Trans. Brit. mycol. Soc. **44** (4), 608–614 (1961).

BRITISH RECORDS

58. *Pollaccia radiosa* (Lib.) Bald. & Cif. (*Atti Ist. bot. Univ. Pavia*, **4**, 10, p. 61, 1939) was collected on living leaves of *Populus tremula*, 27 May 1961 at Studland Dune Woods, Studland Bay, Dorset (Herb. I.M.I. 86897). Lesions 1–2 cm. diam., amphigenous, circular or more frequently irregular, occasionally confluent, cinnamon buff above, abruptly merging into a dull purplish-black margin 0·1–0·6 cm. wide, cream buff below with a dull purplish-black margin. Sporodochia amphigenous, following the veins

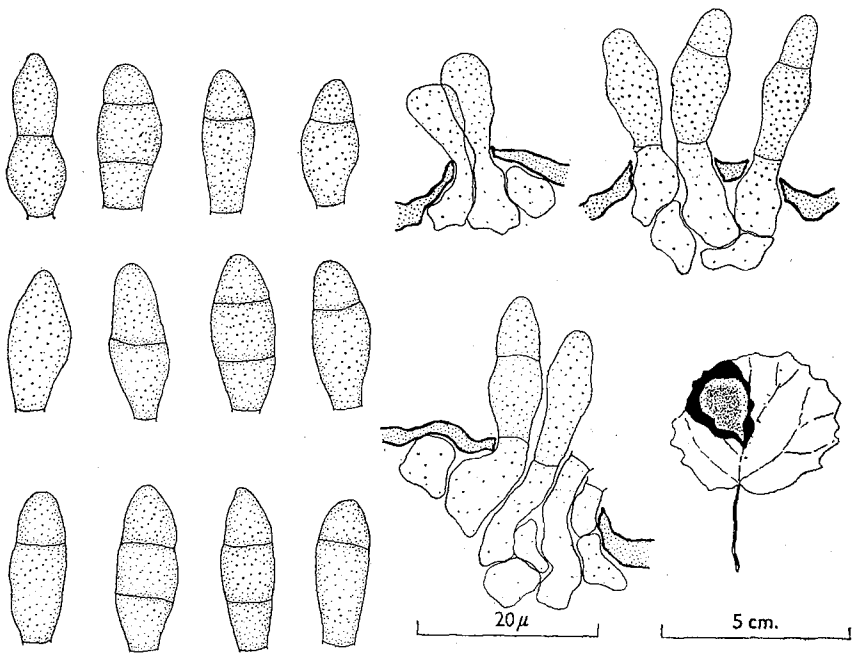

Fig. 1. *Pollaccia radiosa*, conidia, sporodochia and lesion.

when young, later deep olive and abundant above, sparse below. Mycelium immersed in the substratum, composed of branched, septate, hyaline or subhyaline, smooth-walled hyphae 1–3 μ wide. Stromata epidermal or subepidermal, poorly developed. Conidiophores singly erumpent through the epidermis or in groups of 2–8 arising from the upper cells of small stromata, cylindrical or obpyriform, straight, subhyaline to hyaline, 8–17 μ long × 3–5 μ thick, with few inconspicuous terminal annellations. Conidia formed singly at the apex of each conidiophore, which, after the first conidium has fallen, proliferates through the scar and forms a conidium at a higher level, ellipsoid or clavate, symmetrical, truncate at the base, subhyaline to ochraceous buff, smooth-walled with one distal

transverse septum or two equidistant septa, slightly constricted, base furnished with a marginal frill, 14·5–19 × 6–7·5 μ. The collection was made from a small, isolated aspen wood at Studland Bay, it being the only wood of this type in that particular area. The small conidia and few annellations indicate that the material is rather young but the measurements, morphology and symptoms compare well with published exsiccatae from Hungary, Denmark, Canada and U.S.A., and agree closely with material collected in the same month from Germany (Herb. I.M.I. 7599). Peace (*Bull. For. Comm., Lond.*, **19**, p. 41, 1952) states that this fungus is doubtfully recorded from G.B. associated with die-back of aspen but D. M. Henderson (Edinburgh) has collected perfect and imperfect states of the fungus in Scotland. The species appears to be unrecorded from England.

