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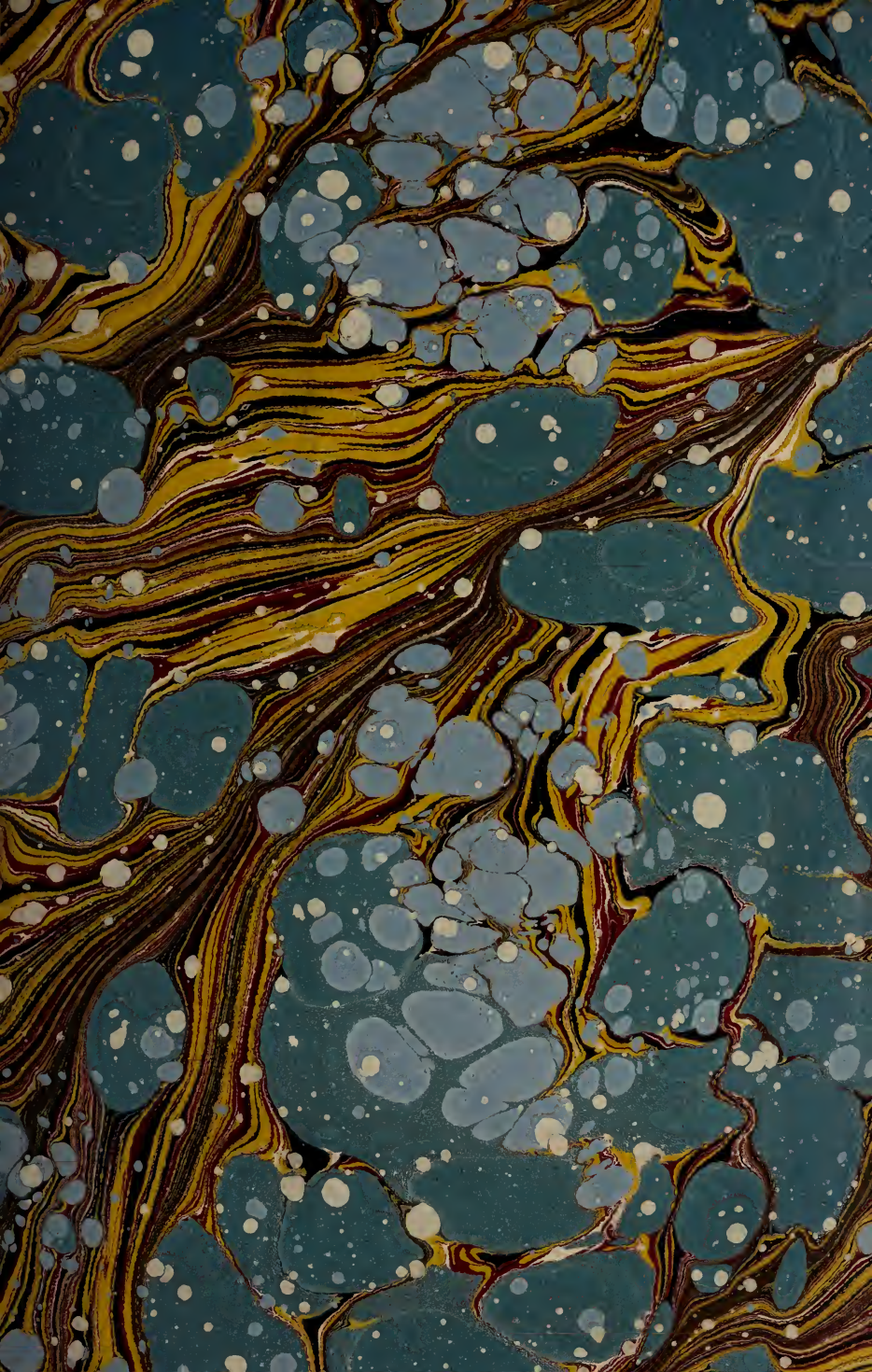
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CRYPTOGAMIC BOTANY



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Grevillea,

A QUARTERLY RECORD OF

CRYPTOGAMIC BOTANY

AND ITS LITERATURE.

EDITED BY M. C. COOKE. M.A., A.L.S.,

Author of "Handbook of British Fungi," "Illustrations of British Fungi," "Fungi, their uses," &c., "Rust, Smut, Mildew, and Mould," "British Fresh Water Algæ," "British Desmids," &c., &c.

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Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY
AND ITS LITERATURE.

NEW AUSTRALIAN FUNGI.

By M. C. COOKE.

Agaricus (Flammula) crociphyllus, Cke. & Mass.

Ochraceo-flavidus. Pileo carnoso, compacto, convexo, innato-squamuloso fibrillosoque, margine incurvo; stipite laterali, curto, (1 in. long, 1 in. crass), curvato, crasso, striatulo, sub-concolori, solido; lamellis subdistantibus, perlatis ($\frac{1}{2}$ in.), postice dente decurrentibus, læte luteis. Sporis ellipticis, $10 \times 6 \mu$.

On wood. East Gipps Land (*Bauerlen*).

Pileus 2-3 in. broad, firm and woody when dry. Resembling *Ag. (Pholiota) spectabilis* in general appearance, but without trace of a ring.

Lentinus lasiophyllus, Cke. & Mass.

Cæspitosus. Pileis tenuibus, subdividiatis, lobis circumscriptis, planis, postice depressis, lævibus, glabris, nitidis, ochraceis (2-4 unc. latis) stipitis abbreviatis, disciformibus, tomentosis, lamellis decurrentibus, subconfertis, linearibus, angustis, et intersticiis densissime velutino-tomentosis, acie subnudis, concoloribus.

On stumps. Gipps Land (*Hamilton 506*).

Lentinus fusipes, C. & Mass.

Pileo carnoso-lento (10 in. diam.) tenui, tenaci, tomentoso, glabrescente, postice tomentoso, albo, umbilicato, demum explanato, margine tenui, acuto. Stipite laterali, solido (8 unc. long, 1 unc. crass), fusiformi radicato, tomentoso-scribiculo, concolori; lamellis confertis, linearibus, angustissimis, decurrentibus, vix obscurioribus.

On rotten wood (?). Trinity Bay (*Sayer 26*).

Panus olivaceo-flavidus, Cke. & Mass.

Pileo fuligineo, densissime olivaceo-flavido, velutino, duro, compacto ($\frac{1}{2}$ -1 unc.), sessili, imbricato, conchiformi, margine incurvo, lamellis radiatis, subdistantibus, latis, tenuibus, inæqualis (sicco fuligineis). Sporis arcte ellipticis, $4 \times 2 \mu$.

On burnt wood. Bunyip, N.S.W. (*F. Campbell 379*).

Diploderma fumosa, *Cke. & Mass.*

Globoso-depressa, alba. Peridio exterioro fibroso, interioro pallido, fragili, capillitio radiato, intertexto, hyalino, attenuato, sporis globosis, echinulatis, fumosis (6-8 μ diam.).

In the ground. New South Wales (*F. Campbell* 400).

Diploderma alba, *Cke. & Mass.*

Subglobosum, pallidum, peridio exterioro tenui, persistente, interioro albo, cartilagineo. Capillitio simplici, radiato, contexto, nucleo centrali suberoso. Sporis globosis, lævibus, hyalinis (5 μ diam.).

In the ground. Cudgegong River, Australia (*Hamilton*).

Octaviana alveolata, *Cke. & Mass.*

Subglobosa vel irregularis ($\frac{1}{2}$ -1 in.), albida, dein subochracea, basi sterili obsoleto, intus pallidiori, lacunoso. Sporis globosis, alveolatis (10 μ diam.) pallide fuscis.

In the ground. Cudgegong River (*Hamilton* 514).

Uromyces fusisporum, *Cke. & Mass.*

Amphigenis. Soris discoideis, erumpentibus, atris, epidermide cinctis; protosporis subglobosis, breviter stipitatis, lævibus, fuscis 35-40 μ . Teleutosporis immixtis, fusiformibus, ad apicem hyalino-apiculatis, episporio obtuse verrucoso, fuscis, 60-70 \times 25-30 μ .

On phyllodes of *Acacia salicina*. Melbourne (*Baron v. Mueller*).

Puccinia alyxiæ, *Cke. & Mass.*

Hypophylla. Soris discoideis, compactis, atro-brunneis (1-2 mm. diam.), epidermide ruptâ cinctis. Teleutosporis subpyriformibus, medio constrictis, uniseptatis, flavidis, 50-70 \times 20-25 μ . Episporio crasso, lævi, ad apicem hyalino-apiculato; sporophoris crassiusculis, elongatis, hyalinis.

On fading leaves of *Alyxia buxifolia*. Brighton, Victoria (*F. Campbell* 375).

Phoma portentosa, *Cke. & Mass.*

Sparsa. Peritheciis innatis, cuticulâ denigratâ tectis, variabilis, papillatis, atris, nitidis. Sporulis cylindraceutis, utrinque obtusis, continuis, hyalinis, 8 \times 2 μ .

On pileus of *Polyporus portentosus*. Beveridge, V., Australia (*Campbell* 401).

Phoma goodeniarum, *Cke. & Mass.*

Epiphylla, sparsa. Peritheciis punctiformibus, minutis, atris, innatis, membranaceis. Sporulis subellipticis, binucleatis, continuis, hyalinis, 8-10 \times 5 μ .

On fading leaves of *Goodenia ovata*. Victoria, Australia (*F. Campbell* 370).

Diplodia lichenopsis, *Cke. & Mass.*

Maculis testaceo-rufis, determinatis, demum pallidis, vel rufocinctis, hinc illic confluentibus. Peritheciis semi-innatis, punctiformibus, atris, sporulis ellipticis, uniseptatis, medio constrictis, utrinque subattenuatis, brunneis, 20-25 \times 8-10 μ . Sporophoris æquilongis.

On phyllodes of *Acacia complanata*. Brisbane (*Bailey* 529).

Diplodina Dendrobii, *Cke. & Mass.*

Peritheciis epiphyllis, gregariis, innatis, atris, convexis, demum epidermide fissurato, supra denudatis, nitidis. Sporulis didymis, ellipticis, hyalinis, $20 \times 6-7 \mu$.

On leaves of *Dendrobium speciosum*. Brisbane (*Bailey* 553).

Phyllosticta Hardenbergiæ, *Cke. & Mass.*

Maculis amphigenis, variis, fuscis, peritheciis plerumque hypophyllis, minutissimis, gregariis, punctiformibus ($60-80 \mu$) atris. Sporulis minutis, subglobosis, hyalinis, $2-3 \mu$ diam.

On living leaves of *Hardenbergia*. Box Hill, V. Australia (*F. Campbell* 379).

Sacidium Camelliæ, *Cke. & Mass.*

Peritheciis sparsis, superficialibus, dimidiatis, atris, opacis, magnitudine variis, plerumque minutis. Sporulis sub-globosis, continuis, pallide fuscis, $10 \times 8 \mu$.

On fading leaves of *Camellia*. Melbourne (*F. Campbell* 372).

Phlyctæna passiflora, *Cke. & Mass.*

Caulicola. Peritheciis densissime gregariis, minutis, innatis, demum erumpentibus, deorsum incompletis, sporulis filiformi-uncinatis, hyalinis, $35 \times 1 \mu$.

On twigs of *Passiflora*. Brisbane (*Bailey* 535).

Glæosporium subglobosum, *Cke. & Mass.*

Epiphyllum. Acervulis sparsis, pallidis, inconspicuis, basidiis brevibus, conidiis subglobosis, in massam gelatinosam erumpentibus, $10 \times 8 \mu$.

On fading leaves of *Goodenia ovata*. Victoria (*F. Campbell* 370 b.).

Glæosporium citricolum, *Cke. & Mass.*

Maculis atrofuscis, parvulis, subdiscoideis, sæpe confluentibus; acervulis immersis; conidiis ovalibus, continuis, hyalinis, $8 \times 6 \mu$.

On orange leaves. Brisbane (*Bailey* 543).

Glæosporium musarum, *Cke. & Mass.*

Acervulis innato-erumpentibus, gregariis, subroseis. Conidiis elongato-ellipsoideis, utrinque rotundatis, continuis, hyalinis, $10-12 \times 4 \mu$ intus granulosis.

On ripe bananas. Brisbane (*Bailey* 520).

Torula mycetophila, *Cke. & Mass.*

Cæspitulis minutis, tenuissimis, sparsis, atris; hyphis parce ramulosis, subrectis; articulis globoso-compressis, fortissime constrictis, atro-olivaceis, 10μ diam.

On pileus of *Polyporus cinnabarinus*. Victoria (*Campbell* 388).

Scolecotrichum atriellum, *Cke. & Mass.*

Cæspitulis effusis, confluentibus, atris; hyphis erectis, simplicibus, breviter septatis, fuscis, sursum pallidioribus; conidiis acrogenis, ellipticis, uniseptatis, nec constrictis, atrobrunneis, $25 \times 12 \mu$.

On twigs of *Passiflora*. Brisbane, Australia (*Bailey* 514).

Harpographium quaternarium, *Cke. & Mass.*

Cæspitulis atris, minutis; stipitibus compositis, sursum subclavatis, deorsum subfasciculatis, olivaceis, hyphis septatis, ad apicem

leniter incrassatis, subquadri-spiculatis. Conidiis fusiformibus, continuis, hyalinis, $12 \times 2-3 \mu$, spiculis tenuissimis, $10-15 \mu$ longis. Conidiis plerumque quaternatis.

On twigs of *Passiflora*. Brisbane (*Bailey* 512).

Fusarium (Fusisporium) longisporum, *C. & M.*

Sporodochiis erumpentibus, convexis, demum confluentibus, roseis, dein albidis. Hyphis repetiter dichotomis, septatis, hyalinis, conidiis fusiformibus, utrinque abrupte uncinatis, vel subrectis, acutis, 5 septatis, hyalinis, $100 \times 5-7 \mu$.

On twigs of *Passiflora*. Brisbane (*Bailey* 513).

Microcera rectispora, *Cke. & Mass.*

Sporodochiis subsphæroideis, subsessilibus, primo rubellis, demum albidis, conidiis elongato-fusiformibus, utrinque acutis $7-9$ septatis, hyalinis, $150-200 \times 10 \mu$. Sporophoris brevibus, tenuibus, furcatis, hyalinis.

On coccus of the orange. Brisbane (*Bailey* 551).

Schizothyrium Eucalyptorum, *Cke. & Mass.*

Epiphyllum, subsuperficiale, maculis orbicularibus rufis insidens, minutum, lineari-ellipticum, atrum, nitidum, labris arcte conniventibus, ascis clavatis, octosporis, sporidiis ellipticis, continuis, hyalinis, $8 \times 4 \mu$.

On fading leaves of *Eucalyptus obliqua*. Upper Yarra (*J. G. Luehmann*).

Triblidium cæspitosum, *Cke. & Mass.*

Cæspites sparsum, erumpens, atrum, $2-4$ mm. diam. Cupulis (vix 1 mm. diam.) hemisphæricis, diu clausis, demum hiantibus, coriaceis. Ascis primitus subglobosis, octosporis. Sporidiis fusiformibus, utrinque rotundatis, quinqueseptatis, hyalinis, demum turgidis, subellipticis, muriformi-divisis, $40-45 \times 15-18 \mu$.

On bark. Berwick; Victoria (*F. Campbell* 384).

Sphærostilbe microspora, *Cke. & Mass.*

Peritheciis ascigeris in fungi conidiophori basi, vel consortio, minutis, sparsis, ovatis, aurantiacis, lævibus. Ascis clavatis, stipitatis, octosporis; sporidiis distichis, ellipticis, uniseptatis, hyalinis, nec constrictis, $6 \times 2-3 \mu$. Conidiophoris stilboideis, erectis, pallidis, stipite lævi, sursum subattenuato, crassiusculo; capitulo globoso concolori (potius primitus carneo) conidiis ellipticis, continuis, hyalinis, $10 \times 6 \mu$.

On bark. Melbourne (*F. Campbell* 397).

Xylaria elastica, *Cooke.*

Suberoso-elastica, subglobosa ($1-2$ unc diam.), vel hemisphærico-convexa, sessilis, nigrescens, ostiolis punctiformibus, peritheciis numerosis, congestis, lateraliter compressis, contextu spongioso-elastico, albedo. Ascis clavato cylindræcis, octosporis. Sporidiis uniseriatis, amygdalæformibus, binucleatis, fuscis, $12 \times 6-7 \mu$.

On the rotten wood. Trinity Bay (*Sayer*).

Near *Xylaria regalis*, *Cke.*, but sporidia double the diameter, and whole substance more elastic than usual in this genus, and moreover it is sessile, hence No. 668a in *Synopsis Pyrenomycetum*.

Phyllachora (Montagnella) eucalypti, *Cke. & Mass.*

Epiphylla, orbicularis, convexa, nitida (2-3 mm. diam.) lævis, loculis paucis. Ascis pyriformibus, quadrisporis; sporidiis subfusiformibus, utrinque rotundatis, uni dein triseptatis, nec constrictis, diu hyalinis, demum palide fuscis (35-40 \times 10 μ).

On dead leaves of *Eucalyptus*. Bunyip, Australia (*F. Campbell* 399).

Gibberella (Lisiella) passifloræ, *Cke. & Mass.*

Peritheciis erumpenti-superficialibus, in cæspitulos parvos aggregatis, globulosis, subpapillatis, contextu læte cyaneo, celluloso. Ascis subfusoides, octosporis. Sporidiis ellipticis, continuis, hyalinis, 12 \times 5 μ .

On stems of *Passiflora*. Brisbane (*Bailey* 535).

Sphærella Alyxiæ, *C. & M.*

Amphigena. Peritheciis gregariis, innatis, subglobosis, epidermide denigratâ tectis, demum collabescentibus. Ascis clavato-cylindraceis, octosporis; sporidiis lanceolatis, uniseptatis, hyalinis, 25 \times 7 μ .

On dead leaves of *Alyxia buxifolia*. Brighton, Victoria (*F. Campbell* 275a).

Leptosphæria camelliæ, *Cke. & Mass.*

Maculis epiphyllis, arescendo fuscescentibus, vagis, peritheciis sparsis, punctiformibus, vix papillatis, pertusis. Ascis subclavatis, plerumque quadrisporis, breviter stipitatis. Sporidiis distichis, fusoides, curvulis, triseptatis, vix constrictis, virescentibus, 25-27 \times 5-6 μ .

On living leaves of *Camellia*. Victoria (*F. Campbell* 372).

Asterina correacola, *Cke. & Mass.*

Epiphylla, maculis orbicularibus, nigris. Peritheciis convexo-applanatis (60 μ diam.) atris, in maculis congestis, margine fimbriato. Ascis subglobosis, octosporis, sporidiis ellipticis, uniseptatis, vix constrictis, utrinque rotundatis, fuscis (25-28 \times 10-12 μ).

On living leaves of *Correa Laurenciana*. Upper Yarra, Australia (*J. G. Luehmann*).

Peziza (Humaria) Hartmanni, *Phillips.*

Gregaria, sessilis, substipitatisque, concava, demum expansa, margine scissili, hymenio pallide coccineo, extus albo, glabrato; ascis cylindraceis ad basin attenuatis, octosporis; sporidiis subcymbiformibus vel oblongo-ellipticis, biguttulatis, hyalinis, 15-21 \times 6-9 μ .

On decayed stick. Condamine River (*Hartmann*).

Cups 2-3 lines broad. Asci about 150 μ long by 10 μ broad; sporidia tinted yellowish red.

Calloria decipiens, *Phillips.*

Gregaria vel sparsa, sessilis, sicco subimmersa, hymenio plano, vel concaviusculo, pallide incarnata, aurantio-rubro, vel pallide brunneo, extus concolori, granuloso; margine suberecto, subinde denticulato, ascis cylindraceis-clavatis, octosporis; sporidiis fusiformibus, continuis, hyalinis, 5-7 \times 1-2 μ , paraphysibus filiformibus, sursum abrupte incrassatis.

On old twine. Brisbane (*Bailey* 516).

Cups $\frac{1}{2}$ -1 line broad. The enlarged apices of the paraphyses somewhat resemble those of *C. lasia*, B. & Br., as does the whole plant, but are more irregular in outline; the sporidia are only half the length, and more obtuse at the ends, and the exterior of the cups is glabrous.

NEW BRITISH FUNGI.

BY M. C. COOKE.

(Continued from Vol. xv., p. 111.)

Phoma Muhlenbeckiæ, *Cke. & Mass.*

Perithecia exceedingly minute, sub-cuticular, densely gregarious, dark brown, membranaceous, subglobose, papillate. Sporules elliptical, continuous, at first on short basidia, hyaline, $3 \times 2 \mu$.

On dead stems of *Muhlenbeckia*. Kew Gardens, May, 1887.

Phoma Ryckholtii, *Sacc. Syll.* 484.

On *Symphoricarpus*. Dee.

Phoma phlomidis, *Thum. Sacc. Syll.* 771.

On *P. fruticosa*. Kew.

Phoma insularis, *Cke. & Mass.*

Perithecia gregarious, for the most part collected on determinate, dark-coloured spots (resembling *Diaporthe*), circumscribed by a black line, subcuticular, at length cracking the epidermis. Sporules narrowly elliptical, with a nucleus near each end, continuous, hyaline ($10 \times 3 \mu$).

On twigs of *Aucuba Japonica*. Kew.

Differing considerably in the sporules from *P. aucubæ*, Sacc.

Phoma araliæ, *Cke. & Mass.*

Perithecia gregarious, mostly seated upon irregular, blackened spots, small, subglobose, elevating, and at length piercing the cuticle. Sporules oval or elliptical, continuous, hyaline, $8 \times 4 \mu$.

On stems of *Aralia spinifera*. Kew.

Phoma dulcamarina, *Sacc. Syll.* 757.

On *Solanum*. Kew.

Phoma saligna, *Fr. Trail. Scot. Nat.*, 1887, p. 90.

On *Salix cinerea*. Aberdeen.

Phoma cladodiæ, *Cke. & Mass.*

Perithecia on both surfaces, very numerous, minute, punctiform, subcuticular, black, densely gregarious, sometimes occupying the whole surface. Sporules almond-shaped, continuous, hyaline, on short basidia ($10 \times 5 \mu$).

On cladodes of *Ruscus hippoglossus*. Kew, May, 1887.

Phoma gyneriicolum, *Cke. & Mass.*

Perithecia minute, scattered or gregarious, soon becoming superficial, membranaceous (not more than 30μ diam.) dark brown, subglobose. Sporules minute, elliptical, hyaline, $3 \times 1 \mu$.

On leaves of *Gynerium argenteum*. Kew.

Macrophoma cylindrospora, *Desm. Sacc. Syll. 761.*

On ivy leaves. Forfar.

Macrophoma thujana, *Cke. & Mass.*

Perithecia somewhat scattered, subcuticular, globose, elevating, and at length piercing the epidermis. Sporules elliptical, continuous, hyaline, $25 \times 10 \mu$.

On twigs of *Thuja*. Kew.

Aposphaeria nitens, *Cke. & Mass.*

Perithecia gregarious, erumpent, black, shining, globose, papillate, rather small, at length nearly superficial. Sporules cylindrical, obtuse at the ends, continuous, hyaline, $10 \times 2-3 \mu$.

On decayed pine wood. Kew.

Aposphaeria Broomeiana, *Berk. in Herb. No. 6490.*

Sporules minute, $2 \times 1\frac{1}{2} \mu$.

On wood. Mortlake, King's Cliffe.

Aposphaeria agminalis, *Sacc. Syll. 1029.*

On *Juglans regia*. Kew.

Rabenhorstia ribesia, *Cke. & Mass.*

Stroma or conceptacles erumpent, globoso-truncate, often discoid, internally divided into cells, subcarbonaceous, black. Sporules elliptical, continuous, hyaline, $20 \times 10 \mu$.

On slender twigs of *Ribes aurea*. Kew.

Strongly resembling *Dothidea (Plowrightia) ribesia* P.

Cytispora hyalosperma, *Fr. Sacc. Syll. 1507.*

On *Acer pseudoplatanus*. Kew.

Cytispora juglandina, *Sacc. Syll. 1555.*

On *Juglans regia*. Kew.

Cytispora macilenta, *Sacc. Syll. 1506.*

On *Acer obtusatum*. Kew Gardens.

Dothiorella myricariæ, *Cke. & Mass.*

Pustules gregarious, erumpent. Perithecia minute, black, crowded on a verruciform stroma, not numerous, subpapillate sporules, $8-10 \times 6 \mu$.

On twigs of *Myricaria dahurica*. Kew.

Phyllosticta hederæ, *Sacc. Syll. 101.*

On ivy leaves. Aberdeen.

Phyllosticta ulmaricæ, *Thum. Sacc. Syll. 223.*

On leaves of *Spiræa*. Aberdeen.

Phyllosticta scrophularinea, *Sacc. Syll. 254.*

On *S. nodosa*. Montrose, Aberdeen.

Asteromella æsculicarpa, *Cke. & Mass.*

Effused black spots on decaying carpels, on which are scattered minute, immersed black perithecia, which at length pierce the

cracked cuticle. Sporules subcylindrical, obtuse, or allantoid, continuous, hyaline ($10-12 \times 3-4 \mu$).

On husks of *Æsculus hippocastanum*, on the ground. Kew Gardens, May, 1887.

Coniothyrium inconspicuum, *Cooke*.

Perithecia very minute, inconspicuous, in short lines, innate. Sporules elliptic, continuous, brown, at first on short basidia ($10 \times 4-5 \mu$).

On leaves of *Gynerium argenteum*. Claygate.

Coniothyrium palmarum, *Cke. & Mass.*

Perithecia subcuticular; scattered, small, subglobose, elevating, but scarcely piercing the cuticle. Sporules oval, continuous, brown ($8 \times 4-5 \mu$).

On dead leaves of *Chamærops humilis*. Kew.

Coniothyrium conoideum, *Sacc. Syll.* 1780.

On stems of *Angelica*. Aberdeen.

Sphæroopsis helicis, *Cke. & Mass.*

Usually seated on a black stroma, sometimes free. Perithecia rather large, black, semi-immersed, carbonaceous, with a long exerted neck. Sporules oval, continuous, at first on short sporophores, becoming very dark and opaque, almost black ($12 \times 8 \mu$).

On ivy twigs, in company with *Diaporthe pulla*. Kew Gardens.

Quite different from *Coniothyrium Hederae* in the stroma, rostrate carbonaceous perithecia, and larger sporules.

Sphæroopsis lignicola, *Cke. & Mass.*

Perithecia gregarious, for the most part in lines, following cracks in the wood, sometimes confluent, dull black, subglobose, laterally compressed and distorted, nearly superficial, minutely pierced. Sporules subglobose, or oval, continuous, brown, about $15 \times 10 \mu$.

On decorticated branches. Kew.

Asteroma juncaginearum, *Rabh. Sacc. Syll.* 1285.

On *Triglochin*. Aberdeen.

Diplodina corni, *Cooke*.

Gregarious, perithecia subglobose, black, papillate, covered by the cuticle, which is pierced by the ostiola. Sporules narrowly elliptical, uniseptate, not constricted, hyaline ($10-12 \times 3 \mu$).

On twigs of *Cornus sanguinea*. Shotover Plantation (*Baxter*).

Diplodina ascochytoides, *Sacc. Syll.*

On *Lavatera thuringiaca*. Kew Gardens.

Haplosporella Baxteri, *Cke. & Mass.*

Forming erumpent clusters of rather large elongated, obconical, shining black perithecia, which are pierced at the apex. Sporules elliptical, straight or curved, continuous, rounded at the ends, brown ($22-30 \times 8-10 \mu$).

On dead branches. Oxford (*Baxter*).

Haplosporella æsculi, Cke. & Mass.

Perithecia small, black, densely crowded in elliptical or angular erumpent clusters (5 mm. long), seated on a cellular stroma, resembling a *Cucurbitaria*, pierced with a minute pore. Sporules elliptical, continuous, pale olive, $5-7 \times 3 \mu$.

On branches of *Æsculus*. Kew.

Haplosporella viticola, Cke. & Mass.

Erumpent, more or less in longitudinal series, pustules elliptical, composed of ten, or more, rather large, dull black, subglobose perithecia, scarcely pierced, and with the habit of *Botryosphaeria*. Sporules large, oval or broadly elliptical, continuous, yellow brown ($30-35 \times 10-15 \mu$), basidia thick, about as long as the sporules.

On stems of *Ampelopsis*. Kew Gardens.

Leptothyrium berberidis, Cke. & Mass.

On both surfaces of fading leaves, minute, punctiform, black, scattered, discoid. Sporules cylindrical, rounded at the ends, continuous, hyaline ($8-9 \times 1\frac{1}{2}-2 \mu$).

On leaves of *Berberis vulgaris*. Oxford (Baëter).

Excipula ramicola, Cke. & Mass.

Perithecia superficial, scattered or gregarious, disciform, convex, black, rather small ($\frac{1}{4}$ mm.). Sporules cylindrical, obtuse, $25-30 \times 4 \mu$, hyaline, multi-nucleate, perhaps at length multi-septate (*Excipulina*), on short simple basidia.

On decorticated branches of *Acer obtusatum*. Kew.

Coniothecium viticolum, Cke. & Mass.

Tufts erumpent, hemispherical, black, rather compact, loosely gregarious, conidia rounded, subglobose, variously agglutinated together, with from 2 to 4 cells, usually quaternate, pale olive ($12-15 \mu$ diam.).

On dead twigs of *Vitis vinifera*. Kew. May, 1887.

Allied to *C. epidermidis*. Corda.

Camarosporium ephedræ, Cke. & Mass.

Scattered. Perithecia subcuticular, at length erumpent, with the upper half exposed, subglobose, black, pierced at the apex. Sporules elliptical, triseptate, with one or two of the cells transversely divided, brown ($20 \times 8-10 \mu$).

On twigs of *Ephedra andina*. Kew.

Camarosporium syringæ, Cke. & Mass.

Somewhat gregarious on bleached spots. Perithecia subcuticular, elevating and at length piercing the epidermis, subglobose, black, papillate. Sporules elliptical, not constricted, triseptate, with one or two of the cells transversely divided, brown ($15-17 \times 8-10 \mu$).

On twigs of *Syringa Emodi*. Kew.

Differing from *C. Ephedræ* in the smaller and more gregarious perithecia, which are collected on bleached spots, and in the comparatively broader sporules.

Coryneum pustulatum, Peck. *Sacc. Syll.* 4069.

On *Castanea*. Kew.

Oospora inæqualis, Cke. & Mass.

Very thin, effused, like a glaucous bloom, pale grey. Conidia very unequal in size and form, from globose to elliptical, united in short curved, simple, or branched threads, hyaline, from $5\ \mu$ to $10 \times 5\ \mu$.

On culms of Bamboo. Kew.

Oidium farinosum, Cooke *Fungi Britt.* No. 345.

White, mealy, effused, covering the young leaves and twigs as if dusted with flour. Threads simple, breaking up into elliptical, truncate joints, or conidia, which are smooth, $28-30 \times 12\ \mu$. *Mycol. Univ.*, No. 1772. *Vize, Micro-fungi*, No. 78.

On apple leaves and twigs. Various localities in England.

First found and described in 1870 or 1871, but reference to the description cannot now be found. It is *not* included in Saccardo's *Syloge*.

Monosporium coprophilum, Cke. & Mass.

Snowy-white, tufts subglobose, at length confluent. Threads interwoven, septate, fertile threads short, repeatedly dichotomous, branches ascending, slightly attenuated upwards, conidia ovate, continuous, hyaline, granular within, $12-15 \times 10\ \mu$.

On dung. Kew.

Botrytis corolligenum, Cke. & Mass.

Scattered, white; threads erect, septate, very shortly branched near the tips; conidia oval, crowded in small subglobose heads, continuous, hyaline, $25 \times 15-18\ \mu$.

On *Calceolaria* flowers. Kew Gardens.

Botrytis (Polyactis) croci, Cke. & Mass.

Small dark smoky tufts, sometimes confluent and effused, threads thick, rather closely septate, slightly branched at the attenuated apices, pale olive below, colourless above. Conidia elliptical, continuous, hyaline, $15-18 \times 8-10\ \mu$, collected at the tips of the threads, or branchlets, in small capituli of from 3 to 7 or 8 conidia.

On dead leaves of *Crocus*. Kew.

Rhinotrichum niveum, Cke. & Mass.

Tufted, cæspitose, snowy white. Threads erect, simple, septate, not quite so thick as the diameter of the spores; upper joint, and sometimes the second, bearing conical spicules, which support the ovate conidia. Conidia rather large, continuous, hyaline, ovate or subelliptical, with a persistent minute apiculus at the base, $20-25 \times 10-12\ \mu$.

On dead wood. Chiswick.

Torula (Tetracolum) gyrosa, Cke. & Mass.

Forming small punctiform tufts, black, conidia subquadrate, nucleate, three or four united in variously curved threads, which

are often agglutinated side by side, pale olive, $12 \times 6-8 \mu$. Scarcely constricted at the joints.

On rotting pine wood. Kew.

Hadrotrichum arundinaceum, *Cke. & Mass.*

Black, at first in small hemispherical tufts, and at length confluent in velvety patches, threads branched, septate, creeping, sooty, sending up erect, simple fertile branches, each bearing a subglobose opaque conidium, 30μ diam., nearly black.

On dead *Arundo conspicua*. Kew.

Heterosporium minutulum, *Cke. & Mass.*

Forming dark olive velvety patches, of variable size and form. Threads somewhat fasciculate, short, flexuous, sparingly septate, pale olive. Conidia 1-2 septate, elliptical, rounded at the ends, not constricted, pale olive, epispore rough, $16-20 \times 6-8 \mu$.

On leaves of *Chamærops pumilis*. Kew.

Stemphylium asperosporum, *Cke. & Mass.*

Wholly mouse-grey. Tufts irregular, confluent, and somewhat effused. Threads creeping, septate, branched, hyaline, fertile branches erect, slender, a little branched about the apices. Tips of the branchlets swollen into a compressedly globose torus, bearing the sessile subglobose conidia. Conidia composed of 2, 3, or 4 warted cells, fuliginous brown, each cell about 12μ diam.

On wall paper. Upper Holloway, London.

Resembling, in some respects, *Stemphylium alternariæ*, but the conidia are supported upon a distinct pyriform hyaline receptacle, and they are externally warted, consisting of but few cells.

Fusarium viticola, *Thum. Sacc. Syll.* 3288.

On *Ampelopsis*. Kew Gardens.

Graphium graminum, *Cke. & Mass.*

Scattered, minute, dispersed over the dead leaves and culms, grey. Stems erect, compounded of delicate septate threads, almost colourless when separated. Conidia elliptical, continuous, hyaline, $6 \times 3-4 \mu$

On *Gynerium argenteum*. Kew.

Graphium calicioides (*Berk.*), *C. & M.*

Spores hyaline, subelliptical, minute, $3-4 \times 2 \mu$.

Part of *Periconia calycioides* of Berkeley.

On dead wood. Kew, Glamis.

Haplographium olivaceum, *Cke. & Mass.*

Somewhat effused, dark olive, nearly black. Threads erect, septate, simple, dark, slightly clavate at the paler apex. Conidia narrowly elliptical, catenulate in simple chains, $12-14 \times 4 \mu$, pale olive, forming a subglobose rather lax capitulum.

On rotten wood. Isleworth.

BRITISH PYRENOMYCETES.

BY G. MASSEE.

(Continued from Vol. xv., p. 121.)

GEN. 2. **DIAPORTHE**, *Ntke. Sacc. Syll.* 1., 606.—Stroma eutypeoid, usually circumscribed by a black line. Sporidia hyaline, fusiform, quadrinucleate, then 1-3 septate.

* Euporthe. *Perithecia immersed in the wood.*

- D. aucubæ*, *Sacc. Syll.* 2466 (= *insularis*, Berk. in Herb.).
On *Aucuba Japonica*. Milton.
- D. spiculosa*, *A. & S., Sacc. Syll.* 2450.
On branches. Jedburgh.
- D. Badhami*, *Curr., Sacc. Syll.* 2455; *Hdbk.* 2446.
On branches. Pentrick.
- D. pulla*, *Ntke., Sacc. Syll.* 2459; *Hdbk.* 2647.
On ivy. Neatishead, Forden, Kew, Brentry.
- D. protracta*, *Nitschke, Sacc. Syll.* 2461.
On elm. Leigh Woods.
- D. meduseæa*, *Ntke., Sacc. Syll.* 2466.
On *Rubus*. Highgate.
- D. cryptica*, *Ntke., Sacc. Syll.* 2472.
On honeysuckle. Kent.
- D. ceuthosporoides*, *Berk., Sacc. Syll.* 2488.
On leaves of cherry laurel. Edinburgh.
- D. samaricola*, *Plow., Sacc. Syll.* 2489.
On samari of ash. Terrington.
- D. pinophylla*, *Plow. & Phil., Sacc. Syll.* 2491.
On pine leaves. Belmont, Hereford.
- D. occulta*, *Fckl., Sacc. Syll.* 2493.
On scales of fir cone. Eastbourne.
- D. ilicina*, *Cooke, F. B. II., Sacc. Syll.* 490.
On *Ilex*. Forden.
- D. Berkeleyi*, *Desm., Sacc. Syll.* 2494.
On Angelica. Twycross, Highgate.
- D. inquilina*, *Wall., Sacc. Syll.* 2501.
On *Conium*. Bishop's Wood, Lynn.
- D. orthoceras*, *Fr., Sacc. Syll.* 2504.
On *Achillea*, &c. Forden.
- D. acus*, *Blox., Sacc. Syll.* 2511; *Hdbk.* 2686.
On dock. Perth, Neatishead, Kew, Black Rock Quarry.
- D. arctii*, *Lasch., Sacc. Syll.* 2512.
On thistles. Abridge, The Avon.
- D. adunca*, *Desm., Sacc. Syll.* 2514.
On *Plantago lanceolata*. Kent.
- D. discors*, *Sacc. Syll.* 2516.
On *Rumex obtusifolius*. Castle Rising, Black Rock Quarry.

- D. euphorbiæ, *Cke.*, *Sacc. Syll.* 2517.
On Euphorbia. Darenth. Dinmore.
- D. obsoleta, *Sacc. Syll.* 2522.
On *Hypericum*. Shrewsbury.
- D. vincæ, *Cke.*, *Sacc. Syll.* 2523.
On *Vinca*. Forden.
- D. Desmazierii, *Nsl.*, *Sacc. Syll.* 2524.
On *Prunella*. Dinmore.
- D. Tulasnei, *Ntke.*, *Sacc. Syll.* 2526.
On *Lamium*, &c. Shrewsbury.
- D. ceramblicola, *B. & Br.*, *Sacc. Syll.* 2415.
On cabbage. Forres.
- D. Chailletii, *Ntke.*, *Sacc. Syll.* 2531.
On *Atropa belladonna*.
- D. dulcamaræ, *Ntke.*, *Sacc. Syll.* 2532.
On bittersweet. Lynn.
- D. pantherina, *B.*, *Sacc. Syll.* 2541 ; *Hdbk.* 2689.
On *Pteris aquilina*. Shere.

** Tetrastaga. *Perithecia immersed in the bark.*

A. CORTICOLÆ.

- D. rudis, *Fr.*, *Sacc. Syll.* 2543.
On laburnum.
- D. sarothamni, *Awd.*, *Sacc. Syll.* 2545.
On *Sarothamnus*. Darenth, Lynn, Scarboro', Swanscombe, Shere.
- D. inæqualis, *Curr.*, *Sacc. Syll.* 2546 ; *Hdbk.* 2440.
On furze. Weybridge, Shere.
- D. Wibbei, *Ntke.*, *Sacc. Syll.* 2555.
On *Myrica gale*. Terrington.
- D. rostellata, *Fr.*, *Sacc. Syll.* 2557 ; *Hdbk.* 2725.
On *Rubus*. Wandsworth Common, King's Lynn, Bristol.
- D. vepris, *Lacr.*, *Sacc. Syll.* 2559 ; *Hdbk.* 2664.
On *Rubus*. Weybridge, N. Wootton.
- D. incarcerata, *B. & Br.*, *Sacc. Syll.* 2563 ; *Hdbk.* 2442.
On *Rosa*. Weybridge, Kew Gardens, Leigh Down.
- D. cerasi, *Fckl.*, *Sacc. Syll.* 2570.
On *Prunus*. Shere.
- D. revellens, *Ntke.*, *Sacc. Syll.* 2575.
On *Corylus*. Leigh Woods, Bristol.
- D. juglandina, *Fckl.*, *Sacc. Syll.* 2577 ; *Hdbk.* 2619.
On walnut twigs. Apethorpe.
- D. phyllireæ, *Cooke*, *Sacc. Syll.* 2579.
On *Phyllirea*. Kent.
- D. reseccans, *Ntke.*, *Sacc. Syll.* 2580.
On *Syringa vulgaris*. Kew Gardens, Terrington, Botanic Gardens, Edinboro'.
- D. obscurans, *Sacc. Syll.* 2583.
On ash. Forres.

- D. scobina*, *Ntke.*, *Sacc. Syll.* 2584.
On small ash branches. Darenth, Coombe Place, Weybridge.
- D. ciliaris*, *Curr.*, *Sacc. Syll.* 2586; *Hdbk.* 2639.
On ash. Weybridge, Pentrich.
- D. discutiens*, *B.*, *Sacc. Syll.* 2587; *Hdbk.* 2643.
On elm. On ivy. King's Lynn.
- D. alnea*, *Fckl.*, *Sacc. Syll.* 2588.
On *Alnus*. Dinmore.
- D. blepharodes*, *B. & Br.*, *Sacc. Syll.* 2591; *Hdbk.* 2646.
On *Acer pseudo-platanus*. Mossburnford, Twycross, Terrington, Leigh Down.
- D. Beckhausii*, *Ntke.*, *Sacc. Syll.* 2592.
On *Viburnum opulus*. Darenth, Kew, N. Wales, Ashton.
- D. circumscripta*, *Oth.*, *Sacc. Syll.* 2593.
On *Sambucus nigra*. Kew Gardens, Blaise Castle Woods.
- D. ophites*, *Sacc.*, *Sacc. Syll.* 2595.
On *Hibiscus Syriacus*. Kew Gardens.
- D. Ryckholtii*, *West.*, *Sacc. Syll.* 2596.
On *Symphoricarpus*. Kew Gardens.
- D. velata*, *P.*, *Sacc. Syll.* 2600; *Hdbk.* 2638.
On lime twigs. King's Cliffe, Pentrich, Lynn.
- D. corni*, *Fckl.*, *Sacc. Syll.* 2601.
On *Cornus*. Kew Gardens.
- D. Laschii*, *Ntke.*, *Sacc. Syll.* 2609.
On *Euonymus Europæus*. Mickleham.
- D. importata*, *Ntke.*, *Sacc. Syll.* 2610.
On *Lycium barbarum*. Castle Rising.
- D. putator*, *Ntke.*, *Sacc. Syll.* 2611.
On *Populus tremula*. S. Wootton.
- D. spina*, *Fckl.*, *Sacc. Syll.* 2612.
On *Salix aurita*. N. Wootton, Lynn.
- D. quadrinucleata*, *Curr.*, *Sacc. Syll.* 2624; *Hdbk.* 2661.
On ash sticks. Eltham, Weybridge.

