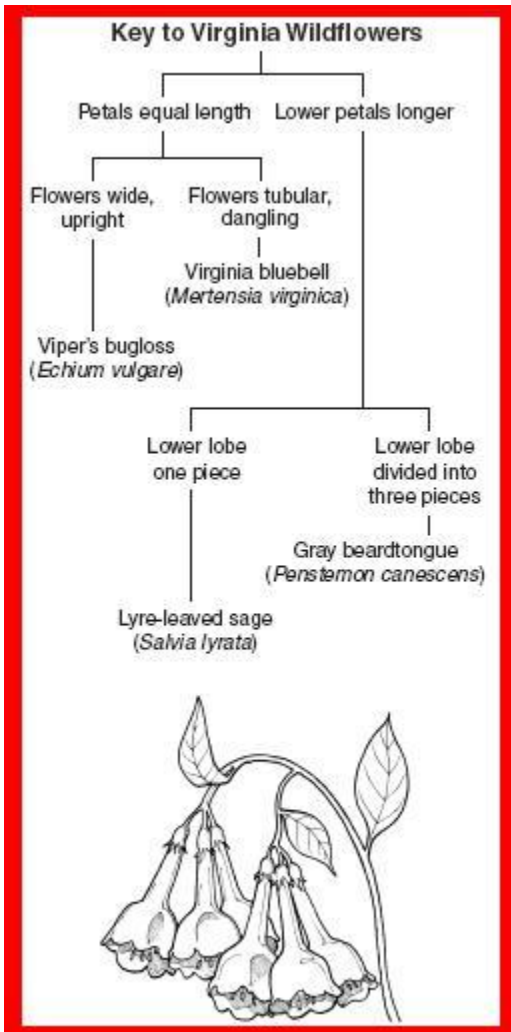
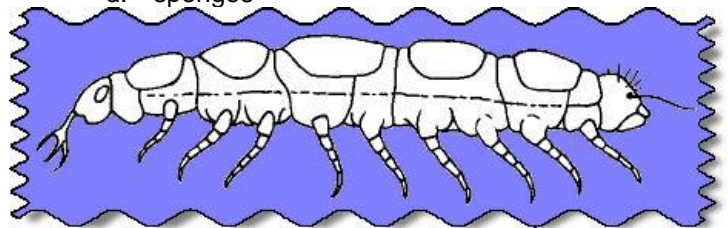


BIO SOL Review 6 - Classification (20)

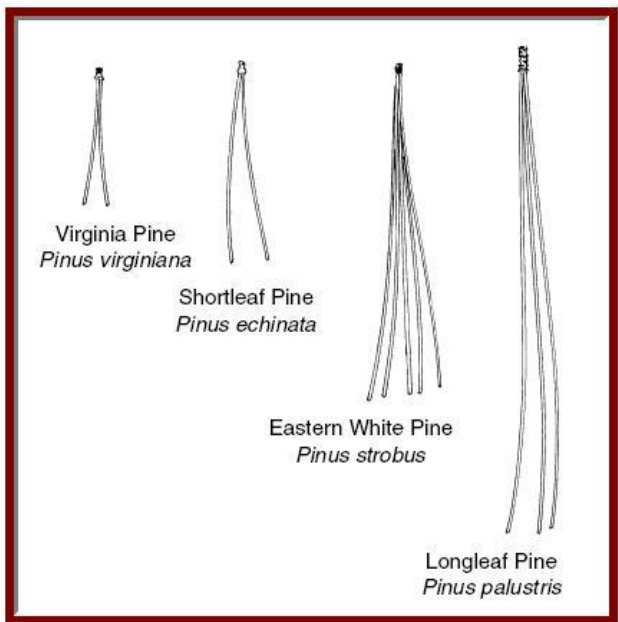


- (2004-1) This key can be used to identify the species of some wildflowers found in Virginia. All of the plants have blue or purple flowers with five petals that are fused together. According to this key, to what species does the plant shown belong?
  - Gray beardtongue (*Penstemon canescens*)
  - Virginia bluebell (*Mertensia virginica*)**
  - Lyre-leaved sage (*Salvia lyrata*)
  - A Viper's bugloss (*Echium vulgare*)
- (2005-11) *Escherichia coli* is the scientific name of a bacterium. What category of classification is *Escherichia*?
  - Order
  - Genus**
  - Phylum
  - Species

