

## NEW BRITISH FUNGI.

By M. C. COOKE, M.A.

*(Continued from page 69.)***Puccinia Luzulæ.** *Libert. Ess.* 94.

Spots purplish. Sori scattered, somewhat rounded, girt by the ruptured epidermis, amphigenous. Spores brown, elongated, lower cell pyriform, upper cell subglobose, quadrate or irregular, with a thickened epispore, pedicels long, hyaline.

On living *Luzula*. Darenth.

This is considered the perfect condition of *Trichobasis oblongata*. (See "Handbook.")

**Puccinia Cirsii.** *Lasch. Rabh. F. Eur.* 89.

UREDO-SPORES.—Sori scattered, pulverulent, brown. Spores globose, cinnamon-brown, granular, at length delicately roughened.

*Uredo Cirsii*, Lasch. Rabh. F. E. 90.

On leaves of *Cirsium*. Scotland.

BRAND-SPORES.—Sori scattered, dark-brown, epiphyllous, encircled by the ruptured cuticle. Pseudospores shortly pedicellate, obtuse, dark-brown.—*Thumen F. Austr.*, No. 68. *Sacc. Myc. Ven.*, 128.

On leaves of *Cirsium*. Dupplin Castle, Perth.

Fueckel's Fungi Rhen., No. 340. is *Puccinia syngenesiarum*, and not the species published by Lasch.

**Peronospora Viola.** *D. By. Ann. Sc. Nat.* xx. p. 125.

Effused. Flocci fasciculate, rather short, 2-6 times dichotomous, ultimate ramuli shortly subulate, deflexed; conidia ellipsoid, slightly apiculate.

On living leaves of *Viola*. Forden. Rev. J. E. Vize.

Apparently rather too close to *Peronospora effusa*.

**Ramularia Viola.** *Fckl. Sym. Myc.* p. 361, t. i. fig. 26.

Tufts delicate, in orbicular white spots, with a brownish border; flocci very short, simple, fasciculate; spores cylindrical, obtuse, simple, hyaline.—*Oidium fusisporioides*, Fckl. Fungi. Rhen, No. 134.

On leaves of *Viola*. Forden. Sept., 1875.

Spores  $\cdot 008 \times \cdot 002$  m.m.

**Ramularia Ulmaria.** *Cooke.*

Tufts greyish-white, forming irregular ovate or angular spots, mostly circumscribed by the veins; flocci very short; spores cylindrical, obtuse, simple, hyaline.

On under surface of leaves of *Spiræa Ulmaria*. Near Manchester. T. Brittain.

Spores  $\cdot 03\text{-}\cdot 04 \times \cdot 007$  m.m.

**Geoglossum microsporum.** *Cooke & Peck.* "Mycographia," fig. 11.  
Var. **tremellosum.**

Sporidia biseriate, cylindrical, or subfusiform, hyaline, becoming at length faintly 5-7 septate.

On the ground. Rannoch. Dr. Buchanan White.

This is referred to the American species as a variety, but it seems to be more tremellose than the typical form, and the sporidia do not flow out and cover the surface of the club; this may be accounted for in that the specimens were not so fully matured. Sporidia  $\cdot 03$  m.m. long.

**Peziza (Humaria) Phillipsii.** *Cooke Mycographia ii., fig. 88.*

Sessile scattered, fleshy, cup-shaped, at length expanded, externally fuliginous, rough; hymenium, dark vinous, plane, margin sometimes crenulate, sporidia elliptic, attenuated at each end, verrucose, paraphyses clavate, septate. *Ascobolus amethystinus*, Phillips in part.

On sandy ground. Shrewsbury.

Sporidia  $\cdot 025 \times \cdot 011$  m.m.

**Peziza (Humaria) violascens.** *Cooke, Mycographia ii., fig. 83.*

Subhemispherical, violaceous-brown, whitish at the base, seated on pallid rooting fibrils, hymenium plane or convex, asci cylindrical. Sporidia globose, uninucleate, granular. Paraphyses filiform. *Ascobolus Persoonii*, Cronan Flor. Fin., p. 56.

Amongst small mosses. Shrewsbury (W. Phillips).

Cups 5-7 m.m. broad. Sporidia  $\cdot 008$ - $\cdot 009$  m.m. diam.

**Peziza (Humaria) lechithina.** *Cooke.*

Gregarious, sessile, egg-yellow; cups (5 m.m. broad), hemispherical, then flattened, becoming convex; margin narrow, distinct; asci cylindrical; sporidia elliptical, smooth; paraphyses septate, clavate above, filled with orange granules. *Cooke, Mycographia, ii., fig. 89.*

On old trunk crossing a stream. Sept. Forden.