B. HERBICOLÆ.

- D. epilobii*, *Cke.*, *Sacc. Syll.* 2627.
On *Epilobium*. Dinmore, Kew Gardens.
- D. striæformis*, *Fr.*, *Sacc. Syll.* 2628; *Hdbk.* 2426.
On dead stems of Umbellifers. West Water, N.B.
- D. pardalota*, *M.*, *Sacc. Syll.* 2639; *Hdbk.* 2690.
On *Convallaria multiflora*. Shere, Milton.
- D. lirella*, *M. & N.*, *Sacc. Syll.* 2562; *Hdbk.* 2685.
On *Spiræa ulmaria*. King's Cliffe, Kew Gardens, Scarboro', N. Wootton.

SOME EXOTIC FUNGI.

BY M. C. COOKE.

Sphæronema tenuirostris, *Cke.*

Gregarious, perithecia black, depressedly globose, seated beneath the cuticle, which is pierced by the long slender beaks, which are gradually attenuated towards the pallid apex, and three to four times as long as the diameter of the perithecia. Sporules cylindrical, rounded at the ends, straight or slightly curved, continuous, hyaline ($21 \times 5 \mu$) seated on long sporophores.

On bark. Westbrook, Maine, U.S.A. (*Rev. E. C. Bolles*).

Polyporus (Lobati) talpæ, *Cke.*

Imbricato-multiplex, e carnosio lentus, subcoriaceus, pileis dimidiatis, latissimis, flaccidis, breviter velutinis, demum profunde rugulosis, fuliginis; ambitu pallidioribus; stipitibus (?); poris mediis, angulatis, subæqualibus, vix dentatis, concoloribus. Contextu pallido.

On stumps. Minas Geraes (*Glaziou* 16,679).

Pileus 10-12 in. diam., $\frac{1}{2}$ in. thick. Tubes scarcely exceeding 1 mm. long. Near *P. giganteus* and *P. acanthoides*.

Lentinus Camaroensis, *Cke. & Mass.*

Pileo carnosio-coriaceo (6-10 in. diam.), infundibuliformi, ochraceo-pallido, velutino, disco squamoso-diffracto, margine patente, tenui, acuto; stipite centrali, vel subexcentrico, æquali, solido, tomentoso (3 in. long, 1 in. diam.) adscendente. Lamellis subconfertis, linearibus, angustis, decurrentibus, obscurioribus.

On trunks. Rio del Rey, Camaroons (*H. H. Johnston* 105).

Allied to *L. Barteri*, *Berk.*, but quite distinct in the velvety pileus and stem.

Tuberculina Africana, *Cke. & Mass.*

Sporodochiis hemisphæricis vel globoso-depressis, exiguis, purpureo-fuscis; conidiis globosis, hyalinis, 3-4 μ , basidiis crassiusculis, continuis, 3 μ .

Around an *Æcidium*, on *Ophiocaulon cissampyloides*. Gaboon (*E. L. Simmonds*).

The spores of the *Æcidium* are hexagonal, 17-20 μ , which seems to indicate a distinct species, but the *Æcidium* is not in sufficiently good condition for description.

Phoma Oryzæ, *Cke. & Mass.*

Perithecia minute, scattered, at length piercing the cuticle, subglobose, black. Sporules oval, continuous, hyaline, on short basidia, $3 \times 2 \mu$.

On rice straw. Calcutta, India.

Gonatobotryum (Dichobotryum) dichotomum, *Cke. & Mass.*

Effusum, fuscum. Hyphis fertilibus erectis, septatis, bis terve dichotomis, conidiis ad angulos gerentibus, ellipticis, continuis hyalinis, vel pallide olivaceis, $15 \times 10 \mu$, glomerulis subglobosis.

On starchy substances, damaged by wet, from India.

Differs from the type form of *Gonatobotryum* in the threads being several times dichotomous, with the globose glomerules of spores at each bifurcation.

Gliocladium compactum, *C. & M.*

Cæspitulis minutis, punctiformibus, ferrugineis. Hyphis erectis, congestis, cæspitulos compactos efformantibus, septatis, plerumque simplicibus, capitulo conidiorum cuneati, pallide fusco, diu mucro obvoluto; conidiis conglutinatis, oblongis, concatenatis, $5 \times 3 \mu$. hyalino-fusco.

On paper from India.

SYNOPSIS PYRENOAMYCETUM.

(Continued from Vol. xv., p. 125.)

**** ENCHNOSPHERIA. *Sporidia 2-pluriseptata, hyalina.*

2747. pinetorum, <i>Fckl.</i> ...	3595	2754. Schiedermayeriana,	
2748. passierinis, <i>Sacc.</i> ...	3596	<i>Fckl.</i>	... 3616
2749. santonensis, <i>Sacc.</i>	3597	2755. rhenana, <i>Fckl.</i>	... 3617
2750. caput-medusæ, <i>S. &</i>		2756. rubi, <i>Fckl.</i>	... 3618
<i>Sp.</i>	... 3598	2757. heterostoma, <i>Karst.</i>	3621
2751. peltigeræ, <i>Fckl.</i>	... 3599	2758. macrotricha, <i>B. &</i>	
2752. biformis, <i>Pers.</i>	... 3585	<i>Br.</i>	... 3623
= <i>terrestris</i> , <i>Sow.</i>		2759. macrostomella, <i>Ces.</i>	5480
2753. scopula, <i>C. & Pk., Grev.</i>		2760. cryptostoma, <i>Lev.</i>	2250
xv., 82		2761. Molleriana, <i>Wint.</i>	7055
		2762. calospora, <i>Wint.</i>	... 7056

GEN. 4. **CONIOCHÆTA**, *Sacc.* I., 269. *Perithecia hispida*, *sporidia colorata*.

* *Sporidia elliptica, continua, fusca.*

2763. ligniaria, <i>Grev.</i>	... 991	2776. asperula, <i>M.</i>	... 1004
2764. Niesslii, <i>Awd.</i>	... 992	2777. Gagliardi, <i>Not.</i>	... 1005
2765. malacotricha, <i>Awd.</i>	993	2778. horrida, <i>Hazs.</i>	... 1006
2766. hirtissima, <i>Ph.</i>	... 995	2779. chordicola, <i>Sacc.</i> ...	1007
2767. foveolata, <i>B. & C.</i>	996	2780. calva, <i>Tode.</i>	... 1009
2768. ambigua, <i>Sacc.</i>	... 997	2781. rhychospora, <i>Hark.</i>	6314
2769. abietina, <i>Fckl.</i>	... 998	2782. spinosa, <i>Hark.</i>	... 6315
2770. detonsa, <i>Cke., Grev.</i>	xv. 82	2783. horridula, <i>Sacc.</i>	... 6313
2771. xylarispora, <i>C. & B.</i>	999	2784. palustris, <i>Schrot.</i> ...	6317
2772. velutina, <i>Fckl.</i>	... 1000	2785. hericium, <i>Schwz., Grev.</i>	
2773. subcorticalis, <i>Fckl.</i>	1001	xv., 82	
2774. platani, <i>Fckl.</i>	... 1002	2785.* <i>Colensoi</i> , <i>Cke., Grev.</i>	
2775. sanguinolenta,		xv., 16	
<i>Wallr.</i>	... 1003		

** HYPOCOPRA. *Sporidia continua, fusca, hyalino-caudata.*

- | | | | |
|---------------------------------|---------|------------------------------|----------|
| 2786. capillifera, <i>Curr.</i> | 895 | 2788. brassicæ, <i>Klot.</i> | ... 859 |
| 2787. lasioderma, <i>D. R.</i> | | 2789. rattus, <i>Schw.</i> | ... 4291 |
| & <i>M.</i> | ... 894 | = ranella, <i>Berk.</i> | 2894 |

*** CHÆTOMASTIA. *Sporidia pluriseptata, fusca.*

- | | | | |
|-----------------------------|----------|-----------------------------------|--------|
| 2790. hirtulum, <i>K.</i> | ... 3280 | 2793. hispidulum, <i>Sacc.</i> | 3283 |
| 2791. pilosellum, <i>K.</i> | ... 3281 | 2794. exilis, <i>Schwz. Grev.</i> | xv. 82 |
| 2792. canescens, <i>Sp.</i> | ... 3382 | 2795. squamulata, <i>Schwz.</i> | 4290 |

*** PLEOSPHERIA. *Sporidia muriformia, colorata.*† *Asci octospori.*

- | | | | |
|---------------------------------------|----------|---------------------------------|----------|
| 2796. pilosella, <i>S.</i> | ... 3923 | 2801. hispida, <i>Fr.</i> | ... 3928 |
| 2797. strigosa, <i>S.</i> | ... 3924 | 2802. mori, <i>Sch.</i> | ... 3929 |
| 2798. australis, <i>Sp.</i> | ... 3925 | 2803. mutabilis, <i>P.</i> | ... 3930 |
| 2799. microloncha, <i>B. & C.</i> | 3926 | 2804. hispidula, <i>Lamb.</i> | ... 3931 |
| 2800. pulvinulus, <i>B.</i> | ... 3927 | 2805. rhodochlora, <i>Mont.</i> | 1752 |

†† *Asci sexdecemspori.*

2806. sexdecemspora, *Cke.* 3872

Species dubiæ.

- | | | | |
|---------------------------------|----------|----------------------------------|----------|
| 2807. hericium, <i>Wallr.</i> | ... 4286 | 2814. involuta, <i>Schw.</i> | ... 4295 |
| 2808. subclavata, <i>Lagg.</i> | 4287 | 2815. cladosporiosa, | |
| 2809. horridula, <i>Wallr.</i> | 4288 | <i>Schw.</i> | ... 4297 |
| 2810. setosa, <i>Schw.</i> | ... 4289 | 2816. cæspitulans, <i>Schw.</i> | 4298 |
| 2811. penicillata, <i>Schw.</i> | 4292 | 2817. cincinnata, <i>Fr.</i> | ... 4299 |
| 2812. monstrosa, <i>Schw.</i> | 4293 | 2818. viridiatra, <i>Schw.</i> | ... 4300 |
| 2813. intonsa, <i>Schw.</i> | ... 4294 | 2819. basitrichia, <i>Wallr.</i> | 4301 |

GEN. 5. **VENTURIA**, *Not. Sacc. Syll. I.*, 586.—*Perithecia setulosa, membranacea, plerumque foliicolæ. Sporidia oblonga, hyalina.*

A. *Sporidiis uniseptatis.** *In Dicotyledoneis lignosis.*

- | | | | |
|---------------------------------------|----------|---|----------|
| 2820. chlorospora, <i>Ces.</i> | 2288 | 2829. curviseta, <i>Peck. in</i> | |
| 2821. islandica, <i>Johans.</i> | 6519 | <i>Ellis. N.A.F.</i> | 1356 |
| 2822. ditricha, <i>Fr.</i> | ... 2289 | 2830. nobilis, <i>Sacc.</i> | ... 2294 |
| 2823. inæqualis, <i>Cooke</i> | ... 2290 | 2831. applanata, <i>Ell. &</i> | |
| 2824. cassandræ, <i>Peck.</i> | 6520 | <i>Mart.</i> | ... 6522 |
| 2825. Kunzei, <i>Sacc.</i> | ... 2291 | 2832. cupulata, <i>E. & M.</i> | 6524 |
| = <i>chætomiium</i> , <i>Kunze</i> | | 2833. Saccardioides, <i>E. & M.</i> | 6523 |
| 2826. Clintonii, <i>Peck.</i> | ... 2292 | 2834. loniceræ, <i>Fckl.</i> | ... 2295 |
| 2827. ilicifolia, <i>Cooke</i> | ... 2293 | 2835. vermiculariæformis, | |
| 2828. socia, <i>Sacc. & Berl.</i> | 6521 | <i>Fckl.</i> | ... 2296 |
| | | 2836. orbicula, <i>Schw.</i> | ... 2297 |

2837. grossulariæ, <i>Awd.</i> 2298	2847. barbula, <i>Cooke</i> ... 2304
2838. curviseta, <i>Peck.</i> ... 5625	2848. pusilla, <i>Sp. & R.</i> 2305
2839. Dickiæi, <i>B. & Br.</i> 2299	= <i>conoplea</i> , <i>Cooke</i>
2840. pulchella, <i>C. & P.</i> 2300	2849. chætomium, <i>Corda</i> 2306
2841. elegantula, <i>Rehm.</i> 6527	2850. Spegazziniana, <i>Cke.</i> 2307
2842. myrtilli, <i>Cooke</i> ... 2301	2851. pezizoidea, <i>S. & E.</i> 6087
2843. gaultheriæ, <i>Ell.</i>	2852. Straussi, <i>S. & R.</i> 6528
& <i>Ev.</i> ... 6529	2853. arctostaphyli, <i>C. &</i>
2844. compacta, <i>Peck.</i> ... 2302	<i>Hk.</i> ... 6526
2845. atramentaria, <i>Cooke</i> 2303	2854. maculosa, <i>Ellis,</i>
2846. aggregata, <i>Winter</i> 6530	<i>N.A. Fungi</i> 200

** *In Dicotyledoneis herbaceis.*

2855. petasidis, <i>Fckl.</i> ... 2308	2861. alchemillæ, <i>Grev.</i> 2314
2856. Johnstoni, <i>B. & Br.</i> 2309	2862. anthophila, <i>Pass.</i> 6532
2857. Balansæ, <i>Speg.</i> ... 6531	2863. Niesslii, <i>Sacc.</i> ... 2315
2858. {	= <i>atriseda</i> , <i>Rehm.</i> exs. 646
	<i>glomerata</i> , <i>Cooke</i> 2310
= <i>Robergei</i> , <i>Desm.</i>	2864. potentillæ, <i>Fries</i> 2316
<i>circinans</i> , <i>Fr.</i> ... 2311	2865. subtilis, <i>Fckl.</i> ... 2317
2859. cephalariæ, <i>K. & C.</i> 2312	2866. nubigena, <i>Speg.</i> ... 6087
2860. bonariensis, <i>Speg.</i> 2313	2867. genistæ, <i>Fckl.</i> ... 2127

* * * *In monocotyledoneis:*

2868. graminicola, <i>Wint.</i> 2318	2870. microchæta, <i>Pat.</i> 6533
2869. exosporioides,	2871. eres, <i>B. & Br.</i> ... 2320
<i>Desm.</i> ... 2319	2872. bryophila, <i>Fckl.</i> ... 2321

B. VENTURIOLA. *Sporidiis continuis.*

2873. integra, <i>Cooke</i> ... 2322	2875. Kalmiæ, <i>Peck.</i> ... 2324
2874. trichella, <i>Q.</i> ... 2323	2876. montellica, <i>Sacc.</i> ... 2325

C. *Species incertæ.*

2877. riparia, <i>Sacc.</i> ... 2326	2878. alpina, <i>Sacc.</i> ... 2327
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D. PROTOVENTURIA. *Sporidia didyma, fuliginea.*

2879. rosæ, <i>Not.</i> ... 6572

E. ACANTHOSTIGMA. *Sporidia 1-5 septata, hyalina.*

2880. perpusillum, <i>De Not.</i> 3602	2890. gracile, <i>Niessl.</i> ... 3611
2881. affine, <i>Succ. & Berl.</i> 7053	2891. Berenice, <i>B. & C.</i> 3612
2882. revocatum, <i>Sacc.</i> 3603	2892. guaranicum, <i>Speg.</i> 7054
2883. sequoiæ, <i>Plov.</i> ... 3604	2893. helminthosporum,
2884. pulchrisetum, <i>Pk.</i> 3605	<i>Rehm.</i> ... 3613
2885. erysiphoides, <i>Rehm.</i> 3606	2894. decastylum, <i>Cke.</i> 3614
2886. minutum, <i>Fckl.</i> ... 3607	2895. byssophilum, <i>Rehm.</i> 3615
2887. scleracanthum, <i>S.</i> 3608	2896. nivalis, <i>Strauss.</i> ... 6534
2888. pygmæum, <i>S. & S.</i> 3609	2897. occidentalis, <i>Ell. &</i>
2889. Clintonii, <i>Pk.</i> ... 3610	<i>Ev.</i> ... 6535

GEN. 6. **CHÆTOMIUM**, *Kunze*. *Sacc. Syll.* 1., 220.—Perithecia submembranacea, fragilia, pilosa. Asci diffuentes. Sporidii continuis, fuscis.

* *Asci polyspori.*2898. *fimisedum*, *Karst.* 827** *Asci octospori.*

- | | |
|--|---|
| 2899. <i>elatum</i> , <i>Kunze</i> ... 793 | 2917. <i>orientale</i> , <i>Cooke</i> ... 809 |
| = <i>comatum</i> , <i>Sacc.</i> | 2918. <i>tomentosum</i> , <i>Pr.</i> 810 |
| 2900. <i>lageniforme</i> , <i>Corda</i> 794 | 2919. <i>signatum</i> , <i>Pr.</i> ... 811 |
| 2901. <i>atrum</i> , <i>Link.</i> ... 795 | 2920. <i>lanosum</i> , <i>Peck.</i> ... 812 |
| 2902. <i>pannosum</i> , <i>Wallr.</i> 796 | 2921. <i>sphaerospermum</i> , |
| 2903. <i>indicum</i> , <i>Corda</i> ... 797 | <i>C. & E.</i> ... 813 |
| 2904. <i>microsporum</i> , <i>Speg.</i> 798 | 2922. <i>olivaceum</i> , <i>C. & E.</i> 814 |
| 2905. <i>globosum</i> , <i>Kunze</i> 799 | 2923. <i>fimicolum</i> , <i>Cooke</i> 815 |
| 2906. <i>chartarum</i> , <i>Ehr.</i> ... 800 | 2924. <i>velutinum</i> , <i>Ell. & Ev.</i> 6390 |
| 2907. <i>Fieberi</i> , <i>Corda</i> ... 801 | 2925. <i>melioloides</i> , <i>C. & P.</i> 816 |
| 2908. <i>affine</i> , <i>Corda</i> ... 802 | 2926. <i>griseum</i> , <i>Cooke</i> ... 817 |
| 2909. <i>murorum</i> , <i>Corda</i> 803 | 2927. <i>depressum</i> , <i>Wallr.</i> 818 |
| 2910. <i>streptothrix</i> , <i>Quelet.</i> 804 | 2928. <i>concinatum</i> , <i>Pr.</i> 819 |
| 2911. <i>cymatotrichum</i> , | 2929. <i>lanatum</i> , <i>Quelet.</i> ... 820 |
| <i>Cooke</i> ... 6301 | 2930. <i>Libertiæ</i> , <i>R. & P.</i> 5918 |
| 2912. <i>spirale</i> , <i>Zopf.</i> ... 805 | 2931. <i>paucisetum</i> , <i>Fckl.</i> |
| 2913. <i>bostrychodes</i> , <i>Zopf.</i> 806 | <i>F. Rehm.</i> ... 1572 |
| 2914. <i>crispatum</i> , <i>Fckl.</i> ... 807 | 2932. <i>delicatulum</i> , <i>Rouv.</i> |
| 2915. <i>macrosporum</i> , <i>S. & P.</i> 5919 | <i>Rev. Myc. t. 50, f. 7.</i> |
| 2916. <i>cuniculorum</i> , <i>Fckl.</i> 808 | 2933. <i>polypori</i> , <i>Rehm.</i> ... 5917 |

Spec. desciscentes.

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| 2934. <i>stercoreum</i> , <i>Speg.</i> 822 | 2938. <i>amphitrichum</i> , |
| 2935. <i>calvescens</i> , <i>Sacc.</i> 823 | <i>Corda</i> ... 826 |
| 2936. <i>rufulum</i> , <i>B. & Br.</i> 824 | 2939. <i>Braunii</i> , <i>Rabh.</i> ... 828 |
| 2937. <i>araliæ</i> , <i>Corda</i> ... 825 | 2940. <i>graminicolum</i> , |
| | <i>Rabh. in Fckl. No. 647</i> |

* * *Asci tetraspori.*2941. *hispidum*, *Fr.* ... 821** *Species dubiæ.*

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|---|---|
| 2942. <i>coccodes</i> , <i>Wallr.</i> ... 829 | 2946. <i>Cumingii</i> , <i>Lev.</i> ... 833 |
| 2943. <i>epiphyllum</i> , <i>Kunze</i> 830 | 2947. <i>Douglasii</i> , <i>Schw.</i> ... 835 |
| 2944. <i>gelatinosum</i> , <i>Ehr.</i> 831 | 2948. <i>typhæ</i> , <i>Schw.</i> ... 836 |
| 2945. <i>viride</i> , <i>Lev.</i> ... 832 | |

*** BOMMERELLA. *March. Sacc. Addit.*, p. 38.*Sporidia triangularia, depressa.*2949. *trigonospora*, *March.* 6302

TWO REMARKABLE FUNGI.

BY M. C. COOKE.

Cerebella paspali, *Cke. & Mass.*

Stroma convex, hemispherical (2-3 mm.), minutely gyrosoplicate, dark olive, sporules subglobose, or subquadrate, divided into 3 or 4 cells (after the manner of *Urocystis*), which ultimately separate, olive, epispore smooth, $20 \times 25 \mu$, ultimate cells 10-12 μ diam. Basidia of branched, interlaced hyphæ, which are tinged red, although hyaline, and septate towards the base.

On glumes of *Paspalum scrobiculatum*. Brisbane (*Bailey* 560).

This genus was established by Cesati in 1851, but the diagnosis appears never to have been published. The typical species, *Cerebella andropogonis*, was issued in Klotsch "Herbarium vivum mycologicum," No. 1587, and the brief description published in the "Botanische Zeitung," 1851, p. 699. Berkeley wrote an account of it, with rude figures, in "Gardener's Chronicle," 1852, p. 643; but little notice appears to have been taken of it by Saccardo, who excludes it.

The affinities of this genus could not be determined by Cesati, and Berkeley also seems to have been in doubt, although he suggested a possible relationship to *Urocystis*. This suggestion appears to be reasonable as far as *Cerebella andropogonis* is concerned, where the compound spores arise from a cellular stroma, but in the present species the stroma is filamentous, at least outwards, and the threads and spores suggest at once *Stemphylium*, as interpreted by Prof. Saccardo; whilst on the other hand the habit and general appearance suggests an alliance with the *Ustilagines*. For the present, and until further information is obtained, we prefer to accept Berkeley's suggestion, and place the genus temporarily near *Urocystis*.

The other remarkable fungus is a species of *Hemiarcyria*, which we have called—

Hemiarcyria appplanata, *Cke. & Mass.*

Sporangia flattened, discoid, usually combined into a lobate plasmodiocarp, externally glaucous, or pale cinereous, internally bright yellow, apparently uniformly sessile. Tubes of capillitium furcate, or anastomosing, scarcely so wide as the spores, thickenings in the form of half-rings (as in *Arcyria*) encircling the tubes in a diffused spiral. Spores globose, warted, 12 μ diam.

On rotting *Cycas*. Brisbane (*Bailey* 557, in part).

The threads of the capillitium resemble those of some species of *Arcyria*, but the entire plant seems to have a closer affinity to such species as *Hemiarcyria serpula*. When growing it might at first be mistaken for *Peziza cinerea*.

ANNUAL FUNGUS FORAYS.

THE ESSEX FIELD CLUB.—This meeting has been fixed for Friday, September 30th, and Saturday, October 1st.

CRYPTOGAMIC SOCIETY OF SCOTLAND.—The thirteenth Annual Conference will meet at Greenock, under the presidency of Rev. Hugh Macmillan, D.D., LL.D., on Tuesday, 4th October.

WOOLHOPE FIELD CLUB.—The usual week commences on October 3rd, and ends October 7th, at Hereford. The principal Foray for two days in the Forest of Dean.

SOCIÉTÉ BOTANIQUE DE PARIS.—A series of mycological excursions have been proposed, extending from about October 16th.

HAMPSHIRE NATURAL HISTORY SOCIETY.—A project is on foot for a two days' Foray in the New Forest, about the 26th or 28th of October.

BRITISH MOSS FLORA, PART X.

We are glad to see another part of the "Moss Flora," by Dr. R. Braithwaite, completing the Tortulaceæ and the Weberaceæ, giving also a supplement to the portion already issued, with Index and Title Page to the first volume. For this we should at least be thankful. One volume, containing 225 species and 45 plates, with 3,000 figures, is at least a "splendid fragment," but, let us hope, not long to be a "fragment," of the British Moss Flora.

TRANSACTIONS OF THE WOOLHOPE CLUB.

The publication of the "Herefordshire Pomona" delayed the issue of these Transactions since 1876, but now that the Pomona has been completed, the Club has set itself to bring its Transactions up to date, and this volume is an instalment, including the years 1877 to 1880, the remainder to 1886 being in preparation. Of the contents of this volume we shall say but little, since nearly 10 years is a very considerable period for manuscripts on scientific subjects to rest in pigeon-holes; but, inasmuch as it completes the records of the Club down to a period not quite so remote, it will be welcome to members and friends. This volume has been carefully edited by Mr. H. Cecil Moore, and equals any of its predecessors.

COOKE'S BRITISH DESMIDS.

This work, now completed within the promised twelve months, is issued, bound in one volume in green cloth, gilt tops, at two and a half guineas. The number of species included is 370, which is more than double the 162 of Ralfs' "British Desmidiæ," and nearly six times as many as were included in Hassall's "Fresh Water Algæ," whilst only 60 less than the 430 of Wolle's "Desmids of the United States."

HENRY WILLIAM RAVENEL, LL.D.

We regret to record the death of our old friend and correspondent, H. W. Ravenel, of Aiken, S. Carolina, who passed over to the great majority on July 17, 1887, at the age of seventy-three years. A good correspondent, an indefatigable collector, a shrewd observer, and a conscientious man, if not a profound scientist, he was an enthusiastic Botanist, amid the cares and troubles of an anxious life.

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DR. GEORG. WINTER.

As we are going to press we are grieved to be informed of the death of our talented friend Dr. Georg. Winter, the editor of "Hedwigia."

Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY
AND ITS LITERATURE.

SOME EXOTIC FUNGI.

BY M. C. COOKE.

Cucurbitaria Ravenalii, *Cke. & Mass.*

Peritheciis sub-cutaneis, erumpentibus, cæspitosis, atris, sub-globosis, papillatis, stromate pulvinato insidentibus. Ascis cylindraceis, octosporis; sporidiis lanceolatis, 3-5 septatis, loculis transverse divisis, olivaceis ($50 \times 15-18 \mu$).

On *Ailanthus glandulosa*. Aiken, S. Carolina (*Ravenal*, 2278).

Evidently different from *C. ailanthi*, Rabh., *vide* Sacc. Syll. II., No. 3958.

Cylindrocolla quercina, *Cke. & Ellis.*

Pustules verrucæform, erumpent, orange, sporophores dichotomous, conidia cylindrical, obtuse, hyaline, concatenate ($20 \times 3 \mu$).

On dead twigs of *Quercus*. New Jersey (*Ellis*, 2355).

Hypocrea (Clintoniella) amazonica, *Cooke.*

Stromate irregulari, suborbiculari, plano-convexo, margine obtuso, libero, atro-fulgineo; peritheciis astomis, vel pertusis. Ascis cylindraceis, octosporis; sporidiis lanceolatis, continuis, hyalinis, $25-30 \times 3-4 \mu$. Conidiophoris consociatis, subgloboso-depressis, ochraceis, carnosis, demum corneis, pulvere pallidioribus, tectis, conidiis ellipticis, continuis, hyalinis, utrinque hyalino-apiculatis ($18 \times 3 \mu$).

On dead leaves. Para (*Spruce*, *Lichenes Amazonici*, No. 528).

Polystictus (Discipedes) Makuensis, *Cooke.*

Pileo coriaceo-membranaceo, plano-depresso, zonato, glabrato, nitido, badio, fusco, vel castaneo; margine acuto, lobato, sinuato, vel subintegro; carne albo. Stipite subelongato, pallido, plerumque crasso, ad basim disciformi. Hymenio albido. Poris rotundatis, vix minutis ($\frac{1}{4} \cdot \frac{1}{3}$ mm.) regularibus, dissepimentis tenuibus, acie dentatis.

On wood. Namuli, Makua Country, East Tropical Africa (*J. T. Last*).

Pileus $3\frac{1}{2}$ in. broad, scarce $\frac{1}{4}$ in. thick. Stem about an inch long, and over one-third of an inch thick. Allied to *P. flabelliformis*, but differs in the whiter hymenium, much larger and toothed pores, and the snowy whiteness of the flesh, which is soon destroyed by insects.

Mycenastrum bovisioides, *Cke. & Mass.*

Peridio globoso, sessili, tenui (circa 1 unc. diam.) primitis spinulis albis evanescentibus superne tecto, demum nudo, fusco, glabro, poro apicali pertuso, capillitio densissimo, subferrugineo. Hyphis utrinque attenuatis, multi-furcatis, sparse spinulosis. Sporis olivaceo-fuscis, globosis, glabris, longe pedicellatis ($5\ \mu$ diam.).

On ground, amongst moss. Neilgherries (in Herb. Berkeley).

Stachybotrys asperula, *Mass.*

Effusa, atra. Hyphis gregariis, repentibus, furcato-ramosis, assurgentibus, granulato-asperulis, sterigmatibus clavatis, capitato-coronatis, conidiis globosis, asperulis ($7-10\ \mu$), atro-fuscis, opacis.

In company with *Chatomium*. On damp paper from Ceylon. Kew.

OVULARIA BULBIGERA, *Sacc.*

A short visit this summer to the classic ground of the keen-sighted mycologist of the Rhine produced, among other things, a minute fungus on the leaflets of *Poterium Sanguisorba*, which appears to be identical with his rare *Scolicotrichum bulbigerum* (*Symb. Myc.*, p. 106; *Ovularia bulbigera*, *Sacc. Syll. iv.*, 140), but differs somewhat from his description. It causes small, roundish, pale-ochreous spots (2-4 mm. diam.) on the leaves. These spots are visible on both surfaces, but on the upper surface they are surrounded by a purplish-brown border ($\frac{1}{2}$ -1 mm. broad), which does not show beneath. The spots, in fact, closely resemble those of *Septoria Rubi*, but are without the greyish tinge of the latter. The fungus is produced only on the lower surface, and presents the usual appearance of an *Ovularia*; the hyphæ are in dense, pure white tufts, about $\frac{1}{10}$ mm. high, the tufts being thickly scattered over the whole lower surface of the spot, and forming, when full grown, a thin crust, like, but less dense than, that of *O. sphaeroidea*, *Sacc.*, to which in other respects this fungus bears a slight resemblance. The hyphæ are from 70 to 130 mk. long, 4 mk. thick, simple or occasionally branched, hyaline, continuous or rarely 1-septate, flexuous; here and there denticulate, and so closely attached to one another longitudinally that it is difficult to separate one from the mass. At the tapering apex and on the denticules are borne sub-globose or slightly ovoid conidia, 9-11 mk. in transv. diam., and reaching a length of 15 mk.

So far the fungus agrees with Fuckel's diagnosis (except that he

makes no reference to the spots), but the "thickened black base" which he mentions, and from which the name "*bulbigerum*" is derived, is entirely wanting. The hyphæ are no thicker at the base than elsewhere. But many of the tufts do spring from a little brownish pustule or tubercle of the leaf, which is apparently the beginning of the perithecium, and presumably that of *Sphærella pseudomaculæformis*, Awd., which Fuckel himself records as appearing on the same leaves somewhat later in the year, and to which he assigns the *Ovularia* as conidial form. Can this tubercle, or fragments of it, be what Fuckel alludes to in the words "*e basi incrassato nigro ortis*," although certainly neither his specific name nor his description would naturally lead one to that conclusion? The question must be settled by someone who has access to the original specimens.

W. B. GROVE, B.A.

REVISION OF POLYSACCUM.

By G. MASSEE.

Polysaccum, *Desp. & D. C.*; *Rapp. Voy.*, II., p. 80; *Fries Syst. Myc.*, III., p. 51.

Peridium simple, rigid, dehiscing irregularly, filled with numerous small cavities, with rigid walls (peridiola), and containing the spores.

In this genus the vegetative portion of the capillitium is compacted together to form the rigid walls of the peridiola, into which the fertile threads project and bear the spores; hence only a few shrivelled threads are found mixed with the spores. In *Scleroderma* there is also a tendency to form peridiola, but the walls are not rigid or well defined. *Hippoperdon* also has a honeycombed capillitium, which, however, remains soft and elastic.

P. pisocarpium, *Fr. S. M.*, III., p. 54.

Peridium subglobose, passing downwards into a short stem-like base. Peridiola large, irregular, angular, 4-5 × 2-3 mm., yellow; spores spherical, warted, coffee-colour, 9-13 μ . *Krombh.*, Heft. 8, p. 20; taf. lx., f. 9, 10. *Deitr.*, *Deutsch. Fl.* (Schwämme), pl. 118. *Winter*, *Krypt. Fl.*, p. 890. *P. acaule*, *D. C.*, *Rapp. de Voy.* ii., p. 80; *Fl. Fr.* vi., p. 103. *P. arenarium*, *Corda*, *Ic. Fung.* tom. ii., p. 24, 25; tab. xii., f. 91. *P. olivaceum*, *Fr. S. M.* iii., 54. *P. capsuliferum*, *Secr. Myc. Suisse*, iii., p. 373. *Pisolithus arenarius*, *Alb. et Schw.*, *Conspect. Fung.*, p. 82; tab. i., f. 3. *Pisocarpium arenarium*, *Nees. Syst.* i., p. 27. *Lycoperdon capsuliferum*, *Sow.*, *Eng. Fung.*, pl. 425. *Exsicc.*, *Rar. Fung. Amer.*, 470. *Roumeg.*, *Fung. Gall.*, 1311. *Welw.*, *Crypt. Lusitana*, 60.

Peridium smooth, even, or rather tuberculose, fragile, dehiscing irregularly, reddish-brown, tinged olive, 1-3 in. diam. Sowerby's plant is undoubtedly this species, and was at the time correctly referred to the fig. of Alb. and Schw. given above, which in turn is synonymous with *P. pisocarpium*.

On the ground in sandy places. Europe, N. America, Australia, New Zealand.

P. boreale, *Karst., Myc. Fenn.* (Basidiomycetes), p. 363.

Peridium subsphaeroid or obovoid, substipitate, white. Peridiola irregular, oblong, 2×3 mm. Spores spherical, echinulate, brown, 8-13 μ . *Karst. Fung. Fenn., Exs.*, 570.

The specimen in the Kew Herbarium from Karsten is altogether white externally, and the spores coffee-colour, with a tinge of purple in the mass. Related to *P. pisocarpium*.

Amongst sand. Pudasjärvi (lat. $65\frac{1}{2}^{\circ}$).

P. microcarpum, *Cke. & Mass.*

Peridium subglobose, coarsely tuberculate, ochraceous brown; stout, short stem-like base, bright citrin. Peridiola small, angular, about 2 mm., septa very thin and fragile. Spores spherical, minutely warted, ochraceous, with a tinge of olive, 6-7 μ .

Related to *P. pisocarpium*, but distinct in the size of the peridiola and spores, and also in the colour of the latter. Peridium from $1\frac{1}{2}$ -2 in. diam.

Torvoomba, Queensland.

P. crassipes, *D. C.; Voy.*, I., p. 8; *Flor. Fr.*, VI., p. 103.

Peridium varying from spherical to clavate or subcylindrical, stem-like base, stout, often lacunose. Peridiola minute, oblong or polyhedral, about 2 mm., golden yellow, then ferruginous. Spores spherical, warted, coffee-colour, 9-12 μ . *Fries S. Myc.* iii., p. 53. *Krombh.*, Heft. 8, p. 18; t. lx., f. 1, 2. *Corda*, *Icon. Fung.* tom. v., p. 63; taf. iv., f. 41. *Winter*, *Krypt. Fl.*, p. 891. *Nees. Syst.*, p. 138; t. 13, f. 131. *Sturm.*, Heft. 34, t. 5. *Paulet*, *Icon. Champ.*, p. 149, pl. cxcix., f. 5, 6. *P. crassipes*, var. *clavatum*, *Deitr.*, *Deutsch. Fl.*, pl. 118. *Lycoperdon album*, *Mich. Nov. Gen.*, p. 49, t. 98, f. 1. *Scleroderma tinctorium*, *Pers. Syn. Fung.*, 152. *Lycoperdon capitatum*, *Batsch. Polypera crassipes*, *b. capitatum*, *Ficinus*, *Fl. Dresd.* ii., p. 306. *Exsicc.*, *Rabh. Fungi Eur.* 1074. *Thumen, Fungi Austr.* 15. *Desmaz. Crypt. France* (ser. i.) 2027.

Peridium at first pale ochraceous, becoming darker, 2-4 in. diam. Stem 4-6 in. long, 1-2 in. thick. Immersed in sand.

Europe, Australia.

P. turgidum, *Fr. Syst. Myc.*, Vol. III., p. 53.

Peridium subcylindric or clavate, passing into a long stout lacunose, stem-like base, divided into thick rooting branches. Peridiola small, 2-3 mm., rounded, pallid. Spores spherical,

minutely echinulate, coffee-colour, 7-8 μ . *Krombh.*, Heft. 8, p. 19 ; taf. lx., f. 8. *Lycop. magnum*, &c., *Buxb.*, Cent. i., p. 37, t. 58. *Winter*, *Krypt. Fl.* (Pilze.), 891.

Peridium at first covered with an exceedingly fine arachnoid web, then smooth, and, like the stem, dark umber, or the latter yellowish towards the base. From four to six inches long. At first buried in sand.

Europe, Lower Carolina, New Jersey, Australia.

P. tuberosum, *Fr. Syst. Myc.*, III., p. 55.

Peridium subglobose or deformed, with a very short stem-like base, even, smooth. Peridiola large, angular, 3-4 mm., yellow, becoming brown. Spores globose, warted, dark cinnamon, 9-12 μ . *Krombh.*, Heft. 8, p. 20 ; t. lx., f. 10-12. *Winter*, *Krypt. Fl.*, p. 890. *Lycoperdioides tuberosum*, &c., *Michel. Gen. Pl.*, p. 219, t. 98, f. 2. (*Polysaccum conglomeratum*, *Fr. S. Myc.* iii., p. 55. *Lycoperdioides tuberosum*, &c., *Mich. Gen. Pl.*, f. 3, is probably nothing more than a caespitose form of this species.) *Exsicc.*, *Thumen, Myc.* 11. *Thumen, Fungi Austr.* 830. *Rab. Fung. Eur.* 1073.

Peridium ochraceous, becoming darker, often irregular and depressed, point of attachment basal or lateral.

Europe ; Australia.

P. marmoratum, *Berk., Trans. Linn. Journ.*, XIII., p. 155.

Peridium subglobose, tapering into a more or less elongated stem-like base, dirty ochre, marbled with darker patches. Peridiola small, angular, about 1.5-2 mm. Spores spherical, rough, with very fine sinuous raised lines, brown, 7-8 μ . *Herb. Berk.* No. 4688.

Peridium 1-2 in. across, stem varying from $\frac{1}{2}$ -1 $\frac{1}{2}$ in. long.

Australia.

P. australe, *Cooke in Herb. Kew.*

Peridium subglobose, slightly narrowed below into a short, thick, stem-like base, or pyriform, rugulose, olivaceous-umber, sprinkled with yellow pruina. Peridiola small, 2-3 mm., polygonal, dissepiments very thin. Spores spherical, smooth, bright ochraceous brown, 5-6 μ . *Herb. Kewensis.*

Peridium about 2 in. across ; stem $\frac{1}{2}$ in. long. 1 in. thick.

S.W. Australia.

SPECIES EXCLUDED.

P. herculeum, *Fr. S. M.*, III., p. 52.

From the description given by Pallas in *Russ. Reis.* i., 132, p. 553, is in all probability a species of *Podaxon*.

P. subarrhizum, *Fr. S. M.*, III., 54.

(= *P. arrhizum*, *Rab.*) appears to be a species of *Scleroderma*.

AUSTRALASIAN FUNGI.

BY M. C. COOKE.

All except the last four species were communicated by Baron F. von Mueller, K.C.M.G.

Agaricus (Amanita) illudens, *Cke. & Mass.*

Pileo convexo (1 unc.) ochraceo-flavido, verrucis inæqualibus, sparsis, latis, mox secedentibus, consperso, margine lævi; stipite gracili, fistuloso, æquali, annulo obsoleto; volva vaginali; lamellis liberis, postice attenuatis, candidis, acie serrulatis; sporis ovalibus, $8 \times 6 \mu$.

On the ground. Upper Yarra, Victoria; Harkaway Ranges, Victoria. (*C. French.*)

Pileus scarcely exceeding 1 inch; stem 2 inches long, 2-3 lines thick.

Agaricus (Lepiota) columbicolor, *Cke. & Mass.*

Pileo subcarnoso, convexo, obtusissime umbonato, furfuraceo, cæruleo-griseo (columbi color), stipite cylindrico, æquali, albido, deorsum ochraceo, tenui, farcto, demum fistuloso, glabro; annulo membranaceo-fugaci, lamellis liberis, ventricosis, confertis, albis; sporis ellipticis, $10-12 \times 5-6 \mu$.

On the ground. Lake Bonney. (*Miss Wehl., No. 26, with fig.*)

Pileus $\frac{3}{4}$ inch diam.; stem 2 in. long, 2 lines thick.

Agaricus (Lepiota) obclavatus, *Cke. & Mass.*

Pileo subcarnoso, convexo-applanato, vix umbonato, furfuraceo, rufo-fusco, disco obscuriori, carne rubente, stipite gracili, cylindrico, fistuloso, ad basin abrupte bulboso-incrassato, glabro, pallide carneo-fusco; annulo tenui, fugaci; lamellis confertis, angustis, liberis, albis, sporis ellipticis, hyalinis, $10-12 \times 6 \mu$.

On charred ground under gum tree, near Melbourne. (*Miss Wehl., No. 14, with fig.*)

Pileus 1 in. diam.; stem 3-4 in. long, 2-3 lines thick above, $\frac{1}{2}$ inch and more at the abruptly bulbous base.

Agaricus (Lepiota) echinodermatus, *Cke. & Mass.*

Flavidus. Pileo (1 unc. diam.) convexo-plano, verrucis erectis, conicis convergentibus densissime obsito, margine incurvo, velo appendiculato, stipite subæquali, gracili, tomentoso-squarroso, flavido (2 in. long, 2 lin. crass), annulo fugaci, vel ad marginem pilei appendiculato. Lamellis subliberis, approximatis, leviter adnatis, confertis, ventricosis, albis; sporis, $8 \times 6 \mu$.

Possibly on wood. New Caledonia. (*Hodgson.*)

Agaricus (Collybia) veluticeps, *Cke. & Mass.*

Pileo subcarnoso, convexo-expanso, velutino, hepatico; stipite brevi, æquali, sursum pallido, deorsum rufo-fusco, carne pallidiori; lamellis ventricosis, adnatis, subconfertis, albis; sporis, $8-10 \times 5 \mu$.

In fern gully. Lake Bonney. (*Wehl., No. 3, with fig.*)

Pileus 1 in.; stem 1 in. long, 2 lines thick.

Agaricus (Pleurotus) polychromus, *Cke. & Mass.*

Pileo carnosio, infundibuliformi, ochraceo-albo, demum sulphureo, purpureo vel fuligineo maculato, glabro, lævi; stipite subexcentrico, solido, curto, deorsum attenuato, albido; lamellis longe decurrentibus, subconfertis, arcuatis, utrinque attenuatis, angustis, albidis.