- (2006-30) An important feature of modern classification systems is that they —
  - group organisms that live in the same habitat
  - can incorporate new scientific discoveries**
  - can predict the discovery of new species
  - apply only to organisms that are alive today
- (2006-27) Bivalves, such as clams, are found in salt water. The clam captures food particles from water that flows over its gills. Which of these is the best classification of the clam?
  - A chunk feeder
  - A decomposer
  - A filter feeder**
  - A grazer
- (2006-24) Which of these organisms contains no specialized cells?
  - Paramecium
  - Sea anemone
  - Jellyfish
  - Sponge**
- (2006-16) Ascidians are sac-like marine organisms. Their larvae have well-developed brains and dorsal nerve cords. This suggests that ascidians should be classified with the —
  - cnidarians
  - chordates**
  - annelids
  - sponges



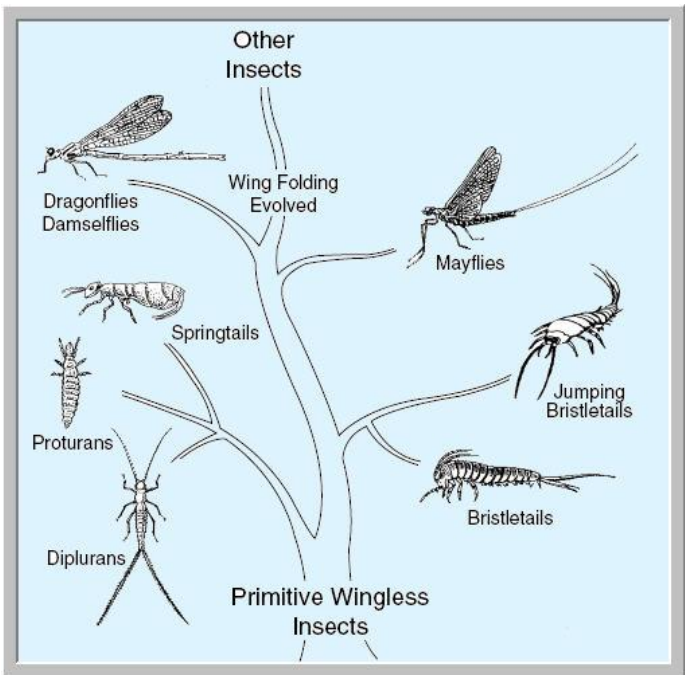
- (2002-14) This organism is most closely related to animals in the Phylum Arthropoda, the phylum that contains beetles, because it has:
  - an elongated body
  - legs
  - antennae
  - jointed appendages**
- (2001-13) The body of which of these organisms has the least specialized organization?
  - Jellyfish
  - Starfish
  - Sponge**
  - Sea urchin



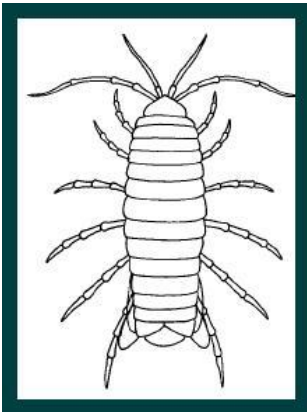
9. (2001-10) A biology student collected pine needles from four different species of trees. She then made diagrams showing the number and actual length of needles in a bundle and the common and scientific name of each species. Use her diagram above to help you answer the following question. These four different pine trees are not classified in the same —
- phylum
  - species**
  - order
  - genus

**Unknown animal: Met-Gly-Ser-Tyr-Tyr-Arg-His-His-Glu-Lys-Asp**

10. (2002-17) One method of determining the classification of an animal is by comparing the amino acid sequence. Which of these animals most closely resembles the unknown animal?
- Mouse: Met-Gly-Ser-Tyr-Tyr-Arg-His- Glu-Val-Val-Leu
  - Dog: Met-Gly-Ser-Tyr-Tyr-Arg-His-Asp-Glu-Lys-Asp**
  - Horse: Met-Gly-Ser-Ser-Tyr-Arg-Arg- Asp-His-Glu-Lys-Asp
  - Cat: Met-Gly-Ser-Tyr-Tyr-Arg-His-His- Arg-Cys-Thre-Asp