This interesting species is quite distinct from anything hitherto described. Sporidia  $\cdot 025 \times \cdot 012$  m.m.

**Peziza (Humaria) constellatio.** *B. & Br. Ann. Nat. Hist.*

Scattered, sessile, red. Cups (1-2 m.m.) hemispherical, soon flattened, disc at length convex; asci cylindrical; sporidia globose, smooth; paraphyses profuse, filiform, filled with orange granules. — *Peziza humosa*, Rehm *Ascomy. No. 4.* *Cooke, Mycographia, ii., fig. 81.*

On the ground. Hereford (W. Phillips). Kent (M. J. B.).

Sporidia  $\cdot 012$ - $\cdot 013$  m.m. The same species was sent us by Professor Saccardo from Italy, under the name of *Peziza humosa*. There is a slight difference in the size of the sporidia from different localities ranging from  $\cdot 011$  to  $\cdot 013$  m.m. diameter. In all there are the same linear granular orange paraphyses, in great number, curved at the tips. Fuckel's *Crouania humosa* has much larger sporidia ( $\cdot 016$  m.m.), though it is doubtful whether this is sufficient to constitute it a distinct species, in the absence of any other difference.

**Peziza (Humaria) pluvialis.** *Cooke.*

Gregarious, sometimes densely crowded, rather soft, flesh-colour, or with an orange tint. Cups ( $\frac{1}{2}$  m.m. broad), soon flat-

tened, and plane or slightly convex, with radiating white byssoid filaments at the base; asci cylindrical; sporidia elliptical, hyaline, smooth; paraphyses filiform, numerous, distinct, granular. *Cooke, Mycographia, fig. 90.*

On a damp wall. Eastbourne (C. J. Müller). On wall paper. Chichester (Dr. Paxton).

Sporidia  $\cdot 018 \times \cdot 008$  m.m.

In both instances this *Peziza* was found after the heavy rains in early summer. There is a little difference in the two specimens. The Eastbourne specimens have more of an orange tint, the cups are less crowded, and the white mycelium is more distinct, but the fruit corresponds in both. The Chichester specimens resemble externally some forms of *Ascobolus carneus*; both are rather closely allied to *Peziza Franzoniana*, Not. (*Mycographia, fig. 68*), but perhaps distinct in the sporidia, and more profuse and decided paraphyses, as well as some other features.

***Peziza (Sarcoscypha) coprinaria.*** *Cooke in Grevillea iv., p. 91.*

On cow dung. Rannoch.

***Peziza (Dasyscypha) comitessa.*** *Cooke.*

Cæspitose or single and gregarious, bright golden-yellow, externally paler, and tomentose, stipitate, common stem branching below. Cups at first clavate, then expanded and cupulate; asci cylindrical; sporidia minute, linear, straight or curved; paraphyses filiform. *Fungi Britt., ii., No. 371.*

On a fallen tree. Dupplin Castle, Perth.

Asci  $\cdot 05 \times \cdot 006$  m.m.; sporidia  $\cdot 006$ - $\cdot 0075$  m.m. long.

The branching stem resembles that of *Peziza pygmea*, to which this species is allied; the tufts contain from two to four cups proceeding from a common stem, or sometimes single. It is an elegant species dedicated to the Countess of Kinnoull, on whose estate it was discovered.

***Peziza (Hymenoscypha) monilifera.*** *Fckl. Sym. Myc. 310.*

Stipitate, scattered, or cæspitose. Cups seated amongst *Bispora*, at first subclavate, at length dilated; disc concave, patellate when mature, marginate, waxy, externally and rather long stem, smooth, pallid brown; disc slightly darker; asci elongated; sporidia biseriata, oblong, attenuated towards each end, but obtuse, at length uniseptate, hyaline; paraphyses filiform, subclavate.

Amongst *Bispora monilioides* on cut timber. Dupplin Castle.

Cups 1-2 m.m. broad, 1-3 m.m. high; sporidia  $\cdot 012 \times \cdot 004$  m.m.

Fuckel has constituted a new genus under the name of *Bispora* for this species, of which he assumes that *Bispora monilioides* is the conidia form.

***Helotium scoparium.*** *Cooke.*

Scattered or subgregarious, pallid, sessile; disc convex, rather paler, whole plant becoming greyish in drying; asci clavate; sporidia cylindrical, obtuse, straight or curved, binucleate, at

length with the endochrome divided; paraphyses simple, filiform, slightly granular.