On rotten wood (?). Melbourne. (*Wehl., No. 1.*)

Pileus 3-4 in. diam.; stem 1 in. long, $\frac{1}{2}$ in. thick.

Agaricus (Entoloma) læticolor, *Cke. & Mass.*

Pileo subcarnoso, convexo, demum plano, obtuso, lævi, nitido, amethystino, stipite æquali, tenui, subsolido, pallidiore, lamellis adnaxis, subventricosis, vix confertis, roseis; sporis globosis, verrucosis, 12-14 μ diam.

On the ground in sandy soil, near Melbourne. (*Miss Wehl., No. 11, with fig.*)

Subcæspitose. Pileus scarcely exceeding an inch diam.; stem 2 in. long, 2 lines thick.

Agaricus (Entoloma) melaniceps, *Cke. & Mass.*

Pileo carnosio, compacto, convexo, obtuso, lævi, glabro, atrofuligineo; stipite solido, subæquali, brevi, glabro, pallido; lamellis rotundato-adnatis, pallido-griseus, demum incarnatis; sporis subglobosis, roseis, 10-12 μ .

On the ground. Near Melbourne. (*Miss Wehl., No. 41, with fig.*)

Pileus $1\frac{1}{2}$ -2 in.; stem 1 in. long, 3-4 lines thick.

Agaricus (Flammula) papuensis, *Cke. & Mass.*

Pileo compacto, convexo-plano, obtuso, vix umbonato, glabro, viscido, flavido, disco obscuriore, mox umbrino; stipite æquali, adscendente, solido, tomento flavido consperso; lamellis lanceolatis, adnatis, subdecurrentibus, cinnamomeis; sporis ellipticis (12 \times 6 μ).

On wood. New Guinea. (*Hartmann, No. 16.*)

Pileus about 2 inches; stem 2-3 inches long, $\frac{1}{4}$ inch thick. Allied to *A. sapineus*.

Agaricus (Naucoria) fraternus, *Cke. & Mass.*

Cæspitosus. Pileo convexo, depresso, umbilicato, lævi, glabro, fusco-ferrugineo stipite elongato, tenui, ascendente, fistuloso, glabro, concolori; lamellis subdistantibus, latis, adnatis, ferrugineis; sporis ellipticis, 10 \times 6 μ .

On logs. Port Phillip. (*French, No. 1, with fig.*)

Pileus about $\frac{1}{2}$ in.; stem 1-2 in. long, 1 line thick.

Hygrophorus (Camarophyllus) gigasporus, *Cke. & Mass.*

Pileo carnosio, tenui, e convexo expanso, umbonato, fuligineo, lævi, glabro, viscido, nitente, stipite stricto, elongato, deorsum leviter incrassato, fibrilloso, solido, lamellis subdistantibus, adnatis, dente decurrentibus, latis, albidis; sporis ovalibus, 20 \times 12-14 μ .

On horse dung and around it. Port Phillip. (*French, No. 8, with fig.*)

Pileus 2-2½ in. diam. ; stem 4.5 in. long, ½ in. thick below, little more than half as thick above.

Russula (Furcatæ) australiensis, *Cke. & Mass.*

Acris. Pileo carnosio, firmo, e convexo plano, rubro, pellicula tenui, adnata, arido, margine lævi, stipite æquali, farcto, cavove, stramineo, lamellis utrinque attenuatis, vix confertis, postice furcatis, adnexis, dente decurrentibus, citrinis ; sporis globosis, asperulis, 10 μ .

On the ground. Port Phillip. (*French, Nos. 5, 15, 16, with figs.*)

Pileus about 2 in. diam. ; stem 2 in. long, scarce half an inch thick.

Cantharellus politus, *Cke. & Mass.*

Pileo carnosulo, convexo, depresso, demum subinfundibuliformi, glabro, lævi, viscido, eximie nitido, castaneo ; stipite sub-æquali, farcto, intus extusque pallido, lamellis crassis, subdistantibus, ramosis, pallido-cinereis ; sporis cylindraceis, 14-15 \times 4 μ .

On the ground in fern gully. Near Melbourne. (*Miss Wehl., No. 27, with fig.*)

Pileus 1-1½ inch ; stem 1 inch long, 3-4 lines thick.

Boletus (Viscipelles) australis, *Cke. & Mass.*

Pileo convexo, pulvinate, viscoso, umbrino, stipite glabro, deorsum attenuato, vel fusiformi-radicato, carneo, carne pallide roseo, cærulescente ; tubulis adnatis, virescentibus, poris hexagonis, æqualibus, majusculis, sulphureis ; sporis cylindricis, 20 \times 5-6 μ .

On the ground. Near Melbourne. (*Wehl., No. 4, with fig.*)

Pileus 2-3 in. ; stem 2-3 in. long, ½ to ¾ in. thick.

Boletus prunicolor, *Cke. & Mass.*

Pileo pulvinate, molli, viscoso, prunicolori vel purpurascente, lævi ; stipite inæquali, ventricoso, clavato, vel clavato-bulboso, pallido, lævi ; tubulis postice brevissimus, vix liberis, poris rotundatis, minutis, simplicibus, pallidis ; sporis elongato-ellipticis, 18-20 \times 6, olivaceis.

On the ground. Port Phillip. (*French, No. 7, with fig.*)

Pileus about 2 in. diam. ; stem 3 in. long, ½-¾ in. thick ; "colour dark mauve on the top."

Hydnum (Mesopus) ambustum, *Cke. & Mass.*

Pileo carnosio-membranaceo, convexo-plano, glabro, testaceo-nigricante (½-¾ unc. lat.). Stipite erecto, gracili, æquali, glabro, pallidiore (1 unc. long), sub-cæspitoso, sæpe radicante, aculeis æqualibus, acutis, albis ; sporis globosis (8-10 μ).

On sandy soil. Harkaway Range, Victoria.

It belongs to the section *Carnososa*, and has a scorched appearance when dry, the margin of the pileus being testaceous, whilst towards the disc it becomes almost black.

Clavaria (Holocoryne) aurantia, *Cke. & Mass.*

Simplicissima, stricta, aurantiaca, clavato-incrassata, glabra, deorsum in stipitem æqualem attenuata; sporis subglobosis, minutis.

On the ground. Harkaway Range, Victoria. (*C. French, Sen.*)

From 2 to 3 inches high, of which about one half is occupied by the stem.

Ombrophila radicata, *Phillips.*

Solitaria vel cæspitosa. Cupulis stipitatis, subgelatinosis ($1\frac{1}{2}$ -5 lin. diam.), hymenio depresso, rugoso, hepatico; margine tenui, integro, sursum glabro, rugoso, incarnato; stipite elongato, deorsum attenuato (4-6 lin.) radicato, asci cylindraceo-clavato; sporidiis 8, ellipticis, biguttulatis, hyalinis ($6-10 \times 4-5$) paraphysibus ramosis, clavatis ($4-7 \mu$ diam.) ad apices fusco-umbrinis.

Stoney Range, Melbourne. (*Miss Wehl., No. 2, with fig.*)

It has considerable resemblance to *O. rudis*, B., but differs in its sporidia, paraphyses, and rooting habit.

Bovista ovalispora, *Cke. & Mass.*

Subglobosa, sessilis; cortice tenui, albo vel subochraceo, subpersistente. Peridio tenui, flaccido, glabro, cinereo, ore irregulari; capillitio sporisque umbrino. Hyphis ($12-16 \mu$ diam.) vage ramosis, apicibus attenuatis, pallide umbrinis; sporis ovalibus ($6 \times 4\frac{1}{2} \mu$) fusco-umbrinis, pedicellatis. Episporio crassiusculo, hyalino, pedicellis elongatis, crassis, hyalinis.

On the ground. New Zealand, S. Carolina (U.S.), Kew Gardens (G.B.)

Mycenastrum olivaceum, *Cke. & Mass.*

Peridio subgloboso (3 unc.) sessili, rigido, in lobulis acutis triangularis (5-6) dehiscente, extus glabro, lævi, cinereo-lividi. Sporis capillitioque olivaceis. Hyphis $15-20 \mu$ crassis, irregulariter ramosis, ubique spinulosis; sporis sphaericis, asperulis, 15μ diam.

On the ground. Queensland.

Peridium lead-colour above, dirty white below, with a tinge of rose. Spores of the same size as in *M. corium*, which in the latter are purple and more coarsely warted.

Xylaria ellipsospora, *Cke. & Mass.*

Capitulum clavatum, obtusum ($\frac{1}{2} \times \frac{1}{4}$ in.), atrum, stipite abbreviato, glabro, peritheciis immersis, nec prominulis, ostiolis minutis, punctiformibus. Ascis cylindraceis, sporidiis ellipticis, atrobrunneis, opacis, $16-18 \times 8 \mu$.

On rotten wood. Deep gully, Mount Wellington, Tasmania.

Tubercularia leguminum, *Cke. & Mass.*

Minuta, erumpens, carnea, sporodochiis sessilibus, irregularibus, subconfluentibus, sporophoris brevibus, rectis, conidiis elongato-ellipsoideis, plerumque leniter curvulis, $20 \times 5 \mu$.

On legumes of *Cassia*. Brisbane. (*F. M. Bailey, No. 580.*)

BRITISH PYRENOMYCETES.

BY G. MASSEE.

(Continued from p. 14.)

Fam. 8. CUCURBITARIÆ. Perithecia cæspitose or gregarious.

GEN. 1. **NITSCHKIA**, *Othk.* Perithecia black, or seated on a thin white villous stratum. Sporidia sausage-shaped, hyaline.

N. cupularis, *Pers.*, *Sacc. Syll.* 377 ; *Hdbk.* 2524.

On sloe. Hampstead, King's Cliffe, Kew, Batheaston, Botanic Garden, Edinboro'.

GEN. 2. **GIBBERA**, *Fr.*, *Sacc. Syll.* I., p. 599. Perithecia setulose, papillate.

* *Sporidia uniseptate, hyaline.*

G. vaccinii, *Fr.*, *Sacc. Syll.* 2338 ; *Hdbk.* 2525.

On *Vaccinium vitis-idaea*. Stiperstones.

GEN. 3. **OTTHIA**, *Ntke.*, *Sacc. Syll.* I., 735. Perithecia cæspitose, erumpent then superficial, carbonaceous, scarcely papillate.

* *Sporidia uniseptate, coloured.*

O. pruni, *Fckl.*, *Sacc. Syll.* 2783.

On sloe. Eastbourne.

O. populina, *Pers.*, *Sacc. Syll.* 2785.

On poplar. Kew Gardens.

O. syringæ, *Fr.*, *Sacc. Syll.* 2791.

On lilac.

GEN. 4. **CUCURBITARIA**, *Gray*, *Sacc. Syll.* II., 307. Perithecia in erumpent tufts, carbonaceous, typically rugulose.

* **MELANOMMA**. *Sporidia triseptate, brown.*

C. Aspegrenii, *Fckl.*, *Sacc. Syll.* 3229 ; *Hdbk.* 2606.

On blackthorn. Orton Wood.

C. dioica, *Moug.*, *Sacc. Syll.* 2911.

On *Acer*. Shere, Dupplin.

C. conglobata, *Fr.*, *Sacc. Syll.* 3950.

On *Corylus*. Appin.

** **DICTYOSFORA**. *Sporidia muriform, coloured.*

C. berberidis (*P.*), *Sacc. Syll.* 3935 ; *Hdbk.* 2520.

On dead branches of barberry. Forden, Edinboro', Shrewsbury, Hayes, Scarboro'.

- C. laburni*, *Pers.*, *Sacc. Syll.* 3937 ; *Hdbk.* 2516.
On dead branches of laburnum. Oswestry, Scarboro', King's Cliffe, Carlisle, Oxford, Shrewsbury, Twycross.
- C. elongata*, *Fr.*, *Sacc. Syll.* 3938 ; *Hdbk.* 2517.
On *Robinia*. Swanscombe.
On laburnum. Elton, Norths.
- C. spartii*, *N.*, *Sacc. Syll.* 3948 ; *Hdbk.* 2518.
On *Sarothamnus*. Scarboro', Darenth, Lowes-Water, Cumberlandland.
- C. lauro-cerasi*, *Ph. & Pl.*, *Sacc. Syll.* 3953.
On cherry laurel. Forres, N.B.
- C. rhamni*, *N.*, *Sacc. Syll.* 3957.
On *Rhamnus frangula*. York, Lynn.
- C. naucosa*, *Fr.*, *Sacc. Syll.* 3959.
On *Ulmus campestris*.
- C. euonymi*, *Cke.*, *Sacc. Syll.* 3976.
On *Euonymus*. Mickleham.
- C. dulcamaræ*, *Fr.*, *Sacc. Syll.* 3979.
On *Solanum dulcamara*. Lynn.
- C. ribis*, *Niessl.*, *Sacc. Syll.* 3985.
On *Ribes*. Isleworth.
- C. Aspegrenii*, *Ces.*, *Sacc. Syll.* 3987.
On cherry. Kew.

Fam. 9. SUPERFICIALES, *Fr.* Perithecia discrete, superficial, or nearly so.

Sub-Fam. 1. BYSSISEDÆ. Perithecia seated on a byssoid stroma.

GEN. 1. **BYSSOSPHERIA**, *Cooke, Grev. VII.*, 84. Perithecia smooth, emerging from a more or less distinct byssoid stroma.

* CÆLOSPHÆRIA. *Sporidia hyaline, continuous.*

- B. tristis*, *Tode.*, *Sacc. Syll.* 378 ; *Hdbk.* 2554.
On wood. Batheaston, Eastbourne, Bristol.

** EU-ROSELLINIA. *Sporidia continuous, brown.*

- B. aquila*, *Fr.*, *Sacc. Syll.* 916 ; *Hdbk.* 2550.
Common. On wood and branches.
- B. thelena*, *Fr.*, *Sacc. Syll.* 918 ; *Hdbk.* 2549.
On wood, &c. Batheaston, Lynn, Scarboro'.
- B. Desmazierii*, *B. & Br.*, *Sacc. Syll.* 922 ; *Hdbk.* 2551.
On wood. King's Cliffe, Northampton.

** MELANOPSAMMA. *Sporidia uniseptate, hyaline.*

- B. investans*, *Cooke, Sacc. Syll.* 2333.
On branches. Shere.

** HERPOTRICHIA. *Sporidia triseptate, hyaline.*

- B. innumera, *B. & Br., Sacc. Syll.* 3211; *Hdbk.* 2578.
On wood. Somerset, Kew, Hereford, Batheaston, Carlisle,
Lynn, Orton Wood.
B. callimorpha, *Mont. Sacc., Syll.* 3212 (= *ruborum*, *Lib., Sacc.*
Syll. 2249); *Hdbk.* 2571.
On rose. Highgate, Twycross, Orton Wood, N. Wootton.

*** MELANOMMA. *Sporidia 2-3 septate, brown.*

- B. epochnii, *B. & Br., Sacc. Syll.* 3245; *Hdbk.* 2592.
On *Corticium*. Bath, Lynn.

*** CHÆTOSPHERIA. *Sporidia 2-5 septate.*

- B. phæostroma, *Mont., Sacc. Syll.* 3200; *Hdbk.* 2552.
On wood. Colwyn Bay, Carlisle, Batheaston, Lynn, Twycross,
Scarboro', Ringmer.

GEN. 2. **CHÆTOSPHERIA**, *Tul.* Perithecia gregarious, villous,
seated on a byssoid subiculum.

* *Sporidia 2-5 septate, coloured.*

- C. cupulifera, *B. & Br., Sacc. Syll.* 3204.
On elm wood. Langridge, Somerset.
C. pileo-ferruginea, *Crouan, Sacc. Syll.* 3216.
On stems and roots of *Calluna vulgaris*. Carlisle.
C. clavariarum (*Desm.*), *Sacc. Syll.* 837; *Hdbk.* 2061.
On *Clavaria*. Rudloe, Wilts.

GEN. 3. **LASIOSPHERIA**. Perithecia superficial, setulose;
sporidia hyaline or subhyaline.

* TRICHOSPHERIA. *Sporidia continuous, hyaline.*

- L. exilis, *A. & S., Sacc. Syll.* 379; *Hdbk.* 2566.
On pine twigs. Wraxall.
L. pilosa, *Pers., Sacc. Syll.* 1741 and 6020; *Hdbk.* 2573.
On fir-cones. East Bergholt.
L. superficialis, *Curr., Sacc. Syll.* 1744; *Hdbk.* 2567.
On pine wood. Kent.
L. cæsia, *Curr., Sacc. Syll.* 1746; *Hdbk.* 2563.
On rotten wood. Appin.

** LEPTOSPORA. *Sporidia continuous, elongated, hyaline.*

- L. ovina, *Pers., Sacc. Syll.* 3568; *Hdbk.* 2557.
On dead wood. Batheaston, Shrewsbury, Perth, Scarboro',
Epping Forest, Lynn, Forden.
L. felina, *Fckl., Sacc. Syll.* 3571.
On larch. Batheaston.

- L. strigosa*, A. & S., *Sacc. Syll.* 3574 ; *Hdbk.* 2565.
On wood. Gopsall.
- L. scabra*, *Curr.*, *Sacc. Syll.* 3580 ; *Hdbk.* 2570.
On furze. Weybridge.
- L. sulphurella*, *Sacc. Syll.* 3581.
On wood. Kew.

* * * **ERIOSPHÆRIA.** *Sporidia uniseptate, hyaline.*

- L. membranacea*, B. & Br., *Sacc. Syll.* 2332.
On wood. Langridge.
- L. inæqualis*, *Grove*, *Sacc. Syll.* 6537.
On rotten wood. Burnt Green.

** * **EU-LASIOSPHÆRIA.** *Sporidia septate.*

† *Sporidia septate, hyaline.*

- L. hirsuta*, *Fr.*, *Sacc. Syll.* 3538 ; *Hdbk.* 2559.
On wood. Perth, Abinger, Surrey, Pickhurst Green.
- L. helicoma*, P. & P., *Sacc. Syll.* 3542.
On chips. Brandon, Lynn.
- L. canescens*, *Pers.*, *Sacc. Syll.* 3547 ; *Hdbk.* 2564.
On dead wood. Hampstead, Gopsall, Twycross.

†† *Sporidia septate, becoming brownish.*

- L. hispida*, *Tode.*, *Sacc. Syll.* 3549 ; *Hdbk.* 2560.
On wood. Shrewsbury, Batheaston, Wilts.
- L. racodium*, *Pers.*, *Sacc. Syll.* 3550 ; *Hdbk.* 2553.
On wood. Twycross, Scarboro', Milton.
- L. mutabilis*, *Pers.*, *Sacc. Syll.* 3558 ; *Hdbk.* 2569.
On wood. King's Cliffe.
- L. ambigua*, *Sacc. Syll.* 3560 (= *carbonaria*, Phil. & Plow.).
On burnt ground. Shrewsbury.

** * **ENCHNOSPHERIA.** *Sporidia multiseptate, hyaline.*

- L. biformis*, *Pers.*, *Sacc. Syll.* 3585 ; *Hdbk.* 2555.
On rotten wood, and on the ground.
- L. macrotricha*, B. & Br., *Sacc. Syll.* 3623 ; *Hdbk.* 2572.
On *Carex*. Spye Park.

GEN. 4. **CONIOCHÆTA**, *Sacc.* l., 269. Perithecia hispid, sporidia coloured.

* *Sporidia continuous, brown.*

- C. ligniaria*, *Grev.*, *Sacc. Syll.* 991.
On wood. Bath, Kent, Elmstead, Highgate, Scotland.

** **HYPOCOPRA.** *Sporidia brown, with a hyaline appendage.*

- C. capillifera*, *Curr.*, *Sacc. Syll.* 895 ; *Hdbk.* 2561.
On *Corticium* and subjacent wood. Kent.

C. brassicæ, Klot., *Sacc. Syll.* 859; *Hdbk.* 2558.

On dead cabbage stalks. Batheaston, Forden.

* * PLEOSPHERIA. *Sporidia muriform*, coloured.

C. sexdecemspora, Cooke, *Sac. Syll.* 3872; *Hdbk.* 2574.

On branches. Shere.

GEN. 5. **VENTURIA**, *Not., Sacc. Syll.* i., 586. Perithecia setulose, membranaceous, generally growing on leaves. *Sporidia* oblong, hyaline.

* *Sporidia uniseptate*.

V. chlorospora, Ces., *Sacc. Syll.* 2288.

On willow leaves. Shere.

V. ditricha, Fr., *Sacc. Syll.* 2289.

On alder leaves. Darenth, Lynn.

V. inæqualis, Cooke, *Sacc. Syll.* 2290.

On leaves of *Pyrus malus*. Shere, Forden.

On willow leaves. Darenth.

V. Kunzei, *Sacc. Syll.* 2291 (= *chætomium*, Kze.).

On bramble leaves. N. Wootton.

V. ilicifolia, Cooke, *Sacc. Syll.* 2293; *Hdbk.* 2782.

On holly leaves. Shere, Thirsk, Epping.

V. Dickiæi, B. & Br., *Sacc. Syll.* 2299; *Hdbk.* 2778.

On leaves of *Linnæa borealis*. Aberdeen.

V. myrtilli, Cooke, *Sacc. Syll.* 2301; *Hdbk.* 2781.

On semi-putrid leaves of *Vaccinium myrtilus*. Shere, Surrey.

V. atramentaria, Cooke, *Sacc. Syll.* 2303.

On *Vaccinium uliginosum*. Perth, Braemar.

V. barbula, Cooke, *Sacc. Syll.* 2304; *Hdbk.* 2784.

On pine bark. Wraxall, Somerset.

V. Johnstoni, B. & Br., *Sacc. Syll.* 2309; *Hdbk.* 2420.

On *Epilobium angustifolium*. Dinmore, Berwick.

V. glomerata, Cooke, *Sacc. Syll.* 2310 (= *robergei*, Desm., = *circinans*, Fr., *Sacc. Syll.* 2311).

On geranium. Barnet, Eastbourne, King's Lynn.

V. alchemillæ, Grev., *Sacc. Syll.* 2314; *Hdbk.* 2796.

On *Alchemilla vulgaris*. Penicuik, Perth, Forres.

On *A. arvensis*. England.

V. potentillæ, Fries, *Sacc. Syll.* 2316; *Hdbk.* 2795.

On living leaves of *Potentilla reptans*. Darenth, Kent.

On *P. anserina*. Forden, Highgate, Pontrilas.

V. exosporioides, Desm., *Sacc. Syll.* 2319. *Hdbk.* 2779.

On *Carex*. Spye Park, Shrewsbury.

V. eres, B. & Br., *Sacc. Syll.* 2320; *Hdbk.* 2780.

On *Carex*. Spye Park.

** VENTURIOLA. *Sporidia continuous*.

V. integra, Cooke, *Sacc. Syll.* 2322; *Hdbk.* 2783.

On leaves of *Corylus avellana*. Shere.

GEN. 6. **CHÆTOMIUM**, *Kunze, Sacc. Syll. I.*, 220. Perithecia submembranaceous, fragile, strigose. Asci soon dissolved.

Sporidia continuous, brown.

- C. elatum*, *Kunze, Sacc. Syll.* 793; *Hdbk.* 1932 (= *comatum*, *Sacc.*).
 On straw, paper, &c. Common.
- C. atrum*, *Link, Sacc. Syll.* 795.
 On *Heracleum*. Shere, Swanscombe.
- C. indicum*, *Corda, Sacc. Syll.* 797.
 On paper. Whitehall, London.
- C. chartarum*, *Ehr., Sacc. Syll.* 800; *Hdbk.* 1933.
 On paper. Stibbington, Hants.
- C. murorum*, *Corda, Sacc. Syll.* 803; *Hdbk.* 1935.
 On plaster. Edinboro'.
- C. funiculum*, *Cooke, Sacc. Syll.* 815.
 On twine. British Museum.
- C. griseum*, *Cooke, Sacc. Syll.* 817.
 On dead leaves. Highgate.

FUNGUS FORAYS, 1887.

On account of the dryness of the summer and autumn the Foray of the Essex Field Club was postponed from the 1st of October until the end of the month. A visit to Epping Forest on the 1st fully justified this decision, for not more than seven or eight common species could be found.

WOOLHOPE FIELD CLUB.—On Monday, October 3rd, some of the usual visitors reached Speech House, Forest of Dean, where they were met on the following morning by a contingent of some twenty-three persons from Hereford. Many of the old faces were present, and the route taken to Five Beeches was fairly successful. Fungi were nowhere plentiful, but the locality was new, the weather was fine, and the scenery delightful. After dining together at Speech House, some of the party returned to Hereford, whilst others remained for the following day. The evening was fully occupied with an examination of the spoils of the day. Wednesday, 5th October, was even more successful than the previous day, the route selected being Park End, which was a damper side of the Forest, and was certainly the best spot of any which we have had the fortune to visit during the present year. Of the new or interesting species found during the two days' excursions, may be named the ringless form of *Cortinarius biformis*, Fr., a singular *Cortinarius* much resembling an *Inocybe*; a new species of *Cortinarius* which has been named *C. bicolor*; a very fœtid *Hebeloma* with broad gills, described in the present number as *Ag.*

(*Hebeloma*) *nauseosus*; several other interesting species of *Cortinarius*, and some few other species of *Agaricus*, *Lactarius*, and *Russula*, sufficient to keep up the interest, although not particularly rare. The Thursday excursion was devoted to Dinmore, but nothing of particular interest was found, and after this came the inevitable club dinner, ending with a soirée at the house of Mr. Cam, and a friendly gossip amongst the visitors and friends. Friday, the 7th, completed the Hereford week with an excursion to Ledbury and Eastnor Park, but fungi were nowhere to be found, so that the excursionists had to content themselves with an excellent dinner at Mr. Piper's, and then make the best of their way home.

HERTFORDSHIRE NATURAL HISTORY SOCIETY.—The Annual Fungus Excursion was held on Thursday afternoon, 13th October, in the neighbourhood of Broxbourne. Although the weather was not all that could have been desired, yet the finding and determination of about 75 species during the afternoon must, under all circumstances, be considered as entirely satisfactory. Amongst the most interesting spoils was what is believed to be the typical *Cortinarius quadricolor*, and *Cortinarius microcycclus*, the latter new to Britain. In all about 30 species were added to the county lists.

HACKNEY NATURAL HISTORY SOCIETY.—The Annual Fungus Field Day in Epping Forest was taken on Saturday, October 15th. Although there was still a great dearth of fungi in the Forest, it was found possible to complete a list of upwards of 100 species seen during the excursion, and of these about half a dozen were additions to the Flora of Essex, namely, *Agaricus (Stropharia) merdarius*, Fr.; *Agaricus (Collybia) ocellatus*, Fr.; *Agaricus (Mycena) roridus*, Fr.; *Agaricus (Hypholoma) epixanthus*, Fr.; *Agaricus (Pleurotus) limpidus*, Fr.; *Polyporus (Fomes) fraxineus*, Fr.; and the variety *Mulleri* of *Agaricus (Pholiota) squarrosus*, Fr.

SOCIÉTÉ BOTANIQUE DE FRANCE.—Canon du Port and Mr. T. Howse visited the Vosges before attending the Mycological Congress in Paris. Unfortunately a heavy fall of snow prevented them doing much; after the first day the ground was completely covered. The most interesting species found are reported to have been *Russula mustelina*, Fr.; *Russula rubra*, Fr.; *Cortinarius alboviolaceus*, Fr.; one supposed to be *Cortinarius fulvobrunneus*, Fr.; *Hygrophorus tephroleucus*, Fr.; *Hygrophorus pustulatus*, Fr.

An exhibition of Fungi was held in Paris, at the rooms of the Société Botanique, but "owing to the dryness of the season," we are informed, "there were fewer fungi of interest than might have been expected." Amongst these were *Hygrophorus erubescens*, Fr.; *Hygrophorus pudorinus*, Fr.; *Agaricus (Tricholoma) bufonius*, Fr.; *Clathrus cancellatus*, Fr. (immature); *Agaricus (Armillaria) bulbiger*, Fr.; *Agaricus (Flammula) gummosus*, Fr.; *Agaricus (Pleurotus) mastrucatus*, Fr.; *Agaricus (Pleurotus) nidulans*,

Fr. ; *Polyporus croceus* ; *Polyporus leucomelas* ; *P. Clavaria juncea*, Fr. ; and *Queletia mirabilis*, Fr. ; from Normandy, *Lentinus degener*, Fr. ; *Agaricus (Pholiota) destruens*, Fr. ; *Cortinarius fulmineus*, Fr.

The first excursion was to the Forest of Herblay, but the ground was so dry that but few species were found. *Agaricus (Pholiota) caperatus* was abundant. By far the best excursion was to Pierrefonds for the Forest of Compiègne. The most interesting finds were : *Agaricus (Lepiota) Friesii* ; *Agaricus (Nolanea) proletarius*, Fr. ; *Agaricus (Mycena) collariatus*, Fr. ; *Agaricus (Mycena) pelianthinus* ; *Agaricus (Tricholoma) lascivus*, Fr. ; *Marasmius fuscopurpureus*, Fr. ; *Marasmius globularis*, Fr. ; *Marasmius prasiosmus*, Fr.

The remainder of the time (during the week ending October 22nd) was devoted to the Forest of Fontainebleau. The following species are reported to have been observed, with many others of less interest : *Cortinarius dibaphus*, Fr. ; *Cortinarius rufo-olivaceus*, Fr. ; *Cortinarius anfractus*, Fr. ; *Ag. (Collybia) longipes*, Fr. ; *Ag. (Armillaria) robustus*, Fr. ; *Ag. (Hebeloma) strophosus*, Fr. ; *Ag. (Tricholoma) colossus*, Fr. ; *Merulius radiosus*, Fr. ; *Hygrophorus olivaceo-albus*, Fr. ; *Polyporus croceus*, Fr. At a banquet given to the English visitors by M. de Seynes, Canon du Port read a letter from the President of the Woolhope Club, expressing a desire that French Mycologists should again visit Hereford. The visitors from England were Messrs. Du Port, Phillips, Plowright, and Howse. Amongst the French mycologists present were M. de Seynes, Cornu, Roze, Cintract, Patouillard, Richon, le Breton, Planchon, Boudier, Mougeot, and Dr. Quelet.

HAMPSHIRE FIELD CLUB.—The first Fungus Foray of this Club in the New Forest was held at Lyndhurst, on October 20th and 21st, where M. C. Cooke, G. Masee, Rev. W. L. Eyre, and several local naturalists spent together two very enjoyable days in the forest, collecting and determining about 120 species. A detailed account, from the popular side, was given in the "Hampshire Independent" of October 22nd, with a list of the species found. The dry weather had exerted strong influence in the dry places of the forest where the soil is light, and indeed moist places were rarely encountered. Nevertheless, *Cortinarius orichalceus* was again found, and several other Fungi of interest, such as *Boletus pachypus*, *Boletus variegatus*, *Russula expallens*, *Boletus duriusculus*, *Sparassis crispa*, *Hygrophorus discoideus*, &c., but nothing really new.

TUNBRIDGE WELLS NATURAL HISTORY SOCIETY held a Fungus Foray in the neighbourhood of Tunbridge Wells on Wednesday, October 25th, and an Exhibition on the following day. Considering all things, there was an excellent show, for which the Society was largely indebted to the zeal and energy of Dr. Abbott and one or two fungus-hunting members. Nothing absolutely new or rare was collected, but the methodical arrange-

ment, and public exhibition, of the well-labelled specimens throughout the day made up for the absence of a large number of species, by turning to the best account those which were obtained.

ESSEX FIELD CLUB.—The Annual Foray of two days followed the precedent of previous years. On October 28th and 29th Forays were made in all directions from Buckhurst Hill into the Forest, the first day chiefly in the part north of Epping, and on the second day around Monk's Woods, High Beach, &c. Two more splendid days could hardly have been selected as far as weather was concerned, but the results of the dry season were lamentably present everywhere. The additions made to the Essex lists were few, but not without interest. *Cortinarius brunneus*, Fr., of which this typical form has, perhaps, not been found in Britain, certainly not recorded, since the time of Withering; the other additions to the local flora were: *Agaricus (Clitocybe) catinus*, Fr.; *Cortinarius hemitrichus*, Fr.; *Cortinarius dolabratus*, Fr.; *Cortinarius torvus*, Fr.; *Hygrophorus russo-coriaceus*, B. & B.; and *Sphaerobolus stellatus*, Fr. Tea, exhibition of specimens collected duly named and arranged, and a short evening meeting, with a report by M. C. Cooke on the results of the Foray, closed the last of the Forays of 1887.

NEW BRITISH FUNGI.

By M. C. COOKE.

(Continued from Vol. xv., p. 11.)

Agaricus (Lepiota) Friesii, Lasch. Linn. III., No. 9.

Pileus fleshy, soft, torn into tomentose adpressed scales. Stem hollow, with a web-like medulla, somewhat bulbous, squamose, ring superior, pendulous, equal. Gills rather remote, linear, much crowded, branched.—*Fries Hym. Eur.* 31.

In a garden. Tanbridge Wells.

Agaricus (Mycena) flavipes, Quelet. Jura. II., t. 1, f. 4.

Pileus membranaceous, campanulate, striate, diaphanous, smooth, violet or purplish pink, disc becoming brownish. Stem tough, shining, pellucid, yellow, villous at the base. Gills unciniate, adnate, connected by veins, distant, white, then rosy flesh-colour. Odour raphanoid. Spores $7 \times 4 \mu$.

On stumps. Whitby, Yorks.

Agaricus (Pleurotus) sapidus, Kalchb. Icon. t. 8, f. 1.

Cæspitose. Pileus fleshy, somewhat excentric, deformed, smooth, depressed in the centre. Stem solid, connate at the base, smooth, white. Gills decurrent, rather distant, white. Spores $10 \times 4.5 \mu$.

On elm trunks. Isleworth, Kew, Morpeth, and other places.

Pileus white or brownish, flesh always white.

Agaricus (Clitopilus) straminipes, *Massee*.

Pileus thin, submembranaceous, fragile, convex then expanded, and depressed, whitish, even, rather shining (1-2 in.). Stem equal, hollow, smooth, often compressed, straw-coloured below, sprinkled with white meal above (2 in. long, 2 lines thick.) Gills scarcely crowded, shortly decurrent, whitish, then rosy. Spores irregularly globose, nodulose pink. 10-12 μ .

On the ground. Carlisle. (Dr. Carlyle.)

Agaricus (Hebeloma) nauseosus, *Cooke*.

Fœtid. Pileus convex, gibbous, more or less expanded, even, smooth, viscid, ochrey-white (1-1½ inch across). Stem equal, or slightly attenuated below, of the same colour, mealy above, faintly striate downwards, and in decay turning black at the base, solid. Gills ventricose, sinuate behind, very broad, rather distant, pallid, then clay-coloured, at length ferruginous. Spores large, attenuated towards each end, 20 × 10 μ .

On the ground in mixed woods. Park End, Forest of Dean; near Bristol.

This is evidently distinct from *A. capniocephalus* and *A. ischnostylus*. The odour is very strong and abominable, especially after being kept for a night in a box.

Coprinus soboliferus, *Fries Hym. Eur. 322*.

Pileus submembranaceous, ovate then expanded, truncate, spotted with scales, dirty white. Stem stuffed, rather ventricose, tuberous at the base, ring fugacious. Gills free, ventricose, pallid, becoming black. Spores 18-20 × 8 μ .—*Cooke Illus. t. 848. Ag. costatus*, Krombh. t. 4, f. 1, 2.

At the base of elm trunk. Ealing Churchyard; Forest of Dean.

Perhaps only a variety of *C. atramentarius*, but the spores are nearly twice as large.

Cortinarius (Phlegmacium) herpeticus, *Fr. Hym. Eur. 349*.

Pileus fleshy, equal, somewhat spotted, viscid, disc becoming pale, flesh violaceous then whitish. Stem stuffed, firm, fibrillose, dirty pallid, marginate-bulbous at the base. Gills subadnate, violaceous-umber, then dingy olive. Spores 10 × 6.—*Cooke Illus. t. 849*.

In woods. Near Carlisle. (Dr. Carlyle.)

Stem at first short, then 2-3 in. long, hard, but spongy within, and at length hollow at the apex. Pileus even, rather viscid, olive, then dingy tan-colour, 3 in. broad. Gills 2-3 lines broad.

Cortinarius (Dermocybe) lepidopus, *Cooke*.

Pileus fleshy, smooth, even, rather thin, convex then expanded, gibbous (1-2 in.), umber, with a tinge of violet near the margin, becoming rufescent at the disc, flesh whitish, with a darker line near the gills. Stem (3 in. long) attenuated upwards, becoming hollow when old, violet at the apex, dirty white below, with concentric fibrillose darker bands, flesh with a pale lilac tinge above and dirty white below. Veil whitish, with a tinge of violet. Gills adnate, rather crowded, thin, violet, then cinnamon. Spores

ovate, sometimes almost globose, with an apiculus $9 \times 6 \mu$.—*Cooke Illus. t.* 850.

In heathy ground. Epping Forest, near Monk's Wood (1882); near Carlisle (1887); Scarborough'.

Colour of the pileus rather variable in the tint of brown. Allied to *C. anomalus*, but resembling *C. spilomeus* in the banded stem, although less distinct, and of a different colour. The specific name is derived from this character of the stem, which is unusual in *Dermocybe*.

Cortinarius (Telamonia) biformis, *Fr. Hym. Eur.* 383.

Pileus thin, conic-campanulate then expanded, smooth, shining, ferruginous-bay, with a prominent fleshy umbo. Stem stuffed, rigid, attenuated downwards, fibrillose-striate, paler, with an oblique white ring (which is sometimes obsolete). Gills adnate, rather crowded, crenulate, cinnamon.—*Cooke Illus. t.* 869.

In mixed woods. Park End, Forest of Dean. Oct., 1887.

Pileus $1\frac{1}{2}$ -3 in. diam. Stem 2-4 in. long, 3-4 lines thick.

This is the form without manifest ring mentioned by Fries. It approaches a diminutive form of *C. brunneus*.

Cortinarius (Telamonia) nitrosus, *Cooke*.

Stinking. Pileus fleshy, rather thin, obtuse, convex then expanded (2-3 in.), undulate at the margin, fawn-colour or tawny, darker and brownish at the disc, soon breaking up into minute, somewhat concentric darker scales. Stem short, stout, solid, ochraceous, darker at base, nearly equal (2-3 in long, $\frac{1}{2}$ in. thick), paler than the pileus, marked below with concentric darker squamose bands. Gills rather broad, somewhat distant, emarginate, violet, then watery cinnamon. Spores elliptical, $12 \times 4 \mu$.—*Cooke Illus. t.* 837.

In mixed woods, near Bristol. (C. Bucknall.)

Cortinarius (Telamonia) rubellus, *Cooke*.

Pileus fleshy, campanulate then expanded, rufous-orange, darker at the umbo (2-3 inches broad), disc fleshy, thin towards the margin, flesh reddish ochre. Stem thick, solid, equal, or attenuated upwards (3-4 in. long, $\frac{1}{2}$ in. thick), pale above, darker below, marked with concentric dark ferruginous fibrillose bands. Gills adnate, sinuate, rather narrow, scarcely crowded, pale, then bright ferruginous-red. Spores pyriform, minutely rough, $8 \times 5 \mu$.—*Cooke Illus. t.* 835.

In swampy places. Orton Moss, near Carlisle. (Dr. Carlyle.)

Cortinarius (Telamonia) microcylus, *Fr. Hym. Eur.* 376.

Pileus submembranaceous, convexo-plane, even, smooth, testaceous-brown, becoming pale, opaque, umbonate, disc darker. Stem stuffed, attenuated upwards from the thickened base, pallid. Veil collapsing in an annular zone. Gills adnate, broad, distant, lilac, then cinnamon.—*Cooke Illus. t.* 865.

Under trees. Broxbourne. Oct., 1887.

Stature and habit of *C. decipiens*. Pileus 1 inch broad.

Cortinarius (Hydrocybe) tortuosus, *Fr. Hym. Eur.* 389.

Pileus rather fleshy, convex, somewhat gibbous, smooth, even, shining, ferruginous-bay (brick-red when dry). Stem rather hollow, rigid, equal, somewhat twisted, silvery. Gills adnate, crowded, quite entire, fulvous, becoming purple when wounded.—*Cooke Illus. t.* 857.

In damp pine woods. Scarborough.

Distinctive by becoming purple when bruised.

Cortinarius (Hydrocybe) unimodus, *Britzelmeyer Hym. Sudb. iv., f.* 131.

Pileus campanulate then expanded, rufous brown, smooth, margin straight. Stem equal, fibrous, of the same tint. Gills distant, brown. Spores $10-12 \times 8 \mu$.—*Cooke Illus. t.* 859.

In grassy places. Carlisle. (Dr. Carlyle.)

Pileus 4-5 cm. Stem 8 cm. long, 6-7 mm. thick. The diagnoses by Britzelmeyer are so meagre that his species can only be conjectured.

Cortinarius (Hydrocybe) bicolor, *Cooke.*

Pileus rather fleshy, campanulate, then expanded, broadly, or occasionally rather acutely umbonate (1-2 in. diam.), somewhat fragile, dingy whitish, with an occasional tinge of lilac, even, smooth, silky, shining, flesh thin, colour of the pileus, or paler. Stem equal, or attenuated downwards (about 2 in. long, $\frac{1}{4}$ in. thick), pallid violet, becoming whitish, solid. Flesh bright purplish-violet at the base, pallid above. Gills adnate, with a tooth, sub-ventricose, slightly eroded at the edge, rather broad, scarcely crowded, purplish violet, then cinnamon. Spores elliptical, a little attenuated towards one or both ends, $10 \times 5-6 \mu$. Veil fugacious, white.—*Cooke Illus. t.* 871.

On the ground in mixed woods. Park End, Forest of Dean, near Carlisle; Blaize Castle woods, near Bristol.

To this species evidently belong the specimens figured in "Illustrations," pl. 820, f. B., under the name of *C. quadricolor*, from which species it differs considerably.

Paxillus (Lepista) lividus, *Cooke Illus. t.* 861.

Pileus convex, at length slightly depressed at the disc, dingy white, or livid ochraceous, opaque (1-2 inches). Stem attenuated downwards, white (3-4 in. long, $\frac{1}{2}$ in. thick), fibrillose, stuffed, then hollow. Gills arcuate, decurrent, white, almost crowded. Spores globose, nearly white, flesh nearly white.

In woods. Leigh Down, Bristol. (C. Bucknall.)

Paxillus (Lepista) revolutus, *Cooke.*

Pileus convex, obtuse, pale ochraceous, slightly darker at the disc, margin thin, even, sometimes at first tinged with violet, a little revolute. Stem solid, gradually attenuated downwards, paler than the pileus, often tinted violet at the base. Gills very decurrent, scarcely crowded, pallid, then clay-coloured. Odour mealy.—*Cooke Illus. t.* 862.

In field. Sandy Lane, near Guildford. (T. Howse.)

Pileus about an inch and a half. Stem $1\frac{1}{2}$ -2 in. long, about $\frac{1}{2}$ in. thick at the apex, $\frac{1}{4}$ in. at the base.

Paxillus (*Lepista*) *orcelloides*, Cke. & Mass.

Pileus at first snow white, becoming stained with livid or greyish blotches, minutely silky, shining, margin thin, involute. Stem tapering towards the base, solid, elastic, silky-fibrillose, livid ochraceous. Gills crowded, readily separating from the horny hymenophore, whitish, then livid, at length dirty yellowish-brown, adnate, decurrent. Spores $8 \times 4 \mu$.—*Cooke Illus. t. 874 B.*

Amongst grass. Queen's Cottage Grounds, Kew.

