

XXXIII.—*Notices of British Fungi*. By the Rev. M. J. BERKELEY, M.A., F.L.S., and C. E. BROOME, Esq.

[Continued from vol. ii. Ser. 2. p. 268.]

[With two Plates.]

380. *Pilacre faginea*, Berk. & Br. Stipite nigrescente pruinoso; capitulo subglobozo; sporis buxeis. *Onygena faginea*, Fr. Syst. Myc. vol. iii. p. 209. On beech sticks, Spye Park, Wilts, Aug. 1844, C. E. Broome.

About 2 lines high. Stem $1\frac{1}{2}$ line high, pruinose, at length brown or blackish. Head subglobose or turbinate, at first pruinose, umbilicate or (in our specimens) without any trace of an umbilicus; flocci branched, especially above, somewhat fastigate, more or less flexuous; spores minute, broadly elliptic, with a distinct nucleus.

This appears to be nearly identical with specimens from Ohio gathered by Mr. Lea, and with others from the Santee river, South Carolina, collected by Mr. Ravenel. In these latter however, though the outward resemblance is perfect, the flocci are not fastigate, but are strongly curled and frequently anastomose; the spores in either are exactly the same. We have seen no authentic specimen of the plant of Fries. The structure of a very similar fungus from Valais, for which we are indebted to Dr. Montagne, is totally different, resembling that of some compound *Oidium*. The species has little in common with *Onygena* except external appearance.

PLATE XI. fig. 5. *a*. Flocci and spores magnified; *b*. a single spore more highly magnified.

381. *Lycogala parietinum*, Fr. *l. c.* vol. iii. p. 83. *Didymium parietinum*, Schrad. Nov. Gen. p. 24. t. 6. f. 1. On damp paper, old willow baskets, &c., King's Cliffe.

382. *Didymium melanopus*, Fr. *l. c.* vol. iii. p. 114. On bramble, Speke Hall, Lancashire, 1842, M. J. Berkeley.

383. *D. tigrinum*, Schrad. Nov. Gen. p. 22. t. 6. fig. 2, 3. *Phy-sarum tigrinum*, Fl. Dan. t. 1434. fig. 1. On mosses and Jungermanniæ, Bolton Woods, Wharfedale, R. Spruce, Esq., Dec. 1841.

Our plant agrees precisely with the 'Flora Danica' species, which has stouter stems than that of Schrader, but which Fries considers identical. The same species has been kindly sent by M. Lenormand from Falaise.

384. *D. congestum*, n. s. *Congestum*, stipitibus submembranacis hyalinis, vix botryosis; peridiis obovatis elongatis; sporis atris floccis candidis variegatis. On dead leaves, grass, &c., King's Cliffe; also in Upper Carolina.

Forming crowded patches very much resembling those of *Diachea elegans*. Peridia obovate-oblong, cinereous, with a white mealy coat; stems hyaline, membranaceous, generally distinct though crowded, springing from a thin subjacent membrane. Spores black, variegated with the white, coarse, irregular, here and there lacunose flocci.

The lower figure in 'Fl. Dan.' t. 1973. fig. 1, is probably a representation of the species before us, which is evidently widely diffused. The plant represented in the upper figure with a separate membranous outer peridium seems to be quite different. At any rate our plant is no *Diderma*, and could not have been placed by Fries in that genus. We are compelled therefore to consider it as undescribed. The globose spores appear at first sight to be granulated, but on closer inspection the granules are found to arise from the disintegrated outer peridium. It may be mentioned that in *D. Spumarioides* the flocci are black.

385. *D. dædaleum*, n. s. Stipitibus brevibus coalitis peridiisque dædalino-connatis sinuatis pallide lateritiis albo farinaceis; floccis candidis; sporis atro-purpureis. In great abundance in a cucumber-frame, Milton, Norths., Mr. J. Henderson, April 26, 1843.

Spreading far and wide in little subglobose masses; stems reddish brown, inclining to orange, connate, as if composed of a mass of little flat bran-like membranes; peridia connate, sinuated, forming a dædaloid mass of the same colour as the stem, but sprinkled with white meal and having to the eye a grayish tinge from the contained spores, which are purplish black, smooth and globose, variegated with the white flocci, which are frequently forked and vary greatly in width, being in parts broad, flat and membranous.

A very beautiful species allied to *D. fulvipes*, but differing evidently in its white flocci and other particulars.

386. *Stemonitis Physaroides*, A. & S. p. 103. t. 2. fig. 8. On mossy stumps of trees, Northamptonshire.

Our specimens have a beautiful coppery tinge, but are doubtless referable to the species cited above. We have precisely the same thing from Ohio.

387. *S. violacea*, Fr. l. c. vol. iii. p. 162. On different species of moss: common.

We have gathered this near Cambridge and in Somersetshire, and it has been sent to us from Shropshire by Mr. Leighton, and from Berwick by Dr. Johnston.

388. *Enerthenema elegans*, Bowm. in Linn. Tr. vol. xvi. p. 151. t. 16.