On dead twigs of broom. Dupplin Castle, Perth.

Cups 1 m.m. broad; Asci  $\cdot 1 \times \cdot 02$  m.m.; sporidia  $\cdot 02\text{-}\cdot 025 \times \cdot 005$  m.m.

**Ascobolus amethystinus.** *Phillips, Grevillea iv., p. 84.*

On damp sandy soil, near Shrewsbury.

**Ascobolus crenulatus.** *Karst. Fung. Fenn. No. 763.*

Gregarious, sessile, at first spheroid, then flattened, nearly plane, greenish-yellow, furfuraceous; margin crenulate (1-5 m.m. broad); asci clavate; sporidia elliptical, striate, violet, becoming brownish; paraphyses slender.—*Karst. Myc. Fenn. i. p. 77.*

On grouse dung. Rannoch. Dr. Buchanan White.

Sporidia  $\cdot 012\text{-}\cdot 016 \times \cdot 006\text{-}\cdot 008$  m.m.; cups about  $1\text{-}1\frac{1}{2}$  m.m. broad; disc of the Rannoch specimens, vinous when old, retaining the greenish colour at the base of the cups.

**Ascobolus (Saccobolus) obscurus.** *Cooke.*

Subgregarious, sometimes densely crowded, fuliginous, hymenium convex, rather paler. Asci clavate. Sporidia elliptical, rough, becoming violet, collected into an elliptical mass. Paraphyses linear.

On old sacking. Forden.

Cups  $\frac{1}{4}\text{-}\frac{3}{4}$  m.m. Sporidia  $\cdot 012\text{-}\cdot 014 \times \cdot 007$  m.m.

**Ascobolus (Ascophanus) pilosus.** *Fr.*

Minute, sessile, yellow, testaceous-yellow or tawny-orange, externally pilose with long hairs; disc papillate; margin naked; hairs simple, incrassated at the base; asci clavate; sporidia hyaline, oblong ovate; paraphyses slender, septate, simple, or branched, granular. *Boud. Mem. p. 64.*

On grouse dung. Rannoch. Dr. Buchanan White.

Cups  $\frac{1}{10}$ th m.m. broad; sporidia  $\cdot 02 \times \cdot 01$  m.m.

This is referred to *A. pilosus* as a variety, but the specimens were more minute than usual, scarcely visible to the naked eye, pallid. It differs from any form of *A. papillatus* and *A. ciliatus*, in the hairs not being marginal but clothing the surface of the cup; they are also more slender than in the other species. It was accompanied by a minute *Ryparobius* and *Sphaeria (Sporormia) Notarisii*.

**Xylaria Scotica.** *Cooke.*

Suberose; stem very long, pallid, root-like, slender, 1-3 times dichotomously branched above; branches elongated, or very short and fasciculate; heads elongated, subcylindrical; apex more or less acute, greyish-brown, then black; perithecia very numerous, slightly papillate; asci cylindrical; sporidia uniseriate, elliptical, brown, minute.

On the ground. Meihlauer. Mr. Matheson.

Entire length, including rooting base, 2 to 6 inches. Clubs about 1 inch long; sporidia  $\cdot 005\text{-}\cdot 006 \times \cdot 003$  m.m.

A most interesting addition to the British Flora. It was exhibited at the Perth Fungus Show, and is wholly unlike any described species. The sporidia are smaller than in any other British *Xylaria*. Commonly 6-8 heads arise from the rooting stem.

**Valsa lauro-cerasi.** *Tul. Carp.* ii. 196.

STYLOSPORES = *Ceuthospora lauri*.

ASCOPHORE = Perithecia 6-8, disposed in a circle, raising the cuticle, which is sometimes blackened above the swollen clusters; asci clavate; sporidia narrowly elliptical, small, hyaline, straight.—*Cooke Fungi Britt.* ii. *ined.*

On branches of cherry laurel. Forden.

Not having seen specimens, which are authenticated as the species intended by Tulasne, it is difficult to determine whether our plant is his species. The sporidia are larger, but for the present it seems advisable to include it under his name.

This is interesting from its association with *Ceuthospora Lauri*, which occurred at the extremities of the twigs; passing downwards it was replaced by the *Valsa*, which resembled the former so closely that the two could scarcely be distinguished by a lens. On the older branches the absence of the blackened cuticle caused the resemblance to be less perfect. Asci  $\cdot 04$  m.m. long; sporidia  $\cdot 01$ - $\cdot 012$  m.m. long.

