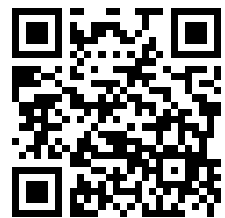
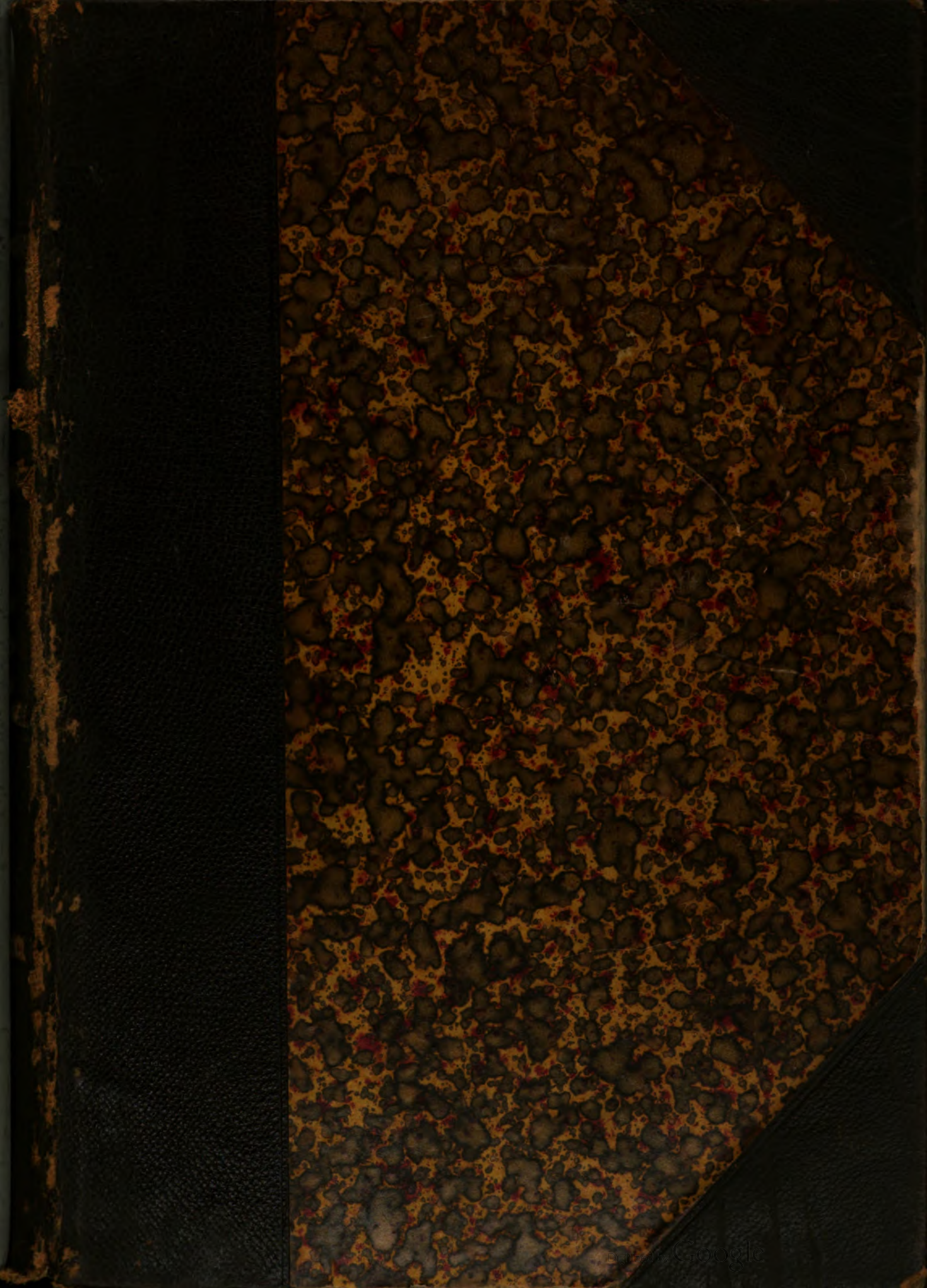

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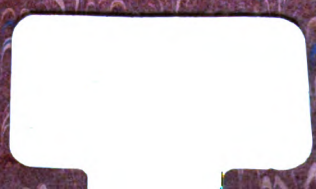


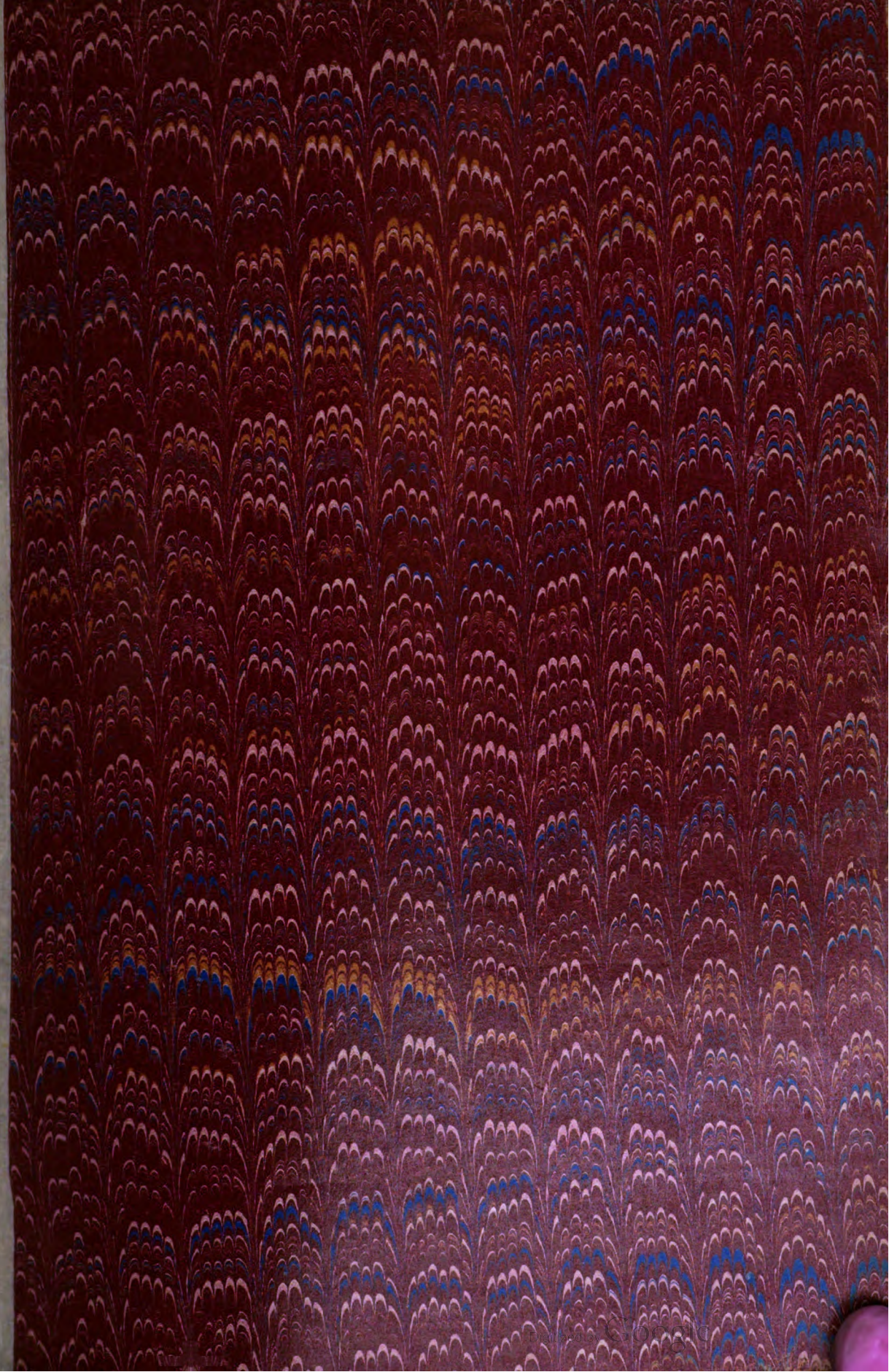
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W. G. FARLOW.