Perfect specimens of this very curious production have lately been transmitted by the Rev. M. A. Curtis from Lower Carolina,

which show that it is quite distinct from *Stemonitis papillata*, the spores being produced in little heads surrounded by a common vesicle at the free apices of the flocci, which all spring from a disc at the top of the percurrent stem. No such structure exists in *S. papillata*. The genus therefore may be thus characterized:—

Peridium simplex tenuissimum membranaceum fugax evanesens. Capillitium determinatum e membrana stipitem coronante cum peridio continua oriens. Sporæ globosæ 5–6 ad liberos apices floccorum conglomeratæ vesicula communi circumdatæ.

The structure is in *Myxogastri* precisely what that of *Elaphomyces* is in *Lycoperdineæ*, and would perhaps go far towards justifying the retention of that genus amongst the puff-balls, reminding one of the strange anomaly observed by Messrs. Tulasne in the fructification of a species of *Hymenogaster* and of the vesicular heads of *Mucorini*. This is almost the only case in which the spores of a *Myxogaster* have been observed *in situ*; *Ptychogaster* is the single exception, and in that Corda represents them as forming little heads.

PLATE XI. fig. 7. Flocci with spores and cysts highly magnified.

389. *Arcyria umbrina*, Schum. Sæll. vol. ii. p. 213; Fl. Dan. t. 1975. fig. 1. Wothorpe, Norths., on wood.

It does not seem to have been noticed that in this genus the threads of the capillitium have a row of little tubercles on one side only, or if not confined to one side, some of them are more strongly developed. In some instances they form rings round the threads.

390. *Trichia Ayresii*, n. s. Congesta; peridiis obovatis castaneo-fulvis nitidis; stipitibus brevissimis connatis; capillitio fortiter echinulato sporidiisque crocato-fulvis. On decayed wood, Thame, Oxfordshire, Dr. Ayres.

Forming crowded masses. Peridia obovate, shining, of a bright tawny chestnut. Elaters of the capillitium thicker than in *T. pyriformis* and strongly echinulate, tawny. Spores globose, tawny.

This differs from *T. pyriformis* in the much thicker strongly echinulate elaters, which in that species are at first sight apparently smooth, as indeed they are represented by Corda. *Trichia Neesiana*, Corda, is referred by Fries in his 'Summa Vegetabilium Scandinaviæ' to *T. rubiformis*, with which view we are inclined to accord.

391. *Trichia serotina*, Schrad. Journ. Bot. 1799, vol. ii. p. 67. t. 3. fig. 2. Bristol, H. O. Stephens, Esq.

392. *Licea perreptans*, Berk. Effusa, demum hic illic conglomerata; peridiis oblongis ut plurimum distinctis; sporis atropureis, Berk. in Gard. Chron. 1848, p. 451. *Lycoperdon echiniformis*, Sow. ! Fung. t. 400. fig. 1. In great abundance in

a cucumber-frame heated with spent hops, Rolleston, Staffordshire, Mr. Townshend. Found also by Mr. Sowerby.

Hypothallus white, creeping far and wide, and protruding here and there masses of oblong peridia, which are mostly distinct; assuming gradually a reddish brown tint, and in cases of premature exsiccation becoming black. Spores very abundant, purple-brown, mixed with a few flocci.

This very curious species, which is analogous to *Reticularia maxima*, is of extremely rapid growth. When to all appearance completely destroyed, in twelve hours it was again as vigorous as ever, involving everything at first in a slimy and then in a dusty mass. Its mode of growth is that of *Licea fragiformis*; the spores however are quite different, and the mucilage never acquires the beautiful strawberry tint of that species. An opportunity of inspecting good authentic specimens of the plant of Sowerby cited above, shows that it is identical with our plant, and not with *Reticularia maxima*, Fr., a species which has however occurred at Apethorpe, and is therefore to be retained in the British Flora. It has smaller, darker and more exactly globose spores, besides possessing the filaments proper to *Reticularia*. Ignorance of the real structure of Sowerby's plant at the time the species was published in the Gardeners' Chronicle prevented the adoption of his specific name, which it is now too late to restore.

393. *L. applanata*, Berk. Depressa conglomerata; peridiis brevissimis arcte connatis rufis; sporis magnis. Berk. in Hook. Lond. Journ. vol. iv. p. 67. On dead twigs of currant, &c., Somersetshire, C. E. Broome; Apethorpe, Norths.

Forming little, thin, flat, distinct rounded or elongated patches, which are at first scarlet and then liver-brown. Peridia short, densely crowded, invisible to the naked eye. Spores large, broadly elliptic with one or more nuclei, argillaceous, tinged with red, mixed with a few flexuous threads very much larger than in *L. fragiformis* or *L. cylindrica*.

The spores in the Swan River specimens described in Sir W. J. Hooker's Journal are of the same size, but have a more distinct border, and occasionally but not always a single nucleus. The Australian specimens, it is to be observed, are scarcely mature, and in consequence the colour of the spores is brighter, though now, after some years' sojourn in the herbarium and after repeated application of turpentine and corrosive sublimate, they can scarcely be called saffron-coloured. These differences are trifling, and arise probably from little peculiarities of condition. We have no doubt of the identity of the British and Australian species.

