Plant Diversity II, Seed Plants

03 March 2009, Bonine 4.5

Questions to help you review the material and comprehend important points.

1. What is wood? How is it related to xylem and secondary growth?
2. When did seed plants first arise?
3. What are the two major groups of seed plants? Which group most likely evolved first?
4. What is meant by the term “living fossil”? Can you provide an example?
5. What does the word ‘gymnosperm’ mean?
6. Some gymnosperms still have sperm that have to swim to the egg. How does this put these plants at a disadvantage relative to conifers and angiosperms?
7. What is an ovule and what does it become?
8. What is different about the roles of microsporangia and megasporangia?
9. What is pollen? Is pollinization the same as fertilization?
10. How does a seed have material from three different generations?
11. How does suspending growth as a seed contribute to Darwinian fitness?
12. How old are the angiosperms? Can you provide five synapomorphies of angiosperms? How have those synapomorphies aided the adaptive radiation of angiosperms?
13. What is double fertilization? What are the two products?
14. What is a carpel? Can you provide an example of a carpel (or carpels) from your diet?
15. What is a stamen? What is a pistil? What are their constituent parts?
16. Explain the difference between perfect and imperfect flowers and the difference between monoecious and dioecious flowers.
17. How are plants commonly pollinated?
18. What are the two main groups of angiosperms? How are the two groups distinguished morphologically? Can you provide two examples of each?
19. Define ecosystem service. What is the importance of primary producers to ecosystem productivity?
20. Where do most people get their calories?
21. Name one plant product that is now a medicine that you or a family member have been prescribed.