Part 1.]

OCT., 1875.

[Price 12s. 6d.

MYCOGRAPHIA,
SEU
ICONES FUNGORUM.

Figures of Fungi

FROM

ALL PARTS OF THE WORLD,

DRAWN AND ILLUSTRATED BY

M. C. COOKE.

This part includes

GEOGLOSSUM, and
PEZIZA (HUMARIA).

LONDON: WILLIAMS AND NORGATE, Henrietta Street, Covent Garden. EDINBURGH:
South Frederick Street. LEIPZIG: A. DURR. NEW YORK: WESTERMANN & Co.

NOTICE.

It would be more than could be expected of one man, within the limits of a natural life, to publish coloured figures of every known species of Fungus, even did he possess the materials for the purpose. Nevertheless one person may contribute to this desirable result, hence I have commenced the present work, intending for the present to confine it to the *Discomycetes*. It was intended to have presented each smaller genus, and sections or subgenera of the larger ones, complete in themselves, but the difficulties have been found insurmountable. Although the genus *Geoglossum* is comparatively complete in the present number, a number of the group *Humaria* still require illustration, and for assistance with these I seek the aid and co-operation of European Mycologists.

The printing has been so arranged that hereafter the sequence of plates, with their descriptions, may be arranged and bound in accordance with individual tastes.

The great increase in the number of species during late years, and the want of uniformity in the determination of species attributed to older authors, render some such work as the present necessary. It is hoped that MYCOGRAPHIA will prove a welcome aid to mycologists.

The sporidia in all instances are drawn by camera lucida to an uniform scale, which is given herewith. To the other figures an indication of the enlargement is given.

It is proposed that a second part should be issued early in the year 1876, and succeeding parts at intervals of about six months.

In order to complete this section *Humaria* as far as possible, I am desirous of examining and illustrating such of the following as may be regarded allies, viz., *Peziza endocarpoides*, Berk. *Peziza Archeri*, Berk. *Peziza aurantio-rubra*, Fekl. *Peziza subgranulata*, Berk. *Peziza obnupta*, Karst. *Peziza intermixta*, Karst. *Peziza epitricha*, Berk. *Peziza miniata*, Preuss. *Peziza Crechqueraultii*, Crouan. *Peziza Ricciae*, Crouan. *Peziza cremoricolor*, Berk. *Peziza muscorum*, Holm. *Peziza ascobolimorpha*, Crouan. *Peziza hyperborea*, Karst. *Ascobolus microscopicus*, Crouan. *Peziza squamosa*, Schum. *Peziza sulfurata*, Fries. *Peziza subfusca*, Crouan. *Peziza fimeta*, Fries. *Peziza Sphagni*, Bong. *Peziza merdaria*, Fries. *Peziza fimiputris*, Weinm. *Ascobolus Persoonii*, Crouan. *Ascobolus caninus*, Fekl. *Peziza Ingricæ*, Weinm. *Peziza Schenckii*, Batsch. If specimens of any of these are sent to me for the above purpose, they shall be promptly returned, with thanks.

M. C. COOKE,
2, Grosvenor Villas, Junction Road,
Upper Holloway, London, N.

MYCOGRAPHIA,
SEU
ICONES FUNGORUM.

MYCOGRAPHIA,
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ICONES FUNGORUM.

Figures of Fungi

FROM
ALL PARTS OF THE WORLD,

DRAWN AND ILLUSTRATED BY

M. C. COOKE, M.A., A.L.S., ETC.

VOL. I.

DISCOMYCETES,

PART I.

LONDON:
WILLIAMS AND NORGATE, HENRIETTA STREET, COVENT GARDEN.
EDINBURGH: South Frederick Street. LEIPZIG: A. DURR.
NEW YORK: WESTERMANN & Co.
1879.

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		157.	„ <i>albocincta</i> , B. & C.
		158.	„ <i>monilifera</i> , B.

GEOGLOSSUM. *Pers.*

Receptaculum erectum, clavæforme, subcompressum, deorsum in stipitem productum. Hymenium concretum, clavulam incrasatam ambiens, undique ascigerum, a stipite vero discretum. Carnosa, tenacella, simplicia, stipite tenuiori.—*Pers. Obs. Myc. i. p. 11 (partly). Pers. Syn. Fung. p. 607. Myc. Eur. i. 195. Fries Sys. Myc. i. 487. Orb. Veg. i. 89.*

Terrestrial. In temperate regions.

This very natural genus has been limited by Karsten (*Myc. Fenn. p. 7*) to such species as have multiseptate coloured sporidia, but it is to be hoped that this limitation will not be accepted. Had he been acquainted with *G. microsporium* and *G. Hookeri* probably he would not have offered such a revision. If some definition of the sporidia is essential to a complete diagnosis, it were better to characterise them as "Sporidia elongated, simple, or septate, hyaline or coloured," but the characters are quite sufficient without this addition.

Fifteen species are here figured, and one variety which may ultimately prove to merit recognition as a distinct species. Eight of these are European. Three are exclusively North American, and three are exclusively Australasian. Two species are widely diffused, and perhaps will be found generally in all temperate regions. None are really tropical or subtropical, those found in the Himalayas occurring at elevations which correspond with a temperate climate.

In the species with coloured sporidia the paraphyses are highly developed, and afford great assistance in their determination, even more than the septation of the sporidia. This is not completed in the majority of species until after the sporidia have attained their full depth of colour, and then usually by division of each cell; thus in *G. hirsutum* they are triseptate, then 7-septate, and ultimately 15-septate.

