

CHAPTER 31

Fungi

Introduction to the Fungi

1. List the characteristics that distinguish fungi from members of other multicellular kingdoms.
2. Explain how fungi acquire their nutrients.
3. Describe the basic body plan of a fungus.
4. Describe the processes of plasmogamy and karyogamy in fungi.
5. Explain the significance of heterokaryotic stages in fungal life cycles.

Diversity of Fungi

6. Describe the evidence that suggests that Fungi and Animalia are sister kingdoms.
7. Explain the possible significance of the flagellated spores of members of the phylum Chytridiomycota.
8. Describe the life cycle of the black bread mold, *Rhizopus stolonifer*.
9. Describe two alternate hypotheses to explain the reduced mitochondria of the microsporidia.
10. Distinguish between ectomycorrhizae and endomycorrhizae.
11. Distinguish among the Zygomycota, Ascomycota, and Basidiomycota. Include a description of the sexual structure that characterizes each group and list some common examples of each group.

Ecological Impacts of Fungi

12. Describe some of the roles of fungi in ecosystems.
13. Describe the structure of a lichen. Explain the roles of the fungal component of the lichen.
14. Explain how lichens may act as pioneers on newly burned soil or volcanic rock.
15. Describe the role of fungi as agricultural pests.
16. Define mycosis, and describe some human mycoses.
17. Describe three commercial roles played by fungi.