394. *Phoma asteriscus*, n. s. Uniloculare convexum piceum

margine nebuloso; sporis oblongis subellipticis. On the dead stems of *Heracleum Sphondylium*, Guernsey, Nov., Rev. T. Salwey.

Unilocular, forming little pitch-brown rather convex dots with a paler cloudy narrow border. Mass of spores surrounded by a dark cellular stratum, consisting of hexagonal cells confused with the matrix, but scarcely presenting a definite perithecium. Spores narrow oblong, subelliptic, but by no means filiform.

This species has somewhat the appearance of *Sph. imberbis*, Fr. We have not yet seen the text of the 'Flora Algerensis,' and cannot therefore avail ourselves of the characters of *Phoma* and its allied genera as worked out by Dr. Montagne. Our plant is a good *Phoma* according to Fries' notion of the genus, but has not a sufficiently definite perithecium to justify its being placed in *Sphaeropsis*, which it seems is to receive such fungi as have unilocular spores seated on sporophores and a definite perithecium. It will however probably be found necessary to place certain species with extremely minute spores in *Sphaeronema*, or if the hyaline elongated species alone are to remain in that genus, in *Zythia*, Fr. M. Desmazières has lately proposed as the distinguishing character of *Phoma*, spores with a sporidiolum at either extremity. If this view is rigorously followed, our species must find another habitation. In point of fact the names assigned to these obscure fungi must, till the genera are settled, be considered provisional. We add one or two species, which, with the exception of the first, accord exactly with M. Desmazières' definition.

395. *P. nothum*, n. s. Tectum; peritheciis spurii subtus hic illic elevatis; sporis obovatis. On dead plane twigs, Batheaston, February, C. E. Broome.

Pustules slightly raised. Perithecia spurious, orbicular, the base protruding here and there into their cavity. Spores obovate, rather pointed at the narrow extremity.

This cannot be placed in *Sphaeropsis* on account of its spurious perithecium, which has a tendency to become multilocular, and the spores do not accord with those of *Cytispora*; for the present therefore we are compelled to place it with the last in *Phoma*.

395*. *P. lingam*, Desm. Exs. no. 1877. On old cabbage-stalks, King's Cliffe.

396. *P. radula*, n. s. Tectum, peritheciis teneris lato-conicis; sporis oblongo-ellipticis. On dead twigs of plane, Batheaston, C. E. Broome, Feb. 1850.

Sprinkled over the twigs, which it renders rough like a little rasp or grater. Epidermis split on each perithecium. Perithecia delicate, composed of subhexagonal cells; spores minute, oblong-elliptic, with a sporidiolum at either extremity. Very rarely we

have observed an additional sporidiolum in the centre. A perithecium, though delicate, is decidedly present in this species.

397. *P. depressum*, n. s. Tectum; quandoque pluriloculare peritheciis spurii valde depressis supra stromate crassiusculo olivaceo tectis; sporis oblongo-ellipticis. On twigs of *Robinia Pseudacacia*, Batheaston, C. E. Broome, Feb. 1850; on elm, King's Cliffe.

Scattered, forming little pustules pierced by the orifice. Perithecia much depressed, spurious, covered by an olive-coloured stroma. Spores minute, oblong-elliptic, rather pointed at either extremity, towards which there is a sporidiolum. Sometimes there is more than a single cell, when the species approaches *Cytispora*. This will probably form the nucleus of a distinct genus.

398. *P. Samarorum*, Desm.; Duby, Bot. Gall. p. 727; Desm. Exs. no. 349. 1875. On Samari of ash, Batheaston, Jan. 1850, C. E. Broome.

Forming conspicuous black spots; cuticle closely applied to the perithecia. Perithecia convex, black, pierced in the centre. Spores minute, oblong-elliptic, with a sporidiolum towards either extremity.

This is more conspicuous than several other species, and resembles *Sphaeria clypeata*. It occurs also on *Ptelea trifoliata*.

399. *P. piceum*, n. s. Hypophyllum; peritheciis spurii piceis convexis epidermide arcte tectis; sporis oblongo-ellipticis. On the under surface of dead rose-leaves, King's Cliffe, Feb. 1850.

Scattered; pustules conspicuous, convex, pitch-brown; cuticle closely connected with the spurious perithecia; spores pure white, minute, oblong-elliptic, with a sporidiolum at either extremity.

Resembling *Cytispora foliicola* in appearance, but differing greatly in structure. *Ceuthospora concava*, Desm., which has the same place of growth, is much larger.

400. *P. sticticum*, n. s. Minimum; peritheciis epidermide demum longitudinaliter fissa obtectis; sporis oblongo-ellipticis. On dead twigs of box, Batheaston, C. E. Broome, Feb. 1850.

Scattered, very minute, covered by the cuticle, which at length splits lengthwise. Spores oblong-elliptic, with a sporidiolum at either extremity.

400*. *P. exiguum*, Desm. Exs. no. 1869. On shoots of elder, Batheaston, C. E. Broome.

Another small species grows on decorticated twigs with elliptic or nearly globose dark spores, which we purpose calling *P. Sambuci*, but we have scarcely specimens enough to describe it properly.