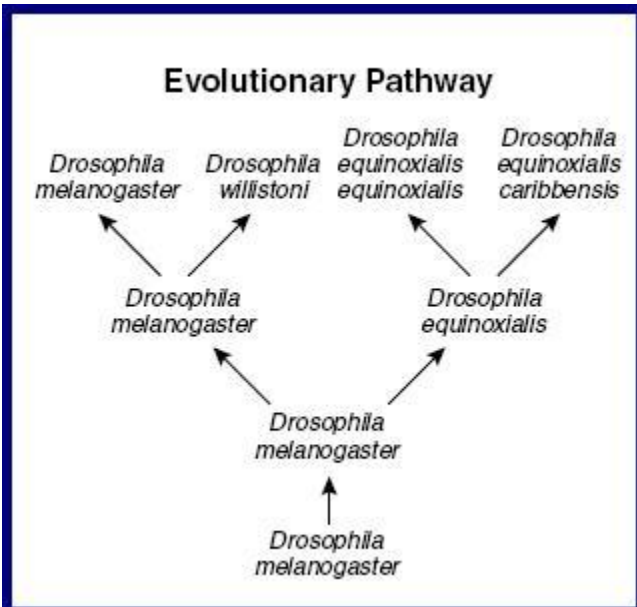
11. (2001-29) According to this chart, the insects that are most closely related are the —
- springtails and bristletails
  - springtails and proturans**
  - bristletails and mayflies
  - dragonflies and proturans
12. (2002-30) During a trip to a rain forest, a scientist discovered a new organism living near some rotting logs. The scientist observed that the organism had moist skin, no hair, and an internal skeleton and that it laid its eggs under the logs. This organism was probably a new species of —
- reptile
  - amphibian**
  - invertebrate
  - mammal
13. (2003-20) What structure is common to all five kingdoms of living organisms?
- Cell wall
  - Mitochondria
  - DNA**
  - Nucleus
14. (2004-32) According to the biological definition of a species, which organisms listed below would belong to the same species?
- Animals that can breed and produce fertile offspring**
  - Protists that are the same shape and have the same structures for movement
  - Plants that have flowers with the same structures that attract the same pollinators
  - Mushrooms that are the same color and can grow on trees



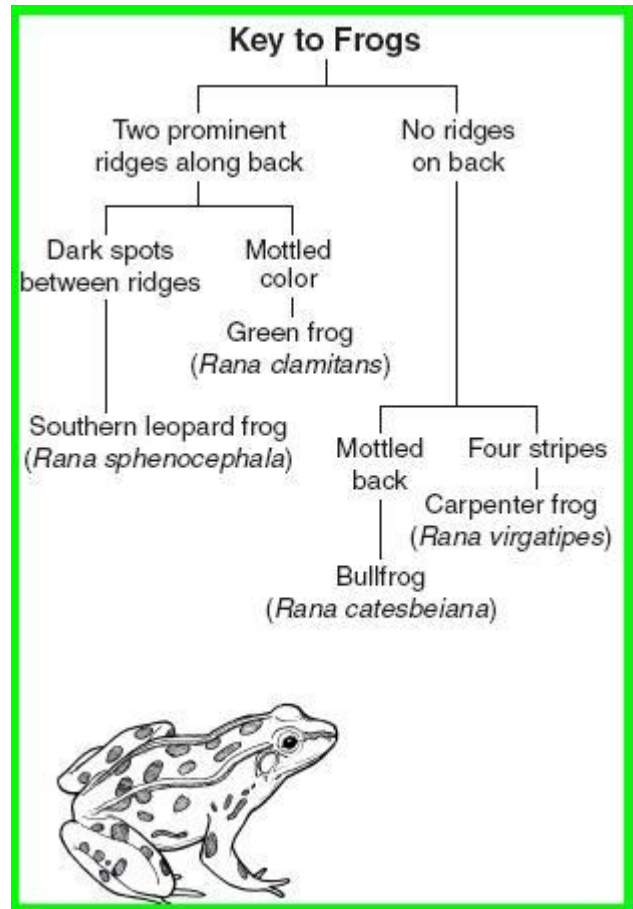
(2003-21) The picture shows an organism that lives in the lakes of two caves in Augusta County, Virginia. Its primary food source appears to be fine bits of organic matter that drift into the cave lakes. This cave-dwelling species belongs to the kingdom —