The species may be arranged thus, viz. :—

A. Sporidiis coloratis.

- * *subhirsutæ*—
 - sporidiis 15-septatis *hirsutum.*
 - „ 9-septatis var. *Americanum.*
 - „ 7-septatis *Walteri.*
- ** *glabræ*—
 - sporidiis 15-septatis *Peckianum.*
 - „ 7-septatis—
 - paraphysibus rectis adglutinatis . . . *australis.*
 - „ flexuosis, elongatis . . . *difforme.*
 - „ supra moniliformibus . . . *glabrum.*
 - „ 3-septatis—
 - paraphysibus rectis, nondum incrassatis *Mulleri.*
 - „ supra globosis . . . *viscosum.*
 - „ supra pyriformibus . . . *glutinosum.*

B. Sporidiis hyalinis.

- * *clavulæ nigræ*—
 - sporidiis 7-septatis *microsporum.*
 - „ continuis *Hookeri.*
- ** *clavulæ coloratæ*—
 - sporidiis 5-septatis *luteum.*
 - „ continuis—
 - clavulis viridis *viridis.*
 - „ purpureis *atropurpureum.*
 - „ subolivaceis *olivaceum.*

SPECIES INQUIRENDÆ.

- G. farinaceum*, Schw. Syn. Car. No. 1116.
- G. rufum*, Schw. Amer. Bor. No. 1011.
- G. diffusum*, Kütz. Phil. Bot. 1852, t. 20, f. 1.
- G. rugosum*, Lasch. Klot. Hb. Myc. 816.

Mycographia.]

Geoglossum hirsutum. Pers.

PLATE 1.—Fig. 3.

Hirsutum, nigrum. Clavula plerumque elongata, compressa, vel subrotunda, capitata, plicata. Ascis cylindraceo-clavatis. Sporidiis fasciculatis, linearibus, leniter curvulis, 15-septatis, brunneis. Paraphysibus septatis, ad apicem leniter incrassatis, curvulis vel circinatis.

Clavaria simplex hirsuta, Schmid. Icon. t. 25, f. 1—19.

Clavaria ophioglossoides, Holms. Otis. p. 18; Sow. Fungi, t. 13; Schæff. Ic. t. 327.

Clavaria atra, Schrad. in Pers. Comm. p. 37; Nees Sys. fig. 157; Humb. Fl. Frib, p. 114.

Geoglossum hirsutum, Pers. Comm. p. 37; Syn. Fung. p. 608; Fries. Sys. Myc. 1, 488; Karst. Myc. Fenn. i. 81; Weinm. Hym. 496; Fckl. Sym. Myc. 333. Cooke, Handbook, No. 1861.

In grassy places. Autumn.

Great Britain, France, Germany, Scandinavia, Denmark, Holland, Austria, Italy, Belgium, Russia, Switzerland, North America (U.S), Java, Mauritius, Bourbon, New Zealand, Cuba.

Clubs from 1 to 3 inches high. Sporidia .15 m.m. long. Hairs of the hymenium rigid, opaque, attenuated upwards, springing from the subhymeneal tissue.

EXSICCATI.—Karst. F.F. 451; Fckl. F.R. 1141; West and Wall, H.B. 1084; Erb. Critt. Ital. i. 975; Desm. C.F. i. 420; Rabh. F.E. ii. 523; Rabh. H.M. 237; Schm. and Kze. 122; Klotsch. H.M. 44.

Geoglossum hirsutum, var. Americanum.

PLATE 1.—Fig. 1.

Subglabrum, nigrum. Clavula spathulata, compressa. Ascis cylindraceo-clavatis, sessilibus. Sporidiis linearibus, 7-9 septatis, brunneis. Paraphysibus ut in typis.

In grassy places.

North America (U.S.)

Clubs 1-1½ inch high. Sporidia .12-.13 m.m. long. Hairs of the hymenium rigid, opaque, scarcely extending beyond the asci.

This should probably rank as a distinct species. The external appearance is more like that of *G. glabrum*. The hairs project so slightly that they cannot be detected with a lens on the surface of the clubs. The sporidia are shorter than in *G. hirsutum*, and usually 9-septate when mature. In *G. hirsutum* the sporidia are first 3-septate, then each cell divides and they become 7-septate, ultimately each cell is again divided, and they become 15-septate. I have never seen an instance of a sporidium being 9-septate, whilst that is the normal condition in the present variety. This form would not from external appearance be referred to *G. hirsutum*, but the presence of hymenial bristles and the form of the paraphyses indicate its affinity. The specimens figured were received from Mr. W. R. Gerard, of Poughkeepsie, New York.

Geoglossum Mulleri. Berk.

PLATE 1.—Fig. 2.

Glabrum, subviscosum, nigrescens. Clavula compressa, distincta. Ascis sublanceolatis. Sporidiis 3 (raro-7) septatis, brunneis. Paraphysibus numerosis, leniter septatis, superne fuscescentibus, adglutinatis.

Geoglossum Mulleri, Berk. Hedwigia, 1875, p. 10.

In grassy places.

Australia.

Clubs $1\frac{1}{2}$ inch high. Sporidia .06-.07 m.m. long. Paraphyses adglutinated to each other so as to be separated with difficulty in the dried plant.

The sporidia are comparatively thicker than in any of the allied species, and appreciably shorter. There is considerable similarity between the paraphyses of this and *G. australe*, but the fruit is different. The figures are from specimens in the herbarium of the Rev. M. J. Berkeley.

Geoglossum Walteri. Berk.

PLATE 1.—Fig. 4.

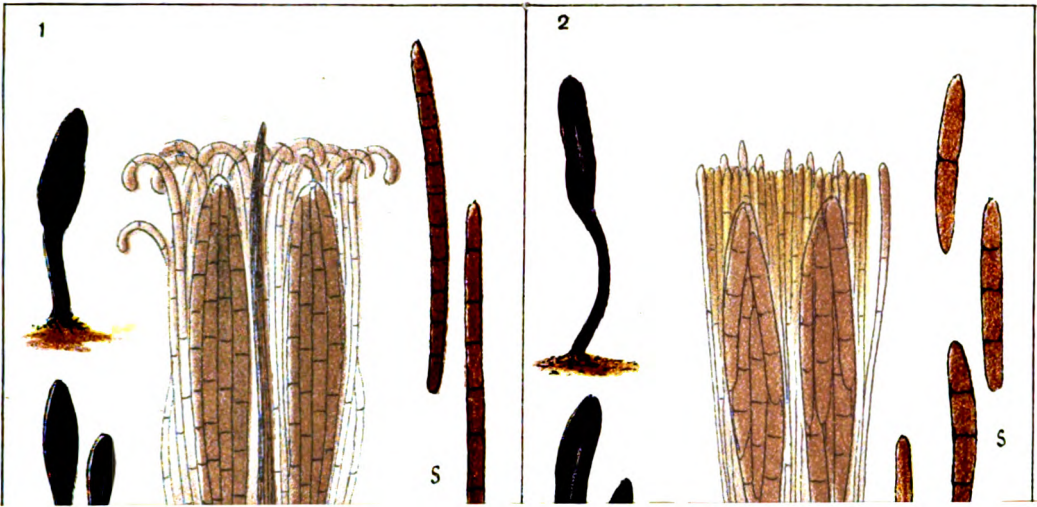
Hirsutum, atro-fuscum, nigrescens. Clavula spathulata, compressa, vix distincta; stipite gracilis. Ascis cylindraceo-clavatis. Sporidiis linearibus rectis, vel leniter curvulis, 3-7 septatis, brunneis. Paraphysibus septatis, vix incrassatis, superne curvulis, vel circinatis.