401. *P. microscopicum*, n. s. Peritheciis subglobosis sub epi-

dermide dealbata supra ostiola nigrefacta sparsis; sporis oblongo-ellipticis. On dead stems of a *Potamogeton*, West of England, C. E. Broome.

Forming scattered very minute dark brown dots on discoloured patches. Beneath each dot is seated a distinct subglobose smooth perithecium, with no visible mycelium, very slightly conical above, pierced with a round simple ostiolum. Spores oblong-elliptic, variable in size, having occasionally but not constantly a sporidium at either extremity.

402. *Leptothyrium Juglandis*, Lib. Pl. Crypt. Ard. no. 164. On half-dead walnut-leaves, Bungay, Mr. D. Stock.

403. *Cryptosporium Caricis*, Corda in St. Deutsch. Fl. t. 50. On leaves of different *Carices*, Oxton, Notts, Rev. M. J. Berkeley; Spye Park, Wilts, C. E. Broome.

The specimens given for this species by Rabenhorst, no. 1168, are *Arthrimum Caricola*. Such errors are unfortunately too frequent in his published specimens.

404. *C. Neesii*, Cord. St. Deutsch. Fl. t. 51. On dead twigs of birch, King's Cliffe; West of England, C. E. Broome.

This is scarcely congeneric with the foregoing, though placed in the same genus by Fries, who names it *C. vulgare*.

405. *Sphæronema leucoconium*, n. s. Gregarium; peridiis hyalinis plano-convexis depressis subirregularibus floccis niveis insidentibus. On decaying roots of Silesian beet, King's Cliffe, Nov. 1847.

Forming a thin stratum consisting of minute depressed sub-hemispherical or irregular white perithecia simply pierced with a minute pore, and seated on branched white threads, of which a few spring from the sides. Spores minute, elliptic.

We are unable to point out any closely allied species. There is no papillæform or elongated ostiolum, but the convex perithecium is merely pierced in the centre.

406. *Diplodia Cowdellii*, n. s. Peritheciis liberis globosis atris apice demum dehiscentibus; sporis minoribus ellipticis uniseptatis. On the thick cotton curtains of a shower-bath which were constantly damp. Oundle, Norths. Pointed out by Dr. Cowdell; the author of the treatise on the Fungous Origin of Cholera.

Forming dirty black spots on the matrix, but without any evident floccose stratum. Perithecia globose, at length cracking above, black. Spores minute, elliptic, uniseptate.

An obscure species, but remarkable for its singular habitat and free mode of growth.

406*. *D. paupercula*, n. s. Peritheciis primum tectis demum liberatis globosis ore prominulis; sporis minoribus sero uniseptatis. On dead twigs of plane, Batheaston, C. E. Broome.

Resembling *Phoma nothum* and *P. radula*. Perithecia one or two together, at first concealed, at length exposed, globose, with a rather prominent orifice. Spores small, at first hyaline, elliptic or obovate, and falling off in that state, at length oblong, brownish and uniseptate. The infant perithecia are filled with a compact white cellular mass, as in many *Sphaeria* when young, and perhaps all. Spores at first resembling those of *Phoma nothum*, which is distinguished from every state of this species by its spurious, imperfect, somewhat irregular perithecia.

407. *D. mutila*, Fr. in litt. Common on dead twigs of poplar.

408. *D. confluens*, n. s. Peritheciis confluentibus maculas parvas efformantibus depressis subcollapsis ostiolo obsolete. *D. mutila*, Desm. no. 1880. On twigs of *Daphne Laureola*, Milton, Norths., Mr. J. Henderson, July 1840.

Forming small, often confluent spots surrounded by the free raised cuticle. Perithecia irregular, confluent, depressed, somewhat collapsed, with no evident ostium. Spores oblong, simple in our specimens, but probably immature.

This species has exactly the appearance of some *Sphaeria* of the section *Confluentes*, and forms far larger patches than in *D. mutila*, of which it is considered a form by M. Desmazières.

409. *D. caespitosa*, n. s. Cæspitosa nigra; peritheciis globosis ostiolo papillæformi; sporis oblongis. On twigs of ivy, King's Cliffe.

Bursting in little black tufts through the cuticle. Perithecia globose, black; ostium papillæform. Spores pale yellow, hyaline, oblong, with a broad distinct border; endochrome simple, without any distinct nuclei; the spores however are doubtless immature.

A well-marked species, resembling externally some cæspitose *Sphaeria*. The spores in this as in the last exhibit no trace of a dissepiment, but we do not doubt that when mature they present in both the common type of *Diplodia*. It differs from *D. mutila* in its cæspitose habit.

410. *D. vulgaris*, Lév. in Ann. d. Sc. Nat. May 1846, p. 291. On twigs of various trees, as at Rudloe, Wilts.

411. *D. tecta*, n. s. Peritheciis tectis gregariis epidermidem elevantibus, ostiolo cuticula denigrata polita velato; sporis majoribus oblongis. On dead leaves of *Prunus Lauro-Cerasus*: very common.

