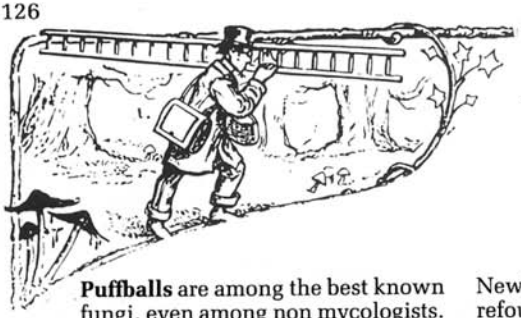

FIRST STEPS

PUFFBALLS

Puffballs are among the best known fungi, even among non mycologists. They have been used as cavity-wall insulation by early European civilisations, as wound-dressings to absorb blood, as food — when young and marshmallow-like — and the giant puffball may even be blamed as the original football. To the mycologist they belong to the family *Lycoperdaceae* and, within that, to several, not easily defined, genera. The most familiar species, and the only one to grow on wood, is *Lycoperdon pyriforme* (Fig.A), which also differs from other species in having almost smooth spores. The rest are soil dwellers, in woodland of various kinds, heaths, grassland, marshes and sand-dunes.

The common woodland species are *L.perlatum* (Fig.B) and *L.foetidum*, the latter being commoner in the more acid woods and plantations. *Lycoperdon echinatum* and *L.mammaeforme* are both characteristic of beech woods on limestone and are therefore distinctly southern in the British Isles. *Lycoperdon foetidum* also occurs on heaths and moors. Two rare species, *L.pedicellatum* and *Bovista paludosa*, are found in marshy places, the former with rushes and acid mosses, the latter among sedges in base-rich fens. Another rarity is *L. decipiens*, recently added to the British list from short turf over limestone, another southerner. Sheep walks in upland areas are the home of the very common black puffball. *B. nigrescens* (Fig.D), which becomes detached and blows about, often collecting in drifts of thousands on lake margins. The familiar lawn and turf species, *Vascellum pratense*, differs from the others in having a distinct membrane separating the sterile base from the spore chamber.

Sand dune systems have several species of which *L.lividum* (Fig.C) and *B.plumbea*, *B.aestivalis* and *B.pusilla* are common. The rare *B.limosa* is found in damp hollows in dune slacks and until recently was known only from the Ainsdale area in Lancashire. In 1988, however, it was found in Newborough Warren, Anglesey (and also refound in Ainsdale) adding to the list of rare organisms found in both these rich and famous reserves. In dune grassland, as well as inland meadows, the large *Calvatia excipuliformis* (Fig.E) is common. The giant puffball, *Langermannia gigantea* (Fig.F), is characteristic of nettle beds but is also found in orchards and woodland where the soil has a high phosphate content.

The two large and difficult genera, *Lycoperdon* and *Bovista*, are separated by the presence of a sterile, stalk-like base in the former; there are also differences in the formation of the **capillitium**, the network of threads among which the spores lie. The species of *Lycoperdon* are separated by spore markings, colour of the spore mass and the nature and pattern of the spines on the fruitbody; those of *Bovista* are known mostly by the detailed characters of the capillitium. *Calvatia*, with two British species opens by splitting rather than with a pore as in most other genera. The giant puffball simply disintegrates and liberates its millions of spores as clouds of dust when it is kicked by a passing animal.

The Society is gathering data on the distribution of all British fungi and gasteromycetous species will form the first part of the proposed *Atlas of British Fungi*, to be published as part of the Centenary in 1996. All records are welcome, especially of the common species. Records from south and mid Wales, northern Scotland and Ireland are needed for the commonest species and should be sent to Dr Bruce Ing at Chester College. Specimens of less common species may also be sent for identification. A useful key is given by Demoulin & Marriott, 1981, *Key to the gasteromycetes of Great Britain*, available as a reprint from the Society's librarian. Descriptions and illustrations of many British species are in Breitenbach & Kränzlin, 1986, *Fungi of Switzerland*, Vol **2**.

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Fig.A: *Lycoperdon pyriforme*, BMS collection; B: *L.perlatum*, A W Brand; C: *Lycoperdon lividum*, P. Roseblade; D: *Bovista nigrescens*, BMS collection; E: *Calvatia excipuliformis*, BMS collection; F: *Langermannia gigantea*, R Brown.