

T10.10 FUNGI

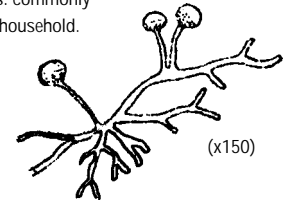
This is a diverse group of heterotrophic plants (without chlorophyll). They are mainly saprophytes inhabiting decomposing organic substrates in the soil, in fresh water and in seawater. Some species are parasitic on either plants or animals, and others form a symbiotic association with green and, occasionally, with blue-green algae, as lichens. Fungi only become conspicuous where their filaments (hyphae) become concentrated into a mycelium on rich substrates or to facilitate reproduction. The mushrooms and bracket fungi commonly seen in forest habitats are specialized spore-producing structures.¹ The most recent list of Nova Scotian fungi has been published by C.O. Gourley.² They are divided into two classes, the Myxomycota (slime fungi) and the Eumycota (true fungi), of which there are four divisions. (Enlargements or reductions in the diagrams are approximate.)

*The Chanterelle mushroom *Cantharellus cibarius* grows in the forests of Nova Scotia and is highly prized as a gourmet food in Western Europe. Although it has been recognized and appreciated by mycologists for many years, it has only been since the post-World War II immigration of continental Europeans into Nova Scotia that this native delicacy has been actively sought. Chanterelles can occur singly or in groups and are apricot to egg-yolk yellow. They could be confused with the poisonous Jack O'Lantern (*Clitocybe illudens*), a bright-yellow mushroom growing in large clusters around stumps. There is no agreement amongst harvesters as to where the best growths of Chanterelles may be found; some claim that White Spruce stands are superior; others suggest hardwood stands are better.*

SLIME FUNGI

Myxomycota (slime fungi) consist of a naked mass of protoplasm capable of amoeboid movement. They are often considered to be an intermediate between animals and plants. The aggregate form, known as a plasmodium, is most commonly seen, as a yellow mass, on damp rotting wood in forests and other shady places.

Figure T10.10.1: Moulds are a true fungus: commonly found in the household.



TRUE FUNGI

Phycomycetes

These algae-like fungi are composed of hyphae without dividing cell walls (coenocytic) (see Figure T10.10.1). These forms are widespread and include moulds, blights and parasites of insects, fish and amphibians.

Deuteromycetes

Deuteromycetes (fungi imperfecti) are a widespread group of fungi in which only asexual reproduction is known. Many are responsible for plant diseases.

Ascomycetes

Ascomycetes (cup or sac fungi) are almost all saprophytic and include various moulds and mildews, yeasts and *Penicillium*. Some are significant tree parasites, causing Black Knot in plum, Dutch Elm disease and some witches' brooms. Larger forms include the edible and much-sought-after morels (*Morchella* spp.) (see Figure T10.10.2). The cup fungi (*Peziza* and *Sarcoscypha*) are sometimes brightly coloured and conspicuous.

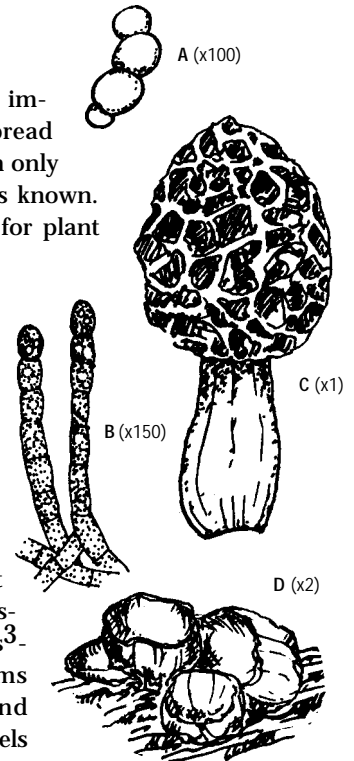


Figure T10.10.2: Ascomycetes vary from microscopic yeasts A and mildews B to the more conspicuous morels C and cup fungi D.