Geoglossum Walteri, Berk. Hedwigia, 1875, p. 39.

On prostrate stems of *Dicksonia*.

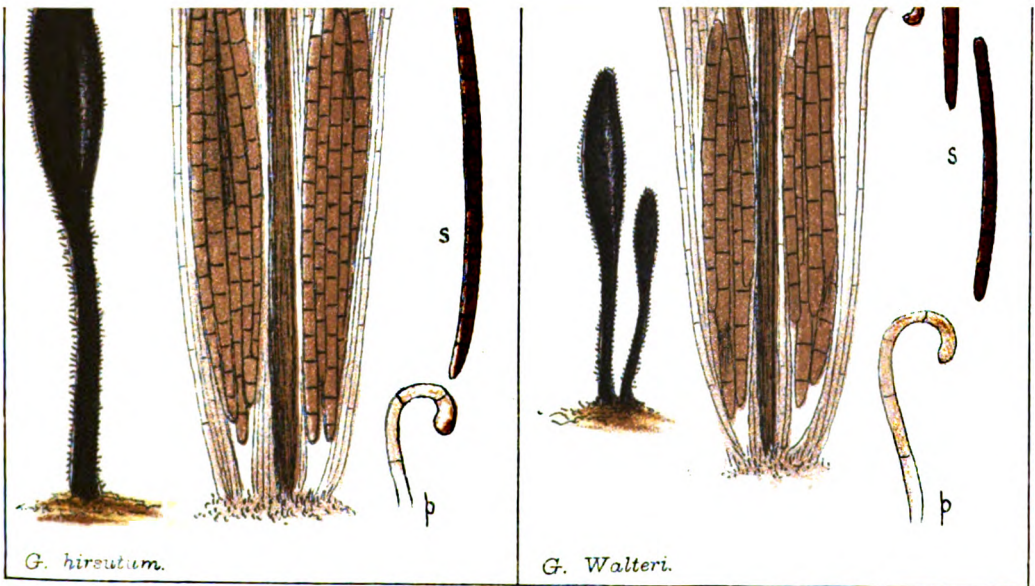
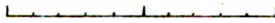
Australia.

Clubs about 1 inch high. Sporidia .1 m.m. long. Shorter than in *G. hirsutum*, and apparently never with more than 7-septa. The figures are delineated from specimens in the herbarium of the Rev. M. J. Berkeley.



SCALE,
FOR MEASUREMENT OF SPORIDIA

I. TENTH OF A MILLEMETRE.



GEOGLOSSUM.

Geoglossum Peckianum. Cooke.

PLATE 2.—Fig. 5.

Glabrum, nigricans. Clavula lanceolata, subcompressa, distincta, obsolete viscosa; stipite atrofusca, nigricans. Ascis sublanceolatis. Sporidiis linearibus, rectis, vel leniter curvulis, 15-septatis, brunneis. Paraphysibus septatis, supra leniter incrassatis, curvulis, flexuosis, tortulis.

Geoglossum glutinosum, Peck. in 25th Report New York Museum Nat. Hist.
Geoglossum Peckianum, Cooke, in Hedwigia, 1875.

On the ground.

North America (U.S.).

Clubs 2 inches high. Sporidia 12 m.m. long.

This was at first regarded by C. H. Peck as *G. glutinosum*, which it resembles externally, but is very different in fruit. The figures are from specimens derived from that gentleman.

Geoglossum glutinosum. Pers.

PLATE 2.—Fig. 6.

Glabrum, nigricans. Clavula compressa, distincta, sublanceolata, obsolete viscosa, magis nigra, stipite viscoso, spadiceo-nigricans. Ascis cylindraco-clavatis, sessilis. Sporidiis linearibus, rectis, vel curvulis, 3-septatis, brunneis. Paraphysibus inarticulatis, linearibus, clavato-incrassatis, apicem subpyriformibus.

Geoglossum glutinosum, Pers. Obs. i. p. 11; Fries Sys. Myc. i. 489; Karst. Myc. Fenn. i. 30; Weinm. Hym. 497; Cooke, Handbook, No. 1958; Kickx. Fl. Fland. i. 501.

On the ground in grassy places. Autumn.

Great Britain, Scandinavia, France, Germany, Finland, Russia, Belgium.

Clubs 1-2 inches high. Sporidia .08 m.m. long. Figured from specimens published by Desmazieres.

EXSICCATI.—Klot. Exs. 641; Desm. C. F. i. 422. Karst. Fung. Fenn. No. 450.

Geoglossum difforme. *Fries.*

PLATE 2.—Fig. 7.

Gregarium, glabrum, læve, subviscosum, atrum. Clavula difformia, compressa, obtusa, distincta. Ascis cylindraceo-clavatis. Sporidiis linearibus, rectis, vel leniter curvulis, 7-septatis, brunneis. Paraphysibus filiformibus, elongatis, septatis, superne flexuosis.

Geoglossum difforme, Fries Obs. Myc. i. 159; Sys. Myc. i. 489; Krombh. Schw. t. 54, f. 28, 29; Karst. Myc. Fenn. i. 31; Cooke, Handbook, No. 1962.

On the ground in grassy places. Sept.—Oct.

Great Britain, Scandinavia, Austria, Germany, Finland.

Clubs about 2 inches high. Sporidia .11 m.m. long.
Figured from specimens published in *Fungi Britannici*.

EXSICCATI.—Berk. B. F. 256; Cooke F. B. i. 481.

Geoglossum australe. *Cooke.*

PLATE 2.—Fig. 3.

Glabrum, siccum, brunneo-nigrescens. Clavula compressa, stipite distincto, subsquamuloso. Ascis sublanceolatis. Sporidiis linearibus, 3-7 septatis, brunneis. Paraphysibus filiformibus, leniter incrassatis, vix septatis.

Geoglossum australe, Cooke, in Hedwigia, 1875, p. 10.

Amongst moss.

Tasmania.

Clubs 1½-2 inches high. Sporidia .12 m.m. long. The paraphyses are rather adglutinate, as in *G. Mulleri*, but not so decidedly. The sporidia are about twice as long.