Paxillus (*Tapinia*) *crassus*, Fr. Hym. Eur. 404.

Pileus fleshy, oblique, nearly plane, becoming even, and ferruginous. Stem stuffed, excentric, very short, ascending. Gills decurrent, broad, rather distant, straight, cinnamon. Spores ferruginous, $15-18 \times 7-8 \mu$.—*Cooke Illus. t. 877.*

On mound of rifle butts. Blackheath. Nov., 1885. (T. Howse.)

This agrees with specimen in Herb. Berk., but it seems to be rather a *Flammula* than a *Paxillus*.

Lactarius (*Russularia*) *cremor*, Fries Hym. Eur. 432.

Pileus fleshy, thin, convex, then plane, minutely punctulate, viscid, tawny, margin striate. Stem hollow, fragile, of the same colour. Gills adnate, rather distant, pallid. Milk mild, watery, white. Spores globose, rough, 10μ .

In woods. Carlisle. (Dr. Carlyle.)

Stem 2 in. long, 3-4 lines thick.

Bovista *ovalispora*, Cke. & Mass.

Subglobose, sessile. Cortex thin, whitish or ochraceous, subpersistent. Peridium thin, flaccid, smooth, dull lead-colour, dehiscing by an irregular apical rupture. Capillitium and spores umber in the mass. Threads $12-16 \mu$ at the thickest part, much and vaguely branched, tapering to long slender tips, dirty umber by transmitted light. Spores oval ($6 \times 4\frac{1}{2} \mu$), brownish umber, with a narrow hyaline border, caused by the thickened epispore, pedicels long and stout, hyaline.

On the ground. Kew Gardens. Nelson (New Zealand). S. Carolina (U.S.A.).

Differing from *B. plumbea* in being larger (2 inches or more) in the oval spores, and from *B. nigrescens* in the oval spores and absence of purple tinge in the capillitium and spores.

Lycoperdon *Cookei*, Mass. in Journ. Roy. Micr. Soc., 1887, p. 14, t. 13, f. 24-26.

Hemispherical or globose, abruptly contracted into a short, thick, stem-like base, smoky-brown above, white below, minutely areolato-furfuraceous, dehiscing by a small irregular mouth. Capillitium continuous with the well-developed cellular sterile base, threads varying in thickness, simple, firm. Spores bright citrine-yellow, then olivaceous-umber, globose, smooth, sometimes

stipitate, 4 μ diam.—*L. pusillum*, Cooke Science Gossip, Dec., 1886.

On the ground. Norfolk, Kew Gardens ; Albany, U.S. ; Port Jackson, Australia.

Gregarious $\frac{1}{2}$ - $\frac{2}{3}$ in. across.

Lycoperdon perlatum, Pers. Syn. 145 ; Mass., l.c., p. 10.

Lycoperdon gemmatum, Batsch. Elen, p. 147 ; Mass., l.c., p. 10.

These two species should be kept distinct.

Puccinia Bupleuri, Rud. in Linnæa iv., 514.

Epiphyllous and caulicolous. Sori oblong, gregarious, soon fissured, and surrounded by remains of the epidermis, dark brown, rather small. Telentospores elliptical, uniseptate, brown, 26-40 \times 18-30 μ .—*Corda Icon. iv., f. 50.*

Puccinia Bupleuri falcata, Winter in Rabh. Krypt. Fl. i., 212.

On *Bupleurum tenuissimum*. Walton on the Naze. Aug., 1837. (R. Paulson.)

Valsa (Calospora) alnicola, C. & Mass.

Perithecia few, circinating, nestling beneath the elevated bark, which is at length pierced by the short ostiola. Asci clavate, octosporous. Sporidia cylindrical, obtuse, slightly curved, tri-septate, hyaline, 25 \times 8 μ .

On branches of *Alnus autumnalis*. Kew.

2661. Chætosphæria pileo-ferruginea, Cronan. Sacc. Syll. 3216.

Sporidia lanceolate, uniseptate, 4-6, nucleate, hyaline, 45-50 \times 8 μ .

On roots of *Calluna*. Near Carlisle. (Dr. Carlyle.)

The perithecia being smooth, and the sporidia with scarcely any tinge of colour, this species should have been placed in *Byssosphæria* in our "Synopsis Pyrenomycetum." There are faint indications that the sporidia may become 3-5 septate, but the specimens were clearly not fully mature.

Cucurbitaria Aspegrenii, Ces. & Not. Sac. Syll. 3987.

Sporidia 7 septate, muriform, brown, 48-53 \times 12-14 μ .

On cherry. Queen's Cottage, Kew.

Ostreichnion Americanum, Duby Hyst. t. 1, f. 1. Sacc. Syll. II., No. 5715.

Sporidia 100 \times 35 μ , tips pale or colourless.

On pine wood. Scarborough. (G. Masee.)

Also found on Fries' specimens of *Lophium mytilinum*, in Scler. Succ. No. 10. Not hitherto recorded as European. We cannot accept Saccardo's alteration of the generic name of *Ostreichnion* to *Ostreion*, however vicious the former may be, after it has been accepted and adopted for so many years. Note, for example, the *Cinchona v. Chinchona* discussion in 1866. "In these kinds of questions it must be borne in mind, first, that the fixity of names is of superior importance ; secondly, that a botanist has the right to construct a name in any way he pleases, something in the form of a man's name, for instance." See *Commentary on Laws of Nomenclature*, 1868.

Phoma salicifolia, *Cooke.*

Epiphyllous. Perithecia very minute, punctiform, scattered, or more commonly gregarious in small orbicular patches. Sporules subglobose or oval, continuous, hyaline, $6 \times 4 \mu$.

On dead leaves of *Salix*. Kew.

Phoma Buddleiaë, *Cooke.*

Perithecia scattered, minute, covered by the epidermis, which is slightly elevated, and at length pierced. Sporules oval, hyaline, $6 \times 4 \mu$.

On twigs of *Buddleia globosa*. Kew.

Fusicoccum Betulæ, *Cke.*

Stroma black, erumpent, scattered, verrucæform, nucleus whitish. Sporules fusiform, continuous, hyaline; $20-25 \times 6 \mu$, on simple or furcate basidia.

On twigs of *Betula papyracea*. Kew.

Cytisporina hysterioides, *Cooke.*

Stroma gregarious, elongated, elliptical, breaking through the bark and resembling an erumpent *hysterium*, black. Sporules cylindrical, obtuse, curved, continuous, hyaline, 20×4 , on short basidia.

On twigs of *Celtis*. Kew.

Cytisporina staphyleæ, *Cke.*

Stroma minute, scattered, black, convex, erumpent. Sporules cylindrical, obtuse, curved, multi-nucleate, 25×4 , on very short, simple basidia.

On twigs of *Staphylea trifoliata*. Kew.

Phlæospora Æsculi, *Cooke.*

Hypophyllous, pseudo-perithecia innate, at length opening above. Sporules oozing out in masses, cylindrical, or obtusely fusiform, triseptate, hyaline, $30-35 \times 8 \mu$.

On leaves of *Castanea vesca*. Shere. (Dr. Capron.)

Marsonia Ipomææ, *Cke. & Mass.*

Pustules densely aggregated on the stems, erumpent, breaking the cuticle in an irregular manner and becoming dark coloured, so as to resemble an *Uredo* to the naked eye. Conidia oozing out in short tendrils, narrowly-oblong or subcylindrical, obtuse at the ends, uniseptate, hyaline, $10-15 \times 3 \mu$.

On living stems and leaves of *Ipomæa*. Kew Gardens. Oct., 1887.

Hypodermium orchidearum, *Cke. & Mass.*

Pustules erumpent, linear, or narrowly-oblong, girt by the fissured epidermis. Conidia cylindrical, rounded at the ends, concatenate, continuous, granular within, hyaline, $25-27 \times 5 \mu$, on short, thick sporophores.

On leaf of *Cymbidium eburneum*.

Fusidium Deutziaë, *Cooke.*

Hypophyllous. Tufts small, convex, pulverulent, flesh-coloured. Conidia fusiform, straight, hyaline, continuous, $16-20 \times 3-4 \mu$, on very short sporophores.

On fading leaves of *Deutzia*. Holloway.

Oidium erumpens, *Cke. & Mass.*

Hypophyllous. Pustules greyish-white, erumpent, rather compact, becoming dark coloured with age. Conidia subglobose, at first, by compression, somewhat quadrate, concatenate, hyaline, $5 \times 7 \mu$, on short stout sporophores.

On living leaves of *Rivea hypocrateriformis*. Kew Gardens.

Tubercularia Ligustri, *Cooke.*

Tubercles minute, convex, erumpent, soon black, and depressed in the centre, sessile. Sporules very minute, elliptical, hyaline, $2 \times 1 \mu$. Sporophores short, delicate, apparently simple.

On twigs of *Ligustrum*. Kew.

Tubercularia conorum, *Cke. & Mass.*

Tubercles sessile, erumpent in lines, convex, often confluent, rosy. Threads long, straight, erect. Conidia allantoid, obtuse, $8-10 \times 2-3 \mu$.

On fir cones. Carlisle. (Dr. Carlyle.)

Tubercularia aquifolia, *C. & Mass.*

Tubercles scattered, innate, at length erumpent, pallid flesh colour, sessile. Threads rather thick, furcate. Conidia narrowly-elliptical or sausage-shaped, obtuse, $12-15 \times 2-3 \mu$.

On dead holly leaves. Highgate.

Fusarium bulbigenum, *Cke. & Mass.*

Effused, whitish, at first somewhat erumpent in small tufts, which become confluent. Conidia fusiform, arcuate, or incurved at the acute extremities, triseptate, hyaline, $40-50 \times 5 \mu$.

On diseased bulbs of *Narcissus*.

Fusarium myosotidis, *Cooke.*

Hypophyllous. Spots small, irregular, pallid. Stroma thin. Conidia fusiform, curved, triseptate, hyaline, $30 \times 3-4 \mu$.

On fading leaves of *Myosotis*. Forden. (Rev. J. E. Vize.)

PUFF BALLS.

We must call the attention of Mycologists to two monographs, the one of the Lycoperdons, by Mr. G. Masee, in the "Journal of the Royal Microscopical Society," prepared with great care, and the examination of authentic specimens; the other of the Geasters, by Dr. de Toni, in "Revue Mycologique." We regret to add that the latter has *not* been prepared with the requisite care, and unfortunately leaves the genus more confused than ever. Species are united which have no relation to each other, and assumptions made where the types have not been consulted to an extent which, to our minds, renders the monograph valueless. The time and space required to demonstrate this would be as great as to prepare a fresh monograph, and we are too fully employed, but the necessity for a thorough and practical monograph, based upon indisputable data, is more urgent now than ever.

SYNOPSIS PYRENOMYCETUM.

(Continued from p. 19.)

Sub.-Fam. 3. ROSELLINIÆ. Perithecia subsuperficialia, glabra, denudata, plerumque carbonacea.

GEN. 1. **PSILOSPHÆRIA.** Perithecia denudata, sporidia hyalina, continua vel septata.

* CÆLOSPHÆRIA. *Sporidia allantoidea, hyalina.*

2950. chiliopyxis, *B. & C.* 381 2951. veneta, *Sacc. & Berl.* 6256

** WALROTHIELLA. *Sporidia continua, hyalina.*

2952. congregata, *Wallr.* 1755 2957. minutissima, *Cr.*... 1761

2953. arceuthobi, *Peck*... 1756 2958. bombardella, *Ces.* 4305

2954. minima, *Fckl.* ... 1757 2959. eunotiæspora, *C. &*

2955. squalidula, *Cke. &* *Hark.* ... 6399

Pk. ... 1759 2960. Fendleri, *B. & C., Grev.*

2956. melanostigma, *C. &* *xv., 82*

E. ... 1760

* * * ZIGNOINA. *Sporidia continua, hyalina, guttulata.*

2961. seriata, *Curr.* ... 3648 2966. nitidula, *Sacc.* ... 3655

2962. papillata, *Fckl.* ... 3649 2967. macrospora, *Sacc.* 3656

2963. pygmæa, *Karst.* ... 3650 2968. collabens, *Curr.* ... 3658

2964. ostioloidea, *Cke.* ... 3651 2969. latericolla, *Berk.*... 3661

2965. diaphana, *C. & E.* 3653 2970. Mulleri, *Duby.* ... 2992

** LEPTOSPORA. *Sporidia continua, hyalina, pseudoseptata.*

2971. spermoides, *Fr.* ... 3565

*** BERTIA. *Perithecia rugulosa, sporidia didyma, hyalina.*

2972. moriformis, *Tode.* 2272 2976. lichenicola, *Not.*... 2276

2973. submoriformis, 2977. vitis, *Schulz.* ... 2277

Plow. ... 2273 2978. leptosporoides,

2974. italica, *Speg.* ... 2274 *Wint.* ... 5890

2975. australis, *Speg.* ... 2275

*** ZIGNARIA. *Sporidia didyma, hyalina.*

2979. campi-silii, *Sacc.*... 3646 2980. segregata, *B. & C.* 3647

**** MELANOPSAMMA. *Sporidia didyma, hyalina.*

2981. pomiformis, *Pers.* 2248 2987. latericollis, *Fr.* ... 2259

2982. pustula, *Curr.* ... 2251 2988. improvisa, *Karst.* 2262

2983. confertissima, 2989. hydrotheca, *Speg.* 2263

Plow. ... 2253 2990. recessa, *Cke. & P.* 2265

2984. congesta, *Speg.* ... 2255 2991. subfasciculata,

2985. Bolleana, *Pass.* ... 2256 *Schwz.* ... 4309

2986. rhodomphalos, *Berk* 2258

- 2992 conospora, *B. & C., Grev.* xv., 82
 2993 Saccardiana, *Bomm. & Roum.* ... 6514
- **** ZIGNOELLA. *Sporidia pluriseptata, hyalina.*
 A. *Sporidia triseptata.*
 2996. semen, *C. & Pk.*... 3460 2997. Keitii, *Berk.* ... 3620
 B. *Sporidia 1-5 septata.*
 2998. macrospora, *Sacc.* 2279 2999. parasitica, *Fab.* ... 2280
 C. *Sporidia multiseptata.*
 3000. ovoidea, *Fr.* ... 3626 3014. sociabilis, *Schulz. & Sacc.* ... 7060
 3001. pulviscula, *Curr.* 3627 3015. Haynaldii, *Schulz. & Sacc.* ... 7061
 3002. punctiformis, *Sacc.* 3628 3016. jurana, *Sacc. & Berl.* ... 7062
 3003. exigua, *C. & Pk.*... 3629 3017. grænendalensis, *Sacc. & R.* ... 7064
 3004. cariosa, *C. & E.* ... 3630 3018. sequanica, *Sacc. & Mal.* ... 7065
 3005. conica, *Fckl.* ... 3631 3019. Hanburiana, *Penz. & Sacc.* ... 7058
 3006. atrella, *C. & E.* ... 3634 3020. Britzelmayeri, *Sacc.* ... 3540
 3007. funicola, *Ellis* ... 3639
 3008. rhytidodes, *B. & Br.* 3640
 3009. fallax, *Sacc.* ... 3641
 3010. incerta, *Speg.* ... 3642
 3011. astrocarya, *Cke.*... 3643
 3012. dolichospora, *Sacc.* 3644
 3013. Vincenziæ, *Cke., Grev.* xv., 81

GEN. 2. **ASTROCYSTIS**, *Berk.* *Perithecia volva stellata erumpentia. Sporidia ovoidea, fusca.*

3021. mirabilis, *B. & Br.* 1096

GEN. 3. **ROSELLINIA**. *Perithecia superficialia, glabra. Sporidia continua, fusca.*

A. CALOMASTIA. *Perithecia grandiuscula, glabra.*

3022. mammiformis, *P.* 938 3028. cellarum, *Lamb* ... 947
 3023. mastoidea, *S.* ... 939 3029. obliquata, *Sow.* ... 949
 3024. callimorpha, *Karst.* 6310 3030. sublimbata, *DR. & M.* ... 941
 3025. medullaris, *Wallr.* 940 3031. mammoidea, *Cke.* 962
 3026. araneosa, *P.* ... 943 3032. cocoinum, *Cooke*... 5983
 3027. Julii, *Fab.* ... 946

B. TASSIELLA. *Perithecia rugulosa.*

3033. Tassiana, *Not.* ... 950 3037. pachydermatica, *Ces.* ... 1008
 3034. callosa, *Wint.* ... 951 3038. molleriana, *Wint.* 6311
 3035. megalocarpa, *Plow.* 952 3039. papaverea, *B. & Br.* 937
 3036. moroides, *Curr.* ... 954 3040. rotula, *Cooke* ... 897

C. CONIOMELA. *Peritheciis minoribus, glabris.*a. *Lignicolæ.*

- | | | | |
|--|------|---------------------------------|------|
| 3041. pulveracea, Ehr.... | 968 | 3056. umbrinella, B. & C. | 981 |
| <i>var. platysporella, Speg.</i> | | 3057. verrucaria, M. ... | 982 |
| 3042. myriocarpa, Fr. ... | | 3058. Winteriana, Sp.... | 983 |
| 3043. millegrana, Schw. | 969 | 3059. arctospora, C. & E. | 984 |
| 3044. inspersa, B. ... | 970 | 3060. microspora, Ces.... | 985 |
| 3045. rimicola, Rehm. | 971 | 3061. dispersella, Nyl.... | 986 |
| 3046. rugulosa, Sch. &
<i>Sacc.</i> ... | 6312 | 3062. hypoxylina, Ces.... | 987 |
| 3047. rosarum, Nssl. ... | 972 | 3063. pseudobombarda. S. | 988 |
| 3048. socia, Not. ... | 973 | 3064. microscopica, Not. | 990 |
| 3049. etrusca, Fab. ... | 974 | 3065. ovalis, Ellis ... | 989 |
| 3050. sordaria, Fr. ... | 994 | 3066. opaca, Cke. ... | |
| 3051. catervaria, B. & Br. | 975 | 3067. barbatula, B. & C., Grev. | |
| 3052. apiculata, S. ... | 977 | xv., 81 | |
| 3053. sylvana, S. ... | 978 | 3068. transversalis, Schw. | 4308 |
| 3054. spadicea, Ces. ... | 979 | 3069. umbrino-velata, B. | |
| 3055. ulmaticolor, B. & C. | 980 | & C. ... | 1475 |
| | | 3070. oblectans, Ces. ... | 1084 |

b. *Folii colæ.*

3071. pandanicola, B. & Br. 976

c. *Lichenicolæ*

- | | | | |
|---------------------------|------|--------------------------|------|
| 3072. Cladoniæ, Anzi. ... | 1014 | 3074. aspera, Hazsl. ... | 1016 |
| 3073. nephromatis, Cr. | 1015 | | |

d. *Dubiæ.*

- | | | | |
|--|------|--------------------------|------|
| 3075. rhypara, B. & Br. | 1018 | 3078. plana, Preuss. ... | 1022 |
| 3076. Tulasnei, Cr. ... | 1019 | 3079. prorumpens, Bon. | 1023 |
| 3077. Schumacheri,
<i>Hans.</i> ... | 1020 | 3080. pulverulenta, Bon. | 1024 |
| | | 3081. brunnea, Bon. ... | 1025 |

D. *Sporidia fusca, continua, episporio asperulo.*

3082. rhombispora, Sacc. 948

E. BOMBARDIA. *Sporidia ovoidea, fusca, caudataque.*

- | | | | |
|----------------------------|------|----------------------------|------|
| 3083. fasciculata, Fr. ... | 1026 | 3084. bertioides, Ces. ... | 1027 |
|----------------------------|------|----------------------------|------|

GEN. 4. **MELANOMMA.** *Perithecia subsuperficialia, glabra. Sporidia septata, fusca.** AMPHISPHERIA. *Sporidia uniseptata.*

- | | | | |
|----------------------------|------|---|------|
| 3085. hesperidium, Penz. | 2723 | 3092. foeda, Not. ... | 2742 |
| 3086. stilbostoma, Nsl.... | 2725 | 3093. melasperma, Cke. | 2745 |
| 3087. monstrosa, Bagn. | 2727 | 3094. Passerinii, S. & S. | 2746 |
| 3088. atrograna, C. & E. | 2734 | 3095. salebrosa, C. & P. | 2747 |
| 3089. dunarum, Sp. ... | 2735 | 3096. sapinea, K. ... | 2752 |
| 3090. congruella, Karst. | 2737 | 3097. decorticata, C. &
<i>Hark.</i> ... | 6615 |
| 3091. pædida, B. & Br.... | 2740 | | |

3098. dothideaspora, *C.* & *Hark.* ... 6618
 3099. hypoxylon, *Ell. & Ev.* 6619
 3100. heteromera, *Br. & Sacc.* ... 6614

** MELANOMMA. *Sporidia* 2-3 septata.

3105. pulviscula, *Karst.* 6698
 3106. pulvis-pyrius, *Pers.* 3223
 = *obscura*, *Pers.* in litt.
 = *Julii*, *Fab.* ... 3250
 3107. pyriosticta, *Cke., Grev.*
 xv., 83
 3108. fuscidulum, *Sacc.* 3224
 3109. ramincola, *Schw., Grev.*
 xv., 83
 3110. obducens, *Not.* ... 3225
 3111. Briardianum, *Sacc.* 6699
 3112. Mussatianum, *Sacc.*
 & *Roum.* ... 7000
 3113. effugiens, *Karst.* ... 7001
 3114. obtusum, *Sacc.* ... 3227
 3115. Holmskjældii,
 Karst. ... 3230
 3116. Heufleri, *Awd.* ... 3231
 3117. fissum, *Fckl.* ... 3234
 3118. subsparsum, *Fckl.* 3235
 3119. sparsum, *Fckl.* ... 3236
 3120. subdispersum, *Karst.* 7002
 3121. catillus, *Sacc.* ... 3237
 3122. disjectum, *Karst.* 3238

3101. pulcherrima, *Speg.* 2754
 3102. enteroxantha, *Ces.* 2755
 3103. australis, *Speg.* ... 2756
 3104. biturbinata, *DR. & M.* ... 2759

3123. medium, *S. & S.* ... 3241
 3124. cubonianum, *Sacc.* 3242
 3125. Stevensoni, *B. & Br.* 3243
 3126. porothelia, *B. & C.* 3244
 3127. truncatulum, *Sacc.*
 & *Roum.* ... 7003
 3128. Lenarsii, *West.* ... 3246
 3129. mori, *Fab.* ... 3248
 3130. minervæ, *Fab.* ... 3249
 3131. erraticulum, *Karst.* 7004
 3132. Gibellianum, *Sacc.* 3251
 3133. verrucaria, *Fr.* ... 3255
 3134. conjugatum, *Not.* 3256
 3135. lonicerina, *Karst.* 3258
 3136. inspissa, *Schw.* ... 4312
 3137. Lambottianum,
 Sacc. ... 3261
 3138. sanguinarium, *K.* 3264
 3139. sulcatum, *Ellis* ... 7009
 3140. congesta, *Cke.* ... 7010
 3141. seminis, *Cke. & Hark.* ... 7007
 3142. parmeliarum, *Pl. & Ph.* ... 3158

** * *Sporidia* 4-pluriseptata.

3143. juniperinum, *Karst.* 3266
 3144. Beccarianum, *Ces.* 3268
 3145. læpophagum, *Tul.* 3270

3146. phæum, *Rehm.* ... 3271
 3147. uliginosa, *Fr.* ... 4303

** TREMATOSPHERIA. *Sporidia* 5-septata, fusca.

3148. pseudobombarda,
 Mont. ... 3309

3149. allantospora, *B. & C.* 1498

*** STUARTELLA. *Perithecia tuberculata. Sporidia magna, tri-septata, fusca.*

3150. formosa, *Fab.* ... 3314

GEN. 5. **STRICKERIA**, *Korb.* *Perithecia sparsa vel gregaria, superficialia. Sporidia murali-divisa, fusca.*

* TEICHOSPORA. *Peritheciis non collabentibus.*

3151. nitidula, *Karst.* ... 3877
 3152. propendula, *Karst.* 3878
 3153. oleicola, *Pass.* ... 3879

3154. trabicola, *Fckl.* ... 3880
 3155. Chevalieri, *Karst.* 3881
 3156. circumclusa, *Not.* 3882

- | | |
|--|---------------------------------------|
| 3157. anceps, <i>Sacc.</i> ... 3883 | 3163. ampullacea, <i>Rehm.</i> 3900 |
| 3158. sarmenticia, <i>Sacc.</i> 3889 | 3164. oxystoma, <i>Sacc.</i> ... 3901 |
| 3159. vaga, <i>Rehm.</i> ... 3891 | 3165. pruniformis, <i>Nyl.</i> 3903 |
| 3160. obducens, <i>Fr.</i> ... 3894 | 3166. mesascium, <i>Not.</i> ... 3904 |
| 3161. macrosperma, <i>Fckl.</i> 3897 | 3167. vetusta, <i>Ellis</i> ... 3908 |
| 3162. sylvana, <i>S. & S.</i> ... 3899 | 3168. vile, <i>Fr.</i> ... 3226 |

** STRICKERIA, *peritheciis dein collapso-concavis.*

- | | |
|---|--|
| 3169. ignavis, <i>Not.</i> ... 3895 | 3173. helichrysi, <i>Fab.</i> ... 3913 |
| = <i>morthieri</i> , <i>Fckl.</i> 3896 | 3174. pomiformis, <i>Karst.</i> 3914 |
| 3170. pezizoides, <i>S. & S.</i> 3909 | 3175. artemisiæ, <i>Fab.</i> ... 3916 |
| 3171. patellarioides, <i>Sacc.</i> 3910 | 3176. deflectens, <i>Karst.</i> 3917 |
| 3172. Rabenhorstii, <i>Awd.</i> 2911 | |

** CROTONOCARPIA. *Peritheciis corrugato-tuberculatis.*

3177. moriformis, *Fckl.* 3932

GEN. 6. **OHLERIA**, *Fckl.* *Perithecia superficialia, macula, atra, stromatica insidentia. Sporidia 3-septata, fusca, in articulos biloculares sedentia.*

- | | |
|--|---------------------------------------|
| 3178. rugulosa, <i>Fckl.</i> ... 3218 | 3181. ulmi, <i>Fckl.</i> ... 3221 |
| 3179. modesta, <i>Fckl.</i> ... 3219 | 3182. obducens, <i>Wint.</i> ... 3222 |
| 3180. quercicola, <i>Fab.</i> ... 3220 | |

SPECIES DUBIÆ.

- | | |
|---|---|
| 3183. notha, <i>Fr.</i> ... 4302 | 3187. nigro-brunnea,
<i>Schw.</i> ... 4310 |
| = <i>abnormis</i> , <i>Schwz.</i> | |
| 3184. columnaris, <i>Jungh.</i> 4304 | 3188. inconstans, <i>Schw.</i> 4311 |
| 3185. depolita, <i>B. & C.</i> ... 4306 | 3189. hydrangeæ, <i>Schw.</i> 4313 |
| 3186. alvear, <i>Ces.</i> ... 4307 | 3190. brunnea, <i>Schw.</i> ... 4314 |
| | 3191. aggregata, <i>Schwz.</i> 4315 |

Sub-Fam. 4. SORDARIÆ.

GEN 1. **SORDARIA**, *Ces.* *Perithecia submembranacea, plerumque fimicolæ. Sporidia circulo mucoso v cauda instructa.*

A. EUSORDARIA. *Octospori. Sporidia caudata.*

* *Fimicolæ.*

- | | |
|---|---|
| 3192. coprophila, <i>Fr.</i> ... 838 | 3202. curvula, <i>D'By.</i> ... 848 |
| 3193. natalitia, <i>Speg.</i> ... 839 | 3203. Winteri, <i>Karst.</i> ... 849 |
| 3194. minuta, <i>Fckl.</i> ... 840 | 3204. micrura, <i>Speg.</i> ... 850 |
| 3195. communis, <i>Speg.</i> ... 841 | 3205. appendiculata,
<i>Auers.</i> ... 851 |
| 3196. neglecta, <i>E. & C.</i> 842 | |
| 3197. hirta, <i>Hans.</i> ... 843 | 3206. decipiens, <i>Wint.</i> ... 852 |
| 3198. fimiseda, <i>Ces.</i> ... 844 | 3207. amphicornis, <i>Ell.</i> 853 |
| 3199. californica, <i>Plow.</i> 845 | 3208. valsoides, <i>Ph.</i> ... 854 |
| 3200. carbonaria, <i>Plow.</i> 846 | 3209. squamulosa, <i>Cr.</i> ... 855 |
| 3201. bombardioides,
<i>Auers.</i> ... 847 | 3210. marcescens, <i>B.</i> ... 963 |

** *Phytogenæ.*

3211. lignicola, <i>Nkl.</i> ...	856	3217. austro-america-	
3212. tomentosa, <i>Speg.</i> ...	857	<i>Speg.</i> ...	862
3213. caudata, <i>Cun.</i> ...	858	3218. cirsii, <i>Cr.</i> ...	863
3214. lanuginosa, <i>Pr.</i> ...	859	3219. palmicola, <i>Awd.</i>	
3215. culmigena, <i>Sacc.</i> ...	860	<i>Myc. Univ.</i> ...	2168
3216. leucotricha, <i>Speg.</i>	861	3220 sparganicola, <i>Ph. &</i>	
		<i>Pl.</i> ...	6303

I. MALINVERNIA. *Tetraspori.*

3221. anserina, <i>Rabh.</i> ...	864	3224. sarawacencis, <i>Ces.</i>	867
3222. australis, <i>Speg.</i> ...	865	3225. pauciseta, <i>Fckl., F.</i>	
3223. erecta, <i>Speg.</i> ...	866	<i>Rhen.</i> 1002	

II. BOVILLA. *Sporidia fili-fusiformia, candata.*

3226. bovilla, <i>Oke.</i> ...	4114	= (<i>Bovilla capronii</i> , <i>Sacc.</i>)	
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III. DUBLÆ.

3227. grisea, <i>Ces.</i> ...	868		
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B. HYPOCOPRA, *Fckl.* *Sporidia ecaudata.*a. *Fimicolæ.*

3228. fimicola, <i>Rob.</i> ...	869	3239. argentina, <i>Speg.</i> ...	880
3229. humana, <i>Fckl.</i> ...	870	3240. insignis, <i>Hans.</i> ...	882
3230. discospora, <i>Auers.</i>	871	3241. barbata, <i>Hans.</i> ...	883
3231. platyspora, <i>Plow.</i>	872	3242. scatigena, <i>B. & B.</i>	884
3232. superba, <i>Not.</i> ...	873	3243. minima, <i>S. & S.</i> ...	885
3233. vagans, <i>Not.</i> ...	874	3244. stercoraria, <i>Sow.</i> ...	886
3234. microspora, <i>Plow.</i>	875	3245. leucoplaca, <i>B. & R.</i>	887
3235. macrospora, <i>Auers.</i>	876	3246. acanthigera, <i>B. &</i>	
3236. gigaspora, <i>Fckl.</i> ...	877	<i>Br.</i> ...	3563
3237. Capturæ, <i>Speg.</i> ...	878	3247. Winteri, <i>Oud.</i> ...	5920
3238. aviariæ, <i>Karst.</i> ...	879	3248. Saccardoi, <i>March.</i> ...	6304

b. HYPOCOPRINA. *Tetrasporæ.*

3249. serignanensis, <i>Fab.</i>	888	3251. Rabenhorstii,	
3250. maxima, <i>Niessl.</i> ...	889	<i>Niessl.</i> ...	890

c. *Non vera fimicolæ.*

3252. papyricola, <i>Wint.</i>	891	3255. phyllogena, <i>Sacc.</i>	893
3253. Rehmii, <i>Sacc.</i> ...	*891	3256. vesticola, <i>B. & Br.</i>	896
3254. fermenti, <i>Fckl.</i> ...	892	3257. consanguinea, <i>Ces.</i>	5921

d. *Dubiæ.*

3258. bolbitoni, <i>Quel.</i> ...	898	3261. equina, <i>Fr.</i> ...	901
3259. punctiformis, <i>Ces.</i>	899	3262. macrotheca, <i>Cr.</i> ...	902
3260. hippica, <i>Sacc.</i> ...	900		

C. COPROLEPA, *Fckl.* *Perithecia dense, aggregata.*

3263. fimeti, <i>P.</i> ...	903	3266. Saccardoï, <i>Oud.</i> ...	5922
3264. merdaria, <i>Fr.</i> ...	904	3267. Kickxii, <i>March.</i> ...	6305
3265. equorum, <i>Fckl.</i> ...	905		

D. PHILOCOPRA, *Speg.* *Perithecia sparsa. Sporidia numerosa, ut plurimum caudata.*

3268. plejospora, <i>Wint.</i>	906	3275. multifera, <i>B.</i> ♂	
3269. setosa, <i>Wint.</i> ...	907	<i>Rav.</i> ...	913
3270. curvicolla, <i>Wint.</i> ...	908	3276. dubia, <i>Hans.</i> ...	914
3271. platensis, <i>Speg.</i> ...	909	3277. zygospora, <i>Speg.</i> ...	915
3272. similis, <i>Hans.</i> ...	910	3278. Hanseni, <i>Oud.</i> ...	5923
3273. canina, <i>Ph.</i> ...	911	3279. polyspora, <i>Ph. & Pl.</i>	*911
3274. myriospora, <i>Cr.</i> ...	912		

E. DELITSCHIA. *Sporidia uniseptata, fusca.*

3280. furfuracea, <i>Niessl.</i>	6623	3286. minuta, <i>Fckl.</i> ...	2776
3281. Auerswaldi, <i>Fckl.</i>	2771	3287. moravica, <i>Nsl.</i> ...	2777
3282. bisporula, <i>Cr.</i> ...	2772	3288. sordarioides, <i>Speg.</i>	2778
3283. chætomioides,		3289. Winteri, <i>Plow.</i> ...	2779
<i>Karst.</i> ...	2773	3290. elephantina, <i>Pass.</i>	2780
3284. congregata, <i>Speg.</i>	2774	3291. Marchallii, <i>Berl. &</i>	
3285. graminis, <i>Nsl.</i> ...	2775	<i>Vogl.</i> ...	6624

GEN. 2. **SPORORMIA**, *Not.* (Perisporiacei affinis.) *Perithecia emergentia, membranacea. Sporidia 4-18 locularia (secedentia) fusca.*

† SPORORMIELLA. *Sporidia 4-locularia.*

3292. pulchella, <i>Hans.</i> ...	3315	3302. gigantea, <i>Hans.</i> ...	3325
3293. stercoris, <i>Fr.</i> ...	3316	3303. ovina, <i>Desm.</i> ...	3326
3294. minima, <i>Awd.</i> ...	3317	3304. Spegazzinii, <i>Pir.</i> ...	3327
3295. leporina, <i>Nsl.</i> ...	3318	3305. grandispora, <i>Speg.</i>	3328
3296. Notarisii, <i>Car.</i> ...	3319	3306. leptospharoides,	
3297. promiscua, <i>Car.</i> ...	3320	<i>Speg.</i> ...	3329
3298. ambigua, <i>Nsl.</i> ...	3321	3307. lignicola, <i>Ph. & Pl.</i>	3330
3299. lageniformis, <i>Fckl.</i>	3322	3308. ulmicola, <i>Pass.</i> ...	3331
3300. intermedia, <i>Awd.</i>	3323	3309. Roumeguerii, <i>Limm.</i>	3332
3301. megalospora, <i>Awd.</i>	3324		

†† SPORORMIA. *Sporidia 5-multilocularia.*

3310. vexans, <i>Awd.</i> ...	3333	3318. pulchra, <i>Hans.</i> ...	3339
3311. heptamera, <i>Awd.</i> ...	3334	3319. corynespora, <i>Nsl.</i>	3340
3312. variabilis, <i>Wint.</i> ...	3335	3320. insignis, <i>Nsl.</i> ...	3341
3313. pentamera, <i>Oud.</i> ...	7012	3321. gigaspora, <i>Fckl.</i> ...	3342
3314. commutata, <i>Nsl.</i> ...	3336	3322. ticiensis, <i>Pir.</i> ...	3343
3315. octomera, <i>Awd.</i> ...	3337	3323. fimetaria, <i>Not.</i> ...	3344
3316. brassicæ, <i>Grove</i> ...	7012	3324. octoloeulata, <i>Fab.</i>	6145
3317. pascua, <i>Nsl.</i> ...	3338	3325. immersa, <i>Zuk.</i> ...	7014

BRITISH HYPHOMYCETES.

A CATALOGUE OF KNOWN SPECIES.

BY M. C. COOKE.

ORD. 1. *MUCEDINEÆ*.

- Chromosporium lateritium**, *B. & Br. Sacc. Syll. iv.*, 5.
On *Ulmus montana*. St. Catherine's.
- Chromosporium rubiginosum** (*Carm.*).
On beech leaves. Appin.
- Microstoma album**, *Desm. Sacc. Syll. iv.*, 17.
On oak leaves. Milton, Shere, Lynn, Forden, St. Leonards.
- Oospora Epilobii**, *Desm. Sacc. Syll. 24.*
On *Epilobium*. Richmond, Kew.
- Oospora fasciculata** (*Berk.*). *Sacc. Syll. iv.*, 23.
On decayed oranges. Edinburgh.
- Oospora lactis**, *Fries. Sacc. Syll. iv.*, 45.
On milk and cheese.
- Oospora porriginis**, *M. & B. Sacc. Syll. iv.*, 46.
On *Porrigo lupinosa*. London (Dr. Tilbury Fox).
- Oospora pulmonea** (*Beun.*). *Sacc. Syll. iv.*, 47.
In human pneumonia.
- Oospora æquivoca**, *Corda. Sacc. Syll. iv.*, 53.
On *Polyporus Schweinitzii*. Dorsetshire.
- Oospora rosella**, *Grove. Sacc. Syll. iv.*, 63.
On horse dung. Birmingham.
- Oospora crustacea** (*Bull.*). *Sacc. Syll. iv.*, 72.
On old cheese, &c. London, Shrewsbury, Richmond, Hereford, Norths.
- Oospora aurantia**, *Cooke. Sacc. Syll. iv.*, 81.
On spent hops. Burton-on-Trent.
- Oospora favorum**, *B. & Br. Sacc. Syll. 83.*
On honeycomb. Woolwich.
- Oospora microsperma**, *Berk. Sacc. Syll. 84.*
On spruce bark. Batheaston.
- Oospora fulva** (*Kunze*). *Sacc. Syll. 85.*
On rotten wood. Shrewsbury, Norths.
- Oospora abortifaciens**, *Berk. Sacc. Syll. 101.*
On the ovary of grasses. Norths.
- Oospora inæqualis**, *Cke. & M. Grev. xvi.*, p. 10.
On bamboo. Kew.
- Fusidium viride**, *Grove. Sacc. Syll. 103.*
On dead *Heracleum*. Bradnocks Marsh.
- Fusidium griseum**, *Link. Sacc. Syll. 105.*
On oak leaves. Shere, Highgate, Dinmore, Epping, Dartford, Kew, Broxbourne, Forden, King's Cliffe.

- Fusidium sulphureum**, *Link. Sacc. Syll.* 122.
On leaves. Appin.
- Fusidium asteris**, *Plow. & Ph. Sacc. Syll.* 125.
On *Aster tripolium*. King's Lynn.
- Fusidium deutzia**, *Cke. Grev. XVI.*, 48.
On leaves of *Deutzia*. Holloway.
- Monilia aurea**, *Link. Sacc. Syll.* 149 (*hesperidica* S.)
On bark and wood. Forden, Hereford, Southwick, Norths, Batheaston.
- Monilia fructigena**, *Pers. Sacc. Syll.* 157.
On rotting apples, &c. Hereford, Twycross, Norfolk, Swanscombe, Hants, Apethorpe, Forden, Shrewsbury.
- Monilia racemosa**, *Pers. Sacc. Syll.* VI., 163.
On rotting substances. Halifax.
- Cylindrium Cordæ**, *Sacc. Syll.* 169.
On oak leaves. Kew Gardens (Spor. 30-35 × 4-6 μ). Birmingham.
- Cylindrium flavovirens**, *Ditm. Sacc. Syll.* 171.
On dead leaves. Highgate, Darent, Hampstead, Forden, Dinmore, Loughton.
- Cylindrium heteronemum**, *Sacc. Syll.* IV., 177.
On willow trunks and cow dung.
- Polyscytalum fungorum**, *Sacc. Syll.* 1622.
On *Nyctalis*.
- Geotrichum roseum**, *Grove. Sacc. Syll.* IV., 185.
On *Juncus*. Sutton Park, near Birmingham.
- Oidium erysiphoides**, *Fr. Sacc. Syll.* IV., 189.
On living leaves of hop, &c. Dartford, Highgate, Largo, Forden, Audley End.
- Oidium leucoconium**, *Desm. Sacc. Syll.* IV., 190.
On leaves of roses. Highgate, Holm Lacey, Stoke Edith, Norfolk, Forden, Oxford, Audley End.
- Oidium Tuckeri**, *Berk. Sacc. Syll.* IV., 191.
On vine leaves and grapes. Common. Margate, Hampstead.
- Oidium farinosum**, *Cooke. Grev. XVI.*, p. 10.
On apple shoots and leaves. Penge, Hereford, Kew.
- Oidium erumpens**, *C. & M. Grev. XVI.*, 49.
On leaves of *Rivea hypocrateriformis*. Kew.
- Oidium chrysanthemi**, *Rab. Sacc. Syll.* 199.
On *Chrysanthemum*. Dublin.
- Oidium aceris**, *Rabh. Sacc. Syll.* 207.
On maple. Forden.
- Oidium mespili**, *Cke. Sacc. Syll.* 208.
On medlar. Clevedon.
- Oidium pactolinum**, *Cooke. Sacc. Syll.* 209.
On jasmin leaves. Isleworth.
- Oidium Balsamii**, *Mont. Sacc. Syll.* 218.
On *Verbascum* and turnip leaves. Sydenham, Forden, Wothorpe.