The leaves are rough with little elevated pustules disposed often in dry discoloured patches marked in the centre with a shining black speck. Spores oblong; endochrome simple as observed at present.

This is technically a *Sphaeropsis*, but as every *Diplodia* is a

Sphaeropsis at an early stage of growth, it requires some caution in assigning the genus where the spores present the usual type of the young spores of *Diplodia*.

412. *D. consors*, n. s. Peritheciis gregariis tectis; epidermide polita nigrefacta centro dehiscente albida; sporis minoribus oblongis. Growing on the same leaves with *D. tecta*, but generally in distinct patches and equally common.

Forming broad patches. Perithecia covered, indicated by small shining black dots which open in the centre by an irregular orifice, the edges of which are white. Spores only two-thirds of the length of those of *D. tecta*, oblong-elliptic, uniseptate.

The two species are extremely common, but we cannot find any notice of them.

413. *Hendersonia macrospora*, n. s. Peritheciis omnino tectis; sporis rectis anguste lanceolatis 5-8-septatis. On dead twigs of *Philadelphus coronarius*, Apethorpe, Oct. 1848.

Entirely concealed by the cuticle, which is very slightly raised. Perithecia globose. Spores narrowly lanceolate, 5-6-septate.

Distinguished by its concealed habit and long fusiform spores.

413*. *H. arcus*, n. s. Peritheciis denudatis globosis, sub microscopio chalybeis; sporis arcuatis medio incrassatis 3-septatis. On box twigs, Batheaston, C. E. Broome.

Perithecia globose, at length naked, subgregarious, black, but when seen by transmitted light steel-blue. Sporophores branched; spores elongated, curved, swollen in the centre, attenuated at either extremity, hyaline, triseptate.

Resembling closely in form and colour *Spharia pulicaris*, with which it often grows. The fructification is however totally different, and can scarcely be a transformation of the asci of that species.

414. *H. mutabilis*, n. s. Pustulis depresso-ellipticis intus cellulosis sporis oblongo-ellipticis 3-4-septatis articulis hic illic longitudinaliter divis. On dead twigs of plane, Batheaston, C. E. Broome.

Pustules small, scarcely bursting the cuticle, elliptic, black, with a few central cells besides the large cell or perithecium, which occupies the whole of the pustule. The central cells are developed later than the main cell, so that the spores in the former are simple or uniseptate, while in the larger cell they have acquired a much larger size, and have three or four transverse septa with the articulations here and there divided.

A section with the central cells and the large one surrounding them filled with spores in different stages of development presents a very curious appearance under the microscope.

415. *H. polycystis*, n. s. Pustulis sub epidermide lanatis intus multilocularibus; sporis maximis cum pedicellis septatis clavatis, demum deciduis effusis oblongo-ellipticis multilocularibus. On dead twigs of birch, Batheaston, C. E. Broome.

Pustules depressed, elevating the cuticle slightly, beneath which they are densely clothed with white or cinereous flocci; perithecia globose; spores large, supported on septate peduncles, at first taken with the peduncles, clavate, at length deciduous, oblong-elliptic, multilocular, oozing out and forming an irregular black mass, clothed till mature with a pellucid gelatinous annulated envelope.

416. *H. macropus*, n. s. Peritheciis depressis subcollapsis; sporis pedicellatis, elongatis cylindricis curvulis sporidiolis 3-6 repletis. On dead leaves, probably of some *Carex*, Spyc Park, Wilts, Jan. 1850.

Perithecia depressed, somewhat collapsed, entirely covered and pouring out their spores by a minute orifice, so as to make little black stains on the leaves. Spores furnished with a long peduncle, cylindrical, but slightly attenuated at either end, many times longer than their diameter, somewhat curved, containing 3-6 sporidiola.

417. *H. typhoidearum*, Desm. Ann. d. Sc. Nat. June 1849, p. 344; Exs. no. 1891. On leaves of *Typha* and *Sparganium ramosum*, Spyc Park, Wilts, C. E. Broome, Feb. 1850.

The spores of this species as of the foregoing, *H. uredineicola* and some others, are not distinctly septate, but contain a row of sporidiola. In separating *Hendersonia* from *Sphaeropsis*, care must be taken not to confound mere oil-globules with sporidiola. Species like the present, in fact, forming M. Desmazières' second section, will, in all probability, at some future period be considered generically distinct. Our specimens are somewhat larger than M. Desmazières', but otherwise accord with them.

418. *Sphaeropsis cylindrospora*, Desm. Ann. d. Sc. Nat. May 1849, p. 277. *Diplodia Desmazierii*, Berk. in Gardiner's Fl. of Forfars. p. 298. On both surfaces and on the petioles of ivy-leaves, West Water, Forfarshire, Mr. W. Gardiner; Aberystwyth, J. Ralfs, Esq.

Remarkable for the linear straight spores exceeding their diameter in length 6-7 times. The spots are far smaller than in mature specimens of *S. leucostigma*.

419. *S. Ralfsii*, n. s. Peritheciis sparsis tectis punctiformibus fortiter collapsis; sporis minutissimis oblongis. On ivy-leaves, Aberystwyth, J. Ralfs, Esq., with the foregoing, which was however confined to the petioles.