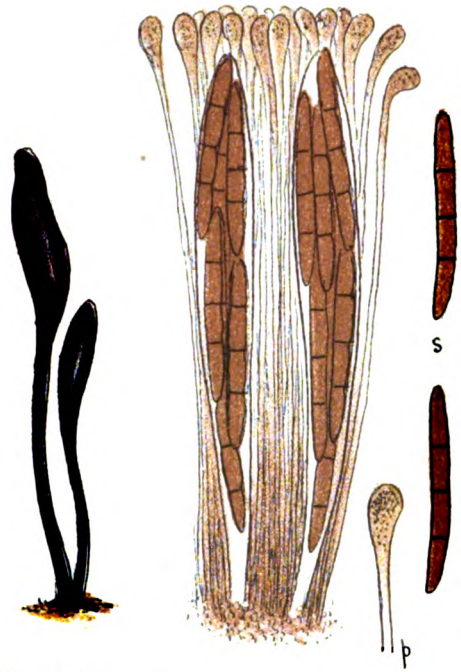
The figures are from specimens in the herbarium of the Rev. M. J. Berkeley.

5



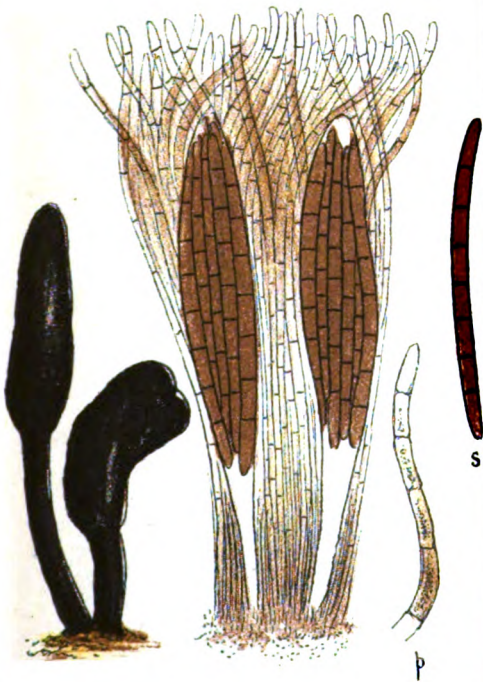
G. Peckianum.

6



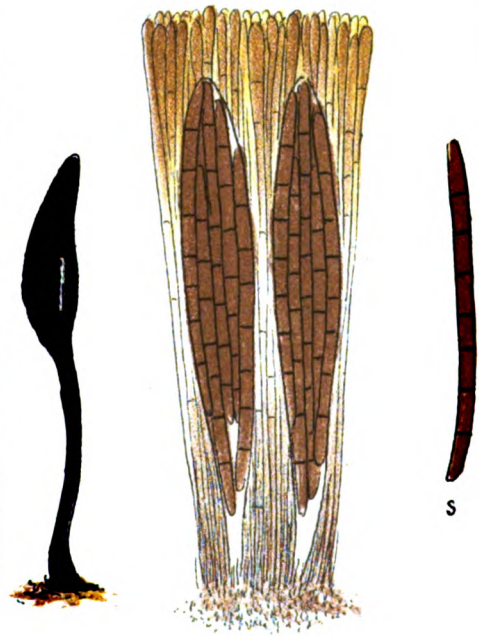
G. glutinosum.

7



G. difforme.

8



G. australe.

GEOGLOSSUM.

Geoglossum glabrum. Pers.

PLATE 3.—Fig. 1.

Subgregarium, glabrum, siccum, nigricans, stipite subsquamuloso. Ascis cylindraceo-clavatis. Sporidiis linearibus, rectis, vel leniter curvulis, 7-septatis, brunneis. Paraphysibus linearibus, apice incrassatis, 4-cellulis ultimis ovalibus, concatenatis, moniliformibus.

Clavaria ophioglossoides, Bull. Champ. t. 372; Bolt. Fung. t. 211, f. 1; Flor. Dan. t. 1076, f. 2.

Geoglossum glabrum, Pers. Obs. Myc. ii. p. 61; Fries. Sys. Myc. i. 488; Weinm. Hym. 497; Fckl. Sym. Myc. 333; Cooke Handbook, No. 1960; Kicks. Fl. Fland. i. 501; Secr. Myc. iii. 621.

In grassy places. Autumn.

Great Britain, France, Belgium, Switzerland, Holland, Denmark, Scandinavia, Austria, Germany, Italy, Russia, Himalayas, Tasmania, North America (U.S.).

Clubs 1-2 inches high. Sporidia .085-.09 m.m. long.

The majority of European mycologists appear to be agreed as to this species, *Mitula glabra*, Karst. (Myc. Fenn. i. 30) is something quite different.

EXSICCATI.—Fckl. F. R. 1142; Schm. & Kze. 97; Mong. & Nest. 684.

Geoglossum viscosum. Pers.

PLATE 3.—Fig. 10.

Glabrum, viscosum, nigrum. Clavula tereticum, stipite confluyente, apice tandum leniter incrassatum, inferne olivaceo-nigrum. Ascis cylindraceo-clavatis. Sporidiis linearibus, rectis, vel leniter curvulis, 3-septatis, brunneis. Paraphysibus filiformibus, globoso-incrassatis, continuis.

Geoglossum viscosum, Pers. Comm. p. 59; Fries. Sys. Myc. i. 439; Epicr. i. p. i. 583. Grev. Sc. Crypt. Fl. t. 55; Cooke Handbook, No. 1959; Fckl. Sym. Myc. 333.

In mountain pastures, &c. Autumn.

Great Britain, Scandinavia, Germany, France.

Clubs 2-3 inches long. Sporidia .08-.095 m.m. long.

The clubs are not so compressed as in *G. glutinosum*, from which the globose, not pyriform, tips of the paraphyses distinguish it. The form of the paraphyses are the safest marks of distinction between *G. glutinosum*, *G. difforme*, and *G. viscosum*.

Geoglossum microsporum. C. & P.

PLATE 3.—Fig: 11.

Glabrum, subviscidum, atrum. Clavula obtusa, distincta. Stipite leniter squamuloso. Ascis cylindraceis. Sporidiis biserialibus, confertisve, cylindraceis, subcurvulis, hyalinis, leniter 7-septatis. Paraphysibus filiformibus, rectis, nondum incrassatis.

Geoglossum microsporum, Cooke and Peck, in 25th Report New York Mus. Nat. Hist.

On burnt ground. Sept.

North America (U.S.).

Clubs about 1 inch high. Sporidia $\cdot 05 \times \cdot 01$ m.m.

The sporidia in this species are very diffuent, soon coating the surface of the club, and imparting a frosty appearance, otherwise it is not unlike small specimens of *G. glabrum* externally. Figured from specimens communicated by C. H. Peck.

Geoglossum luteum. Peck.

PLATE 3.—Fig. 12.

Glabrum, siccum, luteum, plerumque fuscescens. Clavula spathulata, compressa, distincta. Stipite minuto-squamuloso, farcto. Ascis sublanceolatis. Sporidiis oblongo-lanceolatis, leniter curvulis, biserialibus, hyalinis, demum leniter 5-septatis. Paraphysibus inarticulatis, supra curvulis.

Geoglossum luteum, Peck, in 24th Report New York Museum.

