera: Heteroptera | F. caddisflies |
| _____ 7. Hemiptera: Homoptera | G. a genus in this order transmits the pathogen that causes malaria |
| _____ 8. Hymenoptera | H. a furculum at the tip of the abdomen characterizes this order |
| _____ 9. Lepidoptera | I. fore wings modified to form hemelytra characterize this suborder |
| _____ 10. Mantodea | J. a beak arising at the base of the head characterizes this suborder |
| _____ 11. Odonata | K. a beak arising at the tip of the head characterizes this suborder |
| _____ 12. Orthoptera | L. wings (4) covered with scales characterize this order |
| _____ 13. Siphonaptera | M. wings (4) covered with hairs characterizes this order |
| _____ 14. Trichoptera | N. a species in this order transmits the pathogen that causes plague |
| | O. dragonflies and damselflies |
| | P. this order undergoes gradual metamorphosis |
| | Q. this order undergoes incomplete metamorphosis |
| | R. fore wings modified to form elytra characterize this order |
| | S. hind wings reduced to form halteres characterize this order |
| | T. one suborder in this order contains the horntails and sawflies |
| | U. naiads in this order have internal gills or 3 gills that extend from
the tip of the abdomen |
| | V. naiads in this order have numerous leaflike gills that extend from
the sides of the abdomen |
| | W. adults of all species in this order feed on the blood of vertebrates |
| | X. social insects with different forms/jobs occur in this order |