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NEW AND RARE BRITISH FUNGI.

GEO. MASSEE AND CHAS. CROSSLAND.

OF the following six species, the first five are new to the British Isles; the sixth has one previous record only, and does not appear to have been hitherto met with in any other country than Britain. As noted below, three of these were found on Union Excursions—Pocklington, Cudworth, and the Maltby foray; two are from Hebden Bridge, and one from Masham.

Advantage has been taken of the fresh specimens to make fuller descriptions. The description of the new British puffball is supplemented by the photograph on page 7.

During the recent fungus foray at Maltby, a very fine and representative series of specimens of a puffball, which appeared to differ in certain characters from hitherto known British species, was collected in Maltby and Stubbings Woods.

On further investigation the species proved to be *Lycoperdon cruciatum*, Rost., a fungus not previously recorded as having occurred in this country. Superficially this fungus somewhat resembles a small form of *L. gemmatum*, and has probably been passed over as such on previous occasions. Its most pronounced macroscopic, or field character, consists in the whitish outer wall of the peridium, peeling off in large flakes as in species of *Bovista*, and exposing the brown, minutely granulated inner peridium. The structure of the outer peridium in *L. cruciatum* somewhat resembles that of *L. velatum* (an exotic species), but in the latter the spines of the cortex are very persistent, and when they disappear, do so singly, as in most puffballs.

The following is a full diagnosis of *L. cruciatum*, which is well described and beautifully figured by Rostkovius in Sturm's Deutschlands Flora, vol. 5, p. 19, pl. 8 (1864).

Peridium subglobose to broadly piriform, narrowed below into a short, stout, sterile stem-like base, 3-4 cm. high by 2-3 cm. broad; cortex whitish, formed of groups of minute more or less pyramidal spines, breaking away in large flakes and exposing the inner yellowish-brown, minutely granulated peridium; dehiscence by a small, irregularly torn apical pore. Gleba umber, spores globose, smooth, almost hyaline, 5-6 μ diameter; threads of capillitium mostly unbranched, slender, 4-5 μ thick, ends tapering, very slightly coloured yellow-

brown. The lacunose sterile base not projecting into the gleba as a columella.

On the ground among hazel bushes.

Distribution.—Germany, France, United States.



Lycoperdon cruciatum, Rost.

The left-hand fig. shows the outer peridium intact. In the two remaining figs. only fragments of the outer peridium remain. Natural size.

Hebeloma subsaponaceum Karst.—On the ground in strip of mixed woodland, Allerthorpe Common, near Pocklington, Y.N.U. Excursion, Aug., 1905. First British record. Differs from allied species in the strong soapy smell, dry pileus, adnate gills, and smaller spores $6\text{-}9 \times 4\text{-}6 \mu$.

Cantharellus hypnorum Brond., Rev. Myc., 1892, p. 65; Sacc., Syll. 11, p. 32, 1895.—Pileus campanulato-convex then expanded and slightly depressed, margin incurved, minutely downy, the down sometimes collected into little fascicles, pale primrose yellow, sometimes verging on pale ochre, $1\text{-}1\frac{1}{2}$ in. diameter; flesh thin, whitish; gills thin, edge acute, somewhat crowded, branched, decurrent, yellow; spores hyaline, smooth, oblong with a minute oblique apiculus, $7 \times 4 \mu$; stem about 1 in. long, slender, often slightly flexuous, almost glabrous, yellow, sometimes darker than the pileus towards the base.

Collected by E. Snelgrove, on Ferrymoor, near Cudworth, Y.N.U. Excursion, Sept. 9th, 1905. First British record. Previously recorded for France only.

A very distinct species, allied to *C. aurantiacus*, from which it differs in the less tomentose pileus, absence of orange colour, and smaller spores. *C. aurantiacus* is considered by some

authorities as belonging to the genus *Clitocybe*, and perhaps correctly so, the thin, acute-edged gills not agreeing with the one feature most characteristic of *Cantharellus*. *C. hypnorum* belongs to whatever genus *C. aurantiacus* does.

Lachnea cinnabarina (Schw.)—Ascophores gregarious or scattered, sessile, at first subglobose, then expanded, $1\frac{1}{2}$ -3 lines across, fleshy, $\frac{1}{2}$ -line thick, disc flat, scarlet, tending to vermilion, margin obtuse, bordered by rows of subclavate cells $40-50 \times 20-25 \mu$, exterior ochre, almost glabrous, only a few slightly thick walled hairs being present, the basal cells give rise to a few flexuous, hyaline, aseptate hyphæ 7μ thick, which penetrate the substratum; excipulum of irregularly inflated loosely interwoven, septate hyphæ, regular and parallel at the cortex which is 3-4 cells deep, cells $40-50 \times 25-30 \mu$, outermost layer globose $30-35 \mu$. Asci cylindrical, base gradually narrowed into a curved foot, $200-220 \times 12 \mu$, apex subtruncate; spores 8, obliquely 1-seriate, elliptical, ends obtuse, hyaline, continuous, eguttulate, minutely verrucose, $15-18 \times 18 \mu$; paraphyses abundant, septate, apex clavate, 8μ thick, filled with red granules $3.5-4 \mu$ thick below.

Peziza cinnabarina Schw. Syn. p. 173.

Lachnella cinnabarina Sacc. Syl., viii., n. 1643.

On dry, muddy settlements of old dye tanks, Hebden Bridge, September, 1905. Crossland and Needham. First British record. Previously recorded for America only. Closely allied to *L. umbrata*, but differs in the distinctly but minutely verrucose spores and almost glabrous exterior and margin.