Scattered over the upper surface of the leaf, punctiform, black,

strongly collapsed, and presenting the appearance of accurately defined excipula. Spores oozing out on the application of moisture from a central pore, extremely minute, oblong.

420. *S. leucostigma*, Lév. Ann. d. Sc. Nat. May 1846, p. 296. *Sphaeria Hedera*, Sow., and partly of Fries. Not uncommon on dead ivy-leaves, England and Wales.

420*. *S. parca*, n. s. Peritheciis minutis tectis collapsis; sporis oblongis diametro 4-5 longioribus. On leaves of *Abies excelsa*, Wiltshire, C. E. Broome, Jan. 1850.

Scattered sparingly on the leaves. Perithecia collapsed when dry, so as not to rise at all above the surface, black. Spores oblong, subcylindrical, obtuse at either end, but often suddenly attenuated at one extremity, 4-5 times longer than their diameter.

Resembling very much *Sph. Buxi*, DeC., which is also a *Sphaeropsis*, but differing in its collapsed perithecia and narrower spores.

421. *S. Strobi*, n. s. Peritheciis minutis tectis collapsis; sporis linearibus diametro 6-7 longioribus. On leaves of *Pinus Strobus*, Wilts, C. E. Broome, March 1850.

Very like *S. parca*, but scarcely so much collapsed. It differs in the longer narrower spores, which are never attenuated suddenly.

421*. *S. geniculata*, n. s. Peritheciis globosis tectis, ostiolo conico prominente; sporis curvis æqualibus obtusis diametro 4-5 longioribus angulo obtuso affixis. With the last on leaves of *Pinus Strobus*, C. E. Broome.

Perithecia globose, covered by the epidermis, which they pierce by means of their prominent conical ostiola. Spores cylindrical, curved, obtuse at either end, fixed at an obtuse angle obliquely to long delicate sporophores; sometimes there is a nucleus at either extremity.

422. *S. epitricha*, n. s. Peritheciis globosis omnino tectis mycelio furcato-ramoso parco insidentibus; sporis oblongis diametro triplo longioribus. On dead stems of *Equisetum palustre*, Wiltshire, C. E. Broome.

Perithecia globose, seated beneath a discoloured cinereous spot springing from forked septate threads. Spores oblong, about three times longer than their diameter.

We have unfortunately no specimen of *Sphaeria Equiseti*, Desm.; but from the author's remark that it is scarcely different from his *Phoma albicans*, it cannot be the same thing with what we have in view. *Phoma Equiseti*, Lév., is also unknown to us, but the description is at variance with our plant, which could scarcely be placed in *Phoma*. The forked septate threads of the mycelium with their obtuse apices are very remarkable. It is probably very common.

422*. *S. mutica*, n. s. Erumpens, peritheciis globosis obtusis subcæspitosis; sporis minimis ellipticis vel obovatis hyalinis. On small branches of elder, Batheaston, C. E. Broome.

Erumpent. Perithecia more or less cæspitose, globose, blunt, black, shining. Spores very small, hyaline, elliptic or obovate.

This has exactly the habit of a *Diplodia*.

423. *S. Candollii* = *Sphaeria Buxi*, DeC. Fl. Fr. vol. vi. p. 146; Berk. Fung. n. 180, quoad specimina provectora. *Septoria Phacidoides*, Desm. no. 1719.

The spores in this species are hyaline, oblong, about twice as long as broad, varying from elliptic to obovate.

424. *S. thecicola*, n. s. Superficialis convexa collabescendo rugosa; sporis tenuissimis linearibus rectis. On thecæ of *Polytrichum piliferum*, Aberdeen, Dr. Dickie.

Perithecia black, scattered, convex, at length collapsing, opening by a definite orifice. Spores very slender, hyaline, linear, straight, of various lengths.

The spores in this species are longer and more slender than in *S. cylindrospora*, and resemble those of such *Septoriæ* as *S. Lepidii*. *Sphaeria emperigonia*, Auerswald in Rab. no. 850, which grows on a *Polytrichum*, has asci with subcymbiform uniseptate spores, and is therefore a true *Sphaeria*.

425. *S. menispora*, n. s. Tecta ellipsoidea nigra poro rotundo demum pertusa; sporis arcuatis longis; nucleis globosis hic illic sparsis. On dead leaves of *Typha latifolia*, Spye Park, Wilts, C. E. Broome.

Entirely concealed beneath the cuticle, with the exception of the round ostium. Perithecia ellipsoidal, black. Spores very long, curved, acute at either end, containing many scattered globose pellucid nuclei.

The nuclei are not arranged regularly in a single row, and therefore probably do not represent endochromes.

DISCELLA, n. g.

Perithecium spurium subsimplex supra quandoque obsoletum vel omnino deficiens indeque excipuliforme; sporis elongatis simplicibus vel uniseptatis sporophoris suffultis.