Geoglossum flavum (lapis calami), Cooke, in Bullet. Buffalo Soc. Nat. Sci. March, 1875.

Amongst moss. August.

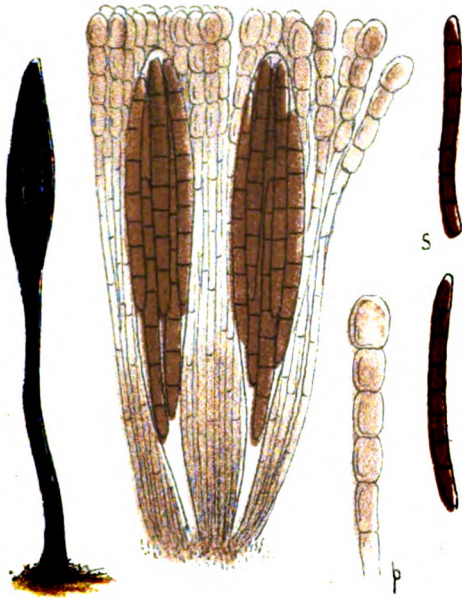
North America (U.S.).

Clubs 2 inches, and more, high. Sporidia $\cdot 05 \times \cdot 01$ m.m.

The tips of the clubs are usually tinged of a darker colour. The species is very fragile when dry, when it often becomes hollow. It is apparently closely allied to *Geoglossum rufum*, Schw., of which it may ultimately prove to be a variety.

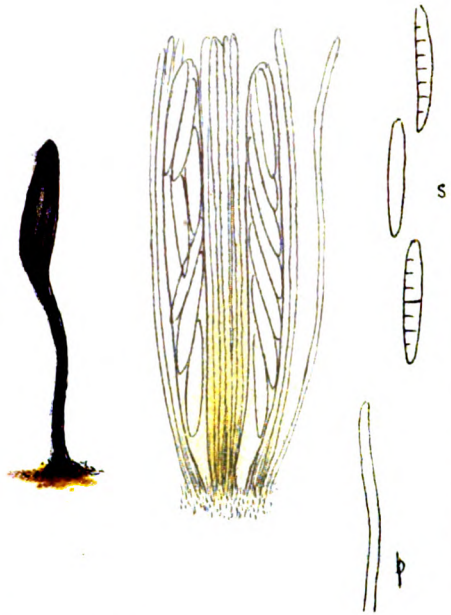
Figured from specimens communicated by C. H. Peck.

9



G. glabrum.

11



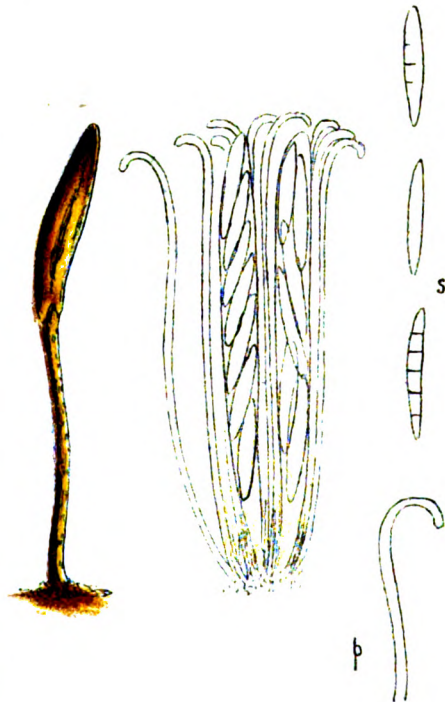
G. microsporum.

10



G. viscosum.

12



G. luteum.

GEOGLOSSUM.

Geoglossum olivaceum. Pers.

PLATE 4.—Fig. 13.

Glabrum, siccum, fuligineo-olivaceum. Stipes glaber, lutescenti-fuscus, basi leviter incrassatus, albidus. Clavula compressa, distincta, stipite ut plurimum longior, in statu senescenti virescente-nigro, intus alba. Ascis cylindraceo-clavatis. Sporidiis arcte lanceolatis, hyalinis, continuis. Paraphysibus filiformibus.

Geoglossum olivaceum, Pers. Obs. Myc. i. p. 40, t. 5, fig. 7; Fries Sys. Myc. i. p. 419; Weinm. Hym. 498; Cooke, Handbook, No. 1957; Berk. Outl. t. 22, fig. 3.

In grassy places. Autumn.

Great Britain, Germany, Russia.

Clubs $1\frac{1}{2}$ -2 inches high. Sporidia $\cdot 025 \times \cdot 008$ m.m. This species is very variable in colour. The lower figures belong to the variety *purpureum*.

Geoglossum carneum, Schultz. Flor. Starg. is probably a variety of this.

EXSICCATI.—Cooke F. B. i. 650; Phillips E. B. 5.

Geoglossum viride. Pers.

PLATE 4.—Fig. 14.

Subfasciculare, viride. Clavula distincta. Stipite squamuloso. Ascis cylindraceo-clavatis, subsessilis. Sporidiis arcte lanceolatis, hyalinis, continuis. Paraphysibus linearibus, vix incrassatis.

Leotia geoglossoides, Corda. Ic. iii. 37, t. vi. f. 94.

Clavaria serpentina, Müll. Zool. Dan. p. 256.

Clavaria viridis, Schr. Flor. Dan. t. 1258, fig. 1.

Clavaria mitrata viridis, Holms. Ot. i. p. 24.

Geoglossum viride, Pers. Cemm. p. 40; Fries Sys. Myc. i. 489; Krombh. Schw. t. 54, f. 26, 27; Grev. Sc. Crypt. Fl. t. 211; Sturm. Fl. t. 48; Weinm. Hym. p. 498; Cooke, Handbook, No. 1956; Kickx. Fl. Fland. i. 501; Secr. Myc. iii. 621.

Mitula viridis, Karst. Myc. Fenn. i. 29.

On the ground. Autumn.

Great Britain, Denmark, Scandinavia, Austria, Germany, France, Italy, Finland, Russia, Belgium, Switzerland, Himalayas, North America (U.S.).

Clubs $1-1\frac{1}{2}$ inch high. Sporidia $\cdot 03 \times \cdot 01$ m.m.

EXSICCATI.—Fckl. F. R. 1140; Rehm. Asc. 151; Rabh. F. E. 524; Desm. C. F. i. 423. Karst. Fung. Fenn. No. 449.

Geoglossum Hookeri. Cooke.

PLATE 4.—Fig. 15.

Glabrum, siccum, nigrum. Clavula compressa, subovata, superne attenuata. Ascis clavatis. Sporidiis linearibus, obtusis, hyalinis. Paraphysibus aliis linearibus, hyalinis, aliis latis, ascis magnitudinis, superne brunneis.

Geoglossum glabrum, Hook. in Herb. Berk.

Geoglossum Hookeri, Cooke, in Hedwigia, 1875, p. 9.

Locality unknown.

Clubs about $1\frac{1}{2}$ inches high. Sporidia .025 m.m. long. Peculiar for the two forms of paraphyses, one of which appear to be abortive asci, equalling them in size, but coloured brown at the tips.