Acetic iodine turns contents of paraphyses blue-black, no effect on asci.

Lachnea gilva (Boud.) Sacc. Syl., n. 747.—Ascophores scattered or gregarious, often contorted through mutual pressure, sessile, at first subglobose, finally expanded, fleshy, disc sometimes undulate and lobed, dingy pale reddish-ochre, 5-8 lines across, exterior brown, margin clothed with pale yellow-brown, 6-9 septate, gradually tapering, obtuse hairs, $250-300 \times 6-8 \mu$ (midway), mostly in tufts of 30-40, sparse below the margin; flexuous, almost colourless, septate hyphæ, $5-6 \mu$ thick spring from the basal cells; excipulum of stout, irregularly swollen hyphæ, cortical cells brown, subglobose, $15-20 \mu$ diam.; Asci cylindrical, 8 spored, $200-220 \times 12-14 \mu$, apex rounded; spores obliquely 1-seriate, hyaline, elliptical, smooth, continuous, eguttulate, $16-17 \times 9-10 \mu$; paraphyses hyaline, septate, 5μ , slightly thickened upward.

Peziza gilva Boud. Icon. 37.

Peziza (Sarcoscypha) gilva Mycogr., p. 240, fig. 406.

On sandy ground, among moss, river side, Hebden Bridge, September, 1905. Crossland and Needham. First British record. Previously recorded for France only. Closely allied to *L. fimbriata* Quel.

M. Boudier has established a genus *Tricharia* in which he includes this sp.

Humaria Phillipsii Cooke, Mycogr., p. 48, fig. 88; Massee's Brit. Fung. Flo., iv., p. 417; Sacc. Syll., viii., n. 553. Redescribed from freshly gathered specimens. Ascophores sessile, scattered, at first spheroidal, then expanded but deeply concave, fleshy, slightly gelatinous, 3-4 lines across, disc dark bluish purple, exterior dark purple, minutely rough with small tufts of cells $8-10 \times 6-8 \mu$, margin somewhat evenly crenulate-serrate with tufts of 3-4 septate hyphæ $80-90 \times 7-10 \mu$; cortex of circular cells $10-18 \mu$, two to three cells thick, hypothecium and inner portion of excipulum of densely interwoven hyphæ, which suddenly give place to the globose cells forming the cortex, the basal cells give rise to septate, hyaline hyphæ, $5-6 \mu$ thick, which penetrate the soil. Asci cylindrical, apex rounded, 8 spored, $270-290 \times 15 \mu$; Spores obliquely 1-seriate, continuous, hyaline, elliptical, ends rather acute, coarsely warted, warts hemispherical, in optical section 7-8 down each side, $22-23 \times 12 \mu$. Paraphyses septate, 4μ thick below, 5μ at the slightly swollen apex.

Ascobolus amethystinus Phil., Grev. iv., p. 84.

Peziza Phillipsii Cke., in Phillips' Brit. Disc, p. 90.

This most interesting peziza, apparently only once previously found, was met with by W. A. Thwaites in sawmill yard, on sandy soil by the river side, Swinton, near Masham, Sep., 1905. The first record (Grev. iv., p. 84), is by the late W. Phillips, on sandy ground on the margin of the river Severn, Shrewsbury, Oct., 1875.

It was named *Ascobolus amethystinus* on account of its colour, and the spores appearing to become purple. Later, however, it was found the spores are permanently hyaline, thus proving it not to be an *Ascobolus*, and Cooke re-named it *Peziza Phillipsii*.

The dark purple colour pervades the whole structure with the exception of the asci, spores, and the hyphæ given off by the basal cells. The following remark accompanies the original description: 'The cells composing the exterior are of a beautiful

amethyst purple under the microscope, and when pressed yield their colouring matter to surrounding objects.' The Masham specimens behaved in an exactly similar manner, and when fresh sections were cut the released colouring matter stained spores which came in contact with it and certainly gave such the appearance of being self-coloured. To settle this point finally spores were got without either cutting a section, or digging a pinch directly out of the disc. A couple of ascophores were placed side by side, on damp moss, in their natural position, in a shallow card-board box; a glass slip was placed over them, resting on the edges of the box so as to clear them by about a quarter of an inch. On the following day two small, cloudy, white, semifused circles were seen on the under side of the slip immediately over the ascophores. An examination proved the cloudy spots to consist of thousands of uniformly colourless spores which had been shot up direct from the asci beneath, and had adhered to the overlying glass. The colour leaves the paraphyses on their being placed in water.



BIRDS.

Rough-legged Buzzard near Grassington.—Mr. John Crowther of Grassington forwarded for my inspection a very fine specimen of an immature bird of this species which had been caught in a rabbit-trap on Grassington Moor, on December 8th. The bird measured 4 feet 9 inches from tip to tip of expanded wings, and weighed $2\frac{3}{4}$ lbs. From tip of beak to end of tail it measured (over all) about 25 inches, and covered exactly 23 inches from head to tail as it laid on its back on the table—which, in my opinion is the better way of obtaining the correct length in this class of birds. On dissection it proved to be a male.

This bird will be exhibited at the Annual Meeting of the Yorkshire Naturalists' Union, in the Cartwright Hall, at Bradford, on January 27, 1906, after which it will find a permanent home in the newly formed museum at Grassington.—HARRY B. BOOTH, Spring Royd, Shipley.

Fawn-coloured Siskin near Sedbergh.—I saw a light fawn-coloured Siskin near Sedbergh, feeding on alder seed, recently. I got close to it, but could not see any other markings upon it.—W. MORRIS, Sedbergh, 4th November, 1905.