Basidiomycetes

Basidiomycetes (basidia fungi) include mostly saprophyte species and contain all the woody fungi and most of the large fleshy fungi (e.g., the conspicuous gill and bracket fungi). This class also includes parasitic forms, such as the smuts and rusts of grasses and White Pine Blister Rust. The mushrooms and bracket fungi, commonly seen in forest and other habitats, all belong to this group. As they are conspicuous, and include both edible and poisonous species, the group attracts a good deal of

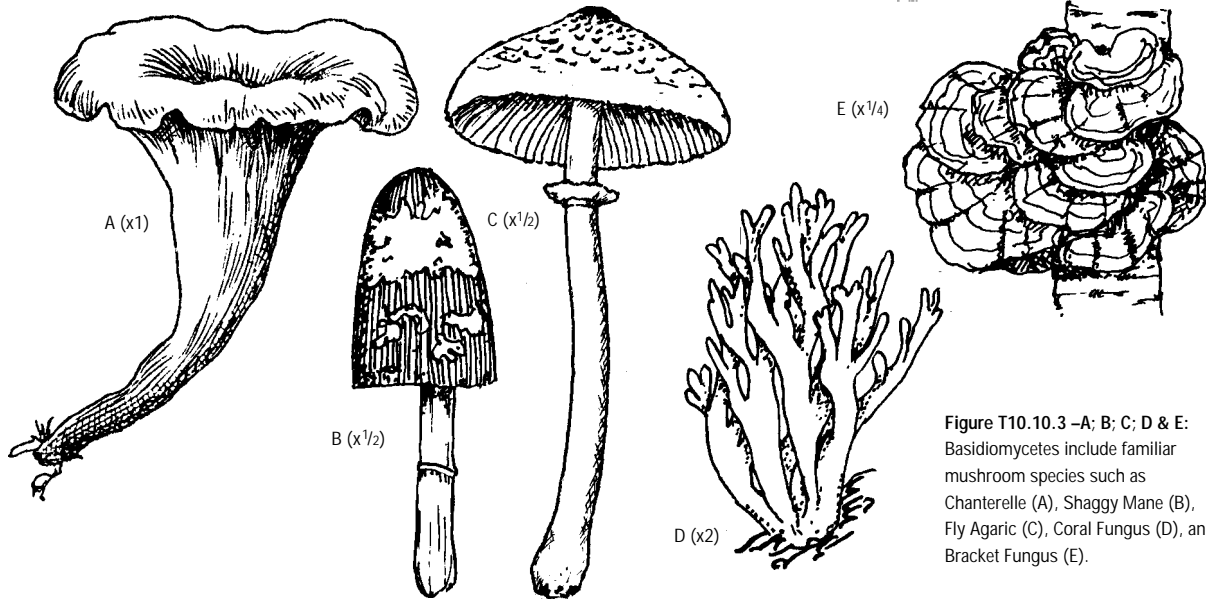


Figure T10.10.3 –A; B; C; D & E: Basidiomycetes include familiar mushroom species such as Chanterelle (A), Shaggy Mane (B), Fly Agaric (C), Coral Fungus (D), and Bracket Fungus (E).

public interest. Many species have specific relationships with common forest trees^{3,4} (see Figure T10.10.3).



Associated Topics

T9.3 Biological Environment, T10.5 Seed-bearing Plants, T10.6 Trees, T10.9 Algae, T10.11 Lichens, T11.16 Land and Freshwater Invertebrates, T12.10 Plants and Resources

Associated Habitats

H2.5 Tidal Marsh, H5 Terrestrial Unforested, H6 Forests

References

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- 2 Gourley, C.O. (1983) "An annotated index of the fungi of Nova Scotia." *Proc. N.S. Inst. Sci.* 32(2/3).
- 3 McAfee, B.J. and D.W. Grund (1982) "The clavarioid fungi of Nova Scotia." *Proc. N.S. Inst. Sci.* 32(1).
- 4 Grund, D.W. and K.A. Harrison (1976) *Nova Scotian Boletes*. J. Cramer Vaduz, Germany.

Additional Reading

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