Figured from specimen communicated by the Rev. M. J. Berkeley.

Geoglossum atropurpureum. Pers.

PLATE 4.—Fig. 16.

Gregarium, glabrum, atropurpureum. Stipes fibrillosus, l. squamulosus, firmus, pallidior. Clavula nunc teres, nunc compressa, vel bifida, et præcipue autumnò seriori ventricosa, et difformis, a stipite distincta. Ascis clavato-cylindræis, sessilis. Sporidiis cylindræis, obtusis, rectis vel curvulis, guttulis.

Clavula atropurpurea, Batsch. El. fig. 47.

Clavula mitrata, Holms. Otis. i. p. 21. fig. a.

Leotia atropurpurea, Corda. Icon. v. p. 79, t. 9, fig. 71.

Geoglossum purpurascens, Pers. Com. p. 39.

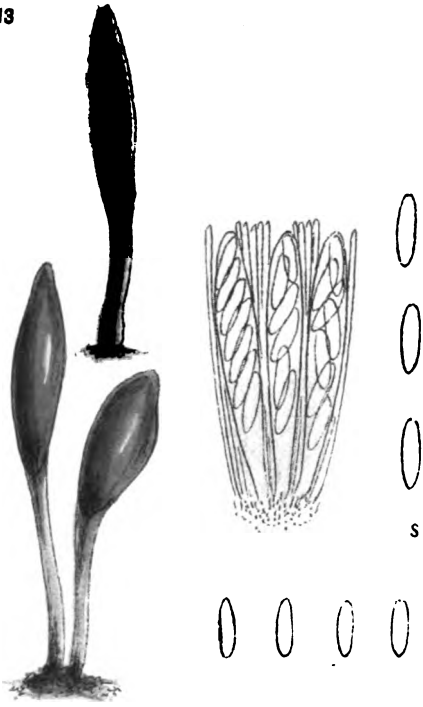
Geoglossum atropurpureum, Pers. Obs. Myc. t. 3, fig. 5; Fries Sys. Myc. i. 490; Weinm. Hym. p. 408.

In grassy places. Autumn.

Russia, Austria, Denmark, Germany.

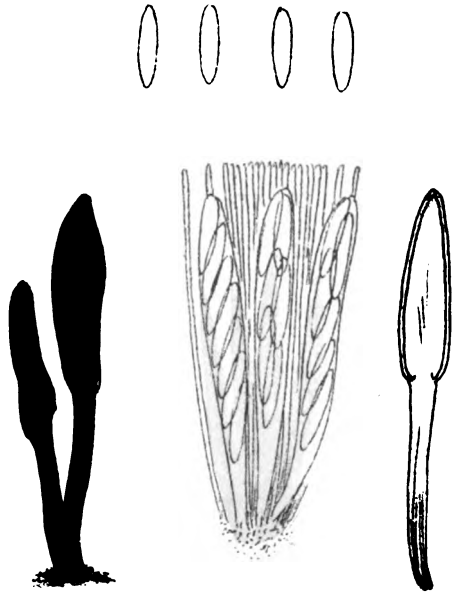
Clubs 1-2 inches high. Sporidia .03-.035 m.m. long.

13



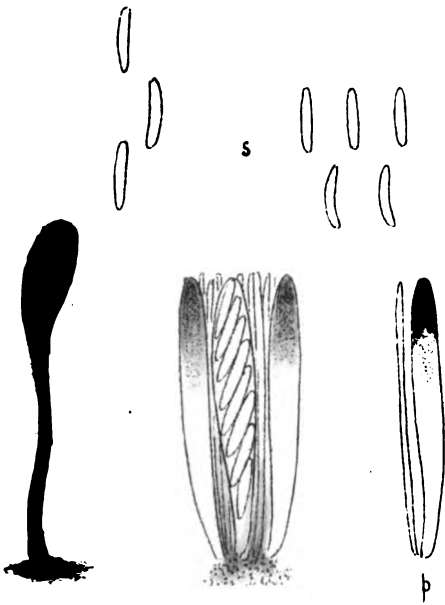
G. olivaceum.

14



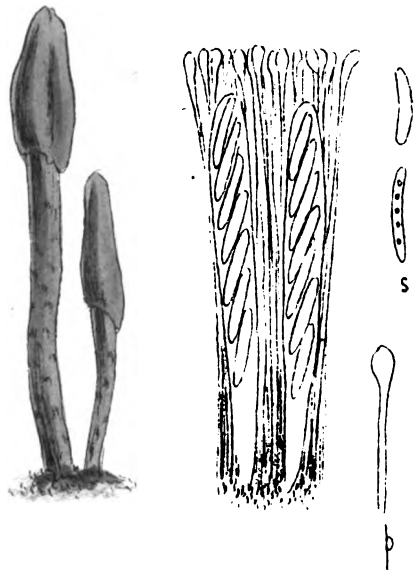
G. viride.

15



G. Hookeri.

16



G. atropurpureum.

GEOGLOSSUM.

PEZIZA. *Dill.*

Receptaculum marginatum, cupulæforme, prime subclausum, mox expansum, epidermide tenui contigua. Hymenium læve, persistens, distinctum. Asci ampli, distincti, fixi; sporidiis elastice ejicienda includentes, paraphysibus immixtis. Cupula centro adfixa, passim stipitata, libere evoluta, plus minus cava, demum passim planiuscula, disco polita (nec villosa l. pulveraceo), discolori, velum universale, sed non distinctum et sæpe nullum. Substantia carnosomembranacea l. ceracea. *Fries. Sys. Myc. ii. 40.*

Ser. I. ALEURIA, extus pruinosa l. floccoso-furfuracea.

Ser. II. LACHNEA, extus pilosa, l. villosa.

Ser. III. PHIALEA, extus subnuda, glabra.

Sub-genus iv.—*Humaria*. Fries.

Cupula subsessilis, integro, hemispherico-explanato, substantia crassiuscula, carnosula. Velum tenue, submarginale, flocculosum, fugax. Color plerumque lætus, luteus, aurantius, l. ruber. Fries Sys. Myc. ii. 67.