- Oidium monilioides**, *Link. Sacc. Syll.* 219.
On grass. Common. Forden, East Bergholt, Norfolk,
Hereford, Abridge, Kew, Glasgow.
- Ædocephalum roseum**, *Cooke. Sacc. Syll.* 226.
On paper and rags. Highgate.
- Ædocephalum laticolor**, *B. & Br. Sacc. Syll.* 228.
On sheep dung.
- Ædocephalum Preussii**, *Sacc. Syll.* 233.
On dead leaves of *Heuchera*. Kew Gardens (1887).
- Rhopalomyces candidus**, *B. & Br. Sacc. Syll.* 240.
On dung, earth, and hops. King's Cliffe.
- Rhopalomyces pallidus**, *B. & Br. Sacc. Syll.* 241.
On old matting. King's Cliffe.
- Botryosporium diffusum**, *Grev. Sacc. Syll.* 265.
On branches, &c. Neatishead, Weybridge.
- Botryosporium pulchrum**, *Corda. Sacc. Syll.* 266.
On herb stems. Shere.
- Cephalosporium acremonium**, *Corda. Sacc. Syll.* 270.
On , Scarboro'.
- Papulaspora sepedonioides**, *Preuss. Sacc. Syll.* 282.
On rice paste. King's Cliffe, Batheaston.
- Trichoderma viride**, *Pers. Sacc. Syll.* 284.
On wood and bark. Downton, Dinmore, Epping, Lyndhurst,
Apethorpe, Glasgow, Twycross, Highgate, Carlisle, Man-
chester, Dupplin, Kew, Shrewsbury.
- Aspergillus glaucus**, *Link. Sacc. Syll.* 304.
On vegetable substances. Common. Dublin, King's Cliffe.
- Aspergillus griseus**, *Link. Sacc. Syll.* 306.
On fruit, &c.
forma fenestrale, *Ditm.*
On glass. London.
- Aspergillus virens**, *Link. Sacc. Syll.* 309.
In wasps' nests, rotten fungi, &c.
- Aspergillus candidus**, *Link. Sacc. Syll.* 315.
On fungi, &c. Common. Holloway, King's Cliffe.
- Aspergillus mollis**, *Berk. Sacc. Syll.* 320.
On dead leaves.
- Aspergillus roseus**, *Link. Sacc. Syll.* 326.
On paper and linen.
- Aspergillus flavus**, *Link. Sacc. Syll.* 328.
On paste. Blackheath.
- Aspergillus spiralis**, *Grove. Sacc. Syll.* 332.
On phial cork. Birmingham.
- Aspergillus nigricans**, *Cooke. Sacc. Syll.* 337.
In meatus auditorius of human ear.
- Sterigmatocystis dubia** (*B. & Br.*). *Sacc. Syll.* 346.
On dung of rabbits. King's Cliffe.
- Amblyosporium botrytis**, *Fries. Sacc. Syll.* 372.
On *Agarics*.

- Penicillium glaucum**, *Link. Sacc. Syll.* 373.
On decaying vegetables. Common. St. Alban's, London, Norfolk, Holloway, Appin, Glasgow, Hereford, King's Cliffe, Epping.
- Penicillium quadrifidum**, *Salisb. Sacc. Syll.* 378.
In human blood.
- Penicillium pruriosum**, *Salisb. Sacc. Syll.* 379.
On mucous membrane.
- Penicillium candidum**, *Link. Sacc. Syll.* 381.
On leaves and decaying substances. King's Cliffe. Ivy leaves. Kew.
- Penicillium hypomycetis**, *Sacc. Syll.* 382.
On *Stereum*.
- Penicillium subtile**, *Berk. Sacc. Syll.* 385.
On dead *Salix*. Tansor, Norths.
- Penicillium megalosporum**, *B. & Br. Sacc. Syll.* 386.
In old chicken coop. Menmuir.
- Penicillium sparsum**, *Grev. Sacc. Syll.* 390.
On rotting *Lappa*.
- Penicillium abnorme**, *B. & Br. Sacc. Syll.* 393.
On leaves of *Trientalis*.
- Penicillium bicolor**, *Fries. Sacc. Syll.* 394.
On putrid substances.
- Penicillium macrosperum**, *B. & Br. Sacc. Syll.* 396.
On rotting *Lactarii*. Near London.
- Penicillium coffeicolor**, *B. & Br. Sacc. Syll.* 403.
On Pasteur's solution. South Kensington.
- Penicillium roseum**, *Lk. Sacc. Syll.* 405.
On box leaves. Batheaston, Forden, Wiltshire.
- Briarea elegans**, *Sturm. Sacc. Syll.* 412.
On rotting grass. Edinburgh.
- Haplaria grisea**, *Link. Sacc. Syll.* 414.
On grasses, &c. Margate.
- Hyphoderma roseum**, *Pers. Sacc. Syll.* 434.
On old wood.
- Acremonium alternatum**, *Link. Sacc. Syll.* 435.
On dead leaves. Stibbington (Hants), Dupplin.
- Acremonium verticillatum**, *Link. Sacc. Syll.* 436.
On pine trunks. Edinboro'.
- Rhinotrichum repens**, *Preuss. Sacc. Syll.* 443.
On rotten wood. Hereford, Kew, Coed Coch.
- Rhinotrichum opuntia**, *B. & Br. Sacc. Syll.* 445.
On ? Woolwich.
- Rhinotrichum decolorans**, *Cooke. Sacc. Syll.* 446.
On beech chips. Forden.
- Rhinotrichum lanosum**, *Cooke. Sacc. Syll.* 451.
On wall paper. Holloway.
- Rhinotrichum Bloxami**, *B. & Br. Sacc. Syll.* 454.
On wood. Twycross, Gopsal, Kew.

- Rhinotrichum decipiens**, Cooke. *Sacc. Syll.* 455.
On bark, &c. Carlisle.
- Rhinotrichum ramosissimum**, B. & C. *Sacc. Syll.* 469.
On wood. Moffatt, N.B.
- Rhinotrichum Thwaitesii**, B. & Br. *Sacc. Syll.* 470.
On naked ground. Near Bristol.
var. **fulvum**, Grove.
On rotten wood. Hampton in Arden.
- Rhinotrichum niveum**, C. & M. *Grev. XVI., p. 10.*
On rotten wood. Chiswick
- Sporotrichum laxum**, Nees. *Sacc. Syll.* 483.
On rotten wood. Twycross.
- Sporotrichum (Microsporon) mentagrophytes**, Rob. *Sacc. Syll.* 499.
On bulbs of human hair.
- Sporotrichum flavissimum**, Link. *Sacc. Syll.* 519.
On wood, &c.
- Sporotrichum sulphureum**, Grev. *Sacc. Syll.* 520.
On corks, &c. Whitehall, King's Cliffe, Forden.
- Sporotrichum aurantiacum**, Grev. *Sacc. Syll.* 523.
On dung. Near Edinburgh.
- Sporotrichum geochroum**, Desm. *Sacc. Syll.* 532.
On rotten wood.
- Sporotrichum chlorinum**, Link. *Sacc. Syll.* 569.
On oak leaves. Glasgow.
- Monosporium olivaceum**, C. & M. *Grev. XVI.*
On *Corticium* and naked wood. Carlisle.
- Monosporium coprophilum**, C. & Mass. *Grev. XVI., p. 10.*
On dung (human?). Kew Gardens.
- Monosporium saccharinum**, B. & Br. *Sacc. Syll.* 593.
On putrescent substances. Batheaston.
- Botrytis trabea**, B. & Br. *Sacc. Syll.* 597.
On chips. King's Cliffe.
- Botrytis citrina**, Berk. *Sacc. Syll.* 624.
On cherry branches. King's Cliffe.
- Botrytis brevior** (B. & Br.). *Sacc. Syll.* 635.
On bark. Leigh Wood.
- Botrytis argillacea**, Cooke. *Sacc. Syll.* 646.
On wood. Darenth, Forden, Carlisle, Kew.
- Botrytis virella**, Fr. *Sacc. Syll.* 653.
On wood. Chiswick.
- Botrytis Tilletii**, Desm. *Sacc. Syll.* 660.
On mosses, &c. Hampstead, Darenth.
- Botrytis corolligenum**, C. & Mass. *Grev. XVI., p. 10.*
On corolla of *Calceolaria*. Kew.
- Botrytis (Polyactis) vulgaris**, Fr. *Sacc. Syll.* 664.
On herbs. Common. Shrewsbury, Hampstead.
- Botrytis (Polyactis) cana**, Kunze. *Sacc. Syll.* 665.
On leaves. Highgate, Forden, Glasgow.
- Botrytis (Polyactis) vera**, Fr. *Sacc. Syll.* 666.
On *Polyporus versicolor*. Halifax.

- Botrytis (Polyactis) cinerea**, Pers. Sacc. Syll. 667.
On herb stems. Common: Holloway, Highgate, Birmingham, Appin, Glasgow.
var. *sclerotiophila* (Kunze).
On *Sclerotium durum*. Wiltshire, Highgate.
- Botrytis (Polyactis) croci**, Cke. & Mass. Grev. XVI., p. 10.
On dead leaves of *Crocus*. Kew.
- Botrytis (Polyactis) capitata**, B. & Br. Sacc. Syll. 680.
On *Cheiranthus*. Sibbertoft.
- Botrytis (Polyactis) fascicularis**, Corda. Sacc. Syll. 686.
On horse chestnut husks. Kew, Highgate.
- Botrytis (Cristularia) deprædans**, Cooke. Sacc. Syll. 691.
On leaves of *Acer*. Norfolk.
- Botrytis (Acmosporium) tricephala**, Phil. Sacc. Syll. 698.
On leaves of *Cryptomeria*. Shrewsbury.
- Botrytis (Acmosporium) galanthina**, B. & Br. Sacc. Syll. 705.
On bulbs of snowdrops.
- Ovularia asperifolii**, Sacc. Syll. 735.
On leaves of *Symphytum*.
- Ovularia veronicæ**, Fckl. Sacc. Syll. 742.
On leaves of *Veronica*.
- Ovularia lamii**, Fckl. Sacc. Syll. 744.
On leaves of *Lamium*. Forden, Epping, Dinmore.
- Ovularia berberidis**, Cooke. Sacc. Syll. 746.
On leaves of *Berberis asiatica*. Kew.
- Ovularia syringæ**, Berk. Sacc. Syll. 747.
On leaves of *Syringa*. Aberdeen.
- Ovularia obliqua**, Cooke. Sacc. Syll. 750.
On leaves of *Rumex*. Highgate, Abridge, Forden, Leatherhead, Neatishead, Audley End, Gopsall, Downton, Breinton.
- Ovularia elliptica**, Berk. Sacc. Syll. 752.
On lilies in cultivation. Gard. Chron., 1881.
- Ovularia filipendulæ**, Cke. Grev. XVI.
On *Spiræa filipendula*. Kew Gardens.
- Sepedonium chrysospermum**, Bull. Sacc. Syll. 754.
On *Boletus*. Kew, Haywood Forest, near Leicester, Twycross, Lyndhurst, Epping Forest, Highgate, Tunbridge, King's Cliffe, Coed Coch, Bristol.
- Sepedonium Tulasneanum**, Sacc. Syll. 766.
On *Boletus*.
- Asterophora agaricicola**, Corda. Sacc. Syll. 770.
On *Nyctalis*. Haywood Forest, Loughton, Darenth.
- Verticillium candelabrum**, Bon. Sacc. Syll. 777.
On wood. Mortlake.
- Verticillium distans**, B. & Br. Sacc. Syll. 784.
On herb stems. Cranford Bridge.
- Verticillium terrestre**, Pers. Sacc. Syll. 785.
On the ground. King's Cliffe.
- Verticillium nanum**, B. & Br. Sacc. Syll. 789.
On pears. Cranford Bridge.

- Verticillium agaricinum**, *Link. Sacc. Syll.* 790.
On *Russula*. Darenth, Chingford.
- Verticillium lactescentium**, *Sacc. Syll.* 791.
On *Lactarius*.
- Verticillium microspermum**, *Sacc. Syll.* 793.
On *Polyporus annosus*.
- Verticillium aspergillus**, *B. & Br. Sacc. Syll.* 795.
On *Polyporus vaporarius*. Kelmarsh, Norths.
- Verticillium compactiusculum**, *Sacc. Syll.* 781.
On vanilla pods. Kew.
- Verticillium quaternellum**, *Grove. Sacc. Syll.* 796.
On *Agaricus (Mycena)*. Middleton.
- Verticillium epimyces**, *B. & Br. Sacc. Syll.* 798.
On *Elaphomyces*. Rudloe (Wilts), Batheaston.
- Verticillium buxi**, *Link. Sacc. Syll.* 800.
On box leaves. Apethorpe.
- Verticillium lateritium**, *Berk. Sacc. Syll.* 808.
On wood, bark, &c. Kew, Forden, Batheaston, King's Cliffe, Elmstead, Sketty, Isleworth.
- Verticillium ampelinum**, *C. & Mass. Grev. xvi.*
On vine knots. Kew.
- Verticillium Vizei**, *B. & Br. Vize Micro. Fungi* 247.
On ferns. Forden.
- Acrostalagmus cinnabarinus**, *Corda. Sacc. Syll.* 839.
On leaves, branches, &c. Liverpool, Whitehall.
- Clonostachys araucaria**, *Corda. Sacc. Syll.* 849.
On bark. Weybridge, Wales.
- Spicaria elegans**, *Corda. Sacc. Syll.* 853.
On bark.
var. **muscorum**, *Grove.*
On moss and wood. Sutton, Warwickshire.
- Gonatobotrys simplex**, *Corda. Sacc. Syll.* 863.
On fruit of *Tamus*.
- Gonatobotrys flava**, *Bon. Sacc. Syll.* 864.
On dead cabbage stalks. Isleworth.
- Nematogonium aurantiacum**, *Desm. Sacc. Syll.* 867.
On bark. Apethorpe.
- Nematogonium aureum**, *Berk. Sacc. Syll.* 868.
On bark. Batheaston.
- Diplocladium penicilloides**, *Sacc. Syll.* 872. *Grev. t.* 150.
On *Polyporus* (conidia of *Hypomyces aurantius*).
- Diplocladium melleum**, *B. & Br. Sacc. Syll.* 874.
On *Polyporus* and *Stereum*. Batheaston.
- Diplocladium Rennyi**, *B. & Br. Sacc. Syll.* 875.
On trunks. Hereford.
- Diplosporium album**, *Bon. Sacc. Syll.* 877.
var. **fungicolum.**
On *Ethalium septicum*.
- Diplosporium cervinum**, *B. & Br. Sacc. Syll.* 879.
On branches of laburnum. Ballinluig, Lambley.

- Trichothecium roseum**, *Pers. Sacc. Syll.* 881.
On bark, &c. Kew, Highgate, Forden, Shrewsbury, Audley End, King's Cliffe, Glasgow, Hampstead, Dinmore, Shere, Darenth, Colchester, Rudloe.
- Trichothecium domesticum**, *Fr. Sacc. Syll.* 882.
On oil seeds from the Gaboon.
- Trichothecium candidum**, *Sacc. Syll.* 883
On bark. Lindfield, Kew.
- Trichothecium obovatum**, *Berk. Sacc. Syll.* 884.
On willow branches. King's Cliffe.
- Trichothecium pyriferum**, *Berk. Sacc. Syll.* 885.
On dead stems.
- Cephalothecium candidum**, *Sacc. Syll.* 891.
On bark. Sketty (F. Currey).
- Arthrotrys rosea**, *Masseé. Sacc. Syll.* 896.
On branches. Scarborough.
- Mycogone rosea**, *Link. Sacc. Syll.* 899.
On *Agarics*. Appin.
- Mycogone cervina**, *Ditm. Sacc. Syll.* 900.
On fungi and dead leaves. Eastbourne.
- Mycogone anceps**, *Sacc. Syll.* 902.
On human dung.
- Mycogone puccinioides**, *Preuss. Sacc. Syll.* 903.
On *Russula*. Near Bath.
- Didymaria Ungerii**, *Corda. Sacc. Syll.* 904.
On *Ranunculus repens*. Abridge.
- Bostrichonema alpestris**, *Ces. Sacc. Syll.* 909.
= *Dactylium spirale*. B. & White.
On leaves of Bistort. Glen Tilt.
- Bostrichonema modestum**, *Bk. & Wh. Sacc. Syll.* 910.
On leaves of *Alchemilla alpina*. Glen Tilt.
- Dactylium dendroides**, *Bull. Sacc. Syll.* 916.
On *Agarics*. Darenth, Epping.
- Dactylium macrosporum**, *Ditm. Sacc. Syll.* 918.
On oak leaves.
- Mucrosporium sphærocephalum**, *Berk. Sacc. Syll.* 923.
On ivy twigs. Lambley.
- Mucrosporium tenellum**, *Fr. Sacc. Syll.* 924.
On moss, &c. Dundee.
- Dactylella minuta**, *Grove. Sacc. Syll.* 937.
On rotten wood. Sutton.
- Dactylella rhombospora**, *Grove. Sacc. Syll.* 938.
On wood and bark. Birmingham.
- Dactylella ellipsospora**, *Preuss. Sacc. Syll.* 939.
On rotten wood. Birmingham.
- Dactylella implexa**, *B. & Br. Sacc. Syll.* 941.
On willow trunks. Hereford.
- Ramularia destructiva**, *Pl. & Phil. Sacc. Syll.* 962.
On branches of *Myrica gale*. N. Wootton.

- Ramularia rosea**, *Fekl. Sacc. Syll.* 966.
On willow leaves.
- Ramularia alnicola**, *Cooke. Sacc. Syll.* 967.
On alder leaves. Lyndhurst.
- Ramularia hellebori**, *Fekl. Sacc. Syll.* 970.
On leaves of *H. fœtidus*.
- Ramularia scelerata**, *Cooke. Sacc. Syll.* 971.
On *Ranunculus sceleratus*. Lyndhurst.
- Ramularia cochleariæ**, *Cooke. Sacc. Syll.* 977.
On *Cochlearia officinalis*. Banks of Don.
- Ramularia armoraciæ**, *Fekl. Sacc. Syll.* 978.
On horseradish leaves.
- Ramularia lacteæ**, *Desm. Sacc. Syll.* 979.
On violet leaves. Kew, near Hereford, Loughton.
- Ramularia ulmariae**, *Cooke. Sacc. Syll.* 989.
On leaves of meadow sweet.
- Ramularia lychnicola**, *Cooke. Sacc. Syll.* 993.
On leaves of *Lychnis diurna*. Lyndhurst.
- Ramularia geranii**, *West. Sacc. Syll.* 994.
On leaves of *Geranium*. Lynn.
- Ramularia malvæ**, *Fekl. Sacc. Syll.* 995.
On *Malva moschata*. Forres, N.B.

LACTARIUS EXSUCCUS AND AGARICUS RUSSULA.

BY THE EDITOR.

There were people, in olden days, who said, "Can any good thing come out of Nazareth?" and in these times we have their analogue in the Recorder (in *Gardeners' Chronicle*, Nov. 5, 1887) of the Paris Mycological Congress. He evidently believes that there is nothing so good, or so true, as that which is derived from either a Frank or a Teuton. Even the air of Paris made him feel generous, so that he condemned the stupidity of English mycologists (himself included) in two memorable instances, to both of which, being neither Teuton nor Frank, though equally just to both, we venture to take exception.

In the first place, he says "*Russula delica*, Fr., a plant I was exceedingly pleased to see, because it is the *Lactarius vellereus*, var. *exsuccus*, Smith, which we so commonly meet with. Every fungologist knows it, with its gills showing a tinge of green in oblique light, and it is very satisfactory to correct one's errors, even if you have to go as far as Paris to do so." Now this would have been a respectable paragraph for an ordinary penny-a-liner, but for one who professes to be a fungologist, and something of a man of science, it is less creditable, apart from its dogmatism. The last-named fungus is not *Lactarius vellereus*, var. *exsuccus*, Smith, but the *Lactarius exsuccus*, Smith (or rather of Otto), and the *Agaricus piperatus*, var. *exsuccus*, Pers. Syn. 429, or *Lactarius vellereus*, var. *exsuccus*. Fries.

Apart from this, he *knows* that it "is" what he assumes it to be, and not *Lactarius exsuccus* alone, but also *Russula delica*, Fr. That is to say, we are to take his word, because he knows all about it, and that the illustrious Fries was a "muff," and described the same thing under two names, once as *Russula delica*, and once as a variety of *Lactarius vellereus*. It is greatly to be regretted that Fries did not consult this Anglican mycologist thirty-five years ago, when the latter was experimenting daily on the potato disease, in which case he might have been spared such an absurd error. But, apart from the dogmatic "is" of the paragraph, might it not be as well to examine the facts. *Russula delica*, Fr., is described as smooth and shining, with white gills, and, we believe, smooth, subglobose, or oval spores, about $10 \times 8 \mu$, whereas *Lactarius exsuccus*, Otto, has a tomentose pileus, a somewhat tomentose stem, greenish tinted gills, and globose echinulate spores, about $8-9 \mu$. If these two species are one, or *should* be one, according to the said Recorder's dictum, we must for the present beg leave to dissent, and in like terms declare that *Lactarius exsuccus*, Otto, is not the same as *Russula delica*, Fr., although we have not been to Paris in order to enable us to say so. What effect the sumptuous banquets and profusion of champagne, which we are informed were bestowed upon the English mycologists, might have had it is vain to speculate.

The second paragraph runs as follows:—"The last-named (*Hygrophorus erubescens*, Fr.) was placed near a figure of *Agaricus russula*, a plant we find at Downton, and have hitherto confounded with *Hygrophorus erubescens*. The *Tricholoma* is the larger and paler plant, the *Hygrophorus* is much smaller, more distinctly red, with a dash of purple, and reminding one somewhat of *Agaricus laccatus*, but with decurrent gills." This paragraph is far more puzzling than the former one, and, although not less dogmatic, far less satisfactory. It would be folly to attempt to discuss it in print, save by reference to well-known figures. As far as we know, the Downton plant alluded to well corresponds with the description of *Hygrophorus erubescens* and as well with the figure of that species by Fries himself (Sverige Svampar, t. 65). Figure of this is now being printed for "Illustrations of British Fungi," plate 888, drawn from specimens exhibited some years since at a Woolhope Fungus Foray, presumably from Downton. *Agaricus (Tricholoma) russula*, Schæff., is not in the slightest suggestive of *Agaricus laccatus*, any more than the *Hygrophorus*. It is much more suggestive of *Russula sanguinea*, Fr., much darker and brighter than *Hygrophorus*, and in fact not comparable with it. Were it not akin to treason to say as much, it is nevertheless our private opinion that the writer has never seen *Agaricus russula*. Schæff., and that he has either been imposed upon (after dinner) or has attempted to make himself believe that something, which he does not know, is the veritable *Agaricus russula*, or

else *Hygrophorus erubescens*, for he has evidently "got mixed," as people are apt to do when in the company of congenial friends late in the day. For *Agaricus russula* we would refer to Schæffer's plate 58, which is the type, and Krombholz's plate 63, figs. 1 to 9; our own figures will be published in a supplementary part of "Illustrations" very shortly.

Without setting up any claim to infallibility, we ask for a suspension of judgment until we have completed our evidence by the publication of figures, and then, if the verdict of competent authorities should be pronounced that the "editorial we" in this instance is only a stupid Englishman, we shall not regret that we have hardly been so dogmatic as some people, in face of a possibility of mistake, but quietly submit to our fate, without undertaking in the "correction of one's errors even to go as far as Paris to do so."

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Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY
AND ITS LITERATURE.

SOME EXOTIC FUNGI.

By M. C. COOKE.

Corticium (Coniophora) sordulentum, *Cooke & Mass.*

Tenuè, membranaceum, olivaceo-ochraceum, tuberculatum, papillatumve, hymenio pulverulento. Hyphis dichotomi-ramosis. Sporis globosis, majusculis, pallide fuscis (10-12 μ diam.).

On bark. Missouri, U.S. (*Ellis* 5055).

Xylopodium Aitchisoni, *Cke. & Mass.*

Peridio clavato dein pyriformi, deorsum in stipitem rigidum attenuato, stipite æquali vel basim leniter bulboso, longitudinaliter sulcato-striato, squamuloso, solido. Sporis læte ochraceo-fuscis, globosis, asperulis 6-7 μ diam.

On the ground. Delimitation Commission, Afghanistan, 1884-5 (*Dr. J. E. T. Aitchison*).

Bovista amethystina, *Cooke & Mass.*

Globose, cortex evanescent, peridium (1-1½ inch) thin, papyraceous, shining, fragile, breaking away in patches, mass of spores bright amethystine violet, globose, smooth, 5-6 μ diam., pale violet by transmitted light, threads about as thick as diameter of the spores, branched, equal, almost colourless.

On the ground. Niger Expedition (*Barter*).

Thamnomycetes dendroidea, *Cke & Mass.*

Stromate rigido, erecto (6-8 unc.) cylindrico, atro, nitido, sursum dichotomo-ramoso, fragili, ad apicem ramulorum inflato-ampulliformi. Peritheciis immersis, minutis, periphericis, ascis cylindraceutis, octosporis. Sporidiis cylindricis, utrinque rotundatis, plerumque curvulis, fuscis 12 \times 4-5 μ , conidiis hyalinis, sub-globosis 4 \times 3 μ .

On dead wood. Upper Demerara River, British Guiana.

Remarkable species uniting *Thamnomycetes* more intimately with *Xylaria*. Extremely fragile. The urn-shaped fertile tips of the branchlets are hollow, there is no corky stroma, but the whole

plant is carbonaceous. The conidia are produced at the free ends of the fertile tips.

Plate 172, Fig. A. *a*, stroma, natural size; *b*, a fertile tip magnified; *c*, section of same; *d*, ascus and sporidia $\times 400$; *e*, sporidia $\times 400$; *f*, conidia $\times 400$.

Dimerosporium insignis, *Cooke*.

Peritheciis gregariis, superficialibus, minutis, atris; subiculo conidiophoro in maculas orbicularas effuso, hyphis simplicibus furcatisve, erectis, gracilis, atrofuscis, conidiis ellipticis, minutis, hyalinis ($3 \times 2 \mu$), ascis octosporis, lanceolatis, sessilibus, sporidiis arcte ellipticis, continuis, hyalinis ($12 \times 4 \mu$).

On leaves of *Eurya Japonica*. Ternate.

Dermatea pallidula, *Cooke*.

Erumpens, cupulis convexis, subcæspitosis (2-4), testaceo-carneis, demum pallescentibus (1-2 mm. lat.), deorsum in stipite brevi communi attenuatis; margine obsolete; ascis clavatis, octosporis; sporidiis ellipsoideo-lanceolatis, utrinque obtusis, triseptatis, hyalinis ($25 \times 9 \mu$), paraphysibus sursum incrassatis, brunneis.

On branches of *Rhus venenata*. New Jersey, U.S. (*J. B. Ellis*).

This and *Dermatea crypta*, *Cooke*, are supposed to have been described many years ago, but reference to them cannot now be found.

Dermatea crypta, *Cooke*.

Erumpens, pallide umbrina, glaucescens, cupulis solitariis vel (2-3) cæspitosis, deorsum attenuatis, connatis, hymenio plano vel subconcavo ($\frac{1}{2}$ mm. diam.). Ascis breviter clavatis. Sporidiis lanceolato-ellipticis, triseptatis, fuscis ($30 \times 10 \mu$) paraphysibus sursum incrassatis, fuscis.

On branches of *Andromeda*, *Azalea*, &c. New Jersey, U.S. (*J. B. Ellis*).

Uredo cussoniæ, *Cooke*.

Hypophylla. Soris minutis, hæmisphericis, demum fissuratis, pallide fuscis. Uredosporis ellipticis, spinulosis, subhyalinis, demum fuscis ($25 \times 18 \mu$).

On leaves of *Cussonia*. Inanda, Natal (*Wood 3494*).

Uredo compositarum, *var. melantheræ*, *Cooke*.

Uredosporis subglobosis, asperulis, fuscis (18μ diam.).

On leaves of *Melanthera Brownii*. Durban, Natal (*Wood 3850*).

Coniothyrium Indicum. *Cke. & Mass.*

Peritheciis gregariis, globosis, erumpentibus, primo tectis, dein subsuperficialibus, atris, opacis ($\frac{1}{3}$ - $\frac{1}{2}$ mm. diam.). Sporulis globosis, atro fuscis, demum opacis (8μ diam.).

On twigs of *Salix*. Hindu Koosh at an elevation of 11,500 feet. (Gilgit Expedition.)

Periconia opaca, *Cooke*.

Atra, gregaria, hyphis erectis (3-4), septatis, simplicibus, atrofuscis, opacis, capitulo subgloboso (5-6), conidiarum composito,

conidiis globosis, deorsum minute apiculosis (12-15 μ diam.), atrofusis, opacis, lævibus.

On leaves of *Carices*. South Carolina (*Ravenel* 3140).

Hymenula glandicola, *Cooke*.

Sporodochiis gregariis, oblongis, pallidis, subgelatinosis, conidiis ellipsoideis, continuis, hyalinis (8 \times 5 μ).

On acorns. New York (*Gerard* 208).

Stigmella pithyophila, *Cooke*.

Epiphylla, cæspitulis punctiformibus, atris, sparsis, superficialibus; conidiis aggregatis, oblongis, biseptatis, subconstrictis, septulo longitudinali divisis, pallide olivaceis (30 \times 12 μ).

On pine leaves. Harpswell, Maine.

Stilbum Kurzianum, *Cooke*.

Solitarium vel cæspitosum, minutum, capitulo subgloboso, albido. Stipite fusco-badio, deorsum leviter incrassato, conidiis ellipticis, nucleo excentrico ornatis (10 \times 4-5 μ).

On branches. Seebpore, Bengal, India (*Kurz* No. 2197).

Isaria plumosa, *Cooke*.

Solitaria. Stromate erecto (ad. 1 unc.) carneo, plumoso-ramosissimo, ramulis elongatis, attenuatis, undique glabris, subcorneis, conidiis minutis, globosis, hyalinis (3 μ diam.).

On midrib of dead leaves. Brazil (*Spruce Lichenes Amazonici* No. 502).

Isaria repens, *Cooke*.

Stromatibus filiformibus, intertextis, niveis, hyphas fasciculatas compositis, ubique sporophoris brevibus gerentibus. Conidiis ellipticis, continuis, hyalinis (8 \times 4-5 μ).

On glumes of *Gynerium argenteum*. California.

Resembling a species of *Acremonium* with a compound stem. Anomalous.

Corallodendron cervinum, *Cke. & Mass.*

Stromatibus erectis, rigidis, cervinis (ad. 1 unc. long), hyphis violaceis, septatis (10 μ diam.) compositis; stromate sparse ramosis, ramis breviter ramulosis, ramulis numerosis, patentibus, brevibus, apice in capitula globosa incrassatis. Conidiis ovalibus (12 \times 7-8 μ), primo (3-4) catenulatis.

On seeds of *Landolphia* from Africa (*E. M. Holmes*).

The last joint of the compacted threads is fuscous, and forms a kind of basidium bearing the short chain of spores.

Graphium leguminum, *Cooke*.

Stipitibus gregariis, rigidis, erectis, tenuibus, atris (1 mm. long), e hyphis septatis, atrofusis compositis; capitulo conidiorum subellipticis. Conidiis clavatis, superne rotundatis, inferne truncatis (20-25 \times 6 μ), hyalinis.

On legumes of *Rhynchosia*. South Carolina (*Ravenel* 1866).

Epidochium eucalypti, *Cooke*.

Sporodochiis erumpentibus, gregariis, sessilibus, atris, tremelloideis, discoideis, plerumque concavis, basidiis filiformibus, ramosis,

fuscis, conidiis elongato-ellipsoideis ($10-14 \times 3-4 \mu$), utrinque rotundatis, hyalinis, continuis.

On dead leaves of *Eucalyptus*. California.

Chromosporium pactolinum (C. & H.).

On *Quercus*. California.

Described as *Corticium pactolinum*, C. & H. Spores yellow, $10 \times 6 \mu$.

AUSTRALIAN FUNGI.

By M. C. COOKE.

(Continued from p. 31.)

Those species which are indicated by an asterisk (*) were communicated by Baron F. von Mueller.

***Agaricus (Amanitopsis) curtus**, Cke. & Mass.

Pileo convexo, explanato, ochraceo-albo, lævi, glabro, margine velo appendiculato, stipite brevi, solido, bulboso, testaceo, glabro, volva ampla circumscissa marginato, deorsum fibrilloso-radicato; lamellis liberis, remotis, subdistantibus, angustis, albis, sporis ellipticis, $19-22 \times 10 \mu$.

On the ground. Mordialloc, Victoria. (C. French.)

Agaricus (Lepiota) lavendulæ, C. & M., must replace *Ag. (Lepiota) columbicolor*, C. & M., Grev. xvi., p. 30, not *Ag. columbicolor*, B. & Br.

Agaricus (Pleurotus) polyphemus, C. & M., must replace *Ag. (Pleurotus) polychromus*, C. & M., Grev. xvi., p. 31, not *Ag. polychromus*, B. & Br.

Agaricus (Flammula) hyperion, Cke. & Mass.

Pileo plano-convexo, demum explanato (3 unc. lat.) carnosus, aureo-fulvus, dein obscuriore, lævi, glabro, margine incurvo, carne flavido, stipite deorsum attenuato, subconcolori, striato-sulcato, fibrilloso, subsquamuloso (2 unc. long, $\frac{1}{2}-\frac{3}{4}$ unc. crass.), lamellis subdistantibus, ochraceo-flavidis, arcuatis, decurrentibus. Sporis $16-18 \times 6-8 \mu$.

On stumps (?). Melbourne. (Reader, 34.)

Agaricus (Inocybe) Victorixæ, Cke. & Mass.

Pileo carnosulo, obtuse umbonato, convexo, demum explanato, albido, viscido, glabro, nitido, disco sordido (circa 1 unc. diam.), stipite subæquali, vel deorsum leviter incrassato (2 lin. crass.) albo, glabro, farcto; lamellis confertis, primo adnaxis, sinuatis, demum subliberis, pallidis, demum umbrinis; sporis lævibus $12 \times 7-8 \mu$.

On grassy ground. Victoria. (F. Reader, 26.)

Agaricus (Psilocybe) Ceres, Cke. & Mass.

Pileo convexo, demum expanso, vix umbonato, tenui, lævi, glabro, testaceo (circa 1 unc. lat.), stipite elongato (4 unc.), fibrilloso, farcto, ochraceo, deorsum tomentosus (2-3 lin. crass.), lamellis

confertis, profunde sinuatis, ventricosis, cinereis, nebulosis, atro-fuscescentibus, sporis ellipticis $14-16 \times 6-8 \mu$.

On the ground. Melbourne. (*Reader*, 35.)

***Lentinus gracilentus**, *Cke. & Mass.*

Pileo tenui, submembranaceo, infundibuliformi, ochraceo, glabro, (1 unc. diam.), stipite gracili, fusco, glabro, nitido (2 in. long, 1-2 lin. crass.), lamellis profunde decurrentibus, vix confertis, sicco fuscis, acie serrulatis. Sporis $8 \times 5 \mu$.

On wood. Harkaway Range, Victoria. (*C. French*.)

***Merulius infundibuliformis**, *Cke. & Mass.*

Tremellosus, magnus (5-6 unc. diam.), stipitatus. Pileo profunde infundibuliformi, crasso, lævi, sicco ruguloso, margine obtuso crispato, stipite brevi, crasso (1 unc. long, 1 unc. crass.) sulcato-rugoso, deorsum discoideo-expanso, hymenio poroso, acie denticulato, poris superne elongatis, irregularibus, angulatis, subtubæformibus, inferne abbreviatis, reticulatis, sporis profusis, ellipticis, aureofuscis $12 \times 8 \mu$.

Apparently on wood. Yarra. (*Miss Campbell*.)

An extraordinary species, of an uniform dark-brown colour when dry, wholly tremelloid and gelatinous when living, becoming hard and horny when dried. We have had an imperfect specimen of another stipitate species from South Africa, but the material was insufficient for diagnosis.

***Bovista hyalothrix**, *Cke. & Mass.*

Cortex very thick and fibrous, forming a persistent base to the peridium like the cup of an acorn, peridium (1-1½ inch diam.) minutely rugulose, dehiscing by a small apical aperture. Spores umber in the mass, globose, coarsely spinulose, 10-12 μ diam. Threads of capillitium simple, firm, much curled and interwoven, colourless, equal, about 5-6 μ diam.

On the ground. N.W. of Lake Allacutya, Victoria. (*French*.)

Allied to *B. circumscissa*, B. & C., and *B. juglandiformis*, B.

***Cycloderma platyspora**, *Cke. & Mass.*

Ovata, ad apicem subumbonata. Peridio exteriori crasso, flexili, continuo, lævi, ochraceo; peridio interiori tenui, nitido, columella conica vel clavata, ad centro producta; capillitio sporisque cinereo-lilacino, radiante, hyphis simplicibus, pallidis, sporarum diametro æqualibus, sporis globosis, minute granulato-asperulis, pallide griseis, 8 μ diam.

On ground. Near Melbourne. (*F. Reader*, 59.)

Geaster Readeri, *Cke. & Mass.*

Exoperidio tenui, 7-9 fidi, laciniis acuto-triangularibus, inæqualibus; intus umbrinis; endoperidio substipitato, globoso, tenui, ochraceo-umbrino, ore fimbriato (nec lineo circumscripto) vix prominulis. Sporis capillitioque obscure umbrino, hyphis simplicibus, pallidis, apice attenuatis, quam sporis crassioribus. Sporis globosis, lævibus, fuscis 3 μ diam. *Geaster australe*, *Reader*.

On the ground. Melbourne. (*Reader*, 37.)

**Licea spumarioidea*, Cke. & Mass.

Æthalia irregularia, cinerea, cortex membranacea, venis ramulosis reticulata, sporangiis mox diffluentibus, capillitio obsoleto. Sporis majusculis, sphaericis, rotundato-verrucosis, flavis 16-18 μ .

Running over twigs and on the ground. Near Melbourne. (Reader, 15).

**Hemiarcyria fuliginea*, Cke. & Mass.

Hyphis anastomosantibus, spinulosis (3-4 μ diam.), spinulis unilateralibus, spiraliter dispositis; sporulis globosis, glabris, vix decoloratis (8 μ diam.). Capillitio sporisque in massam fuligineo.

On leaves of *Atherospermum*. Mount Wilson, N.S.W. (Hamilton, 646.)

Imperfect, the peridia being destroyed, and nothing remaining but the mass of capillitium and spores.

**Uromyces Orchidearum*, Cke. & Mass.

Epiphyllus, erumpens. Acervulis bullatis, demum fissuratis, fuscis. Teleutosporis subglobosis, longe pedicellatis, læte fuscis, apice apiculatis (40 \times 30 μ). Episporio crasso, hyalino, sporophoris crassiusculis duplo longioribus, deorsum attenuatis.

On leaves of *Chiloglottis diphylla*. Mount Victoria. (Hamilton, 659.)

**Puccinia Wurmbæ*, Cke. & Mass.

Soris elongatis, bullatis, atrofuscis. Uredosporis ellipticis, granulatis, fuscis 25-28 \times 15-18 μ . Teleutosporis clavatis, uniseptatis, leniter medio constrictis, loculo superiore convexo, truncato-ve, obscuriori, loculo inferiori triquetro, deorsum in stipite hyalino attenuato, episporio lævi, 60-70 \times 20-25 μ .

On leaves of *Wurmbæ dioica*. Beltana, Australia. (Mrs. Richards.)

**Asterina (Asteridium) Eucalypti*, C. & M.

Densissime gregaria. Peritheciis minutis, discoideis, applanatis, atris. Ascis tetrasporis, pyriformibus, sporidiis elongato-ellipsoideis, triseptatis, constrictis, fuscis, loculo penultimo incrassatis, 28 \times 10 μ .

On dead leaves of *Eucalyptus amygdalina*. Melbourne. (Reader, 47.)

**Rhizina ferruginea*, Phillips.

Apothecia orbicularia, sessilia, concava, demum subapplanata, margine integro, leniter elevato vel incurvo, hymenio fuligineo-fusco, extus tomentello ferrugineo-fusco, ascis cylindraceo-clavatis, sporidiis ellipticis, uni-vel biguttulatis, asperulis (20-23 \times 4.5 μ) paraphysibus superne incrassatis, septatis.

On dead wood. Victoria, Australia. (C. French.)

Cups $\frac{1}{2}$ to nearly 1 in. broad; rigid when dry, gelatinous and tough when moist. Very nearly allied to *Rhizina Thwaitesii*, B., but the sporidia do not approach fusiform, and the exterior is not clad with the black hairs of that species.

Ombrophila terrestris, *Phillips*.

Orbicularia, sessilia, gelatinosa, concava vel applanata, margine integro, erecto, hymenio umbrino-fusco, extus pallidior, glabro. Ascis cylindraceo-clavatis, sporidiis elliptico-fusiformibus, glabris, uniguttulatis ($18-20 \times 7-10 \mu$) paraphysibus filiformibus, supra leniter incrassatis.

On the earth. Near Melbourne. (*Reader*, No. 25.)

Cups 3-6 lines broad, clear, umber-brown, a little paler externally. There is a distinct gelatinous stratum between the sub-hymeneal tissue and the pseudo-parenchyma.

***Phoma viminalis**, *Cke. & Mass.*

Epiphylla. Peritheciis immersis, erumpentibus, atris, subglobosis, perforatis. Sporulis minutis, hyalinis, continuis, ellipsoideis, $3-4 \times 1\frac{1}{2}-2 \mu$.

On leaves of *Eucalyptus viminalis*. Melbourne. (*Reader*, 7.)

***Phoma Lythri**, *Cke & Mass.*

Epiphylla. Peritheciis sparsis vel gregariis, globosis, tectis, prominulis, demum erumpentibus, pertusis. Sporulis globosis, hyalinis, 10μ diam.

On fading leaves of *Lythrum hyssopifolia*. Melbourne. (*Reader*, 56.)

***Sphæropsis tritici**, *Cke. & Mass.*

Peritheciis minutissimis, dense gregariis, primo tectis, punctiformibus, atris; sporulis ellipticis, continuis, læte fuscis, $12 \times 7-9 \mu$.

On dead leaves of wheat and on the sheaths. Melbourne. (*F. Reader*.)

***Sacidium eucalypti**, *Cke. & Mass.*

Amphigenum. Peritheciis gregariis, erumpentibus, minimis, applanatis, atris, mox superne deficientibus, sporulis globosis, continuis, hyalinis, $5-6 \mu$ diam.

On dead leaves of *Eucalyptus globulus*. Melbourne. (*Reader*, 8.)

***Protostegia eucalypti**, *Cke. & Mass.*

Epiphylla. Receptaculis immersis, cupulæformibus, gelatinosis, aurantiis, epidermide demum fissurato tectis. Sporulis obclavatis, sigmoideis, curvulisve, elongatis, hyalinis, continuis ($60-90 \times 3 \mu$). Sporophoris brevissimis.

On dead leaves of *Eucalyptus incrassatus*. Melbourne. (*Reader*, 24.)

Melasmia eucalypti, *Cke. & Mass.*

Maculis orbicularibus vel confluentibus (2 mm. diam.) atris; peritheciis paucis, subgregariis, ellipticis lanceolatisve, rima dehiscentibus, dein hysterioribus; sporulis lanceolatis, utrinque acutis, continuis, hyalinis ($25 \times 6 \mu$) basidiis subelongatis, simplicibus, hyalinis.

On dead leaves of *Eucalyptus*. Brisbane. (*Bailey*, 488.)

Glaeosporium glaucum, *Cke. & Mass.*

Maculis suborbicularibus, epiphyllis vel amphigenis, glaucescentibus, subfarinosis, pustulis minutis, conidiis profusis, mox

extrusis, strato effuso farinaceo efformantibus, globosis, hyalinis 6-7 μ diam.

On living leaves. Brisbane. (*Bailey*, 486).

Oospora aphides, *Cke. & Mass.*

Hyphis brevibus, continuis, subcæspitosis, hyalinis; conidiis catenulatis, limoni-formibus, utrinque apiculatis, primo guttulatis, hyalinis, albis, 17-19 \times 12 μ .

On aphides upon pumpkin leaves (*Cucurbitaceæ*). Brisbane. (*Bailey*, 584.)

***Sepedonium aureofulvum**, *Cke. & Mass.*

Hyphis repentibus, ramosis. Conidiis globosis, profusis, pulvere aureo-fulvo in Polyporeos insidentibus, episporio tenui, minute asperulo (9-10 μ diam.)

On *Polyporus*. Mordialloc, Victoria. (*French*.)