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59. *Sporormia corynespora* Niessl, *Öst. bot. Z.* **28**, 45, 166, 1878, appeared on rabbit pellets from Wooltack Point, Pembroke, Wales (Fig. 2). It agrees with the original description and also with that of Griffiths (*Mem. Torrey bot. Cl.* **11**, 1901) except that the enlarged cell of the ascospore (the third from the upper end) is not usually clearly marked. The dark brown, almost black, spores are 8-celled, 54·5 × 12·8 μ (mean of 100 discharged spores selected at random). These values agree with those of Niessl (45–60 × 10μ), Griffiths (50–56 × 9–10 μ), Griffiths's Iowa specimen (45 × 8 μ), and Cane (*Studies of coprophilous Sphaeriales*, University of Toronto, 1934) (48–58 × 11–12 μ).

The old discharged spores break up into eight separate cells on drying. The spores are difficult to germinate but pure cultures have been obtained and deposited at the Commonwealth Mycological Institute (Herb. I.M.I. 86682).

BRENDA BOOTH, WINIFRED PAGE, *Birkbeck College*

60. **Melastiza scotica** sp.nov.

Apothecia primum profunde concava dein patellaria, 10–25 mm. lata, sessilia, gregaria, margine breviter (*ca.* 500 μ) brunneo-pilosa, extra pallide aurantiaca et sat laxe pilis pallidioribus vestita, hymenio aurantiaco. Sporae 23–28 × 12·5–14 μ, anguste ellipsoideae, guttula unica vel guttulis binis majoribus instructae, grosse obtuse verrucosae, verrucae ad 3 μ altae, illae polos utrosque obtegentes ad 6 μ. Asci 380–400 × *ca.* 18 μ, cylindrici, octospori, sporis monostichis. Paraphyses filiformes apice ad 6 μ globoso-incrassata ac ibi intus granulis aurantiacis praedita. Pili ad 600 μ, e basi 15–20 μ crassa sensim attenuati ad apice obtuse rotundati, 4–6 cellulares, tenuiter tunicati, pallide brunneoli. Inter sphagna in pinetis, Cannich, Inverness, Sept. 1957, leg. R. Watling (typus in Herb. W.D.G. no. 1227).

The following collections have also been studied: (*a*) in conifer plantation, Porlock, Somerset, leg. D. A. & P. M. Reid, Aug. 1954; (*b*) on peaty soil, Killakee, Co. Dublin, leg. F. C. Hassall, Nov. 1955; (*c*) amongst pine debris, Rothiemurchus, Inverness, leg. D. A. Reid, Sept. 1957 (all in Herb. Kew); (*d*) in pine litter, Rothiemurchus, leg. P. D. Orton, Aug. 1960 (Herb. W.D.G. no. 1451); and (*e*) amongst moss in pine wood, Rannoch, Perthshire, leg. P. D. Orton, Oct. 1960 (Herb. W.D.G. no. 1467).

The apothecia tend to grow in tightly packed groups often somewhat immersed in the substratum, which included peat and pine needles in all collections. The marginal hairs are densely serried and vary from almost