The perithecium in this genus is so little distinct from the stratum of sporophores, that it is frequently difficult in examining a slice under the microscope to say that it really exists, though the two together are sometimes of considerable thickness; neither, on the other hand, is the limit between the external cells and those of the matrix very accurately defined. In the same species it is sometimes entirely wanting above, and the sporophorous stratum merely covered by the cuticle, which at last splits and exposes the excipuliform disc, while in other cases the spurious

perithecium extends all round, being intimately blended with the cuticular cells. The cavity is essentially simple, but there is sometimes a slight fold or two below, showing a tendency to become multicellular; occasionally the centre is vacant, and the perithecium then forms an irregular ring. The species would probably be comprised by Corda in his *Nemaspora*, which however comprehends more than one distinct form. *Sporonema*, Desm., seems to be the nearest ally of this genus.

426. *D. carbonacea*. Perithecio nigro; sporis elongatis subfusiformibus sub lente prasinis uniseptatis. *Phacidium carbonaceum*, Fr. ! *Sci. Suec.* no. 210; *Berk. Br. Fung. ed. 1.* no. 44 in part. *Stilbospora microsperma*, Johnst. ! *Fl. Berw.* vol. ii. p. 192. Common on dead shoots of willows. We have this species from Paris, communicated by Messrs. Tulasne.

Forming small scattered disc-like spots covered with the cuticle, which splits from the centre and ultimately separates. Perithecia black, generally excipuliform, but sometimes extending all round, and then bursting above with the cuticle. Spores oblong, subfusiform, pale yellow-green when seen by transmitted light, uniseptate.

M. Desmazières has more than once called our attention to the structure of this species, a structure which we had recognized soon after its publication in the 'British Fungi,' and of which we had previously made an analysis in the following interesting species, with which we have been acquainted many years. We should have preferred leaving the matter in his hands, but as he has not yet published the genus, and we do not like to omit the following very singular production, we feel sure that he will pardon us in trespassing for a moment on his manor. It is to be observed that two things appear under no. 44 cited above, the present species, and one with much smaller spores which we have named *D. microsperma*. *Pilidium carbonaceum*, Libert, which has been supposed to be the real plant of Fries, is the same with *Cenangium fuliginosum*, Fr. It is not however ascophorous.

PLATE XII. fig. 8. *d.* Spores magnified 340 diameters.

427. *D. Desmazierii*, n. s. Perithecio molli externe hyalino intus cyaneo; sporophoris elongatis; sporis fusiformibus simplicibus cyaneis. On twigs of lime, Northamptonshire.

Forming like the last scattered discs, which however are blacker from the spores being darker. Perithecium delicate, hyaline next to the matrix, then blue, obsolete above. Sporophores elongated, strongly developed, sometimes forked. Spores of a beautiful indigo-blue, truly fusiform, though not much elongated, without any septum as far as we have observed, distinctly bordered, larger than in *D. carbonacea*.

The perithecium is but slightly compacted in this species, and the part nearest to the cortex is hyaline. The colour of the spores is deep sea-blue, exactly the *vitreus* of the Latins.

PLATE XII. fig. 8. *a*. Section of perithecium magnified; *b*, *c*. spores and sporophores magnified 340 diameters.

428. *D. platyspora*, n. s. Peritheciis minoribus supra pro maxima parte deficientibus; sporophoris validis cum sporis oblongis amplis utrinque obtusis sæpe deciduis. On dead twigs of plane, Batheaston, Feb. 1850.

Forming rather minute slightly raised pustules; perithecia but slightly developed, generally if not always deficient above. Sporophores short, stout, obtuse, simple, often breaking off with the oblong obtuse spores, the cavity of which is simple, but the contents decidedly granular, so as at first to give a granulated aspect to the outer wall.

429. *D. microsperma*, n. s. Perithecio nigro sub lente pallido; sporis minoribus oblongis simplicibus. On dead twigs of willows, King's Cliffe, and in the West of England, C. E. Broome.

Resembling strongly *D. carbonacea*, but somewhat larger, and distinguished at once by the minute oblong simple spores several times smaller than in that species. In some pustules of this species we have seen the perithecia open by a minute fissure, the lips of which being elongated by the oozing out of the spores make a spurious ostiolum.

It is given in the first edition of 'British Fungi' with *D. carbonacea*, at no. 44, as a state of *Phacidium carbonaceum*, Fr.

PLATE XII. fig. 8. *e*. Spores magnified 340 diameters.

429*. *D. abnormis*, n. s. Perithecio globoso spurio prorsus tecto poro pertuso; sporis breviter fusiformibus luteo-fuscis uniseptatis. On shoots of elder, Batheaston, C. E. Broome.

Perithecia small, entirely covered with the cuticle, globose, confused with the matrix, pierced above with a round pore. Spores shortly fusiform or lanceolate, uniseptate, yellow-brown.

This species approaches the type of *Diplodia*. It is mixed with a *Phoma*, no. 406*, which is more conspicuous, though smaller.

430. *Vermicularia atramentaria*, n. s. Effusa gregaria maculæformis; sporis rectis brevibus endochromate utrinque retracto. On decayed stems of potatoes: extremely common.