**Sphæria (Sporormia) Notarisii.** *Car. Rabh. Fung. Eur.* 976 b.

Perithecia black, rather shining, ovoid or rounded; ostiola wart-like or mamillæform; asci cylindrical, octosporous; sporidia tetramerous, brown, not apparently surrounded by a hyaline coat.—*Hedwigia*, 1868, p. 69, t. 1, fig. 1.

On grouse dung. Rannoch. Dr. Buchanan White.

Sporidia  $\cdot 022$ - $\cdot 026 \times \cdot 004$ - $\cdot 005$  m.m.; segments of the sporidia  $\cdot 005$ - $\cdot 006$  m.m. long.

**Sphæria (Sordaria) curvula.** *D. By. Morph. Pilze*, p. 209.

Perithecia scattered, superficial, or rarely semi-immersed, oblong-conical, rugulose, densely clothed with articulate fasciculate brown hairs; asci broad, cylindrical, stipitate; sporidia ovate or elliptic, dark brown, with hyaline terminal appendage; paraphyses articulated, longer than the asci.—*Sphærea stercorarii*, *Fungi Britt.* i. 589.

On cow dung. King's Lynn (C. B. Plowright). Rannoch (Dr. Buchanan White).

Sporidia  $\cdot 029 \times \cdot 015$  m.m., without appendage.

**Sphæria (Denudatæ) ostioloidea.** *Cooke.*

Gregarious. Perithecia minute, black, subglobose, with a slight papillate ostiolum, seated on the stroma of *Diatrype*; asci cylindrical, narrow; sporidia uniseriate, linear, straight, minute, hyaline.

Parasitic on *Diatrype quercina*. Forden.

Quite different from *Sphæria nigerrima*. The perithecia are very

minute, looking like the ostiola of the *Diatrype*. Asci  $\cdot 04 \times \cdot 004$  m.m; sporidia  $\cdot 008$  m.m. long.

**Lophium fusisporum.** *Cooke.*

Perithecia subsessile, expanded upwards, conchiform, laterally compressed, black, shining, striate. Asci subcylindrical. Sporidia fusiform, multiseptate (about 7) yellowish.—*Lophium mytilinum*. *Cooke Fungi, Britt. ser. ii., 200.*

On fir branches and bark.

Sporidia  $\cdot 05$  m.m. long. I have now no doubt that the true *L. mytilinum* has filiform sporidia the length of the ascus, as described in "Handbook." Specimens from Dr. Capron, of Shere, and in Fiedler's "Exsicc." are of this character. Fuckel's No. 762 in my copy is sterile.

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DESCRIPTION OF PLATE LXIV.

Fig. 1. Specimen of *Xylaria Scotica*, natural size.

- " 2. Section of portion of club.
- " 3. Ascus and sporidia  $\times 500$ .
- " 4. Asci and sporidia of *Sphaeria ostioloidea*  $\times 500$ .
- " 5. Asci and sporidia of *Valsa lauro-cerasi*  $\times 500$ .
- " 6. Ascus and sporidia of *Ascobolus crenulatus*, with free sporidia  $\times 500$ .
- " 7. Ascus and sporidia of *Ascobolus (Saccobolus) obscurus*, with free sporidia  $\times 500$ .
- " 8. Threads and spores of a variety of *Helminthosporium echinulatum*, on *Ornithogalum*  $\times 500$ .
- " 9. Spores of *Badhamia fulvescens*  $\times 500$ .
- " 10. Ascus and sporidia of *Peziza Comitessa*  $\times 500$ .
- " 11. Spores of *Clasterisporium vermiculatum*  $\times 500$ .
- " 12. Ascus and sporidia of *Peziza Phillipsii*  $\times 500$ .
- " 13. Ascus and sporidia of *Helotium scoparium*  $\times 500$ .
- " 14. Threads and spores of *Verticillium tumorum*  $\times 500$ .

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SOME INDIAN FUNGI.

By M. C. COOKE, M.A.

**Septoria Artocarpæ.** *Cooke.*

Peritheciis aggregatis in maculis brunneis orbicularibus insidentibus. Sporis minutis linearibus.

On leaves of *Artocarpus integrifolia*. Mysore.

Spots orbicular, brown; perithecia dark brown, flattened, with an apical pore; spores minute, linear, about  $\cdot 01$  min. long.

**Diplodia Catappæ.** *Cooke.*

Peritheciis globosis, primo tectis, dein erumpentibus; sporis variabilis, demum septatis, atro brunneis, utrinque subnucleatis.

On nuts of *Terminalia Catappa*. Pondicherry (1862).

The perithecia are soon erumpent. Spores very variable in