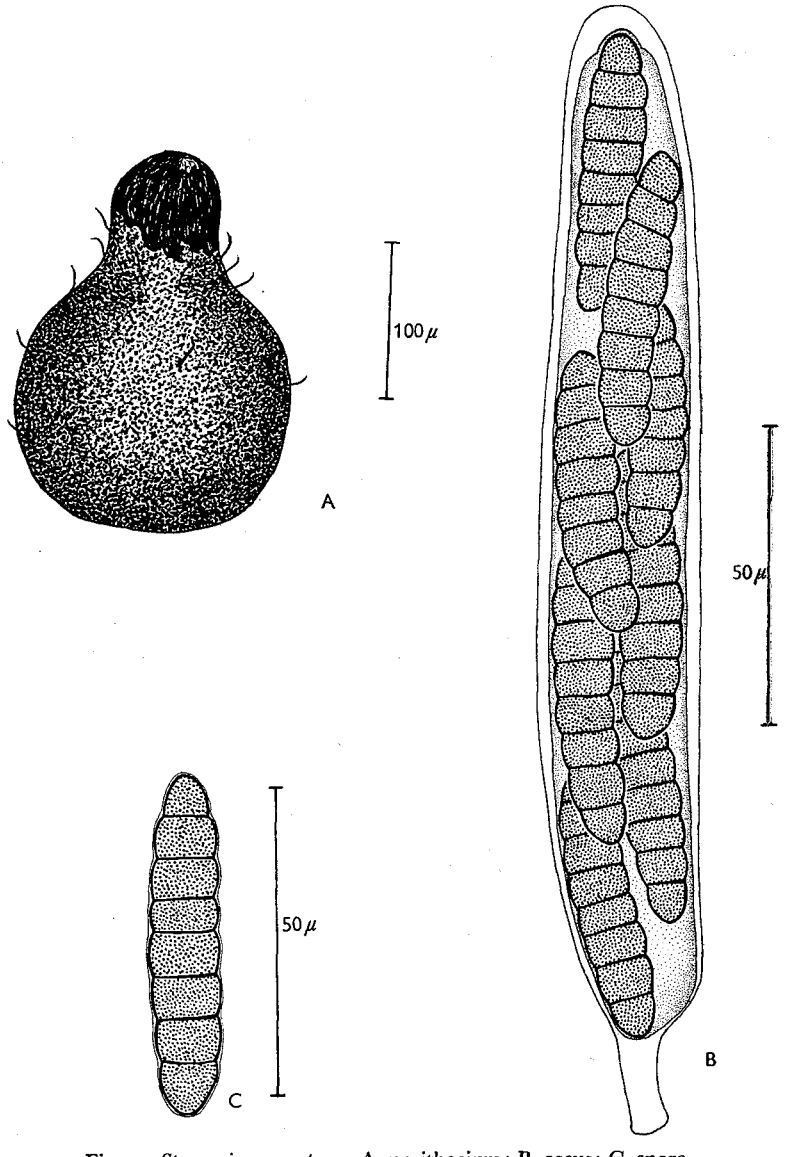

Fig. 2. *Sporormia corynespora*. A, perithecium; B, ascus; C, spore.

hyaline to clear brown; they originate from the excipular cells and have bluntly rounded tips about 7 μ thick; shorter similar hairs clothe the exterior. The remarkable spores are ornamented with enormous rounded warts up to 3 μ high and carry even larger irregularly shaped polar masses