Forming large ink-black velvety patches, crowded with minute perithecia clothed with long straight subulate bristles, connected at the base by intricate fibres creeping beneath the cuticle of the matrix. Spores minute, linear, rather short; endochrome retracted to either extremity.

Distinguished at once by its straight spores. In general ap-

pearance it resembles somewhat *Sphæria Dematium*, Fr., which is also a *Vermicularia* (*V. Dematium*, Fr.), but in that species the spores are longer and curved.

431. *Septoria Lepidii*, Desm. Exs. no. 1177. On *Lepidium Smithii*, Penzance; Aberystwyth, J. Ralfs, Esq.

432. *S. Aceris*, Berk. & Br. *Ascoxyta Aceris*, Lib. Ard. no. 54. On the under side of the leaves of *Acer Pseudo-Platanus*, North Wales, J. Ralfs, Esq.

The spores in this species form little pallid cirrhi. In Mr. Ralfs's specimens these are in general shorter than Madame Libert's, but there is no other difference. The spores are very distinctly septate, especially in the Welsh specimens.

433. *S. nodorum*, Berk. Maculis pallide cervinis limitatis depressis demum confluentibus, peritheciis subprominulis; sporis oblongis elongatis curvulis libet irregularibus. Berk. in Gard. Chron. 1845, p. 601. On the joints of wheat-stalks just before the wheat is ripe. Spores elongated, very slightly curved or irregular, with several nuclei.

434. *S. Hippocastani*, n. s. Maculis rufis, cirrhis teneris; sporis curvis flexuosis linearibus simplicibus. On leaves of the horse-chestnut, Essex, Rev. J. E. Leefe.

Spots at first minute and scattered, then becoming confluent, and forming broad rufous patches. Cirrhi delicate, pale. Spores long, linear, simple, curved, flexuous.

This species belongs evidently to a different genus from *Ascoxyta Hippocastanea*, Libert.

435. *Neottiospora Caricum*, Desm. Exs. no. 1338. *Sphæria Caricina*, Desm. Exs. no. 717. On dead leaves of Carices, Rudloe, Spye Park, Wilts, C. E. Broome.

A most interesting production, remarkable for the appendage of short hyaline threads with which the spores are furnished at one extremity. A variety occurs with larger olive-coloured spores, which we should at once have considered distinct, but for specimens in which the spores, though olive-coloured, without any orange tinge, are exactly of the same size as in the original form. We do not therefore venture at present to consider the two as distinct, though we think it probable that further observations may justify their separation.

436. *Cytispora Hendersoni*, n. s. Perithecio subregulari; gelatina albidâ; sporis majoribus oblongis brevibus leviter curvatis. On *Rosa arvensis*, Milton, Mr. Henderson.

Forming minute scattered pustules; perithecia nearly regular, but sometimes lobed at the edge and raised in the centre from the elevation of the subjacent bark. Spores larger than in most *Cytispora*, oblong but short, very slightly curved, oozing forth in the form of a dirty-white shapeless jelly.

This species is exactly intermediate between *Cytispora* and *Sphaeropsis*, scarcely agreeing with either genus; resembling the former in its delicate perithecium and oozing spores, and the latter in its simple cavity and spores. In both these points however an approach is made to *Cytispora*, therefore the predominance of characters points to this rather than the other. *Nemaspora grisea*, Corda, is we believe a young *Diplodia*.

437. *Micropera Drupacearum*, Lév. Ann. des Sc. Nat. May 1846, p. 283. On dead branches of cherry, King's Cliffe.

Centhospora Phacidioides, b. Desm. no. 1626 = *Cytispora foliicola*, Lib. no. 64 = *Cyt. pulveracea*, Berk. Br. Fl. vol. v. P. 2. p. 282.

[To be continued.]

XXXIV.—On the species of *Cercolabes* confounded under the name of *C. prehensilis*. By J. E. GRAY, Esq., F.R.S., Pres. Bot. Soc. &c.

MR. WATERHOUSE in his 'History of Mammalia' observes, that *C. prehensilis* "is frequently met with in Brazil and Guiana, and it occurs likewise in Santa Cruz de la Sierra, a district of Bolivia, in which nearly all the mammalia are identical in species with those of Brazil," ii. 411. Further on he proceeds to describe a specimen in the British Museum brought from Bolivia by Mr. Bridges.

When Mr. Waterhouse made these observations the specimen was not stuffed, and he could not examine the skull; since that period the skull has been removed, and I think its examination proves that the Bolivian species is perfectly distinct from those which are received from Brazil.

It may be thus defined:—

1. *Cercolabes prehensilis*. Brazilian Coendou.

Black and white varied. Quills white, with a broad subterminal reddish brown (or black) band; under part of the body and upper part of the base of the tail whitish, under part of the base and end of the tail dark brown; whiskers slender, black to the base; upper cutting-teeth smooth in front.

Young. Fur reddish with a few scattered spines.

Hab. Brazils, adult and young.

Var. ? On spines and under part and end of tail black.

Half-grown ?

Hab. Spanish Main.

2. *Cercolabes Boliviensis*. Bolivian Coendou.

White, slightly black varied. Quills white, with a rather nar-