# 2014 Entomology Practice Test Answer Key

1. Coleoptera
2. Scarabaeidae
3. They roll it up in dung
4. Hymenoptera
5. Formicidae
6. Petiole Node(s)
7. Most live in colonies in underground tunnels or in galleries in dead wood.
8. Tetrigidae
9. Long pronotum ending in a point
10. Roots of plants, seeds…
11. Coleoptera
12. Gyrinidae
13. It is split; half looks up and half looks down
14. Neuroptera
15. Myrmeleontidae
16. Larvae (immature)
17. Doodlebug
18. They create "doodles" in the sand while finding a place to nest
19. Lepidoptera
20. Sesiidae
21. Wasp, bee (Hymenoptera)
22. Caterpillars are pests (wood borers)
23. i) Antennae
    ii) Mandible
    iii) Labium
    iv) Maxillary Palp
    v) Clypeus
    vi) Frons
    vii) Vertex
    viii) Scutum
    ix) Scutellum
    x) Elytra
    xi) Tergites- abdomen
    xii) Stigma
    xiii) Legs
    xiv) Legs
    xv) Legs
24. a) Kingdom **Animalia**
    b) Phylum **Anthropoda**
    c) Subphylum **Mandibulata**
    d) Superclass **Hexapoda**
    e) Class **Insecta**

**25. Ways Insects can Harm Humans (These are not all the possible answers; there are many more)**

Damage Crops, Household Pests, Parasites, Biting and Stinging Insects, Prey on domestic animals, Eat human food, clothing & possessions, Destroy trees, wood, paper

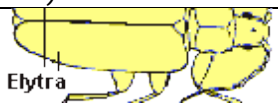
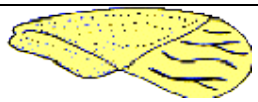
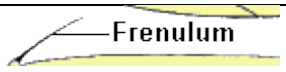
**Ways Insects can Help Humans (These are not all the possible answers; there are many more)**

Pollination of many flowering plants; Decomposition of organic materials; Recycling of carbon, nitrogen, and other essential nutrients; Control of populations of harmful invertebrates including other insects; Direct production of foods as honey; Manufacture of products as silk

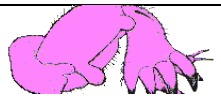
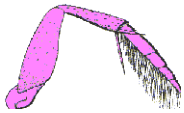
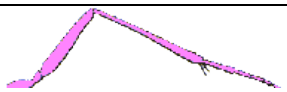
26. **Please note: these are just a few possible answers. Many more are possible**

| Insect | Disease |
|---|---|
| Flea | Plague |
| Lice | Lice Infestation |
| Mosquito | Malaria, Arboviral Encephalitides, Dengue Fever, Rift Valley Fever, West Nile Encephalitis Viral Infection |
| Fleas/Lice | Typhus Fever |
| Assassin Bugs | Chagas Disease |

27. **Please note: the descriptions may vary slightly.**

| Name of Adaptation | Order(s) that have it | Description | Picture |
|---|---|---|---|
| *Big Wings* | *Thysanura, Collembola* | *Wings are bigger* | *(no picture, this is a made up adaptation for example ONLY)* |
| Elytra | **Coleoptera, Dermaptera** | **Hard, sclerotized front wings; serve as protective covers for membranous hind wings** |   |
| Halteres | **Diptera** | **Small, club-like hind wings that serve as gyroscopic stabilizers during flight** |   |
| **Hemelytra** | Hemiptera, Homoptera | Front wings that are leathery or parchment-like at the base and membranous near the tip |  |
| Frenulum | **Lepidoptera** | **Bristle near base of hind wing that holds front and hind wings together** |   |

28. **Please note: the descriptions may vary slightly.**

| Name of Adaptation | Insect that has it (common name) | Description | Picture |
|---|---|---|---|
| Saltatorial | **Grasshopper** | **Jumping** |  |
| **Raptorial** | Praying Mantis | Catching & holding prey |  |
| Fossorial | **Mole Crickets** | **Digging** |  |
| Natatorial | **Diving bugs; Water Beetles** | Swimming |  |
| **Cursorial** | Ground beetles; cockroaches | Running |  |

29. Define each of the following words:
    a. Disease Vector- An insect that transmits disease
    b. Parasite- An insect that lives on or inside of an insect of a different species, and obtains nutrient from the other insect (host)
    c. Parasitoid- An insect that engages in similar behavior as a parasite (defined above), but eventually kills the host in the end
    d. Spiracle- An opening on an insect that leads to the trachea and allows the insect to respirate
    e. Mandibulate (mouthparts)- Mandibulate mothparts are chewing mouthparts.
    f. Cerci- Paired appendages on the rear-most body segment of some insects that can serve as sensory organs, reproductive aids, or weapons.
    g. Gall- Outgrowths on the surface of some plants, usually caused by insects. The gall is home to a particular insect, and contains essential nutrients.
    h. Larvae- The immature form on an insect that exhibits complete metamorphosis.

30. Butterflies hatch from a chrysalis, a life stage made of a hardened protein. A cocoon is spun from silk and surrounds the pupa of many moths.

31. a)Holometabola = Complete metamorphosis; egg, larvae, pupa, adult
    b) Hemimetabola = Incomplete metamorphosis; egg, nymph, adult
    c) Ametabola = No metamorphosis; young resembles adult in every aspect except size

32. Dichotomous Key: (You don't have to use this template, feel free to use the blank space)

1a. Insect has elytra ..... go to step 2

1b. Insect has no elytra ..... go to step 3

2a. Elytra are spotted ..... Coccinellidae

2b. Elytra are not spotted ..... Chrysomelidae

3a. Insect has wings ..... Arctiidae

3b. Insect has no wings ..... Tenebrionidae larvae