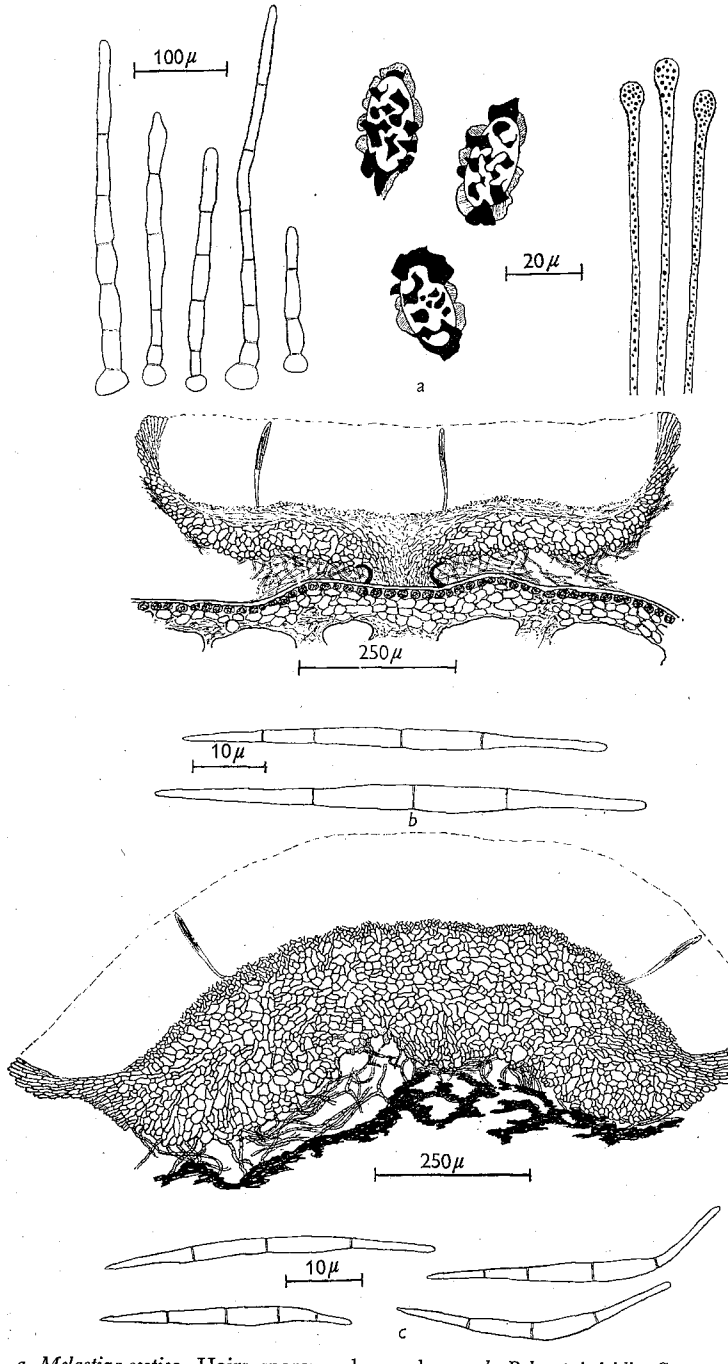

Fig. 3. *a, Melastiza scotica.* Hairs, spores and paraphyses. *b, Belonopsis iridis.* Spores and median section of apothecium. *c, B. lacustris* var. *caricinum.* Spores and median section of apothecium.

which may project as much as 6 μ; traces of a coarse reticulation can be seen on the spore surface between the warts. The paraphyses are distinctive in their more or less globose heads perched on slender rigid filaments (Fig. 3*a*).

I have some hesitancy in describing this fungus as new for it would seem that a relatively large species with such outstanding features and of which so many collections have recently become available must have already been described—but any such description has eluded me.

Clearly the fungus is near to *Melastiza boudieri* (Höhn.) Le Gal (*Bull. Soc. mycol. Fr.* **74**, 149–154, 1958) from which it differs in having larger and more strongly ornamented spores, much longer hairs and an orange hymenium instead of 'scarlet blood-red'. Moreover, our fungus is one of peaty soil whereas *M. boudieri* was collected on clay.

61. **Belonopsis iridis** (Crouan) comb.nov. (*Helotium iridis* Crouan, *Flore du Finistere*, p. 48). Scattered along stems of *Juncus* and leaves of *Typha* in Newtondale, Pickering, Yorks., leg. W. G. Bramley, June 1960 (Herb. W.D.G. no. 1435 and Herb. Kew). Discoid 1–5 mm. across, typically mollisioid in appearance. Spores 44–65 × 2·5–3 μ, one end acutely pointed the other narrowly cylindrical, with 3 or 5 septa the former greatly in excess.

This fungus has recently been described and illustrated by Mme Le Gal (*Rev. Mycol, Paris*, **18**, pp. 118–122, 1953) from material on *Juncus* in the Crouan herbarium and I now add to her figures one showing a median section of an apothecium (Fig. 3*b*); this shows a small footstalk and a strongly developed excipulum of thin-walled hyaline cells, from which the cortical layer of brown cells so commonly present in Mollisioideae is almost completely absent (Fig. 3*b*). For the present I think it expedient to retain species with long, multi-septate spores in *Belonopsis* (Sacc.) Rehm as interpreted by Nannfeldt (1932) rather than to disperse them within the vast assemblage of *Mollisia*.

62. *Belonopsis lacustris* (Fr.) Höhn. var. *caricinum* Vel. (Monograph of the Discomycetes of Bohemia, p. 128). Plentiful on leaf sheaths of *Carex flacca* on waste ground by the A 483 road about 1 m. N. of the Montgomery–Radnor boundary, May 1960 (Herb. W.D.G., no. 1434). Apothecia to 3 mm. across, growing singly or in groups of two to five; only at the very base of the host plant and consequently tedious to find. Spores 32–50 × 2–3 μ, one end narrowly pointed, the other pointed or narrowly cylindrical; 3-septate or occasionally asymmetrically 4-septate by division of one of the apical cells. Asci 125–150 × *ca.* 7 μ, pore blue in Melzer. Paraphyses very slender, only 3 μ at the rounded apex, many branched in lower half. Flesh thick, of hyaline parenchyma throughout except for a thin layer of minute-celled subhymenium. The similarity of hosts and the good agreement of hymenial details indicate the likely identity of this collection with Velenovsky's meagrely described fungus (Fig. 3*c*).

W. D. GRADDON, *Congleton, Cheshire*

63. *Monilinia johnsonii* (Ell. & Ev.) Honey (Dennis, British Helotiaceae, *Mycol. Pap.* **62**, p. 142, 1956). Syn. *Sclerotinia crataegi* Magnus (*Ber. dtsch. bot. Ges.* **23**, pp. 197–202, 1905).