- Monera
- Animalia**
- Protista
- Fungi

16. (2005-32) A biologist has just discovered a new life form. The newly described organism is multicellular, does not carry on photosynthesis, and absorbs nutrients from the environment. It is composed of eukaryotic cells with cell walls. In which kingdom would the organism be classified?
- Plant
  - Animal
  - Bacteria
  - Fungi**

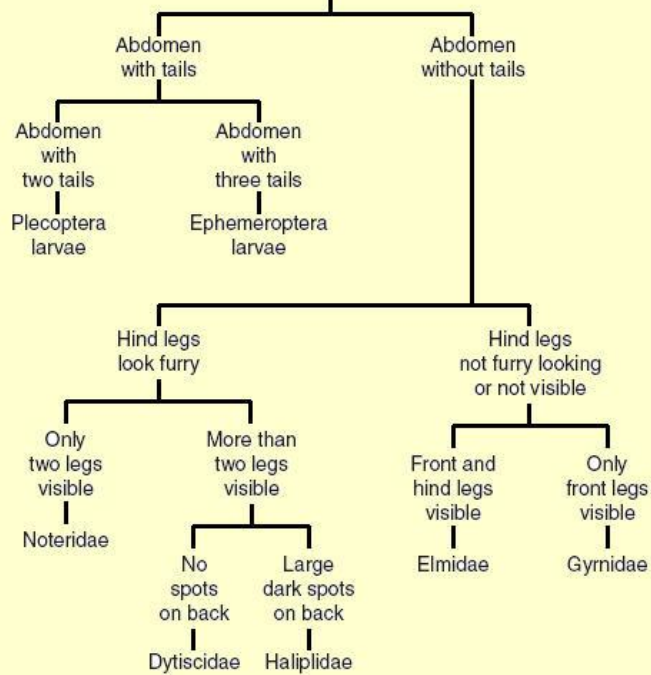
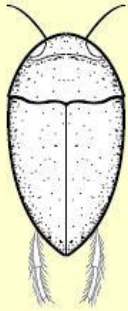


15. (2005-25) Which type of *Drosophila* probably changed the least over time?
- Drosophila equinoxialis equinoxialis*
  - Drosophila equinoxialis caribbensis*
  - Drosophila melanogaster***
  - Drosophila willistoni*



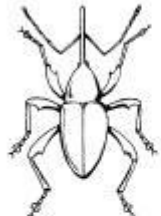
17. (2005-46) This key can be used to distinguish four species of frogs found in ponds in eastern Virginia. To which species does the frog shown belong?
- Rana virgatipes*
  - Rana sphenocephala***
  - Rana clamitans*
  - Rana catesbeiana*

### Key to Some Common Aquatic Insect Types



18. (2002-47) According to this key, to what family does the insect above belong?

- a. Dytiscidae
- b. Halipidae
- c. Noteridae**
- d. Gyrnidae



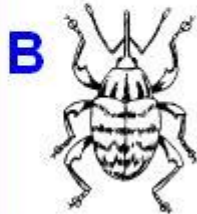
Oak Weevil  
*Curculio rectus*



**A** Mullein Weevil  
*Gymnetron tetrum*



**C** Pine Reproduction Weevil  
*Cylindrocopturus eatoni*



**B** Hazelnut Weevil  
*Curculio neocorylus*



**D** Boll Weevil  
*Anthonomus grandis*

19. (2003-29) Which of these is most closely related to the oak weevil?

- a. A
- b. B**
- c. C
- d. D