***Harpographium corynelioides**, *Cke. & Mass.*

Cæspitosum, erumpens, atrum (*Corynelia simulans*) stipitibus compositis, radiantibus, ad basim connatis, sursum clavatis, vel subulatis, simplicibus vel furcatis (2-3 mm. long.) Cæspitulis 1 cm. long, 5 mm. lat. Hyphis deorsum dichotomis, fuliginis, sursum ramosissimis, hyalinis, septatis, conidiis cylindræis, curvulis (allantoideis) nucleatis, hyalinis, 12 \times 3 μ .

On branches of *Leptospermum juniperinum*. Port Phillip (*Hamilton*.) Harkaway Range. (*C. French*.)

Dendrodochium ellipticum, *Cke. & Mass.*

Sporodochiis pulvinatis, erumpentibus, oblongis, pallidis ($\frac{1}{2}$ -1 mm. long) convexis; conidiis ellipticis (8 \times 5 μ) hyalinis, basidiis sursum furcatis.

In ligno putrido. Waitaki. N. Z. 290.

Fusarium (Selenospora) hypocreceidum, *Cke. & Mass.*

Sporidochio convexo, pulvinate, hypocreaformi (1 mm. diam.) aurantio, subdiscoideo. Conidiis fusoideis, continuis, hyalinis, 15 \times 3 μ .

On fading leaves of *Ficus aspera*. Brisbane. (*Bailey*, 589.)

POLYSACCUM.

In the revision of *Polysaccum*, p. 27, note the following species was omitted.

P. australe, *Lev. Ann. Sci. Nat.*, Ser. 3, v. 9, p. 136, pl. 9, f. 3 4.

Stem rooting, subcylindrical, even, shining, blackish-brown, dilated into a similarly coloured subglobose tuberculato-areolated peridium; peridiola brown, subglobose, near the periphery lenti-form, compact; spores fawn-coloured, spherical, smooth.

On the ground. New Holland. About 9 cm. high.

Owing to the priority of Leveille's name, the species described as *P. australe*, *Cke.*, *Grev. v.*, 16, p. 29, will be changed to *P. confusum*, *Cke.*

P. cranium, *Lev., l. c.*, p. 136. = *Scleroderma bovista*, *Fr.*

NEW BRITISH FUNGI.

BY M. C. COOKE.

(Continued from p. 49.)

Agaricus (Armillaria) Jasonis, Cke. & Mass.

Cæspitose. Pileus rather fleshy, especially at the disc, campanulate then expanded, with a distinct rounded umbo, granularly papillate, golden yellow, becoming reddish at the apex (3 in. diam.), margin appendiculate with the fibrous veil. Stem nearly equal, or a little thickened below (2-3 in. long, $\frac{1}{4}$ - $\frac{1}{3}$ inch thick), of the same colour, squamose below the torn squarrose ring, which is rather distant; hollow, gills adnate, scarcely crowded, thin, white, then pallid. Spores $8 \times 5 \mu$. Odour strong.

On stumps. Carlisle. (Dr. Carlyle.)

With just the habit of many species of *Pholiota*, but with white gills and spores.

Peniophora hydroides, Cke. & Mass.

Thinly effused, indeterminate, pale cinereous, covered with paler teeth, or tufts resembling the teeth of a *Hydnum*, which, under the microscope, are found to be fascicles of metuloids, colourless, attenuated upwards, and rough, $70-120 \times 12-14 \mu$. Basidia clavate, spores globose, hyaline, smooth, $4-5 \mu$.

On bark. Carlisle. (Dr. Carlyle.)

Bearing a great resemblance superficially to *Grandinia livida*.

Guepinia pezizæformis, Berk.

On branches. Carlisle. (Dr. Carlyle.)

Bovista olivacea, Cke. & Mass.

Globose, $1\frac{1}{2}$ -2 inches diam., with a short stout rooting base, cortex very thin and evanescent, peridium thick, at first soft and pliant like leather, becoming brittle and breaking away in patches, pale ochraceous, at length whitish; mass of spores, and very dense capillitium, bright citrine, then olive, threads thin, flaccid, simple, spores globose, smooth, pale yellow, sometimes pedicellate, 5μ diam.

On the ground. Durdham Down (*Herb. C. E. Broome in Mus. Brit.*), and Winmerà, Vict. (F. Reader 62.)

Hypoxyton perforatum, Schwz. Sacc. Syll. 1431.

On dead stems of Indian corn. Kew.

Valsa oxystoma. Rehm. Sacc. Syll. 457.

On *Alnus autumnalis*. Kew.

Sphærella (Læstadia) veneta, Sacc. Syll. 1600.

On dead leaves of *Platanus*. Kew.

Asterina juniperina, Cke.

Seated amongst a subiculum of *Antennaria pinophila*. Perithecia discoid, convex ($\frac{1}{8}$ - $\frac{1}{10}$ mm. diam.), surrounded by radiating threads. Asci clavate, octosporous. Sporidia fusiform, triseptate, clear brown ($25 \times 7 \mu$).

On Juniper. Forres, N.B.

Phacidium humigenum, *Cke. & Mass.*

Excipulum becoming plane, opening with several irregular teeth, externally brownish (2 mm. diam.), disc yellowish-white or very pale yellow. Asci clavate-cylindrical, sporidia lanceolate with obtuse ends, or cylindrical, 1-3 nucleate, hyaline, $25-28 \times 6-7 \mu$. Paraphyses filiform, curved at the tips.

On damp ground amongst decayed leaves, twigs, &c. Carlisle. (Dr. Carlyle.)

Phoma nelumbii, *Cke. & Mass.*

Perithecia scattered, erumpent, soon becoming naked and prominent, subglobose, black, opaque ($\frac{1}{6}$ mm diam.). Sporules oval, continuous, hyaline, with a thick epispore and a distinct central nucleus ($10 \times 7 \mu$).

On fading stems of *Nelumbium speciosum*. Kew.

Phoma typharum, *Sacc. Syll. 977.*

On *Typha*. Kew.

Sphærospis herbarum, *Cke. & Mass.*

Perithecia minute, gregarious, black, punctiform, at first covered, then exposed by the falling away of the cuticle. Sporules broadly elliptical, continuous, brown with a tinge of purple, $7-10 \times 5-6 \mu$.

On herb stems. *Compositæ* and *Umbelliferae*. Epping.

Sphærospis alni. *C. & E. Sacc. Syll. 1686.*

On *Alnus*. Kew.

Hendersonia Planerae, *Cke. & Mass.*

Scattered, perithecia erumpent, subglobose, black, for a long time covered by the cracked cuticle, conidia elliptical, rounded at the ends, triseptate, a little constricted, brown, $30 \times 10-12 \mu$.

On twigs of *Planera*. Kew.

Allied to *H. vagans*, Fekl.

Chromosporium rubiginosum (*Carm.*), *C. & M.*

Epiphyllous, rust coloured, in effused patches, pulverulent, conidia profuse, oval, continuous, pale fuscous, $10 \times 7-8 \mu$. *Gymnosporium rubiginosum*, *Carm. MSS.*

On decayed leaves of Beech. Appin.

Monilia pruinosa, *Cke. & Mass.*

Forming a broadly effused thin white pruinose stratum, threads flexuous, elongated, septate ($10-12 \mu$ diam.), irregularly branched, conidia shortly catenulate, subglobose, or oval, hyaline, $14-15 \times 12 \mu$.

On fading leaves of *Caladium*. Kew.

Monosporium olivaceum, *Cke. & Mass.*

Broadly, and for the most part densely, effused, olive; hyphae interwoven, septate, pale olivaceous, fertile branches erect, sparingly branched towards the apex, branchlets sometimes alternate, sometimes in pairs, conidia hyaline, colourless, oval, $6-8 \times 4 \mu$.

On *Corticium* and bark. Carlisle. (Dr. Carlyle.)

Botrytis (Polyactis) gonobotryoides, *Cke. & Mass.*

Whitish. Hyphæ gregarious, but not fasciculate, erect, simple or furcate, septate, pale olive below, conidia elliptical, continuous, hyaline, $15 \times 7-8 \mu$, in subglobose apical clusters, and also in three or four similar clusters at various heights around the septa of the hyphæ, but the joints are not swollen, conidiophores short, and crested at the apex.

On dead leaves of *Hypericum calycinum*. Kew.

Verticillium ampelinum, *C. & Mass.*

White, cæspitose. Threads erect, sparingly branched, ultimate branches mostly ternate, attenuated to the apex, septate, conidia elliptic, hyaline, continuous, $10 \times 4 \mu$.

On vine knots. Herbarium ground. Kew.

Coniosporium carbonaceum (*Carm.*).

Epiphyllous, effused, resembling patches of *Fumago*, black, opaque, conidia oval or lemon-shaped, like spores of some species of *Chaetomium*, continuous, brown, opaque, $10 \times 12 \mu$. *Gymnosporium carbonaceum*, *Carm. MSS.*

On leaves of *Spiræa ulmaria*. Appin.

Torula nucleata, *Cooke.*

Forming small, irregular, thinly effused, blackish patches, mycelium creeping, threads with an attenuated hyaline base, above resolved into 6-8 subglobose concatenate conidia, which remain for a long time united. Conidia dark brown, subglobose, with a large nucleus, $10-12 \mu$ diam.

On herb stems. Shroffeld's Wood. (F. Currey.)

Periconia repens, *Cooke.*

Forming small black tufts. Threads short, flexuous, simple or shortly branched, closely septate, especially upwards, where the cells are about equal in length and diameter, pale brownish above but hyaline at the base, $8-10 \mu$ diam. Conidia solitary, apical, globose, opaque, dark brown, $20-25 \mu$.

On herb stems. Chislehurst. (F. Currey.)

Monotospora asperospora, *Cke. & Mass.*

Effused, black, forming thin velvety patches. Threads erect, short, attenuated upwards from the discoid base, without septa, opaque and dark brown below, pale above. Conidia globose, rough with minute warts, brown, $24-28 \mu$ diam.

On dead twigs of *Clematis*. Shere.

Acremoniella pallida, *Cke. & Mass.*

Somewhat effused, forming pallid spots on dead leaves, mycelium creeping, hyaline, fertile threads short, erect, septate, hyaline, with short lateral, acuminate branches. Conidia terminal, ovate, continuous, clear brown ($30-35 \times 25 \mu$).

On dead leaves (elm?). Eastbourne. (C. J. Muller.)

Scolecotrichum phomoides, *Cke. & Mass.*

Amphigenous. Tufts minute, black, sub-orbicular, punctiform, resembling some *Phoma*. Threads erect, simple, slender, fascicu-

late at the base, septate short, pale olive, conidia uniseptate, elliptical, hyaline, $6 \times 2-3 \mu$.

On dead leaves of *Ophiopogon japonica*. Kew.

Cladosporium juglandinum, Cke.

Hypophyllous. Tufts small, scattered, fuliginous. Threads septate, nodulose, rather flexuous, dark brown below, paler above, mostly simple. Conidia acrogenous, fusiform, uniseptate, translucent, $35 \times 9 \mu$.

On fading walnut leaves. Highgate.

Cladosporium orchidearum, Cke. & Mass.

Tufts erumpent, small, originating principally through the stomata, olivaceous. Threads short, sparingly branched, septate, rather slender and flexuous. Conidia elliptical, uniseptate, pale olive, $17-18 \times 5-6 \mu$.

On leaves of orchids. Kew.

Cladosporium algarum, Cke. & Mass.

Effused in irregular dark olive patches. Threads erect, sparingly branched, septate, olive below, pale above and attenuated. Conidia oblong, cylindrical, 1-3 septate, slightly constricted, pale olive, $30-35 \times 10 \mu$.

On fronds of *Laminaria flexicaulis*. Near Hastings. (E. M. Holmes.)

Helminthosporium minimum, Cooke.

Thinly effused, black. Threads simple, erect, septate, rather thicker than the diameter of the conidia; conidia fusiform, obtuse at the ends, triseptate, scarcely constricted, hyaline, $12-14 \times 3-4 \mu$.

On dead decorticated branches. Near Hereford (1876).

Heterosporium laricis, Cke. & Mass.

Tufts scattered, suborbicular, woolly, fuliginous. Threads thick, septate, with the joints ventricose ($15-18 \mu$ thick), conidia 1-3 septate, elliptical, obtuse at the ends, verruculose, pale fuliginous, $50-60 \times 20 \mu$.

On larch leaves. Norfolk.

Heterosporium typharum, Cke. & Mass.

Tufts elongated, erumpent, gregarious, fuliginous. Threads erect, mostly simple, septate, nodulose, conidia 1-3 septate, elliptical, somewhat acute at each extremity, rough with small granules, pale olive, $30-40 \times 10-14 \mu$.

On leaves of *Typha angustifolia*. Kew.

Heterosporium epimyces, Cke. & Mass.

Olive, effused in more or less dense velvety patches. Threads sparingly furcate, often simple, flexuous, sparsely septate, pale fuscous, conidia 1-3 septate, elliptical, minutely verruculose, pale olive, $25-30 \times 8 \mu$.

On *Polyporus squamosus*. Highgate.

On *Boletus felleus*. Forest of Dean.

Hacrosporium alliorum, Cke. & Mass.

Effused in thin fuliginous patches. Hyphæ flexuous, simple, septate, nodulose, collapsing when dry. Conidia elliptical, triseptate.

tate, then transversely and longitudinally divided into quadrate muriform cells, amber coloured with a tinge of olive, $40-50 \times 20-25 \mu$.

On onion leaves. E. Bergholt (Bloxam.)

Macrosporium scolopendri, Cke.

Spots brown, orbicular or irregular. Tufts small, scattered over the tufts, olive. Threads short, seldom branched, septate, slender. Conidia 3-4 septate, with one or two transverse septa, pale brown ($40 \times 15 \mu$).

On fading fronds of *Scolopendrium vulgare*. Irstead.

Stilbum citrinellum, Cke. & Mass.

Minute, scattered, stem erect, cylindrical, whitish, head subglobose, lemon-yellow, a little attenuated upwards; compacted threads furcate at the tips; conidia solitary, elliptical, continuous, hyaline, $7-9 \times 4 \mu$.

On fading leaves of *Lycopodium*. Kew.

Whole plant about 2 mm. high.

Stilbum nigripes (Carm.) Cke.

Minute, capitulum nearly globose, whitish, stem capillary, black (2 mm. long), smooth, rather rigid, conidia hyaline, globose, $4-5 \mu$ diam. *Isaria nigripes*, Carmichael in Herb. Kew.

On dead oak leaves. Appin.

Coremium vulpinum, Cke. & Mass.

Sparsum, ochraceum. Hyphis fasciculato-concretis, erectis, septatis, superne ramulosis, conidiis ellipticis, uniguttulatis, concatenatis, hyalinis, $10 \times 5 \mu$. Capifulis compactis, muco hyalino involutis.

On wolf's dung. Hook. Herb. No locality stated.

Isaria muscigena, Cke. & Mull.

Pallid. Stroma erect, simple, or forked and compressed (1-2 lines high), gregarious, but not fasciculate. Conidia large, sphaeroidal, $9 \times 8 \mu$, hyaline.

Amongst *Hypnum serpens* on trunks. Eastbourne. (C. J. Muller.)

Haplographium graminum, Cke. & Mass.

Solitary, scattered, minute. Stem composed of fasciculated pale olive septate threads, spreading and free above. Conidia fusiform, binucleate, hyaline, $12 \times 5 \mu$.

On straw. Hampstead.

Ægerita virens, Carm.

Scattered, granuliform, minute, olive, hemispherical; sporophores fasciculate at the base, radiating, rather thick, flexuous, simple or dichotomous, often clavate at the tips, conidia acrogenous, globose, pale olive, as well as the sporophores, 15μ diam.

On birch bark. Appin. (Carmichael.)

Fusarium diffusum, Carm.

Effused, orange, conidia fusiform, acuminate, slightly curved, especially at the extremities, 3-5 septate, hyaline, $60-70 \times 3 \mu$.

On stems of thistles. Appin; near *F. roseum*.

NOTES ON HYMENOMYCETES.

BY THE EDITOR.

We have already alluded, very casually, to Professor Saccardo's fifth volume of his "Sylloge," which contains the first part of the *Hymenomyces*. We return to it now for the purpose of one or two observations, preliminary to our succeeding remarks, rather than for criticism. In the first place we congratulate Saccardo in not adding the dimensions of the spores (where he gives them) to the original diagnoses, except in such cases as those of recently described species in which the spore measurements are constituted a part of the original diagnosis. A distinct protest must be offered to the custom, now so common, of attaching spore dimensions to a species without any evidence that the spores belong to the species originally described, but are only added from specimens determined by the parties themselves, and which they fancy, or believe to be, the species of some particular author who has not given spore measurements. This is altogether a delusion and a snare, and such dimensions have no authority whatever, and cannot be accepted as positively the spores of the species in question. The only good and authentic spore measurements are those given by the author himself, or obtained from authentic typical specimens. Mr. Brown or Mr. Jones may give the dimensions of the spores of *Agaricus cincinnatus*, Fries, for instance, not from authentic specimens, but from something collected by himself, and which he considers may be the *A. cincinnatus* of Fries, but also may be something quite different. Neither Mr. Brown nor Mr. Jones has any right to assume that his specimens are so indubitably the species of Fries that he is at liberty to amend or add to the diagnosis the dimensions of the spores. In order that such spore measurements may have due value they should be derived from *authentic* specimens, and the fact stated, otherwise the specimens from which the spores are taken should be accurately and satisfactorily figured with their spores, and thus some plausible ground afforded for the determination. In the next place we must express our sympathy with Saccardo in a difficulty in which he was placed in carrying out his design of furnishing diagnoses of all described species. Of course, he could not act invidiously and exclude a long series of new species, however doubtful he might feel of their value, although in very many cases the diagnoses are so wretchedly imperfect, and the illustrative figures (when given at all) so crude and partial, that five per cent. of them will represent the most that will ever be recognized again by anyone except the author himself. In one instance, which we may particularise, there are scores of supposed new species, all by the same hand, which it would be impossible to identify, either by the short descriptions or the wretched figures, or by both of these combined. That this was felt by Saccardo will be manifest by his lumping together

at the close of a section a string of these species, the affinities of which neither himself, nor anyone else, could possibly guess from the scant materials at his disposal; that he has done his best under untoward circumstances does not exonerate the original author from blame for his slovenly and slipshod work, which was worth doing well if it was worth doing at all.

A recent writer, as a sort of apology for his figures being different from others which have been published of the same species, remarks that climate must have some influence on Agarics, and that they may be expected to vary more or less considerably in different countries. Now, within certain limits this may probably be true, for we have heard fungus-hunters lament that Agarics will not grow constantly according to the books. Perhaps it is this variability, carried a little to extremes, which accounts for the eccentricities of Bavarian Agarics. It is, nevertheless, rather strange to our experiences in this country to find the section of an Agaric showing the gills rounded behind on one side and decurrent on the other, or broadly adnate on one side and free on the other, or with the gills twice as broad on one side as on the other, or on one side broadest in front and on the other broadest behind. Yet these eccentricities are manifested in Britzelmayr's figures. It cannot, therefore, be surprising that so many species common with us are so metamorphosed that one cannot recognize them under the same name in this remarkable atlas. Surely it cannot be that all the blame is to be attributed to the variability of Agarics in the "sunny south;" or, if so, then the atlas is of no use to us in this "cold northern clime," where Agarics grow more in harmony with what were described and figured by Fries. Seriously, these crude figures scarcely merit sober criticism, as they never could have been intended for practical purposes.

Without pretending either that all our own figures in the "Illustrations" are equally good or typical, or that we have never fallen into error in the determination of species, we are bound to notice two or three which have come under condemnation.

Agaricus (Inocybe) cincinnatus, Fr., "Illustrations," t. 425, is figured with rough spores, wherefore Bresadola concludes that it is wrong (p. 101), and that his species with smooth spores is the species of Fries, for which he calls M. Quelet to witness, because he "was for many years in correspondence with Fries," and, of course, should know; the interpretation of which is—that Quelet considers *A. cincinnatus*, Fr., to be a species with smooth spores, and Bresadola, accepting it, denies that t. 425 can be the species of Fries—and this is all the evidence. On the other hand, we have before us in the Berkeley Herbarium about twenty-six specimens of this species from various localities, and all with rough spores. Our determination is, therefore, in accord with Berkeley, who, by-the-bye, is by far the oldest and most experienced mycologist in Europe, and "was for many years in correspondence with Fries," even before the first edition of the

“Epicrisis,” dated 1836 (see p. 117). What was Dr. Quelet doing with Fungi 52 years ago? Was he then in correspondence with Fries? We fancy not, but that his occupation at that period was of a more puerile character. If, moreover, Quelet was so convinced of the accuracy of his knowledge of *Ag. cincinnatus*, Fr., why was it that he figured it (Pl. xii., Fig. 3) in his “Champ ignons du Jura” under the name of *Inocybe dulcamarus*, and (Pl. xii., Fig. 4) *Ag. dulcamarus* as *Inocybe cincinnatus*, Fr., as pointed out by Mr. Berkeley in “Annals of Natural History” (1878, under number 1654), and, we presume, since corrected it? If Bresadola is right, and Quelet must be accepted because he “was for many years in correspondence with Fries,” by the same reasoning Berkeley must be more accurate still, because he “was for many years in correspondence with Fries” before Quelet had any knowledge of Fries or Fungi.

Agaricus (Inocybe) lanuginosus, Bull., “Illustrations,” t. 582, Fig. A., figured with smooth spores. Bresadola says that this must be a form of *Ag. dulcamarus*, A. & S., at least he supposes so, but without assigning a reason, probably also because M. Quelet says so. There are sixty specimens of this in the Berkeley Herbarium agreeing with the figures and spores in the “Illustrations,” and, with all deference both to M. Quelet and M. Bresadola, we accept the authority (if it is to be a question of authority) rather of Mr. Berkeley than of either, because he was for more than fifty years “in correspondence with Fries.” If M. Bresadola or M. Quelet can produce an authentic specimen of *Ag. lanuginosus* either from Bulliard or Fries, with rough spores, we will at once admit that Berkeley and ourselves have been in error. It may be added that Bresadola declares that our figure of *Ag. cincinnatus* (t. 425 B.) is a form of *Ag. lanuginosus*, Bull., which he says has often a “bluish tinge when young,” but upon what authority is this stated as a fact?—not of Fries or Bulliard, but (perhaps) of Quelet or Bresadola, whence it may be inferred that *theirs* is not the genuine species.

Agaricus (Inocybe) carptus, Scop., “Illustrations,” t. 426. This is figured with smooth spores, and, like the preceding, accords with the determinations of Berkeley. Bresadola thinks that everybody else has been wrong, and his interpretation of Scopoli’s species is the only accurate one; moreover, that our figure is only a form of *Ag. plumosus*, Bolton, and, being an Englishman, it is only natural that an Austrian should know his species better than any two Englishmen can do.

This same critic ventures also to determine that the *Ag. analogicus* of Britzelmayr is the same as the species which he regards as *Ag. carptus*. In one sense he is more fortunate than ourselves, for we have never been able to find this Fig. 148 in our copy of Britzelmayr, and had we done so probably could have learnt nothing from it. Bresadola’s own figures certainly do not represent the species which Fries had in view, but that is of very

little consequence in the opinion of some persons, though fortunately not yet the majority.

This leads us to inquire what are the features upon which some, at least, of the new and "shining lights" in mycology base the determination of species. Certainly they have wandered from the Friesian method most considerably. With an atlas before us, illustrative of the new method, containing some hundreds of coloured figures, we fail to discover the secret. It cannot be colour, for in the matter of colour there is but little variety, and coloured stems, according to description, are colourless in the figures. This is very provoking in *Cortinarius*, for example, wherein there formerly was held to be some virtue in a coloured stem. And, again, sections are, as a rule, all white, but our crude experience of *Agaricini* tends to the conclusion that the flesh of all the species is not uniformly white and immutable. But if not colour, can it be form or general contour? And, again, we discover that form is of little avail, since one after another in the diagnosis of new species there is but vague indication of form, and this is not always in agreement with the type figure.

Let us take a species at random, and opening at *Cortinarius insignis*, Britz., we find it thus described:—"Pileus campanulate, lilac flesh colour, stem of the same colour, gills sufficiently numerous, lilac, reddish yellow, flesh whitish, pallid violet, spores $8-9 \times 6 \mu$." In addition to this masterpiece of brevity we are referred to Fig. 144, and told that the size is "Pileus 7 cm. diam., stem 6 cm. long, $1\frac{1}{2}$ cm. thick." Turning to the figure we find a small species delineated, which is wholly white, with a pileus 1 cm. broad, a stem 2 cm. long and about 4 mm. thick, and yet all the figures are supposed to be "natural size." We would inquire—How can anyone identify such a *new* species? The pileus is campanulate, but white according to the figure; the stem is thickened downwards and of the same colour. And as to the gills, of course they are of no consequence; the diagnosis does not hint whether they are adnate, decurrent, sinuate, emarginate, or free, and whether the stem is stuffed, hollow, or solid is left an open question. There is but one definite clue to the species, "spores $8-9 \times 6 \mu$," and this is evidently the crucial test. Here beams a light upon the royal road to success in the determination of *Agaricini*, as preached by the new apostles. The size of the spore is to determine the species, free from all the trammels of external character. This is the plain inference to be derived from more than one of the latest adventurers in the career of species making. This is carrying to the extremity of abuse the carpological system, which, though applied by Saccardo himself in his fifth volume with reason, moderation, and good sense, he would blush to own when united to such extravagance.

If spore measurement is to be the "Alpha and Omega" in the determination of the *Agaricini*, we should at least be certain that *authentic* specimens only of the older species (for which spore

measurements are not given with the diagnosis) are propounded as types, and also that the individuals giving measurements from such types are reliable, and capable of giving accurate measurements of such minute bodies. It is one thing to be able to see an object of 2 or 3 μ in diameter under the microscope, but quite another thing to measure the dimensions accurately. As an example of the truth of this anyone can refer for himself to authorities for the dimensions of the spores in three or four of the best known species, and compare the dimensions given by different authorities from their own determinations. The result will be that there will be found to be no absolute agreement between any two persons, except where one has copied (apparently) from the other. Take the following instances for what they are worth:—

Coprinus comatus, Fries.

- 11-13 \times 6-8 μ . Karsten.
 12-14 \times 6-8 μ . Britzelmayr.
 10-13 \times 6-8 μ . Bizzozero.
 18 \times 11 μ . W. G. Smith.
 14 \times 8 μ . Cooke Illus. t. 658.
 15 \times 9 μ . G. Masee in Herb. Kew.

Coprinus atramentarius, Fries.

- 6-10 \times 4-6 μ . Britzelmayr.
 9 \times 6 μ . Cooke Illus. t. 662.
 9-10 \times 6 μ . Bizzozero.
 9-10 \times 6 μ . Karsten.
 12 \times 6 μ . G. Masee in Herb. Kew.
 9-10 \times 6 μ . Saccardo.

Coprinus fimetarius, Fries.

- 15-18 \times 9-12 μ . Karsten.
 15-18 \times 9-12 μ . Bizzozero.
 10-12 \times 6-8 μ . Britzelmayr.
 12 \times 10 μ . G. Masee in Herb. Kew.

Coprinus plicatilis, Curtis.

- 8-11 \times 5-9 μ . Saccardo.
 8-10 \times 5-8 μ . Britzelmayr.
 14 \times 10 μ . G. Masee in Herb. Kew.

From these, and similar examples which might be added indefinitely, it is clear that the spores are exceedingly variable in size in the same species, and therefore of no value in the determination of species; or else, not being themselves variable, that the sizes given indicate inaccurate measurement on the part of all observers but one, it follows that, until it is determined which is the accurate authority, spore dimensions are equally useless, and not only useless but misleading. Before there is any justification for the recognition of spore measurement as part of the diagnosis of a species, some better method for obtaining accuracy must be devised, it being perfectly clear that the present haphazard system is a discredited failure.

SYNOPSIS PYRENOMYCETUM.

(Continued from p. 56.)

Fam. 10. PERTUSÆ. Perithecia emergens, glabra, basi applanata, adnata, vel subimmersa, ostiola papillata, vel pertusa.

GEN. 1. **CONISPHERIA.** Sporidia hyalina, continua, vel septata.

* ZIGNOINA. *Sporidia continua.*

- | | |
|--|--|
| 3326. subcorticalis, <i>Cooke</i> 7063 | 3329. rhodobapha, <i>B. & Br.</i> ... 3659 |
| 3327. crustacea, <i>Karst.</i> 3654 | |
| 3328. populicola, <i>Cr.</i> ... 3656 | 3330. tingens, <i>Ces.</i> ... 3660 |
| | 3331. verrucarioides, <i>Cr.</i> 3662 |

Incertæ.

- | | |
|-----------------------------------|--|
| 3332. picastra, <i>Fr. Scler.</i> | 3333. palmicola, <i>Fr.</i> ... 4318 |
| <i>Suc.</i> 123 | 3333a. fuscescens, <i>Fr.</i> ... 4324 |

** MELANOPSAMMA. *Sporidia uniseptata, hyalina.*

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|---|---|
| 3334. pæcilostoma, <i>B. & Br.</i> ... 3652 | 3343. Diantha, <i>Speg.</i> ... 2271 |
| 3335. coffeicola, <i>B. & C.</i> ... 2252 | 3344. emergens, <i>Schulz.</i> 6516 |
| 3336. borealis, <i>Karst.</i> ... 2260 | 3345. salicaria, <i>Karst.</i> ... 6085 |
| 3337. tenerrima, <i>Speg.</i> ... 2261 | 3346. picastra, <i>Schwz.</i> ... |
| 3338. anaxæa, <i>Speg.</i> ... 2264 | 3347. cubigena, <i>Berk. in Herb.</i> ... 4323 |
| 3339. texensis, <i>Cooke</i> ... 2266 | = <i>obtusissima</i> , <i>B. & C.</i> |
| 3340. petruciana, <i>Cald.</i> 2267 | 3348. nipæcola, <i>Cke. & Mass., Grev.</i> xvi. 92. |
| 3341. glandis, <i>Duby.</i> ... 2268 | |
| 3342. europæa, <i>Speg.</i> ... 2270 | |

** * MELOMASTIA. *Sporidia biseptata, hyalina.*

- | | |
|---------------------------------------|-------------------------------------|
| 3349. graopsis, <i>Ellis</i> ... 6086 | = <i>loniceræ</i> , <i>Sow.</i> |
| 3350. Friesii, <i>Nke.</i> ... 3625 | = <i>revelata</i> , <i>B.</i> |
| = <i>mastoidea</i> , <i>Fr.</i> | = <i>fraxinicola</i> , <i>Curr.</i> |
| = <i>opuli</i> , <i>Fr.</i> | = <i>emiliana</i> , <i>Fab.</i> |

** * ZIGNOELLA. *Sporidia pluriseptata, hyalina.*

† *Perithecia minuta.*

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|--|---|
| 3351. inflata, <i>Ellis</i> ... 3633 | 3355. soluta, <i>C. & E.</i> ... 3635 |
| 3352. eutypoides, <i>Sacc.</i> 3636 | 3356. subcutanea, <i>C. & E.</i> 3499 |
| 3353. cyrillicola, <i>B. & C.</i> 3267 | 3357. ceratispora, <i>B. & C.</i> 3178 |
| 3354. matthiolæ, <i>Cke., Grev.</i> xvi. 92. | 3358. hysteroioides, <i>Curr., Grev.</i> xvi. 92. |

†† *Perithecia majuscula.*

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|---|--|
| 3359. quercetis, <i>Cke. & Mass.</i> ,
<i>Grev.</i> xvi. 92. | 3370. nematasca, <i>S. & S.</i> 3673 |
| 3360. Morthieri, <i>Fckl.</i> ... 3663 | 3371. ramenticola, <i>Sch.</i>
& <i>S.</i> ... 7059 |
| 3361. corticola, <i>Fckl.</i> ... 3664 | 3372. minutissima, <i>Karst.</i> 6152 |
| 3362. prorumpens, <i>Rehm.</i> 3655 | 3373. salicicola, <i>Fab.</i> ... 6153 |
| 3363. subferruginea, <i>Fckl.</i> 3666 | 3374. transylvanica,
<i>Rehm.</i> ... 3674 |
| 3364. cryptarum, <i>Fckl.</i> 3667 | 3375. Dubyi, <i>Not.</i> ... 3675 |
| 3365. macrasca, <i>Sacc.</i> ... 3668 | 3376. subvestita, <i>Ell. & Ev.</i> 7495 |
| 3366. emergens, <i>Karst.</i> ... 3669 | 3377. insculpta, <i>Fr.</i> ... 3676 |
| 3367. sequoiæ, <i>Plow.</i> ... 3670 | 3378. Oudemansii, <i>Karst.</i> 7066 |
| 3368. Maingayi, <i>Cooke</i> ... 3671 | 3379. paraguayensis ... 7067 |
| 3369. albocincta, <i>C. & E.</i> 3672 | |

GEN. 2. **TICOTHECIUM.** *Flot.* *Perithecia minuta*, lichenicola, sporidia septata, hyalina vel fusca.

* PHARCIDIA. *Sporidia 1-3 septata hyalina.*

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|--|--|
| 3380. Schæreri, <i>Mass.</i> ... 2232 | 3388. hygrophila, <i>Arn.</i> ... 6502
<i>v. Berengeriana, Arn.</i> |
| 3381. parvipuncta, <i>Stein.</i> 6495 | 3389. porocyphi, <i>Stein.</i> 6503 |
| 3382. constrictella, <i>Mull.</i> 6496 | 3390. microspila, <i>Korb.</i> ... 6504 |
| 3383. arthoniæ, <i>Arn.</i> ... 6497 | 3391. conspurcans, <i>Fr.</i> ... 6505 |
| 3384. aspiciliæ, <i>Lahm.</i> ... 6498 | 3392. badia, <i>Arn.</i> ... 6506 |
| 3385. punctillum, <i>Arn.</i> ... 6499 | 3393. tabacina, <i>Arn.</i> ... 6507 |
| 3386. dispersa, <i>Lahm.</i> ... 6500 | 3394. ahlesiana, <i>Hepp.</i> ... 6508 |
| 3387. lichenum, <i>Arn.</i> ... 6501 | |

** GENUINA. *Sporidia fusca.*† *Sporidia uniseptata.*§ *Asci 4-8 spori.*

- | | |
|--------------------------------------|--------------------------------------|
| 3395. gelidarium, <i>Mudd.</i> 6592 | 3400. calcaricolum, <i>Md.</i> 6597 |
| 3396. perpusillum, <i>Nyl.</i> 6593 | 3401. gemmiferum, <i>Tayl.</i> 6598 |
| 3397. stigma, <i>Korb.</i> ... 6594 | 3402. complanata, <i>Arn.</i> 6599 |
| 3398. macrosporum, <i>Hp.</i> 6595 | 3403. squamarioides, <i>Md.</i> 6600 |
| 3399. Arnoldi, <i>Hepp.</i> ... 6596 | |

§§ *Asci polyspori.*

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|--------------------------------------|-------------------------------------|
| 3404. nanellum, <i>Ohl.</i> ... 6601 | 3405. cerinarium, <i>Mudd.</i> 6602 |
|--------------------------------------|-------------------------------------|

†† *Sporidia triseptata.*

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|--|---------------------------------------|
| 3406. erraticum, <i>Mass.</i> ... 6603 | <i>v. ecatonospora, Ausf.</i> |
| 3407. pygmæum, <i>Korb.</i> 6604 | 3408. leucomelarium, <i>Md.</i> 6605 |
| <i>v. ventosicola, Mudd.</i> | 3409. rimosicolum, <i>Leight</i> 6606 |
| <i>v. grandiuscula, Arn.</i> | 3410. decolorans, <i>Rehm.</i> 6607 |
| <i>v. microcarpa, Anzi.</i> | 3411. peregrinum, <i>Flot.</i> 6608 |

* * SOROTHELIA. *Perithecia aggregata, sporidia didyma.*

3412. confluens, *Korb.* ... 6609

GEN. 3. **AMPHISPHERIA.** Sporidia fusca, fuliginea, vel intense olivacea.

* AMPHISPHERELLA. *Sporidia continua, fusca.*

3413. amphispæroides, S. & S. ... 955	3419. deerata, C. & E.... 961
3414. protuberans, <i>Karst.</i> 956	3420. Gaudefroyi, <i>Fab.</i> ... 964
3415. arausiaca, <i>Fab.</i> ... 957	3421. obtusissima, B. & C. ... 966
3416. mycophila, <i>Fr.</i> ... 958	3422. Despreauxii, <i>M.</i> ... 967
3417. prinicola, B. & C.... 959	3423. diderma, <i>Schwz.</i> ... 4331
3418. canicollis, K. ... 960	3424. aperta, <i>Schwz.</i> ... 4333

* * GENUINA. *Sporidia uniseptata fusca.*

3425. applanata, <i>Fr.</i> ... 2714	3440. emiliana, <i>Fab.</i> ... 2738
3426. sardoa, <i>Not.</i> ... 2715	3441. pusiola, <i>Karst.</i> ... 2741
3427. conica, <i>Lev.</i> ... 2716	3442. papillata, <i>Schum.</i> ... 2743
3428. fallax, <i>Not.</i> ... 2718	3443. phileura, C. & P.... 2744
3429. umbrina, <i>Fr.</i> ... 2720	3444. pinicola, <i>Rehm.</i> ... 2749
3430. pseudoumbrina, S. 2721	3445. biocellata, <i>Pass.</i> ... 7473
3431. Spegazziniana, S. 2722	3446. thujna, <i>Peck.</i> ... 2760
3432. bispærica, C. & E. 2724	3447. closteriphora, B. & Br., <i>Grev.</i> xvi.
3433. striata, <i>Nsl.</i> ... 2726	3448. papilla, <i>Schw.</i> ... 2269
3434. inæqualis, <i>Fab.</i> ... 2728	3449. albomaculans, <i>Schw.</i> 4344
3435. olearum, <i>Not.</i> ... 2729	3450. aquatica, <i>Ell. & Ev.</i> 6617
3436. æthiops, B. & R... 2731	3451. culmicola, <i>Sacc.</i> ... 2757
3437. quercetis, <i>Cke. &</i> <i>Mass., Grev.</i> xvi. 92.	3452. posidonix, <i>Dk. &</i> <i>M.</i> ... 2760
3438. Beccariana, <i>Ces.</i> ... 2733	3453. ventosaria, <i>Linds.</i> 2761
3439. majuscula, <i>Sp.</i> ... 2736	

* * MELANOMMA. *Sporidia 2-3 septata fusca.*

3454. Jenynsii, B. & Br. 3232	3460. { nuclearia, <i>Not.</i> ... 3308
3455. obliterans, B. & Br. 3233	3461. { caryophaga, <i>Schw</i> 4332
3456. sylvanum, <i>Sacc.</i> ... 3240	3462. { nucitena, B. & C. 3239
3457. Eckfeldii, <i>Ellis</i> ... 3247	3463. taphrinoides, <i>Sacc.</i>
3458. orni, <i>Not.</i> ... 3228	& <i>Sch.</i> ... 7006
3459. dubiosum, <i>Sacc.</i> ... 3252	

* * Sporidia 4-pluriseptata.

3464. brachythele, B. & Br. ... 3269	3466. inspersa, <i>Schwz.</i> ... 2951
3465. imitans, <i>Karst.</i> ... 3273	3467. populinum, <i>Schulz.</i> 7008

*** TREMATOSPHERIA. *Perithecia majuscula.*

Sporidia oblonga v. fusioidea, 3-pluriseptata.

3468. pertusa, <i>Pers.</i> ... 3285	3484. errabunda, <i>Fab.</i> ... 3301
3469. anglica, <i>S.</i> ... 3286	3485. megalospora, <i>Not.</i> 3302
3470. pertusella, <i>S.</i> ... 3287	3486. Britzelmayriana,
3471. callispora, <i>Not.</i> ... 3288	<i>Rehm.</i> ... 3303
3472. callicarpa, <i>S.</i> ... 3289	3487. seminuda, <i>Pers.</i> ... 3304
3473. callisperma, <i>Sp.</i> ... 3290	3488. applanata, <i>Oud.</i> ... 3305
3474. hydrela, <i>Rehm.</i> ... 3291	3489. Fritzii, <i>Schrot.</i> ... 3306
3475. peniophora, <i>Cke.</i> ... 3292	3490. pyrenogena, <i>DR. &</i>
3476. porphyrostoma,	<i>M.</i> ... 3307
<i>Kze.</i> ... 3293	3491. buellioides, <i>Rehm.</i> 7011
3477. melina, <i>B. & Br.</i> ... 3294	3492. araneosa, <i>Q.</i> ... 3310
3478. olearum, <i>Cast.</i> ... 3295	3493. vindelicorum,
3479. lichenopsis, <i>Mass.</i> 3296	<i>Rehm.</i> ... 3311
3480. decipiens, <i>Not.</i> ... 3297	3494. lunariæ, <i>Curr., Grev.</i>
3481. vesuvius, <i>B. & Br.</i> 3298	xvi. 92. ...
3482. pleurostoma, <i>Rehm.</i> 3299	3495. tornata, <i>B. & C.</i> ... 4335
3483. hydrophila, <i>Karst.</i> 3300	3496. agnocystis, <i>B. & Br.</i> 2732

*** CARYOSPORA. *Sporidia grandia, biconica conis locello minuto vel binis utrinque auctis.*

3497. putaminum, <i>Schw.</i> 3312	3498. callicarpa, <i>Curr.</i> ... 3313
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GEN. 4 **TEICHOSPORA.** *Fckl. Perithecia semi-immersa, vel basi applanata. Sporidia muriformia.*

* *Peritheciis non collabentibus.*

3499. taphrina, <i>Fr.</i> ... 3876	3507. vitalbæ, <i>Not.</i> ... 3893
3500. disseminata, <i>B. &</i>	3508. seminuda, <i>Not.</i> ... 3898
<i>C.</i> ... 3884	3509. Floresiana, <i>Speg.</i> ... 3902
3501. interstitialis, <i>C. &</i>	3510. spectabilis, <i>Fab.</i> ... 3905
<i>P.</i> ... 3885	3511. pirei, <i>West.</i> ... 3906
3502. inverecunda, <i>Not.</i> 3886	3512. xerophila, <i>Pech.</i> ... 3907
3503. oxystomoides, <i>S.</i> ... 3887	3513. eucalypti, <i>C. & Hk.</i> 7105
3504. commutata, <i>S.</i> ... 3888	3514. olenjensis, <i>Karst.</i> 7107
3505. phragmitis, <i>Pass.</i> 3890	3515. arthoniodes, <i>Pass.</i> 7502
3506. brevirostris, <i>Fckl.</i> 3892	

** STRICKERIA. *Peritheciis collapso-concavis.*

3516. peziza, <i>Wint.</i> ... 3912	3518. obtusa, <i>Fckl.</i> ... 3918
3517. Emilii, <i>Fab.</i> ... 3915	3519. subocculta, <i>K.</i> ... 3919

** TEICHOSPORELLA. *Sporidia subhyalina.*

3520. dura, <i>Fckl.</i> ... 3920	3522. obliqua, <i>Karst.</i> ... 3922
3521. phellogena, <i>B. & C.</i> 3921	

GEN. 5. **WINTERIA.** *Rehm.* Perithecia molliuscula, viridi vel rufo parenchymatica (*Gibberella affinis*). Sporidiis septatis, cellulis divisis, luteolis vel hyalinis.