During March and April 1961, apothecia developed in abundance on the mummified fallen fruits of a single scarlet hawthorn, *Crataegus oxyacanthoides*, in my garden in Abbots Leigh, Somerset. A disfiguring out-

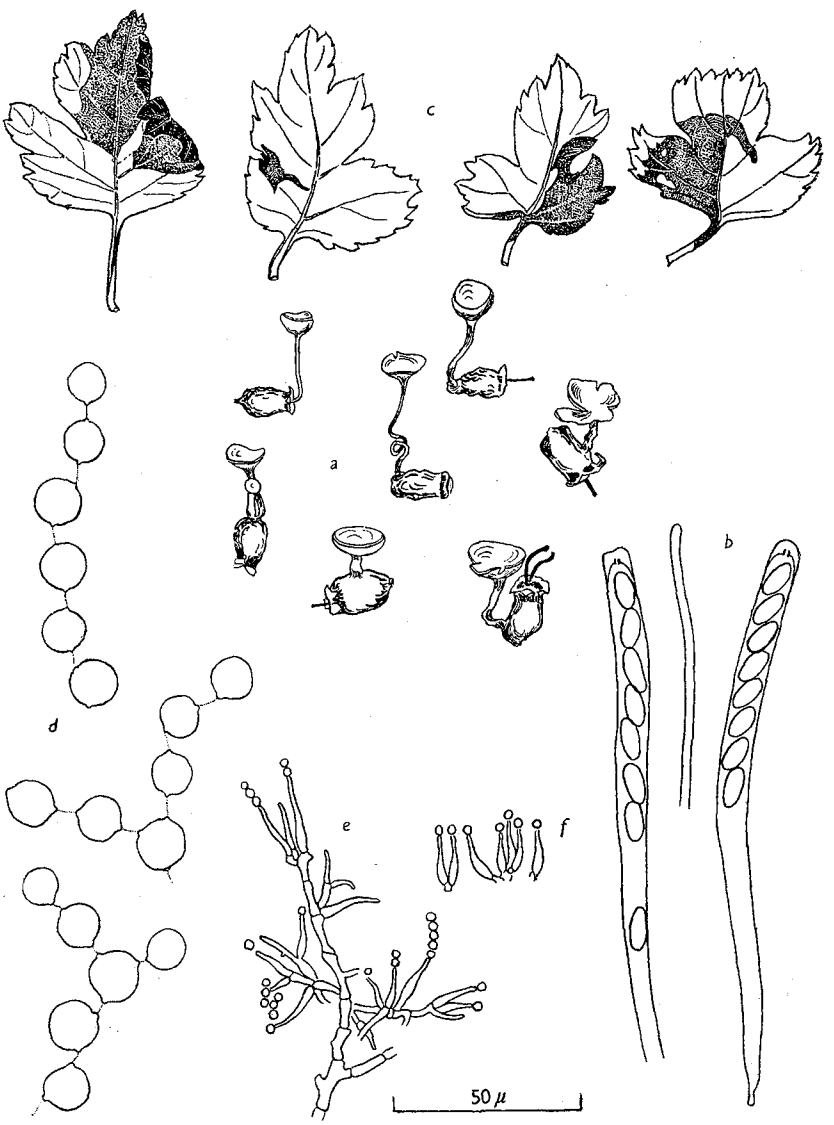

Fig. 4. *Monilinia johnsonii*. *a*, Apothecia arising from mummified fruits of *C. oxyacanthoides* (nat. size); *b*, asci and paraphysis, mounted in Melzer's reagent (×500); *c*, early stages in development of macroconidial (leaf blotch) infection of foliage (nat. size); *d*, chains of macroconidia, showing disjunctors (×500); *e*, *f*, production of phialides bearing microconidia. *e*, from 10-day culture on malt agar; *f*, from the surface of infected fruit (×500).

break of the macroconidial leaf blotch disease had occurred on this tree in the previous spring and the foliage was again affected in the 1961 season. In both years leaf blotch was common on hedgerow trees of *C. monogyna* in the vicinity.

The apothecia (Fig. 4*a*), which have not previously been recorded in this country, were in close agreement with the original description and figure of Magnus. They arose singly or in pairs from all regions of the fruit but chiefly from the base—a count of 77 fruits gave 91 apothecia of which 71 were basal in origin. The light-brown disk measured 3·5–10 mm. diam., the stalk 2·0–19·5 mm. in length. The receptacle externally was dull reddish brown, smooth or appearing very slightly scurfy, sometimes with a scanty mycelial weft round the base of the stalk. The asci (Fig. 4*b*), strongly thickened at the apex and with the pore staining blue in Melzer's reagent, measured *ca.* 150–170 × 8 μ; the obliquely uniseriate, ellipsoid or slightly bean-shaped ascospores 10·5–14 × 5–6 μ.

