2.—Tough Leathery Fungi

Stem central, dried plants reviving if rewet, spores white ..... **Marasmius**
Stem lateral or absent:
Gill edge split longitudinally, spores white ..... **Schizophyllum**
Gill edge serrate, spores white ..... **Lentinus**

3.—Fragile Putrescent Fungi

Spores brown ..... **Bolbitius**
Spores purple ..... **Coprinus**

Some Notes on Agarics

GRETA B. CONE

Agarics are notoriously difficult for a botanist to deal with for a variety of reasons. The characters by which different genera are distinguished are not always clearly delimited, though practice in dealing with fungi helps one to recognise differences. The main features by which the genera are recognised are set out in the accompanying key. Broadly, agarics fall into main groups distinguished by spore colour. When fresh fungi are laid gill downwards on black or white paper, they shed a thick layer of spores, and the colour of this mass of spores can be seen plainly, although microscopically or in thin layers they are usually colourless. The tint of the gills does not correspond with this spore colour, though old specimens usually show the gills coated with spores and thus shows the spore colour.

The attachment of the gills to the stem is important though it varies within some genera, e.g., **Hygrophorus.** The presence or absence of ring and volva on the stem varies with age, so that young and fresh specimens must be examined. The texture of the stem, fleshy or cartilaginous, is often a vexed question: a truly cartilaginous stem is stringy when mashed between the fingers, but there are many gradations between truly fleshy and truly cartilaginous. However, most agaric genera are well defined. One finds in practice that the combination of characters defining a genus makes it fairly plain, though individual points may be doubtful.

Apart from technical difficulties there are other problems in knowing agarics. They fruit sporadically, mainly in autumn and winter, some seasons in abundance and other seasons poorly. A few species occur regularly in the same place year after year, but some others have been found only once in a life-time. The fruit body grows fast and reaches maturity within a few days of first showing as a button or small ball. It is attacked immediately by insects, other mould fungi and bacteria,

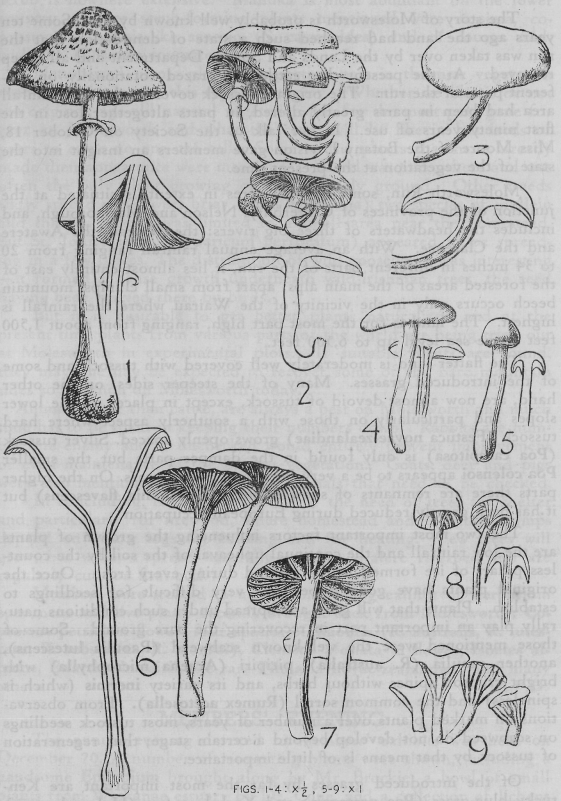
and seldom lasts more than a few days. Wet weather hastens the rot from bacteria and fungi, and warm dry weather hatches out the myriads of maggots and other larvae which quickly consume even the largest of fruit bodies. To secure good specimens for study one has to arrive at exactly the right moment, and such a combination of chances are concerned that anyone may find quite a new fungus in a place which has been well searched many times before. So fungus hunting offers rewards and excitement entirely different from ordinary plant collecting, and in New Zealand it is especially so, for little has been done in this field.

The two most useful handbooks that I have found are: "Toadstools and Mushrooms and Other Larger Fungi of South Australia" by John Burton Cleland, and the "Handbook of the Larger British Fungi" by John Ramsbottom.

The species that I have illustrated have been identified with the aid of these books, and are given because they show different generic characters, and they are fairly common. I have been much helped by receiving collections of fungi from my friends. I would like to acknowledge the assistance I have had in this way from Mrs. Parsons of Levin, Mr. and Mrs. Druce, Mr. McCann and others.

LEGENDS TO FIGURES

1. **Lepiota procera** var.: cap brown and fawn; spores white; gills free from stem; ring conspicuous; terrestrial, Hokio.
2. **Armillaria** sp.: cap honey-coloured, darker at centre with sooty warts, moist when fresh; spores white; gills decurrent; caespitose on wood, Tararuas, etc.
3. **Flammula excentrica:** cap bright tawny; spores tawny; gills adnexed; ring evanescent; stem hollow but fleshy—same texture as flesh of cap; on fallen wood, Porirua, etc.
4. **Hygrophorus coccineus:** cap brilliant scarlet; spores white, not abundant; gills waxy, brilliantly coloured scarlet to yellow, adnate; stem often twisted; Tararuas, etc.
5. **H. miniatus:** cap crimson; spores white but sparse; gills waxy, brightly coloured, decurrent; stem thick; terrestrial, Otari, etc.
6. **Clitocybe cyathiformis** (?) var.: cap dull grey-brown, funnel-shaped; spores white; gills thin, strongly decurrent; old stump, Korokoro.
7. **Laccaria laccata:** cap rufous-flesh colour; spores white; gills flesh colour with lical sheen, distant, adnate sometimes seceding, mealy texture; our commonest toadstool.
8. **Omphalia fibula:** cap ochre colour, campanulate; spores white, sparse; gills distant, decurrent; whole fungus slender; amongst moss, Tararuas, etc.
9. **Cantharellus** sp.: colour pale yellow; spores white, sparse; gills thick, branched, decurrent; stem brittle; groups on soil, Wellington.



FIGS. 1-4: $\times\frac{1}{2}$, 5-9: $\times 1$