3523. lichenoides, *Rehm.* 3677 3526. crustosa, *Ell. & Ev.* 7113
 3524. viridis, *Rehm.* ... 3679 3527. rhoina, *Ell. & Ev.* 7114
 3525. ordinata, *Fr.* ... 3680 3528. cærulea, *Ell. & Ev.* 7115

The following corrections and additions can be made to Saccardo's "Sylloge," Vol. 2:—

4137. *Sphæria lecythea*, *Schw.*, is a *Sphæropsis* with sporules $30 \times 10-12$, pale brownish, as in specimen from Schweinitz.

4321. *Sphæria panacis*, *Fr.*, according to specimen issued in *Scler. Succ.* No. 319. This is a *Diplodia*. Sporules $22-25 \times 8 \mu$.

4322. *Sphæria surculi*, *Fries* in *Herb. Berkeley*, is evidently only a *Phoma*.

4326. *Sphæria pericarpium*, *Schwz.* in *Herb. Berk.*, appears to be a minute *Phoma*.

4328. *Sphæria glandicola*, *Schwz.* in *Herb. Berk.*, is a *Phoma*. Sporules $5 \times 3 \mu$, basidia 20×3 .

4331. *Amphisphærella diderma*, *Schwz.* in *Herb. Berk.* Sporidia $14 \times 8 \mu$, continuous, almond shaped.

4332. *Sphæria caryophaga*, *Schw.* Specimens from Schweinitz do not differ from *Sphæria nuclearia*, *Not.*, which again is the same as *Sph. nucitena*, *B. & C.*

4333. *Amphisphærella aperta*, *Schwz.* in *Herb. Berk.* Sporidia $7 \times 5 \mu$ continuous, brown, oval.

4334. *Amphisphæria albo-maculans*, *Schwz.* Sporidia fusiform, uniseptate, brown, $12 \times 3 \mu$.

4335. *Trematosphæria tornata*, *B. & C.* in *Herb. Berk.* Sporidia lanceolate, 3 septate, brown, constricted at the septa, straight or curved, $40 \times 6 \mu$.

Only authentic specimens have been consulted for the above notes.

3437. **Conisphæria (Zignoella) quercetis**, *Cke. & Mass.*

Peritheciis sparsis gregariisve, ligno semi-immersis, lateraliter compressis, hysterii-formibus, atris, ostioli papilla demum decedente, pertusis. Ascis clavato-cylindricis, sporidiis biserialis, lanceolatis, quadrinucleatis, demum triseptatis, hyalinis, $35 \times 8 \mu$.

On naked bleached wood. S. Carolina. (*Dr. Curtis*, No. 1915.)

Allied to *C. hysterioides*, *Curr.*, but with larger and more immersed perithecia.

3497. **Trematosphæria agnocystis**, *B. & Br.*

Sporidiis lanceolatis, 3 septatis, fuscis, sæpe cellulis ultimis hyalinis, $40 \times 8 \mu$.

4348. **Conisphæria (Melanopsamma) nipæcola**, *Cke. & Mass.*

Peritheciis gregariis, magnis ($1-1\frac{1}{2}$ mm. diam.) atris, conoideis, papillatis, basi applanatis. Ascis clavatis, stipitatis, sporidiis biserialis, lanceolatis, medio uniseptatis, hyalinis, $35 \times 7 \mu$ (potius immaturis).

On cortex of *Nipa*. Java. (*Kurz.*, 270 in *Herb. Berk.*)

3359. **Amphisphæria quercetis**, *Cke. & Mass.*

Peritheciis gregariis, majusculis (1 mm. diam.) initio immersis, dein semi-emergentibus, conico-convexis, diu epidermide tectis, papillatis, atris, basi applanato, ascis cylindræcis, octosporis. Sporidiis uniseriatis, ellipticis, utrinque rotundatis, medio leniter constrictis, uniseptatis, brunneis, $28 \times 10 \mu$.

On bark of *Quercus albus*. N. Carolina. (*Dr. Curtis* in *Herb. Berk.*, No. 293.)

Sphæria (Trematosphæria) lunariæ, *Currey in Herb. Kew.*

Peritheciis sparsis, emergentibus, primum immersis, conicis, basi applanatis, glabris, vertice papillatis. Ascis clavatis, octosporis, sporidiis sub-biserialibus, lanceolatis, 3 septatis, fuscis ($25-30 \times 8 \mu$).

On decorticated branches of *Fraxinus*. (Britain.)

3354. **Conisphæria (Zignoella) matthiolæ**, *Cooke.*

Peritheciis sparsis vel gregariis, erumpentibus dein subsurfacealibus, atris, pertusis, ascis clavatis, sporidiis fusiformibus, 5 septatis, hyalinis, $25 \times 4 \mu$.

On stems of *Matthiola incana*, near Marseilles. (*Roux.*)

3358. **Conisphæria (Lignoella) hysterioides**, *Currey.*

Peritheciis gregariis, semi-immersis, atris, lateraliter compressis, hinc hysterii-formibus, ostiolo pertuso, poriformi. Ascis clavatis, sporidiis fusiformibus, utrinque acutis $1-5$ septatis, hyalinis $30-35 \times 5 \mu$.

On rotten wood. Chislehurst.

3447. **Amphisphæria closteriphora**, *B. & Br.*

Peritheciis sparsis, majusculis ($1\frac{1}{2}$ mm. diam.), semi-immersis, conicis, vel basi applanatis, atris, nitidis, ostiola papillato. Ascis clavatis, 8 sporis; sporidiis lanceolatis, uniseptatis, medio constrictis, fuscis $75 \times 10 \mu$.

On denuded branches. Java. (*Kurz.*)

3347. **Conisphæria (Melanopsamma) cubigena**, *Berk.* = **S. obtusissima**, *B. & C. Sacc. Syll.* 4323.

Sporidiis lanceolatis, uniseptatis, medio constrictis, nucleatis, hyalinis, $45-50 \times 6-8 \mu$.

LASCHLÆ NOVA SPECIES.

DESCRIPSIT ROB. FRIES.

In caldario horti publici Gothoburgensis—ubi non raro proveniunt notabiles Hymenomycetum formæ—ad *Bambusæ* truncum e Batavia reportatum fungum facie prorsus aliena recedentem observavit horti Director *G. Lowegren* et læte vigentem mecum benevole communicavit. Cujus h. l. liceat descriptionem et icones inserere.

Laschia testudinella.

Pileus membranaceus, gelatinoso-elasticus, ex orbiculari reniformis, leviter convexus, glaber, e griseo fuscescens, obscurius areolato-reticulatus; stipes lateralis, horizontalis, perbrevis; pori ampli, profundi, regulares, hexagoni, similes et concolores; sporæ copiosæ, oblongæ, albæ.

Habitus exacte *Hexagonæ* diminutæ, substantia vero gelatinosa, licet subrigidula. Sicca valde contrahitur, formam tamen servans; humectata denuo in pristinum modum intumescit. Pileus $\frac{1}{3}$ -1 unc. latus, juniorum orbicularis subgriseus, adultorum reniformis fuscescens, peculiari modo tessellatus, dissepimentis pororum membranam tenuem pellucidam subruguloso-translucentibus l. potius obfuscantibus. Inde similitudo, quædam cum scuto dorsali testudinum apparet.

Pl. 172 B., Fig. I., exemplar junius; Fig. II., adultum refert, utrumque jam pridem pluries alternatim siccatum et aqua redivivum; ideo nonnihil diminuta, pavimento pilei minus manifesto; Fig. III., specimen juvenile siccum duplo auctum delineat.

Gothoburgi, 12, 11, 1887.

NEW BRITISH DISCOMYCETES.

BY WILLIAM PHILLIPS, F.L.S.

Mollisia (Pseudopeziza) Alismatis, *Phil. & Trail, n.s.*

Cups seated on brown discoloured spots, gregarious, at first closed and covered, orbicular, then bursting through the epidermis and dehiscing with a lacerated thin margin, umber-brown when moist, black when dry; hymenium paler, plane; asci broadly clavate; sporidia 8, oblong, polari-guttulate, $10-14 \times 3-4 \mu$; paraphyses slenderly filiform.

On both sides of fading leaves of *Alisma Plantago*. Sept., Oct. Near Aberdeen. (*J. W. H. Trail*.)

Cups $100-300 \mu$ broad; asci $50-60 \times 10 \mu$.

POCILLUM, *De Not. Disco. p. 7.*

Receptacle slender from the base, calyculate, disc appanate; excipulum fibrous, that is to say, interwoven of elongated cells;

asci numerous, elongated, 8-spored; paraphyses filiform; sporidia very long, filiform, hyaline, continuous.

Pocillum Boltonii, *Phil., n.s.*

Minute, scattered, at first cylindrical, then becoming nearly turbinato-truncate, glabrous, shining, horn-coloured, soft, watery, much contracted when dry; hymenium plane or a little depressed; asci broadly clavate; sporidia 8, elongated, sub-cylindrical, obtuse at the ends, $40-50 \times 3-4 \mu$; paraphyses filiform, thickened at the apices.

On dead *Equisetum*, lying in water. Near Birmingham. (Collected by the late T. Bolton, after whom it is named, and communicated by W. B. Grove.)

Cups 100-200 μ broad, 300-400 μ high. The sporidia, which are large for the size of the plant, are straight or a little bent, colourless, and furnished with several large vacuoles. They have a propensity to throw out long germ tubes while yet in the ascus. The excipulum is composed of elongated septate threads, but showing no colour as in the other species of the genus, *P. Cesatii* and *P. Americanum*.

Lachnella callimorpha (*Karst.*)

Cups gregarious, sessile or shortly stipitate, tomentose, somewhat plane, when dry spherical or hemispherico-contracted, hymenium yellow or orange-yellow; asci subclavato-cylindrical; sporidia 8, linear-fusiform, 6-8 guttæ, or spuriously pluriseptate, straight, $14-19 \times 2-4 \mu$, paraphyses acerose. *Lachnea callimorpha*, Karst. Symb., p. 250. *Lachnum callimorphum*, Karst. Myco. Fenn., p. 173.

On dead leaves of *Eriophorum angustifolium*. Near Aberdeen. Spring. (*Jas. W. H. Trail.*)

Cups 300-500 μ broad. Hairs short, not septate, colourless. Asci $40-50 \times 4 \mu$.

Ombrophila helotioides, *Phil., n.s.*

Stipitate, solitary or cæspitose, capitulate, pallid, glabrous, subgelatinous; hymenium convex, margin thin, undulating; stem cylindrical, a little flexuous; asci cylindraco-clavate; sporidia 8, narrowly fusiform, straight, or slightly bent, 5-guttulate, $20-26 \times 2-3, 5 \mu$, paraphyses filiform, hardly thickened at the apices.

On dead stems of *Equisetum* in water. Autumn. Park Loch, near Aberdeen, 1886. (*C. B. Plowright.*)

Cup 1-2 lines broad, the whole plant 2-4 lines high, stem $\frac{1}{4}$ line thick. It differs from *O. clavus* in the sporidia.

Dermatea amæna (*Tul.*)

Cups sometimes cæspitose, sometimes circinate, arising from the upper surface of a stroma which is occasionally black; at first they are somewhat urceolate, then expanded and at length obconico-truncate; disc orbicular, plane or convex, immarginate (not more than $\frac{1}{2}$ a line broad); when full grown they are fleshy, and very

smooth above, shining, of a beautiful golden yellow; asci long, clavate, with a thin membrane; sporidia 8, biseriate, oblong-ovate, continuous, pellucid, slightly incurved, or not equilateral, $16-19 \times 6, 5 \mu$, filled with granular plasma. *Dermatea amæna*, Tul. in Schlecht. Ephem. Bot. Berol. v. xi., p. 54. *Pezizula amæna* Tul. Carp. p. 184, t. xxi., Fig. 1-9.

On dead oak branches. Autumn. Edgbaston Park. (W. B. Grove.)

Cups not exceeding $\frac{1}{2}$ a line, bursting forth in masses from the dry bark in autumn and winter. Spermata naked, *i.e.*, not inclosed in spermogonia, evanescent; they are straight or curved and continuous, $3\frac{1}{2}-4$ rarely 6μ long.

Stylospores or conidia are produced in little unequal locula within the stroma escaping through narrow chinks. They are narrowly oblong, sometimes claviform, continuous, $192-225 \mu$ long, $4-5$ or sometimes $6-5 \mu$ broad.

There are four other species described as growing on different species of *Quercus*: *D. quercina*, Fekl., and *D. dryina*, Cke., on the common oak; *D. stegioides*, Speg., on *Quercus sessiliflora*, and *D. tabacina* on *Q. alba*.

PHILLIPS'S BRITISH DISCOMYCETES.

We are very pleased to announce the appearance of the long-promised volume of "British Discomycetes," by W. Phillips, although pressure of matter compels us to defer any further notice of it in the present number. This is less to be regretted, as we have already expressed a decided opinion elsewhere (*Nature*, Feb. 11th). The volume is everything which the student could wish, and the cheapest manual of fungi we have had. We can only recommend our readers to obtain it at once from Messrs. Kegan Paul & Co., and we can promise them it will be the best five shillings worth of mycology they ever purchased, with the extra merit of being *good* as well as *cheap*.

BRITISH HYPHOMYCETES.

(Continued from p. 65.)

Ramularia lampsanæ, Desm. Sacc. Syll. 1008.

On *L. communis*. Forden.

Ramularia pruinosa, Speg. Sacc. Syll. 1022.

On *Senecio Jacobæa*. Forres, N.B.

Ramularia senecionis, B. & Br. Sacc. Syll. 1023.

On *Senecio vulgaris*.

Ramularia variabilis, Fekl. Sacc. Syll. 1030.

On *Verbascum*.

- Ramularia calcea**, *Desm.* *Sacc. Syll.* 1032.
On *Glechoma* leaves. Epping.
- Ramularia cryptostegiæ**, *Pim.* *Sacc. Syll.* 1048.
On seeds of *Cryptostegia*. Dublin.
- Ramularia pratensis**, *Sacc. Syll.* 1049.
On *Rumex acetosa*. N. Wootton.
- Paraspora triseptata**, *Grove.* *Sacc. Syll.* 1084.
On rotten wood. Sutton.
- Milowia nivea**, *Massee.* *Sacc. Syll.* 1086.
On *Blysmus compressus*.
- Septocylindrium Bonordeni**, *Sacc. Syll.* 1087.
On leaves of snowdrop; on wood.
- Septocylindrium elongatisporum**, *B. & Br.* *Sacc. Syll.* 1094.
On nettle stems. Batheaston.
- Septocylindrium pallidum**, *Grove.* *Sacc. Syll.* 1095.
On wood. Blackwell, Warwickshire.
- Septocylindrium chaetospora**, *Grove.* *Sacc. Syll.* 1096.
On rotten wood. Streetlaw, Warwickshire.
- Septocylindrium concentricum**, *B. & Br.* *Sacc. Syll.* 1097.
On pine and larch chips.
- Prismaria furcata**, *Grove.* *Sacc. Syll.* 1110.
On rotten wood. Sutton, Warwickshire.
- Helicomycetes roseus**, *Link.* *Sacc. Syll.* 1115.
On wood, &c. Batheaston.
- Helicomycetes tubulosus**, *Riess.* *Sacc. Syll.* 1120.
On rotten wood. Hereford.

ORD. 2. DEMATIÆÆ.

- Coniosporium olivaceum**, *Link.* *Sacc. Syll.* 1131.
On wood. Appin.
- Coniosporium arundinis**, *Corda.* *Sacc. Syll.* 1150.
On reeds. Irstead (Norf.).
- Coniosporium carbonaceum**, *Carm.* *Grev.* XVI., 79.
On *Spiræa*. Appin.
- Coniosporium physciæ**, *Kalch.* *Sacc. Syll.* 1170.
On apothecia of *Physcia parietina*. King's Lynn.
- Torula ovalispora**, *Berk.* *Sacc. Syll.* 30.
On branches. Sanquhar, N.B., Dargle (I.), Forden.
- Torula antennata**, *Pers.* *Sacc. Syll.* 1189.
On rotten wood. Twycross.
- Torula ulmicola**, *Rabh.* *Sacc. Syll.* 1201.
On branches of elm. Forres, N.B.
- Torula pulvillus**, *B. & Br.* *Sacc. Syll.* 1206.
On oak branches. Apethorpe.
- Torula monilioides**, *Corda.* *Sacc. Syll.* 1217.
On rotten wood. Appin.
- Torula cylindrica**, *Berk.* *Sacc. Syll.* 1220.
On branches. Appin.

- Torula pulveracea**, *Corda*. *Sacc. Syll.* 1221.
On fallen branches. Scotland, Seapoint (I.), Forden, Darenth, Epping, Appin, Holm Lacey.
- Torula herbarum**, *Link.* *Sacc. Syll.* 1230.
On herb stems. Scotland, Dinmore, Dounton, Stoke Edith, Dublin, Forden, Dartford, Hampstead, Gopsall, Weybridge, Apethorpe, Highgate.
- Torula gyrosa**, *C. & M.* *Grev.* xvi., p. 10.
On pine wood. Kew.
- Torula expansa**, *Pers.* *Sacc. Syll.* 1231.
On herbs. Appin.
- Torula nucleata**, *Cooke.* *Grev.* xvi., 79.
On herb stems. Weybridge (F. Currey).
- Torula abbreviata**, *Corda.* *Sacc. Syll.* 1233.
On herb stems and on wood. Twycross.
var. **sphæriæformis**, *B. & Br.*
On branches of *Pinus*. Wraxall, Norfolk.
- Torula basicola**, *B. & Br.* *Sacc. Syll.* 1237.
On pea stems.
- Torula graminis**, *Desm.* *Sacc. Syll.* 1246.
On grass, *Gynerium*, &c. Forden, Colleyweston, Somersetshire, Kew, Dinmore.
- Torula rhizophila**, *Corda.* *Sacc. Syll.* 1249.
On grass roots.
- Torula chartarum**, *Link.* *Sacc. Syll.* 1260.
On paper. Forden.
- Hormiscium splendens**, *Cooke.* *Sacc. Syll.* 1279.
On bark. Drumduan, N.B.
- Hormiscium hysterioides**, *Corda.* *Sacc. Syll.* 1282.
On rotten wood. Glamis, N.B., Norfolk, Forden, Chiselhurst, Twycross, Weybridge.
- Hormiscium stilbosporum**, *Corda.* *Sacc. Syll.* 1283.
On willow and poplar. Norfolk, Forden, Batheaston, Somersetshire, Gopsall.
- Hormiscium pithyophilum**, *Nees.* *Sacc. Syll.* 1286.
On branches and leaves of coniferæ. Shrewsbury, Glasgow.
- Gyroceras plantaginis**, *Corda.* *Sacc. Syll.* 1295.
On *Plantago* leaves. Stibbington (Hants).
- Echinobotryum atrum**, *Corda.* *Sacc. Syll.* 1297.
On black moulds. Monkstown (I.), Norfolk, Milton, King's Cliffe, Apethorpe.
- Stachybotrys alternans**, *Bon.* *Sacc. Syll.* 1301.
On millboard. Weybridge.
- Stachybotrys atra**, *Corda.* *Sacc. Syll.* 1303.
On paper. Stratford-on-Avon, King's Lynn, Batheaston, Scarborough.
- Stachybotrys lobulata**, *Berk.* *Sacc. Syll.* 1304.
On paper. King's Cliffe, Leigh Wood, Eastbourne.

- Stachybotrys dichroa**, *Grove. Sacc. Syll.* 1306.
On stems of *Carduus*. Little Sutton (Warw.).
- Stachybotrys asperula**, *Mass. in Grev. xvi.*, 26.
On paper from Ceylon. Kew.
- Stachybotrys minima**, *Cooke. Sacc. Syll.* 1333.
On paper. Notts, Kew, Scarborough, Holloway.
- Periconia byssoides**, *Pers. Sacc. Syll.* 1310.
On herb stems. Jedburgh, Forden.
- Periconia nigrella**, *Berk. Sacc. Syll.* 1328.
On grass. King's Cliffe, Tay, Moray, Forden, Batheaston.
- Periconia alternata**, *Berk. Sacc. Syll.* 1332.
On paper. Forden, King's Cliffe.
- Periconia repens**, *Cooke. Grev. xvi.*, 79.
On herb stems. Chiselhurst (Currey).
- Cephalotrichum curtum**, *Berk. Sacc. Syll.* 1336.
On *Carex* leaves. Colleyweston.
- Camptoum curvatum**, *Kunze. Sacc. Syll.* 1337.
On leaves of *Scirpus*. Jedburgh, Wilts, Rudloe, Gopsall, Downton.
- Arthrinium sporophlæum**, *Kunze. Sacc. Syll.* 1350.
On leaves of *Carices*. Spye Park, Haywood Forest.
- Goniosporium puccinioides**, *K. & S. Sacc. Syll.* 1354.
On leaves of *Carices*. Grantown, N.B., Somerset, Spye Park, Batheaston, Rudloe.
- Virgaria nigra**, *Nees. Sacc. Syll.* 1356.
On trunks. Scotland.
- Virgaria umbrina**, *Klotsch.*
On *Thelephora*, &c. Appin.
- Acrospeira mirabilis**, *B. & Br. Sacc. Syll.* 1366.
On chestnuts. Bristol, Batheaston, Bath.
- Zygodemus fuscus**, *Corda. Sacc. Syll.* 1370.
On wood. Scotland, Bentham Hill, Hassocks Gate, Colwyn Bay, Scarborough, Downton.
- Zygodemus terrestris**, *Berk. Sacc. Syll.* 1372.
On naked ground. Crundall (Kent).
- Trichosporium fuscum**, *Link. Sacc. Syll.* 1400.
On rotting pine bark.
- Trichosporium inosculans**, *Berk. Sacc. Syll.* 1427.
On *Thelephora*. Appin, Scarborough.
- Oedemium atrum**, *Link. Sacc. Syll.* 1448.
On lime branches. Apethorpe.
- Monotospora sphaerocephala**, *B. & Br. Sacc. Syll.* 1459.
On trunks. Batheaston, Twycross, Somersetshire.
- Monotospora megalospora**, *B. & Br. Sacc. Syll.* 1460.
On yew bark. Twycross, King's Cliffe, Greeshop, N.B., Scarborough.
var. **fusispora**, *B. & Br.*
On old trunks.

- Monotospora pumila**, *Masseé*. *Sacc. Syll.* 1463.
On *Graphium flexuosum*. Scarborough'.
- Monotospora asperospora**, *Cke. & Mass.* *Grev.* XVI., 79.
On *Clematis* twigs. Shere.
- Monotospora elliptica**, *B. & Br.* *Sacc. Syll.* 1465.
On herb stems.
- Hadrotrichum arundinaceum**, *C. & M.* *Grev.* XVI., 2.
On *Arundo conspicua*. Kew.
- Acremoniella fusca**, *Kunze.* *Sacc. Syll.* 1475.
On larch wood. Ediuboro'.
- Acremoniella pallida**, *C. & M.* *Grev.* XVI., 79.
On dead leaves. Eastbourne.
- Catenularia simplex**, *Grove.* *Sacc. Syll.* 1482.
On rotten wood. Streetley (Warw.).
- Haplographium delicatum**, *B. & Br.* *Sacc. Syll.* 1484.
On trunks. Bowood, Batheaston, Dublin, Forden.
- Haplographium olivaceum**, *C. & M.* *Grev.* XVI., 2.
On rotten wood. Isleworth.
- Haplographium chartarum** (*Cooke*). *Sacc. Syll.* 1487.
On wall paper. Holloway.
- Haplographium bicolor**, *Grove.* *Sacc. Syll.* 1490.
On rotten wood. Middleton (Warw.).
- Haplographium tenuissimum**, *Corda.* *Sacc. Syll.* 1491.
On beech wood.
- Haplographium saponis**, *B. & Br.* *Sacc. Syll.* 1499.
On soap.
- Dematium hispidulum**, *Pers.* (= *Sporodum conopleoides*). *Sacc. Syll.* 1500.
On grasses. Forres, N.B., King's Lynn, Batheaston, Dartford, Twycross, Kidbrooke, Glasgow.

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Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY
AND ITS LITERATURE.

NEW BRITISH FUNGI.

BY M. C. COOKE.

(Continued from p. 81.)

Agaricus (Lepiota) micropholis, Berk. & Br. Journ. Linn. Soc. XI.,
505.

Pileus conical, then flattened, white ($\frac{1}{2}$ in. broad), clad with minute radiating dark cinereous squamules, margin substriate, stem flexuous, nearly equal, white, ring erect, spreading. Gills white, ventricose, crowded, free. Spores 5μ long.—Cooke Illus. t. 943, f. B.

On cocoa nut fibre in a stove. Scarboro'.

Agaricus (Lepiota) felinus, Fr. Hym. Eur. 32.

Smaller than *A. clypeolarius*, pileus white, umbo and scales becoming black, stem attenuated upwards, of the same colour as the pileus. Gills crowded, white, margin serrate. Spores $10 \times 5 \mu$.—Cooke Illus. t. 943, f. A.

On the ground. Queen's Cottage, Kew.

Agaricus (Lepiota) martialis, Cke. & Mass.

Pileus thin, rather fleshy, silky pulverulent, campanulate then expanded, dark fleshy red, with a tinge of ochre, darkest in the centre, margin striate, scarcely an inch broad, stem slender, erect, fistulose, smooth $1-1\frac{1}{2}$ in. long, 1-2 lines thick, rufous and swollen at the base, ochraceous at the apex, with a broad pendulous rather distant ring. Gills free, somewhat lanceolate, rather crowded, whitish. Spores $8 \times 4 \mu$.—Cooke Illus. t. 944, f. B.

On tree fern in conservatory. Scarboro'. (G. M.)

Agaricus (Lepiota) ianthinus, Cooke.

Pileus rather fleshy, umbonate ($\frac{3}{4}$ inch broad), whitish at the even margin, disc dark violet, fibrillose, rest of pileus streaked with innate radiating, violet, hair-like squamules, stem slender, somewhat flexuous, nearly equal, whitish, soon hollow, girt about the middle with a narrow deciduous ring. Gills free, lanceolate, scarcely crowded, whitish.—Cooke Illus. t. 944, f. A.

In stove. Kew Gardens.

Agaricus (Mycena) codoniceps, Cooke.

Minute, pileus campanulate, scarcely expanding, sulcate, sprinkled with somewhat erect short hairs, wholly umber (about 1 line broad, 2 lines high), stem attenuated downwards, umber below, whitish above, slender (nearly $\frac{1}{2}$ in. long), gills adnate, linear, not crowded, white. Spores 5μ long.—Cooke *Illus. t. 952, f. B.*

On tree fern stems. Mr. Bull's nursery, 1874.

Illustrated from figures by Mr. W. G. Smith.

Bolbitius conocephalus, Bull. *Champ. t. 563, f. 1.*

Pileus membranaceous, conical, hygrophanous, disc even, slightly viscid, margin striate; stem fistulose, equal, smooth, shining, rather tough, white; gills free, ventricose, dingy, then ferruginous. (Spores $18 \times 9-10 \mu$.)—Fr. *Hym. Eur. p. 334.*

On the ground, in palm house. Kew.

Melanospora lagenaria (Pers.), Sacc. *Syll. 4596.*

On old *Polyporus adustus*. Queen's Cottage, Kew, April, 1888.

Melanospora cirrhata, Berk. in *Fungi Exs. No. 325.*

Spores $10 \times 7\frac{1}{2} \mu$.

On grass or *Carex*.

Has sometimes been referred to *M. Zamia*.

Glæosporium encephalarti, Cke. & Mass.

Pustules scattered over the pinnæ, immersed, cuticle elevated and discoloured brown or black, with a pale perforate centre. Conidia elliptical, continuous, hyaline, $8 \times 5 \mu$.

On leaves of *Encephalartos horridus*. Kew Gardens.

Phoma selaginellæ, Cke. & Mass.

Perithecia scattered, immersed, small, punctiform, black. Sporules elliptical, continuous, hyaline, $5 \times 3 \mu$.

On stipes of *Selaginella Wildenovii*. Kew Gardens.

Stachybotrys verrucosa, Cke. & Mass.

Threads scattered, or collected in small dark olive tufts, erect, geniculate, with short branches at each angle, forming a lax spiral, septate, externally minutely rough, pallid, proceeding from a colourless, smooth, creeping branched mycelium; apices of the branches terminating in a whorl of four to six clavate basidia; conidia spherical, verrucose, black with a slight tinge of purple, $10-14 \mu$.

On damp "drying paper." Herbarium, Kew.

Allied to *Stachybotrys scabra*, but a larger and finer species.

SACCARDO "SYLLOGE FUNGORUM."

The seventh volume (Part I.) has just made its appearance (March 15, 1888), and contains Gasteromycetæ, of which the Phalloideæ are by E. Fischer, and the residue by Dr. J. B. de Toni; Phycomycetæ by Dr. Berlese and J. B. de Toni, and the Myxomycetæ by Dr. A. N. Berlese.

To only one portion of this volume are we disposed to raise any objection, and that portion, we contend, is wholly unworthy of the

rest of the work, which has now reached its seventh volume. We have, it is true, raised conscientious objections to the basis of classification in the early volumes, but, although objecting to the system, have accorded our small meed of praise to Prof. Saccardo for the manner in which he has surmounted enormous difficulties, and collected together the material which has been scattered over the civilized world. It is no small merit in such a work that so little that is critical has been attempted. Thus far undoubtedly Prof. Saccardo has been wise, and his volumes will be all the more useful for it, seeing that it was impossible for him to obtain access to a vast bulk of the species, or to have examined and compared them within the reasonable compass of a lifetime. But, alas, such feelings and such prudence were not shared by all of his coadjutors, or at least by the author of the Gasteromycetæ (exclusive of the Phalloideæ). Undoubtedly it was a great mistake to set a novice to try his "prentice hand" at a section of this work without the caution, at the same time, that a critical revision would not be advisable. What has been the consequence may be presumed from the fact that one hundred and three pages of the original text required twenty-three pages of corrections and emendations before the printing of the volume was completed. Unfortunately, we have neither the time nor the space at our disposal to pass in review so much of the 103 pages as are not corrected in the 23 pages of emendations. Suffice it to say that these corrections chiefly apply to two large genera. What would have been the amount of correction necessary had some revision of one or two other large genera been brought to the author's notice, it is impossible to guess. Suffice it to say that if the author in question had really and practically known *Scleroderma* (perhaps no species has been found in Italy of late years) he could never look on *Scleroderma* again without blushing. We are not, by any means, raising a fictitious issue, as anyone with a moderate knowledge of Gasteromycetes will confess on turning to this volume. Let him refer to page 95, a new genus, *Lanopila*, is elaborated for species with a *single* peridium, but three species out of the four are described with a *double* one. *Bovista* is distinguished from *Lycoperdon* by not having a *sterile* base, which would offer no ground of complaint if it were adhered to, yet on the contrary some species included in *Bovista* have a sterile base and some of those assigned to *Lycoperdon* possess no trace of a sterile base. In *Lycoperdon* there are two sections, one with smooth spores, and the other with echinulate spores, yet, forsooth, *Lycoperdon echinatum* (p. 107), which has echinulate spores (according to his own admission), is placed in the section having smooth spores, and more than all, ye immortal gods, it is accommodated as a variety of *L. gemmatum*. If such eccentricities as these are not internal evidence of "slop work" or "'prentice work" then our experience has been gathered in vain. Take another case (p. 49), Diplodermeæ is a sub-family, but the genus *Diploderma*, the type of the sub-family (p. 92), is held in doubt and

is suspected of belonging to another sub-family. Rather a strange family when its head is believed to belong to another family. As for *Scleroderma* itself, as here interpreted, it is merely a sort of omnium gatherum, a receptacle for all species with a thick, hard coat, without any regard either to internal structure, capillitium, spores, or even the verrucose cortex, which, by-the-bye, is one of the salient features of the genus. Had the names of all the species of Trichogasters been put into a hat and shaken up, then picked out haphazard, and made into piles to represent genera, such a process would have accomplished a result almost as satisfactory as the one we have felt compelled to deride. It is no pleasure to us, or anyone, to condemn, but rather to praise, but public duty must control private feeling. All we can say is, that we wish this portion of the volume before us had never been written, to impose upon us such an unthankful duty. In the future it would be extremely prudent for the learned Doctor to confine his *critical* revisions to the Algæ, which surely is a group large enough to satisfy the ambition and capacity of any single individual.

"THE FLORA OF WEST YORKSHIRE."*

This volume, which forms the second volume of the "Botanical Series of the Transactions of the Yorkshire Naturalists' Union," is neatly and well "got up." The paper is good, and the type leaves nothing to be desired. The portion devoted to the Phanerogamia has been modelled upon Mr. Baker's "North Yorkshire," and, we are credibly informed, is well done, although outside our special province. The Cryptogamia occupy the latter 340 pages, or nearly half the work, and this has been compiled by the aid of various individuals, whose services are duly acknowledged. It is difficult to give an opinion upon a catalogue of Cryptogams without having had an opportunity of testing it. There are but two ways of making a catalogue of such a kind of any value. First, the preservation of a herbarium of the species included, which shall be available for reference at some public institution. Secondly, in default of this, the responsibility of some well known and thoroughly competent authority. We fail to recognize either of these safeguards against error in the work before us, and yet critical species amongst the Cryptogamia are not things which any novice can determine. In the present instance the local collaborateur may, for aught we know, be quite competent, but it has a suspicious appearance when the list of Fungi is arranged and based upon a work now wholly out of date, whilst a little trouble and a little more intelligent appreciation of his work were only required to have adopted a method more in accord with the progress of science. That he has not done so is tantamount to an

* "The Flora of West Yorkshire," by Frederic Arnold Lees, M.R.C.S., 1 Vol., cloth, pp. 843. London: Lovell, Reeve, and Co., 1888.

acknowledgment that he is totally unacquainted with the literature of the subject during the past ten years. Like Rip van Winkle, he has been sleeping till his rifle is rusty and his dog is dead. As to the Fresh-water Algæ, which we are told might have been classified “more in accordance with the requirements of the higher examinations of the various Universities,” we can only add that the recorder has certainly not done his duty if he has withheld this higher classification, which it was in his power to give. Either he knows of a better classification, or could elaborate one himself, and not doing so has not done his best for the work; or else he does *not* know of a better system, and only proffered the inuendo because he had nothing else to say, or perhaps as an excuse for his original mind condescending to follow anybody’s beaten track. Whichever he pleases, and we are content. “In the nation of the blind the one-eyed man is king.”

EXOTIC AGARICS.

BY M. C. COOKE.

Agaricus (Lepiota) atricapillus, *Cke. & Mass.*

Pileo obtuse convexo, subhæmispherico, apice truncato, depresso, atro, ceteris cervino, squamis minutis obscurioribus ornato ($\frac{1}{2}$ in. diam.). Stipite elongato (4-5 unc. long, 2 lin. crass) æquali, erecto, deorsum squamuloso, annulo patente furfuraceo. Lamellis liberis, sublanceolatis. Sporis $5 \times 3 \mu$.

On the ground. Natal (*Wood* 828).

Agaricus (Lepiota) malleus, *Berk. Intell. Obs. No. 67.*

Pileo subgloboso, demum convexo-applanato, obtuse umbonato, extus intusque albo (3 unc. diam.), cute tenui in squamulas irregulares angulatas cinereas diffracto, stipite elongato, deorsum incrassato, bulboso (5-6 unc. long) fistuloso, cinereo, carne fusco-rubro, annulo amplo, patulo, lamellis liberis, lanceolatis, albidis; sporis ellipticis ($15-17 \times 10 \mu$), episporio crasso.

Ad terram. Masulipatam, India.

Agaricus (Lepiota) alliciens, *Berk. in Herb. No. 76.*

Cæspitosus. Pileo conico-campanulato, sulfureo (circa 1 unc. diam.), adpresse fusco-squamuloso, squamulis, acutis margine striato, crenulato. Stipite gracili, flexuoso, ascendente, elongato (4-5 unc. long, 2 lin. crass) fistuloso, æquali vel deorsum leniter incrassato, annulo deciduo, lamellis liberis, lanceolatis, virescentibus. Sporis ovatis ($12 \times 8 \mu$.) subviridis.

Ad frustulis. Masulipatam, India.

Agaricus (Lepiota) conipes, *Berk. in Herb. No. 67.*

Totus sulfureus, solitarius, pileo hæmispherico dein explanato, obtuse umbonato, membranaceo, usque ad medium et ultra plicato, fusco-furfuraceo, lamellis confertis, quodquam undulatis, lineari-lanceolatis, irregulari-tridymis, pileo rotundato-adnatis; stipite

inæquali, subtereti, sulfureo-furfuraceo, superne tenuissime attenuato, anguste fistuloso, basin immoderate incrassato, solido et caseoso-carnoso, annulato, mycelio radiciformi e fibrillis numerosis ramosissimis albescentibus sistente. Sporis ovatis, hyalinis, $8 \times 4 \mu$.

Ad terram argillosam. Java (*Kurz.* No. 528).

Pileus one inch diam. Stem 1 in. long.

Agaricus (*Lepiota*) *microspilus*, *Berk. in Herb.* 141.

Pileo convexo, umbonato ($1-1\frac{1}{2}$ unc. lat.) carneo, disco rufescente, ubique pilis erectis sparsis rufis obsesso, margine lævi, stipite æquali, fistuloso, concolori ($1\frac{1}{2}$ -2 unc. long, 2 lin. crass) deorsum rufo-strigoso. Annulo superiori, fugaci. Lamellis liberis, ventricosis, albidis. Sporis ellipticis, hyalinis, $8-10 \times 5 \mu$.

On the ground. Ceylon (No. 1227 cum icone).

Agaricus (*Pleurotus*) *russaticeps*, *Berk.*

Pileo carnoso, convexo, appanato, demum depresso (2 unc. diam.), glabro, lævi, rufo-brunneo, margine tenui. Stipite subexcentrico, rigido, ascendente (1 unc. long, 3-4 lin. crass) pallido, ad basim disciformi, lamellis confertis, arcuato-adnatis, angustis, albis. Sporis $10 \times 4-5$.

Ad truncos. Edible. Japan, 1873.

Allied to *Ag. corripellis*, Fr.

Agaricus (*Pleurotus*) *subcreatus*, *Cooke in Off. Cat. Inter. Exhib.*, 1862, p. 73.

Pileo carnoso, convexo, fuligineo, glabro, lævi (2-3 unc. diam.), margine tenui, patulo, demum fissurato, stipite brevi, ascendente (1 unc. long, $\frac{1}{4}$ - $\frac{1}{2}$ unc. crass), curvato, rugoso, pallidiori, farcto, ad basim velo subcreato. Lamellis confertis, latis, adnatis. ? Sporis ellipticis ($6 \times 4 \mu$).

On stumps. Singapore, 1862.

Edible. Sent from Singapore to the London Universal Exhibition of 1862.

BRITISH HYPHOMYCETES.

(Continued from p. 99.)

Cladotrichum fuscum, *Grev. Sacc. Syll.* 1800.

On capsules of Gentian.

Diplococcium spicatum, *Grove. Sacc. Syll.* 1802.

On rotten wood. Sutton Coldfield.

Clasterosporium hormiscioides, *Corda. Sacc. Syll.* 1815.

On oak and wood. Sutton Coldfield.

Clasterosporium vermiculatum, *Cooke. Sacc. Syll.* 1817.

On oak wood. Hereford.

Clasterosporium fasciculare, *Ca. Sacc. Syll.* 1834.

On bark. Twycross.

- Clasterosporium opacum**, *Corda*. *Sacc. Syll.* 1836
On elm trunks. St. Catherines.
- Clasterosporium fungorum**, *Fr.* *Sacc. Syll.* 1846.
On Corticium. King's Cliffe, Glasgow.
- Clasterosporium abruptum**, *B. & Br.* *Sacc. Syll.* 1849.
On rotten wood.
- Clasterosporium clavæforme**, var. **leptopus**. *Sacc. Syll.* 1985.
On naked wood. Weybridge.
- Clasterosporium parasiticum**, *Cooke.* *Sacc. Syll.* 1863.
Parasitic on *Phleospora mori*.
- Clasterosporium caulicolum** (*Corda*). *Sacc. Syll.* 1868.
On stems. Britain.
- Fusariella atrovirens**, *Berk.* *Sacc. Syll.* 1876.
On *Allium*. King's Cliffe.
- Septonema spilomeum**, *Berk.* *Sacc. Syll.* 1895.
On old chips. Guernsey.
- Septonema irregulare**, *B. & Br.* *Sacc. Syll.* 1896.
On apple branches. Apethorpe, Dublin.
- Helminthosporium velutinum**, *Link.* *Sacc. Syll.* 1914.
On rotten wood. Scotland, Dublin, Apethorpe, Hassocks Gate, Swanscombe, Appin.
- Helminthosporium cylindricum**, *Corda.* *Sacc. Syll.* 1917.
On rotten beech. Twycross.
- Helminthosporium simplex**, *Nees.* *Sacc. Syll.* 1921.
On willow wood, Monkstown (I.), Appin.
- Helminthosporium capitulatum**, *Corda.* *Sacc. Syll.* 1925.
On wood. Twycross.
- Helminthosporium molle**, *B. & C.* *Sacc. Syll.* 1942.
On holly branches. Powerscourt.
- Helminthosporium minimum**, *Cke. Grev.* XVI., 80.
On decorticated branches. Hereford.
- Helminthosporium tiliæ**, *Fr.* *Sacc. Syll.* 1950.
On lime. Scotland, Shere, Norfolk, Twycross.
- Helminthosporium Rousselianum**, *M.* *Sacc. Syll.* 1957.
On wood of elm. Edinburgh.
- Helminthosporium subulatum**, *Nees.* *Sacc. Syll.* 1958.
On oak branches. Appin, N.B., Midlands (Purton).
- Helminthosporium nanum**, *Nees.* *Sacc. Syll.* 1962.
On wood. Appin, Kidbrooke.
- Helminthosporium macrocarpum**, *Grev.* *Sacc. Syll.* 1973.
On branches. Scotland and England generally. Common.
- Helminthosporium fusiforme**, *Corda.* *Sacc. Syll.* 1974.
On branches of hazel, &c. Moncrieffe, N.B., Forden, Kew, Twycross, Batheaston, Epping.
- Helminthosporium apiculatum**, *Corda.* *Sacc. Syll.* 1975.
On birch wood, &c. Scotland, Twycross, Highgate, Orton Wood, Dinmore.