Infection of the foliage, initially, is by air-borne ascospores, though the irregular outline of the affected areas in the early stages suggests a further limited spread of inoculum in the form of a spore suspension in the surface moisture on the leaf (Fig. 4*c*). The leaf blotch, spreading to affect the greater part of the leaf lamina, usually stops short of the base of the petiole but occasionally it extends down the full length of the petiole and encircles the stem so that a 'twig blight' ensues. Typical diseased branches, with the blackened leaves hanging from the shoots, were figured by W. J. Dowson & W. A. R. Dillon Weston (*Gdnrs' Chron.* **101**, 426, 1937). Under favourable conditions the leaf blotches become thickly coated with a greyish to buff-coloured mould consisting of branched chains of subspherical, apiculate, hyaline conidia separated by exceedingly tenuous disjunctors (Fig. 4*d*). In the material examined, the conidia measured 10–13 × 8·5–13 μ. The diseased leaves emit a strong sweet smell, and the conidia are said to be transferred to the stigmas through the agency of insects.

On malt agar the conidia germinated to form masses of microconidia produced by typical phialides on a rather restricted aerial mycelium (Fig. 4*e*).

The infected fruits begin to turn brown while still on the tree, though most have fallen by the end of June. At this stage they are only a little smaller than the healthy fruits. After falling they shrivel slightly and become whitish or silvery in patches. When collected from the ground in July and kept moist for a day or two they became covered with a film of microconidia (spermatia) 2–3 μ in diameter, produced from densely tufted phialides (Fig. 4*f*). Fruit infection was virtually 100 % on the tree in my garden in 1960; in 1961, when the leaf blotch outbreak was judged to be considerably less severe, having been arrested by the onset of dry weather, it was estimated that 92 % of the fruits were infected. Of twenty current season's infected fruits collected from the ground in November 1960 and buried to their own depth in John Innes compost for overwintering in a plunge bed outside, nine had produced apothecia by the end of March 1961.

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REVIEWS

Handbuch für Pilzfreunde. Zweiter Band. *Nichtblätterpilze.* By EDMUND MICHAEL, revised by BRUNO HENNIG. (Jena: Gustav Fischer Verlag, 1960.) Pp. vi. + 328, 300 col. figures, 26 pl. and fig. Price: DM. 38.70.

This second volume of the promised four-volume work, started in 1958 (these *Transactions*, **41**, p. 523), is a mixed bag, containing all the non-agaricaceous, common, 'larger' basidiomycetes, the 'larger' ascomycetes, and eight myxomycetes, the last unfortunately sandwiched among the ascomycetes with no distinguishing heading. The illustrated part follows the same plan as before, but there is a long introductory section (27 chapters, 188 pp.) giving accounts of the mode of life of each group, structure and classification, with descriptions of and, in some instances, distinctions between the genera, though there are no keys as such, except one to the earth stars.

More species are depicted in colour than in Wakefield & Dennis, but that seems to be the only advantage to the British mycologist. The same band of artists has provided the paintings for the plates, the majority of which are good.

G. M. WATERHOUSE

The Biology of Fungi. By C. T. INGOLD. (London: Hutchinson Educational, 1961.) Pp. 124, 61 text-figures. Price: 12*s.* 6*d.*

This little book, the first Hutchinson Biological Monograph, written on the Atlantic, should bring a fresh mycological breeze into the classroom and blow in a number of facts which would not normally reach textbooks for another decade. The book is, to one reader at least, slightly disappointing, for after a promising title, a preface which sets mycological taxonomists and biochemists in perspective, the author finds himself beginning the seventh and final chapter (on the ecology of fungi) with the statement 'In the preceding chapters the fungi have been introduced mainly in a taxonomic manner, with digressions to consider questions of special biological interest'. And to push home the familiar taxonomic pattern there is a brief appendix outlining the scheme of classification of fungi. It is all rather too conventional, from Professor Ingold. Comprehension tests have, however, shown that the book will be warmly received as an introduction to fungi by both elementary students and others.

G. C. AINSWORTH