- Helminthosporium parvum**, *Grove. Sacc. Syll.* 3626.
On oak wood. Sutton Coldfield.
On *Clematis* stems. Darenth.
- Helminthosporium scolecoides**, *Corda. Sacc. Syll.* 1978.
On wood and stems. Twycross.
- Helminthosporium folliculatum**, *Corda. Sacc. Syll.* 1979.
On cabbage stems, &c. Greeshop, N.B., Forden, King's Cliffe, Scarboro', King's Lynn, Darenth, Wellington, Gopsall.
- Helminthosporium gongotrichum**, *Corda. Sacc. Syll.* 1981.
On ash wood. Forden, Orton Wood.
- Helminthosporium dendroideum**, *B. & Br. Sacc. Syll.* 1983.
On *Acer*. Batheaston.
- Helminthosporium densum**, *Sacc. Syll.* 1985.
On *Morus alba*. Kew.
- Helminthosporium Smithii**, *Berk. Sacc. Syll.* 1991.
On holly twigs. Forres, N.B., Forden, Chislehurst, Dinmore, Hampton Court, Shere, Neatishead, Lyndhurst, Somersetshire.
- Helminthosporium fusisporum**, *Berk. Sacc. Syll.* 2000.
On branches. Beeston (Notts), Forden, Twycross.
- Helminthosporium macilentum**, *Cooke. Sacc. Syll.* 2002.
On rotten wood. Shrewsbury, Hereford.
- Helminthosporium turbinatum**, *B. & Br. Sacc. Syll.* 2005.
On wood. Lancashire.
- Helminthosporium velatum**, *Corda. Sacc. Syll.* 2006.
On wood. Twycross.
- Helminthosporium rhabdiferum**, *B. & Br. Sacc. Syll.* 2010.
On peaches. Bodelwyddan.
- Helminthosporium rhopaloides**, *Fres. Sacc. Syll.* 2013.
On cabbage stems, &c. Forden.
- Helminthosporium resinacearum**, *Cke. Grev.* xvi.
On pine resin. Shere.
- Helminthosporium reticulatum**, *Cke. F. Britt.* I. 360.
On ash leaves. Thrisk.
- Brachysporium stemphylioides**, *Corda. Sacc. Syll.* 2036.
On old wood. Edinboro', Wellington, Altingham, Scarboro', Dinmore.
- Brachysporium salisburiae**, *Rabh. Sacc. Syll.* 2037.
On leaves of *Salisburia*. Kew.
- Brachysporium oosporum**, *Corda. Sacc. Syll.* 2040.
On trunks. East Bergholt.
- Brachysporium altum**, *Pr. Sacc. Syll.* 2044.
On walnut wood. Twycross.
- Brachysporium hyalospermum**, *Corda. Sacc. Syll.* 2047.
On wood. Twycross.
- Brachysporium apicale**, *B. & Br. Sacc. Syll.* 2048.
On branches. Glamis, N.B., Forden, Langley (Wilts), Swanscombe, Shrewsbury, Elmstead, Credinhill.

- Brachysporium Bloxami**, *Cooke. Sacc. Syll.* 2049.
On wood. Twycross.
- Brachysporium obovatum**, *Berk. Sacc. Syll.* 2052.
On rotten wood. Scarboro', Apethorpe, Orton Wood, Breinton.
- Brachysporium tingens**, *Cooke. Sacc. Syll.* 2053.
On rotten wood. Staunton.
- Cercospora Bloxami**, *B. & Br. Sacc. Syll.* 2082.
On cabbage leaves. Twycross.
- Cercospora resedæ**, *Fekl. Sacc. Syll.* 2092.
On leaves of *Reseda*. Jersey.
- Cercospora Calthæ**, *Cke.*
On *Caltha* leaves. Forres.
- Cercospora ferruginea**, *Fekl. Sacc. Syll.* 2138.
On leaves of *Artemisia vulgaris*.
- Cercospora mercurialis**, *Pass. Sacc. Syll.* 2193.
On *Mercurialis perennis*. Darent, Aberdeen, Hereford.
- Cercospora moricola**, *Cooke. Sacc. Syll.* 2281.
On *Morus rubra*. Clevedon.
- Heterosporium laricis**, *C. & M. Grev. XVI.*, 80.
On larch leaves. Norfolk.
- Heterosporium exasperatum**, *Berk. Sacc. Syll.* 1945.
On leaves of *Dianthus*. Monkstown, King's Cliffe, Largo.
- Heterosporium epimyces**, *C. & Mass. Grev. XVI.*, 80.
On *Polyporus* and *Boletus*. Highgate, Forest of Dean.
- Heterosporium ornithogali**, *Klot. Sacc. Syll.* 2306.
On *Ornithogalum*. Shrewsbury.
- Heterosporium variabile**, *Cooke. Sacc. Syll.* 2310.
On leaves of *Spinacia*. Forden.
- Heterosporium auriculæ** (*Cooke*). *Grev. XVI.*
On leaves of *Auricula*. Roy. Hort. Society.
- Heterosporium echinulatum** (*Berk.*). *Sacc. Syll.* 2311.
On leaves of *Convallaria*, *Scilla*, *Smilax*. Kew, Chislehurst.
- Heterosporium phragmitis**, *Opiz. Sacc. Syll.* 2309.
var. **typharum**.
On leaves of *Typha*. Kew.
- Heterosporium minutulum**, *Cke. & Mass. Grev. XVI.*, 11.
On leaves of *Chamærops humilis*. Kew.
- Heterosporium typharum**, *C. & M. Grev. XVI.*, 80.
On *Typha angustifolia*. Kew.
- Napicladium arundinaceum**, *Corda. Sacc. Syll.* 2317.
On reeds. King's Lynn.
- Spondylocladium fumosum**, *Mart. Sacc. Syll.* 2319.
On branches.

- Acrothecium delicatulum**, *B. & Br. Sacc. Syll.* 2328.
On rotten wood, and on *Rubus*.
- Acrothecium simplex**, *B. & Br. Sacc. Syll.* 2330.
On nettle stems. Batheaston.
var. **elatum**, *Grove*.
On nettle stems. Harborne (Warw.).
- Acrothecium xylogenum**, *Grove. Sacc. Syll.* 3635.
On wood. Burnt Green (Warw.).
- Sporochisma mirabile**, *B. & Br. Sacc. Syll.* 2333.
On rotten wood. Edinbro', Dublin, Norfolk.
- Dendryphium comosum**, *Wallr. Sacc. Syll.* 2335.
On nettle stems. Forden, Charlton, Somersetshire, Darenth, Chislehurst.
- Dendryphium fumosum**, *Corda. Sacc. Syll.* 2337.
On herb stems. Weybridge.
- Dendryphium griseum**, *B. & Br. Sacc. Syll.* 2344.
On nettle stems. Batheaston, Highgate.
- Dendryphium ramosum**, *Cooke. Sacc. Syll.* 2347.
On herb stems. Ashmanhaugh (Norf.), Darenth.
- Dendryphium curtum**, *B. & Br. Sacc. Syll.* 2348.
On herb stems. Dundee, Dupplin, Forden, Batheaston, Shere, Highgate, Hereford, Tottenham.
- Dendryphium laxum**, *B. & Br. Sacc. Syll.* 2350.
On *Inula viscosa*. King's Cliffe, Forres, N.B.
- Sporidesmium melanopodum**, *B. & Br. Sacc. Syll.* 2356.
On apple bark. Twycross.
- Sporidesmium lobatum**, *B. & Br. Sacc. Syll.* 2364.
On spruce wood. Lucknam (Wilts).
- Sporidesmium scutellare**, *B. & Br. Sacc. Syll.* 2366.
On larch bark.
- Sporidesmium antiquum**, *Corda. Sacc. Syll.* 2368.
On trunks. Twycross.
var. **compactum**.
On hard wood. Wraxall (Som.).
- Sporidesmium polymorphum**, *Corda. Sacc. Syll.* 2377.
On bark and wood. Wraxall.
- Sporidesmium pyriforme**, *Corda. Sacc. Syll.* 2384.
On rotten chips. Shropshire.
- Sporidesmium cladospoxii**, *Corda. Sacc. Syll.* 2405.
On *Scrophularia*. Darenth.
- Sporidesmium triglochinis**, *B. & Br. Sacc. Syll.* 2407.
On stems of *Triglochis*. Rannoch, N.B.
- Sporidesmium chartarum**, *Sacc. Syll.* 2413.
On paper. Holloway.

- Coniothecium effusum**, *Corda*. *Sacc. Syll.* 2420.
On wood. Scotland, Dublin, Forden, King's Lynn, Dinmore, Shere, Epping.
- Coniothecium conglutinatum**, *Corda*. *Sacc. Syll.* 2421.
On birch wood. Shrewsbury.
- Coniothecium amentacearum**, *Corda*. *Sacc. Syll.* 2426.
On willow. King's Cliffe, Forden, Weybridge, Kew, Apethorpe, King's Lynn, Dinmore, Darenth, Tunbridge.
- Coniothecium betulinum**, *Corda*. *Sacc. Syll.* 2428.
On birch twigs. Wiltshire, Forden, King's Lynn.
- Coniothecium viticolum**, *Cke. & Mass.* *Grev.* XVI., 9.
On vine twigs. Kew.
- Dictyosporium elegans**, *Corda*. *Sacc. Syll.* 2451.
On rotten wood. Somerset, Bristol, Kidbrooke, Twycross, Brockley.
- Speira toruloides**, *Corda*. *Sacc. Syll.* 2454.
On leaves and stems. Sanquhar, N.B., Monkstown (I.), Bath-easton, Orton Wood.
- Tetraploa aristata**, *B. & Br.* *Sacc. Syll.* 2463.
On herbs and grasses. Norfolk, Kew, King's Cliffe, Monkstown (I.).
- Stemphylium macrosporoideum** (*B. & Br.*). *Sacc. Syll.* 2478.
On dead *Ribes*. King's Cliffe.
- Stemphylium alternariæ** (*Cooke*). *Sacc. Syll.* 2497.
On wall paper. Holloway, Forres, N.B.
- Stemphylium asperosporum**, *C. & M.* *Grev.* XVI., 11.
On wall paper. Holloway.
- Stemphylium fuscum**, *Currey*.
On cabbage stalks. Blackheath.
- Macrosporium commune**, *Rabh.* *Sacc. Syll.* 2499.
On herb stems, &c. Common.
- Macrosporium sarcinula**, *Berk.* *Sacc. Syll.* 2500.
On rotten *Cucurbitaceæ*. King's Cliffe, Forden, Fleetwood, Mundesley.
- Macrosporium cladosporioides**, *Desm.* *Sacc. Syll.* 2501.
On leaves, &c. Kensington, Dartford.
- Macrosporium heteronemum**, *Desm.* *Sacc. Syll.* 2502.
On leaves of *Sagittaria*. Irstead (Norf.), Bungay (Suf.).
- Macrosporium cheiranthi**, *Fries.* *Sacc. Syll.* 2505.
On wallflower, &c. Scotland, Dublin, Forden, Neatishead, Bungay, Mundesley.
- Macrosporium brassicæ**, *Berk.* *Sacc. Syll.* 2506.
On cabbage leaves and stems. King's Cliffe.
- Macrosporium ramulosum**, *Sacc. Syll.* 2512.
On *Umbellifers*. Dinmore.

- Macrosporium nobile**, *Vize. Sacc. Syll.* 2525.
On leaves and stems of *Dianthus*. Forden.
- Macrosporium concinnum**, *B. & Br. Sacc. Syll.* 2536.
On willow hamper. Glamis, N.B., Apethorpe, Orton Wood.
- Macrosporium delicatulum** (*Berk.*). *Sacc. Syll.* 1964.
On *Umbelliferae*. King's Cliffe, Greeshop, N.B.
- Macrosporium tomato**, *Cke. Sacc. Syll.* 2552.
On tomato fruits. Hereford.
- Macrosporium alliorum**, *C. & M. Grev. XVI.*, 80.
On onion leaves. E. Bergholt.
- Macrosporium convallariæ**. *Sacc. Syll.* 2574.
On *Convallaria umbellata*. Kew.
- Macrosporium scolopendri**, *Cke. Grev. XVI.*, 81.
On *Scolopendrium vulgare*. Irstead.
- Mystrosporium stemphylium**, *Corda. Sacc. Syll.* 2590.
On stems of dahlia and mallow. Ireland, Bury St. Edmunds.
- Mystrosporium alliorum**, *Berk. Sacc. Syll.* 2592.
On *Allium*. Exeter.
- Septosporium bulbotrichum**, *Corda. Sacc. Syll.* 2601.
On rotten wood.
- Septosporium atrum**, *Corda. Sacc. Syll.* 2609.
On *Smyrniun*. Batheaston, Lewes.
- Dactylosporium brevipes**, *Grove. Sacc. Syll.* 3641.
On maple wood. Sutton Coldfield.
- Fumago vagans**, *Pers. Sacc. Syll.* 2618.
On living leaves. Common.
- Ceratosporium digitatum**, *Cooke. Sacc. Syll.* 2625.
On holly branches. Norfolk.
- Triposporium elegans**, *Corda. Sacc. Syll.* 2631.
On rotten wood. Twycross, Glamis, N.B., Forden, Darenth,
Brockley Coombe, Bristol.
- Triposporium Ficinusium**, *Preuss. Sacc. Syll.* 2634.
On branches. Bexley. (F. Currey.)
- Helicosporium pulvinatum**, *Nees. Sacc. Syll.* 2638.
var. **effusum**. *Berk.*
On wood.
- Helicosporium Mulleri**, *Corda. Sacc. Syll.* 2639.
On wood. Dunphail, N.B., Norfolk, Forden.
- Helicosporium viride**, *Corda. Sacc. Syll.* 2640.
On wood of *Betula*. Kew, Shere.
- Helicosporium lumbricoides**. *Sacc. Syll.* 2642.
On rotten oak wood.
- Helicosporium vegetum**, *Nees. Sacc. Syll.* 2643.
On rotten wood. Rockingham Forest, King's Cliffe.

Helicosporium albidum, Grove. *Sacc. Syll.* 3644.

On bramble. Middleton (Warw.).

Helicosporium Rennyi. *Berk. in Herb.*

On wood? Hereford.

AUSTRALASIAN FUNGI.

BY M. C. COOKE.

The species to which an asterisk is prefixed were communicated by Baron F. von Mueller.

***Agaricus (Clitocybe) myriophyllus**, Cke. & Mass.

Pileo carnosio, infundibuliformi (1-1½ unc.), glabro, nitido, fusco, griseo, vel ochraceo-albo, margine tenui, incurvo. Stipite æquali, vel deorsum attenuato, solido, ad basin fuscescente (1 unc. long, 2 lin. crass). Lamellis longe decurrentibus, linearibus, angustis, confertis, ochraceo-albidis. Sporis 6 × 3 μ.

On ground amongst grass. Melbourne (*Tisdall* 32.)

Allied to *Ag. infundibuliformis*.

***Hygrophorus (Hygrocybe) subremotus**, Cke. & Mass.

Pileo convexo, applanato, demum centro depresso, flavido, disco rufescente, viscido (1 unc. diam.) margine striatulo; stipite elongato, fistuloso, æquali, albido, flavo-maculato (3 unc. long, ¼ unc. crass). Lamellis postice attenuatis, vix attingentibus, subdistantibus; albis. Sporis globosis, 7-8 μ diam.

On the ground amongst grass. Melbourne (*Tisdall* No. 34).

Polyporus (Lobati) Zealandicus, Cke.

Imbricato-multiplex, e carnosio-lento coriaceus. Pileolis dimidiatis, inciso-lobatis, subzonatis, longitudinaliter rugosis, fulvescentibus, velutinis, stipitibus connato-ramosis; poris albidis, inæqualibus, majusculis, demum confluentibus, dissepimentis tenuibus, acie dentatis. Hymenio ab hymeniophori facile dissiliente. Sporis globosis, spinulosis, 10 μ diam.

Ad basin truncorum. New Zealand (*Kirk* No. 309).

About a foot diameter, hard when dry. Hymenium rather gelatinous when moist, separating readily from the hymenophore. Spores of an unusual kind for *Polyporus*.

Illosporium obscurum, Cke. & Mass.

Sporodochiis subgregariis, orbicularibus, erumpentibus, demum subsuperficialibus, dein secedentibus, minutis, fuliginosis; hyphis abbreviatis, dichotomi-ramosis, conidiis acrogenis, solitariis, vel 2-3 catenulatis, globosis, hyalinis, 12 μ diam.

On leaves of *Eucalyptus globulus*. Melbourne (*Miss Campbell* 422).

Septoria myoporii, Cke. & Mass.

Epiphyllis. Maculis orbicularibus, albidis, lineo fusco cinctis. Peritheciis semi-immersis, punctiformibus, atris, sporulis linearibus, flexuosis, guttulatis 40-50 × 2 μ.

On leaves of *Myoporum insulare*. Melbourne (*Miss Campbell* 414).

Pestalozzia casuarinæ, *Cke. & Mass.*

Acervulis gregariis, minutis, ellipticis, pustulæformibus, epidermide fissa cinctis; conidiis fusiformibus, loculis duobus centralis fuscis, 10-12 × 6-7 μ , loculo superiori conoideo, hyalino, aristato; aristas 3, divergentibus (cum conidiis 45-50 μ long) basidiis hyalinis, sursum incrassatis.

In ramulis *Casuarinæ*. Melbourne (*Miss Campbell* 402).

Physalospora phyllodiæ, *Cke. & Mass.*

Peritheciis tenuissimis, immersis, cuticula nigricantia superne tectis. Ascis clavato-stipitatis, octosporis, paraphysatis. Sporidiis ellipticis, intus granulosis, continuis, hyalinis, 20 × 8 μ .

On phyllodes of *Acacia suaveolens*. Melbourne (*Miss Campbell* 413).

Sphærella Banksiæ, *Cke. & Mass.*

Epiphyllis. Maculis nullis, peritheciis gregariis, subinnatis, atris, poro pertusis. Ascis clavatis, octosporis. Sporidiis biseriatis, ellipticis, didymis, hyalinis, 12 × 5 μ .

On fading leaves of *Banksia integrifolia*. Melbourne (*Miss Campbell* 403).

***Oidium lycopersicum**, *Cke. & Mass.*

Cæspitulis effusis, indeterminatis, albis, mycelio arachnoideo, hyphis brevibus, ramulosis, erectis. Conidiis subglobosis, concatenatis, hyalinis, 8-9 μ diam.

On stems and leaves of *Solanum lycopersicum*. Upper Yarra.

 PHILLIPS'S "BRITISH DISCOMYCETES."*

Through several weary years Mycologists were anxiously expecting the appearance of this work, and, we doubt not, now that it has at last gladdened their eyes, they feel amply rewarded for their patience. "Hope deferred almost made the heart sick," but hopes realized made those hearts revive. It is always a source of pleasure when one takes up a book with the feeling that it is sure to represent the results of a large amount of patient labour and careful study, a feeling so utterly different from that with which one scans a piece of literary job-work, "done to order," with no heart in it, and no evidence of the least personal exertion, or personal interest, beyond getting it finished – and paid for. The little volume before us is, after all, like its author, a modest and unobtrusive one, and yet one likely to be of great practical utility. Unfortunately, there are a few typographical blunders, which had better have been absent, but these will detract nothing from the excellencies of the "manual." There is a copious glossary of terms at the end,

* "A Manual of the British Discomycetes," by William Phillips, F.L.S. ("International Scientific Series," Vol. lxi.). London: Kegan Paul, Trench, and Co., 1887.

although we observe that in some cases our author seems to be rather in a fog, yet if they explain what he intended himself by the terms when he uses them, it is of less consequence. For example, we doubt whether, to other minds, *cinnabarine* represents "scarlet tinged with yellow," or whether *repand* is properly defined as "having an uneven slightly sinuous margin," or whether *undulated* is at all "a synonym for repand." Nevertheless, it is not our purpose to quibble over small matters of detail and forget that the main object of the book has been successfully accomplished, and a cheap manual, with twelve page plates, and a good index, delivered to subscribers for about half the price of the original estimate. We really hope that every Mycologist in these islands will at once put a copy of this work upon his bookshelf, if for nothing more, at least as a small encouragement for the performance of honest labour, for no author ever endeavoured more earnestly to do his best, and though the book is not a large one, it represents an immense mass of persistent work.

The classification adopted is intermediate between the now antiquated one of the "Handbook" and the rather extravagant ones propounded by various continental authors. It seems to us that Mr. Phillips has adopted a happy medium, and cannot be charged with unnecessary innovations. We do not observe any changes made to which we take the least exception, excepting, perhaps, the interpretation of *Vibrissea*, in which we agree to differ. On the whole, therefore, as already intimated, this "manual" receives our cordial approval, as representing the Discomycetes of Great Britain up to date, and we do not hesitate to give it our hearty commendation.

AMANITOPSIS OF SACCARDO.—This proposed sub-genus of white-spored *Agarics* is meant to agree with *Volvaria* amongst the salmon-spored species; *Acetabularia* amongst the brown-spored, and *Chitonia* amongst the purple-spored. The presence or absence of an annulus to the stem in *Amanita* and *Volvaria* is probably not of sufficient importance for sub-generic distinction; this seems to have been Fries' estimate. I do not think it has hitherto been pointed out that Sowerby has modelled one of his examples of *Agaricus volvaceus* with an ample ring to the stem; other examples in Sowerby's group have no ring as is usually the case. Sowerby's original model is in the public room of the British Museum. Even the *volva* is not invariably present or absent as it should be, if Nature always kept within the limits prescribed by mycologists. One of my original drawings in the British Museum collection shows a volva to *Psalliota*, in *Agaricus campestris*.—Worthington G. Smith.

MEMORABILIA.

Polyangium vitellinum. Specimen in Herb. Berk. received from Schweinitz is certainly *Oligonema nitens*, *Lib.*, which does not seem to have been recorded for the United States.

Theclospora bifida, *Hark.* This has been so imperfectly described, and its whole character misunderstood, that it may be of service to indicate that on examination of authentic specimens from Dr. Harkness, it is identical with *Inzengæa erythrospora*, *Borzi*, in Pringsheim Jahrbucher, 1885, p. 450, with 2 plates, on which it is exhaustively delineated, and its perfect condition is ascosporous. Hence *Theclospora* is a spurious genus.

Oligonema nitens, *Lib.* The specimens of *Trichia circumscissa* in Klotzsch Herb. Myc. Ed. nova, No. 137, belong to this species.

Trichia scabra. The specimens of *Trichia chrysosperma* in Roumeguere's Fungi Gallici, No. 1683 (in our copy), belong to this species.

Trichia varia. The specimens called *Trichia chrysosperma* in Karst. Fun. Fenn., No. 699, Mustiala, 1866. Those in Roumeguere's Fungi Gallici, No. 1315, and those in Desmazieres' Crypt. Fr., Ser. ii., No. 260, all pertain to *Trichia varia*.

Tubulina cylindrica (*Bull.*). The specimens called *Siphotychium Casparyi*, No. 2092, in Ellis and Everhart's N. Amer. Fungi, are typical *Tubulina cylindrica* (*Bull.*), whilst No. 2096 in the same series, called *Tubulina cylindrica*, differs in smaller spores, warted on one side, and may be called *Tubulina microspora*.

Comatracha pulchella (*Bab.*). The *Comatracha gracilis*, *Wing.* in Ell. & Ev. N. Amer. Fungi, No. 2094, is identical with original type specimens of *Comatracha pulchella*.

Trichia lateritia, *Lev.* The specimens of *Trichia fallax*, var. β in Moug. & Nest., No. 578, and *Trichia fragilis*, f. *botrytis*, in Ellis & Everhart, N. Amer. Fungi, No. 2098, are all *Trichia lateritia*.

Oligonema nitens, *Lib.* To this species must also be referred the *Trichia Bavarica*, Thum. of Thumen Myc. Univ., No. 1497.

Trichia chrysosperma, *Bull.* Typical specimens of this species are contained in Rabh. Fung. Eur. No. 2137, under the name of *Trichia varia*.

Hemiarcyria rubiformis (*Pers.*) Our specimens of *Trichia pyriiformis*, *Hoffm.*, issued in Saccardo Myc. Veneta, No. 962, are certainly this *Hemiarcyria*.

Cercospora Stylosanthis, *Ell. & Ev., Journ. Myc.* III., 13 (1887), N.A. Fungi, No. 1764, is superseded by *Cercospora Stylosanthis*, Spig. Fungi Guarantici (1886), p. 216—unless both are the same species.

BRITISH PYRENOMYCETES.

BY G. MASSEE.

(Continued from p. 39.)

Sub-Fam. 2. ROSELLINIÆ. Perithecia sub-superficial, smooth, naked; for the most part carbonaceous.

GEN. 1. **PSILOSPHÆRIA.** Perithecia naked, sporidia hyaline, continuous, or septate.

* ZIGNOINA. *Sporidia continuous, hyaline, guttulate.*

P. seriata, *Curr.*, *Sacc. Syll.* 3648; *Hdbk.* 2668.

On rotten wood.

P. ostioloidea, *Cke.*, *Sacc. Syll.* 3651.

On *Diatrype*. Forden.

P. collabens, *Curr.*, *Sacc. Syll.* 3658; *Hdbk.* 2586.

On bark and wood. Weybridge, Twycross, Forres.

** LEPTOSPORA. *Sporidia continuous, hyaline, pseudoseptate.*

P. spermoides, *Fr.*, *Sacc. Syll.* 3565; *Hdbk.* 2576.

On decaying stumps. Common.

** * BERTIA. *Perithecia rugulose, sporidia uniseptate, hyaline.*

P. moriformis, *Tode.*, *Sacc. Syll.* 2272; *Hdbk.* 2577.

On wood, branches, &c. Common.

P. lichenicola, *Not.*, *Sacc. Syll.* 2276.

On thallus of *Solorina crocea*. Ben Lawers.

** * MELANOPSAMMA. *Perithecia even, sporidia uniseptate, hyaline.*

P. pomiformis, *Pers.*, *Sacc. Syll.* 2248; *Hdbk.* 2580.

On dead wood. Elmhurst, Twycross, Shere, Shrewsbury, Gopsall.

P. pustula, *Curr.*, *Sacc. Syll.* 2251; *Hdbk.* 2582 (= *perezigua*, *Curr.*).

On wood. Bungay, Kew.

** * * ZIGNOELLA. *Sporidia multi-septate, hyaline.*

P. Keitii, *Berk.*, *Sacc. Syll.* 3620.

On rotten cordage. Glasnevin, Dublin.

P. pulviscula, *Curr.*, *Sacc. Syll.* 3627; *Hdbk.* 2587.

On wood. Weybridge, Kew, N. Wootton.

P. rhytidodes, *B. & Br.*, *Sacc. Syll.* 3640.

On ash. Batheaston.

GEN. 2. **ROSELLINIA.** Perithecia superficial, smooth, sporidia continuous, brown.

A. CALOMASTIA. *Perithecia rather large, smooth.*

R. mammiformis, *P., Sacc. Syll.* 938; *Hdbk.* 2589.
On wood. Shere, Lynn, Appin, N.B.

B. TASSIELLA. *Perithecia rather large, rugulose.*

R. moroides, *Curr., Sacc. Syll.* 954; *Hdbk.* 2601.
On wood. Weybridge.

R. papaverea, *B. & Br., Sacc. Syll.* 937; *Hdbk.* 2597.
On rotten stumps. Batheaston.

R. rotula, *Cooke, Sacc. Syll.* 897.
On sawdust, &c. Shere.

C. CONIOMELA. *Perithecia small, smooth.*

R. pulveracea, *Ehr., Sacc. Syll.* 968; *Hdbk.* 2600.
On bark. Dinmore, Braemar.

R. myriocarpa, *Fr., S.M.* ii., p. 459.
On rotten stump of broom. Dundee, Highgate, Shere, Lynn.

R. sordaria, *Fr., Sacc. Syll.* 994; *Hdbk.* 2599.
On moist pine wood. Appin.

D. BOMBARDIA. *Sporidia ovoid, brown, and caudate.*

R. fasciculata, *Fr., Sacc. Syll.* 1026; *Hdbk.* 2575.
On wood. Apethorpe, Bath, Forden, Scarboro', Orton
Wood, Twycross.

GEN. 3. **MELANOMMA.** Perithecia somewhat superficial, smooth; sporidia septate, brown.

* AMPHISPHERIA. *Sporidia uniseptate.*

M. pædida, *B. & Br., Sacc. Syll.* 2740.
On beech. Langridge, Somerset.

** MELANOMMA. *Sporidia 2-3 septate.*

M. pulvis-pyrinus, *Pers., Sacc. Syll.* 3223; *Hdbk.* 2591.
On bark and wood. Common.

M. pyriosticta, *Cke., Grev. xv.*, 83.
On wood. Twycross.

M. Stevensoni, *B. & Br., Sacc. Syll.* 3243.
On rotten wood. Glamis.

M. parmeliarum, *Pl. & Ph., Sacc. Syll.* 3158
On *Parmelia saxatilis*. N. Wales.

GEN. 4. **STRICKERIA**. Perithecia scattered or gregarious, superficial, sporidia muriform, brown.

* TEICHOSPORÆ. *Perithecia not collapsing.*

S. obducens, *Fr.*, *Sacc. Syll.* 3894; *Hdbk.* 2590.

On pales, &c. Apethorpe, Batheaston, Shrewsbury, Forres.

S. vile, *Fr.*, *Sacc. Syll.* 3226; *Hdbk.* 2610.

On rotten wood. Morehay, Glamis.

Sub-Fam. 3. **SORDARIÆ.**

GEN. 1. **SORDARIA**. Perithecia submembranaceous, for the most part growing on dung. Sporidia involved in mucus, or caudate.

A. EUSORDARIA. *Eight spored, sporidia caudate.*

* FIMICOLÆ.

S. coprophila, *Fr.*, *Sacc. Syll.* 838; *Hdbk.* 2594.

On dung. Batheaston, Forden.

S. minuta, *Fckl.*, *Sacc. Syll.* 840.

On rabbit dung. Lynn.

S. fimiseda, *Ces.*, *Sacc. Syll.* 844.

On horse dung. Forres, N.B. On sheep dung. Lynn.

S. curvula, *D'By.*, *Sacc. Syll.* 848.

On cow and horse dung. Rannoch, Forden, Shrewsbury, Lynn.

S. carbonaria, *Plow.*, *Sacc. Syll.* 846.

On charred ground. Shrewsbury.

S. decipiens, *Wint.*, *Sacc. Syll.* 852.

On cow dung. Shrewsbury.

** PHYTOGENÆ.

S. caudata, *Curr.*, *Sacc. Syll.* 858.

On rotten wood. Blackheath, Shrewsbury.

S. sparganica, *Ph. & Pl.*, *Sacc. Syll.* 6303.

On *Sparganium*. Near Bristol.

B. BOVILLA. *Sporidia elongated, caudate.*

S. bovilla, *Cke.*, *Sacc. Syll.* 4114; *Hdbk.* 2622. (= *Bovilla*, *capronii*, *Sacc.*).

On cow dung. Shere, Scarboro'.

C. HYPOCOPRA, *Fckl.* *Sporidia not caudate.*

a. *Fimicolous.*

S. fimicola, *Rob.*, *Sacc. Syll.*; *Hdbk.* 2596.

On asses' dung. Rhyl, Darenth, Shere.

- S. discospora*, *Auers.*, *Sacc. Syll.* 871.
On dung. Forden, Lynn.
- S. platyspora*, *Plow.*, *Sacc. Syll.* 872.
On horse dung. Forres.
- S. microspora*, *Plow.*, *Sacc. Syll.* 875.
On horse dung. Forres.
- S. stercoraria*, *Sow.*, *Sacc. Syll.* 886 ; *Hdbk.* 2595.
On dung. Batheaston, Shrewsbury, Albury, Lynn.
- S. scatigena*, *B. & Br.*, *Sacc. Syll.* 884.
On horse dung. King's Cliffe.

b. *Not fmicolous.*

- S. vesticola*, *B. & Br.*, *Sacc. Syll.* 896.
On cotton cloth. Batheaston.

D. COPROLEPA. Perithecia densely aggregate.

- S. fimeti*, *P.*, *Sacc. Syll.* 903 ; *Hdbk.* 2536.
On cow dung. Appin, Jedburgh.
- S. merdaria*, *Fr.*, *Sacc. Syll.* 904.
On dung. N. Wootton.
- S. equorum*, *Fckl.*, *Sacc. Syll.* 905.
On horse dung. Lynn, Shrewsbury.

E. DELITSCHIA. Sporidia uniseptate, brown.

- S. bisporula*, *Cr.*, *Sacc. Syll.* 2772.
On grouse dung. Stiperstones.
- S. minuta*, *Fckl.*, *Sacc. Syll.* 2776.
On dung. Forres.
- S. Winteri*, *Plow.*, *Sacc. Syll.* 2779.
On rabbit dung. N. Wootton.

GEN. 2. **SPORORMIA**, *Not.* Perithecia emergent, membranaceous, sporidia 4-18 celled, brown, dividing at the joints.

* **SPORORMIELLA.** *Sporidia 4 celled.*

- S. minima*, *Auers.*, *Sacc. Syll.* 3317.
On cow dung, &c. Hereford, Forden, Shere.
- S. Notarisii*, *Car.*, *Sacc. Syll.* 3319.
On grouse dung. Rannoch.
- S. intermedia*, *Auers.*, *Sacc. Syll.* 3323.
On rabbit dung, &c. Shere.
- S. lignicola*, *Ph. & Pl.*, *Sacc. Syll.* 3330.
On rotten wood. King's Lynn.

** **GENUINA.** *Sporidia 5 to many celled.*

- S. octomera*, *Awd.*, *Sacc. Syll.* 3337.
On dung. Forres.
- S. pulchra*, *Hansen*, *Sacc. Syll.* 3339.
On cow dung. Aviemore.

SOME EXOTIC FUNGI.

BY M. C. COOKE.

Agaricus (Pleurotus) platypus, *Cke. & Mass.*

Pileo carnoso, convexo, demum depresso, vel subinfundibuliformi, glabro, lævi, fulvente. Stipite excentrico, adscendente, solido, deorsum incrassato, clavato-bulboso, sursum rugoso, pallidiore. Lamellis longe decurrentibus, postice attenuatis, vix confertis, tenuibus, albidis. Sporis 10-12 × 4-5 μ . Plerumque cæspitosus, esculentus.

On trunks. Nepal. India and Colonial Exhibition.

Lactarius (Dapetes) hæmorrhæus, *Lowe in Herb. Berk.*

Pileo carnoso, convexo, demum centro depresso, sæpe difformi, flavido-fusco, expallente, sericeo (2-3 unc. lat.). Stipite brevi, obconico vel ventricoso, deorsum attenuato, albedo, glabro, solido (1-1½ unc. long, $\frac{3}{4}$ unc. crass). Lamellis subdistantibus, decurrentibus, incarnatis. Lacte copioso, sanguineo.

On the ground. Madeira (*Lowe with fig.*)

Evidently quite distinct from *L. sanguifluus*.

Marasmius cinctus, *Berk., in Herb.*

Mitis. Pileo carnosulo, convexo-campanulato (3 unc. diam.), obtuse umbonato, glabro, radiato-sulcato, umbrino-fuligineo, ad marginem zono lato ochraceo depallente, margine tenui, crenulato. Stipite subæquali, fistuloso, concolori (3-4 unc. long, $\frac{1}{3}$ unc. crass), glabro, deorsum radicali, flocculoso. Lamellis subdistantibus, ventricosis, albidis.

On wood. Venezuela.

BRITISH UREDINEÆ AND USTILAGINEÆ.—Mr C. B. Plowright announces the speedy publication of a work on this subject; price to subscribers, seven shillings and sixpence. Names of subscribers to be sent to 7, King Street, King's Lynn.

ILLUSTRATIONS OF FUNGI.

The fifth and sixth volumes of this work just completed, carry the plates to 938, finishing with the genus *Hygrophorus*. The next volume will really commence with *Lactarius*, and *Russula*, although two intermediate parts towards a supplement have been issued between. It is desired and hoped that the seventh and eighth volumes (including the supplement) will complete the work to the end of all the gill-bearing species (*Agaricini*). This is as far as the work will be carried at present. Should it be considered advisable to add *Boletus* and *Polyporus*, which it is estimated could be contained in one volume, this would be issued as a separate

work, and subscribers solicited for it entirely independently, so that the eight volumes will remain as a complete series. It seems probable that the whole will contain upwards of 1,200 plates, which will unquestionably, for number, place this work far ahead of any Atlas of *Agaricini* ever attempted. The plates of *Cortinarii* included in the above two volumes, and those of *Lactarius* and *Russula* in the succeeding volumes, will commend themselves for completeness, and it is also hoped for accuracy, not only to the present, but to a future generation. Systems may change, and names fluctuate, but trustworthy figures are generally admitted to be "things of beauty, and a joy for ever."

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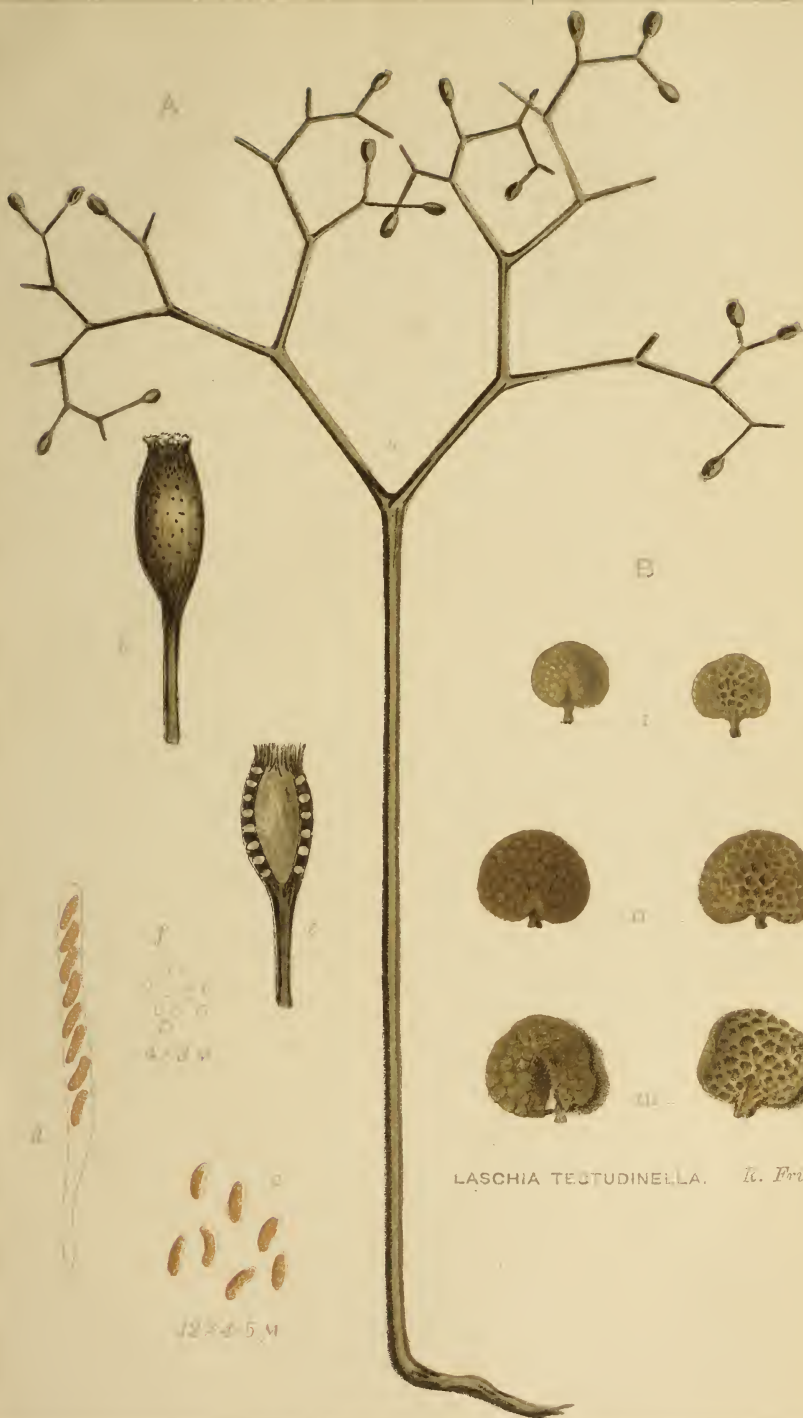
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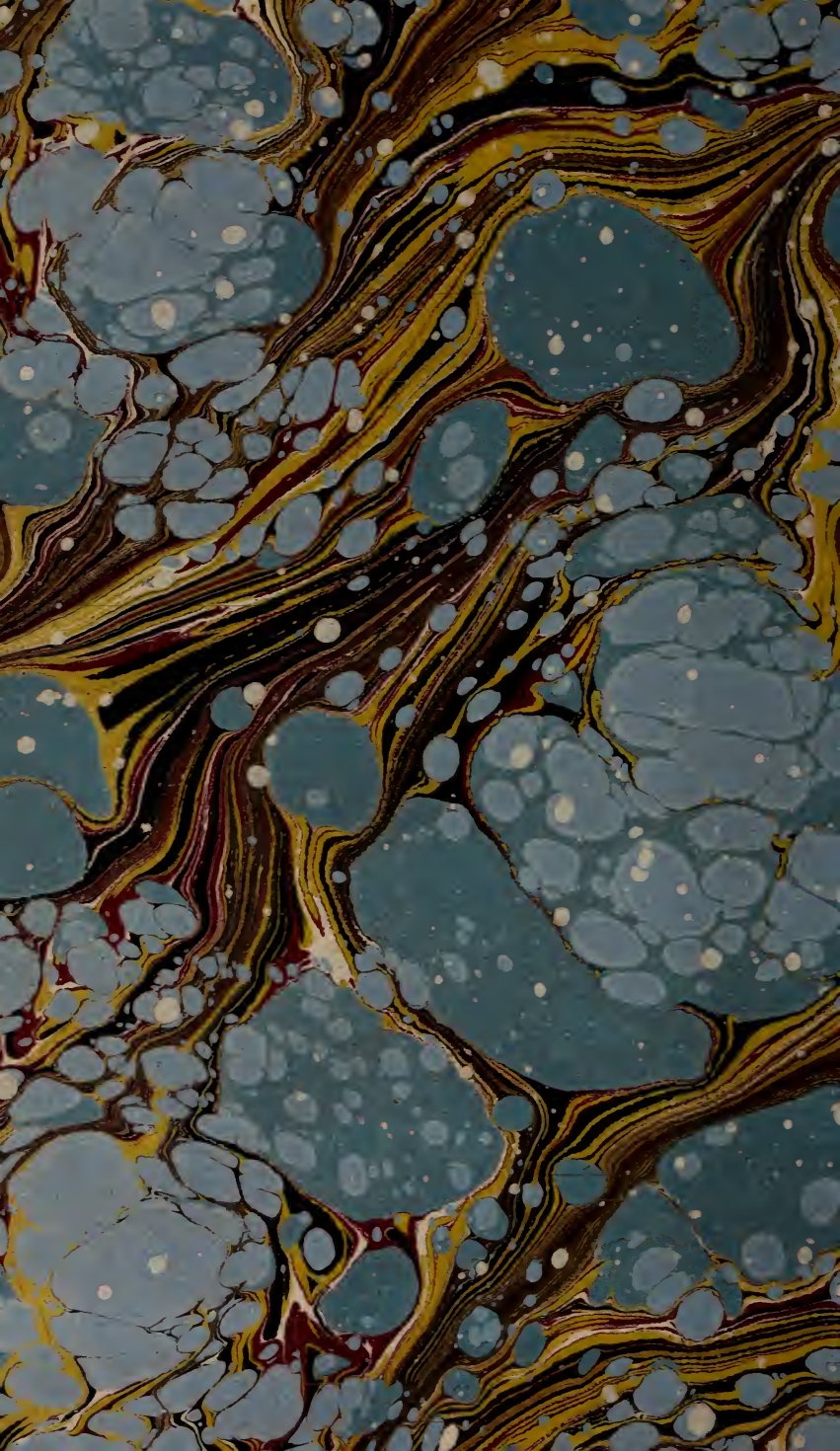
LASCHIA TESTUDINELLA. *H. Fries.*

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APPENDIX, containing revised diagnoses of the Hymenomycetes in "Cooke's Handbook," with additions, to accompany the "Illustrations," paged separately, in continuation pp. 209 to 256.



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