This very natural group, or subgenus, is characterized by several very distinctive features. The species are mostly terrestrial, a few being found on dung, and some on bark or wood, but chiefly in the latter instance in company with mosses. The majority are wholly sessile, but in a few, as in *P. vivida*, *araneosa*, &c., the base is produced into a short stem; even in these instances the cups appear to be sessile until removed from their matrix, the length of the stem only being sufficient to raise the cups nearer to a level with the surface of the tufts of moss amongst which they are produced. In colour, bright tints prevail, as crimson, scarlet, orange, yellow, and in rare instances violet or bright browns. The substance is rather thick and fleshy, the cell-walls being so thin and delicate that, except in the external series, they are immediately broken up under pressure, and hence are not to be distinguished under the microscope. The outer surface of the cup is usually smooth, or only roughened by the projecting external cells; these are highly developed in *P. Chateri* and *P. hinnulea*, being pointed in the latter, and thus approaching the subgenus *Sarcoscypha*. The fugacious hairs in *P. subhirsuta*, *P. melaloma*, and one or two others, are not always present, whilst other points of affinity prove that their proper position is with *Humaria*. The arachnoid filaments at the base of the cups in such species as *P. omphalodes*, *Thumeni*, *epitricha*, *flavotिंगens*, *fusispora*, &c., are quite different from the byssoid filaments upon which the cups are seated in the subgenus *Tapesia*, from which they are moreover distinguished by their more fleshy substance, and much larger sporidia. The size and character of the sporidia are similar to the rest of *Aleuria*, being usually comparatively large for the size of the plant. Species with globose sporidia appear to be more numerous than in any other subgenus. The paraphyses are, in many instances, highly developed, often branched, with large clavate tips, filled, when fresh, with coloured protoplasm, according to the colour of the disc. There is so much harmony in the main features of this subgenus, that all attempts hitherto made at distributing the species over proposed new genera have offered no method which is so natural and satisfactory as the one here adopted.

The analogues of this subgenus will be found in *Ascobolus*, to which some of the species approach very closely, especially in the subgenus *Ascophanus* of Boudier; and also in the subgenus *Sarcoscypha* of *Peziza*—especially in the smaller species, such as *P. theleboides*—which might almost be called species of *Humaria* with a hairy tunic. The most aberrant forms of *Humaria* will be found amongst those which approach *Ascophanus* on the one hand, or *Sarcoscypha* on the other, or having apparently close relations with *Mollisia* through such species as *Peziza hepatica*, Batsch, and *Peziza Jungermania*, Nees.

Peziza (Humaria) Crouani. Cooke.

PLATE 5.—Fig. 17.

Sessilis, miniata, carnosae, glabra, urceolata, demum hemispherica; hymenio appanato; margine membranaceo, reflecto, albido. Ascis cylindraceutis. Sporidiis sphaeroideis, reticulatis. Paraphysibus simplicibus, l. furcatis, apicem versus incrassatis.

Peziza Crouani, Cooke, in Grevillea iii. fig. 61.

Peziza Polytrichi, Karst. Myc. Fenn. p. 62; Nyl. Obs. p. 22.

Ascobolus Crouani, Cooke Journ. Bot. 1864, f. 3; Berk. & Br. Ann. Nat. Hist. No. 1085, t. 16, f. 26; Cooke Handbook, No. 2198.

Lamprospora miniata, De Not. Disc. p. 34.

Ascobolus miniatus, Crouan Ann. des Sci. Nat. 1858, x p. 197, t. 13, f. 44-47 (non Preuss).

Crouania miniata, Fckl. Sym. Myc. p. 320.

On the earth among mosses. Autumn.

Great Britain, Germany, France, Finland, Italy.

Cups 5-10 m.m. broad. Sporidia .016-.018 m.m. Some of the specimens published in *Fungi Britannici* under the name of *Peziza leucoloma*, clearly belong to this species.

EXSICCATI.—Cooke F. B. i. 285, ii. 192; Fckl. F. R. 1853; Rabh. F. E. 658.

Peziza (Humaria) Wrightii. B. & C.

PLATE 5.—Fig. 18.

Sparsa, coccinea. Cupulis hemisphericis demum planis, extus furfuraceo-granulatis. Ascis cylindraceutis. Sporidiis subglobosis, junioribus laevibus, adultis echinulatis.

Peziza Wrightii, Berk. & Curt. Ann. Nat. Hist. No. 1064, t. xv. fig. 16; Cooke Handbook, No. 2002; Grevillea, Vol. iii. fig. 58. 62.

On trunks amongst moss.

Great Britain, Texas, Cuba.

Cups 1-2 m.m. broad. Sporidia .01-.011 m.m. diameter.

Figured from specimens derived from the late Dr. M. A. Curtis.

Peziza (Humaria) sanguinaria. Cooke.

PLATE 5.—Fig. 19.

Gregaria, sessilis, carnosae, subconcaua, demum applanata, repandaque, glabra, vix marginata, aurantio-sanguinea, extus pallidiore, colore immutabili. Ascis cylindraceis, stipitatis. Sporidiis globosis, nucleatis, episporio reticulato. Paraphysibus filiformibus, aurantiacis, copiosis.

Peziza sanguinaria, Cooke, in Grevillea iii. fig. 54.

Crouania carbonaria, Fckl. Sym. Myc. App. ii. p. 64 (non *Peziza carbonaria*, A. & S.).

On burnt soil.

Germany.

Cups 1-3 m.m. broad. Sporidia .013-.015 m.m. diam.

EXSICCATI.—Fckl. F. R. 2482.

Peziza (Humaria) lætirubra. Cooke.

PLATE 5.—Fig. 20.

Gregaria, sessilis, concava, demum applanata, integra, glabra, marginata, cinnabarina, colore immutabili. Ascis cylindraceis, stipitatis. Sporidiis globosis, nucleatis, hyalinis, episporio reticulato. Paraphysibus filiformibus, copiosis guttulis aurantiacis repletis.

Peziza lætirubra, Cooke, in Grevillea iii. fig. 56.

Crouania cinnabarina, Fckl. Sym. Myc. App. ii. 64 (non *Peziza cinnabarina*, Schwz.).

On sandy soil.

Germany.

Cups 1-2 m.m. broad. Sporidia .016-.018 m.m. diam. very faintly reticulated.

The specific names applied to these two species by Fuckel were pre-occupied in the genus *Peziza*, so that in transferring them to this genus it became obligatory to apply new specific names.

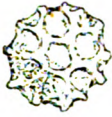
EXSICCATI.—Fckl. F.R. No. 2481.

17

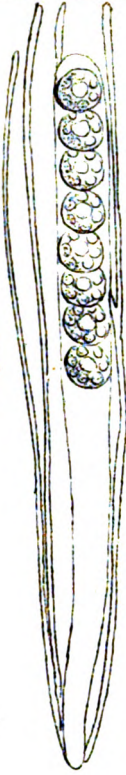
n. s.



x. 5.



sp



P. Crouani. C.

18

n. s.



x. 5.



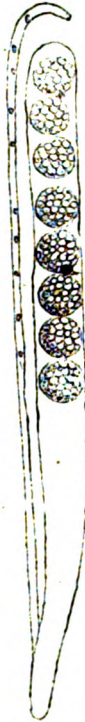
P. Wrightii. B & C.

19

n. s.



x. 5.



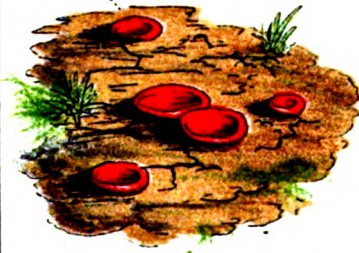
P. sanguinaria. C.

20

n. s.



x. 5.



P. lætirubra C.

PEZIZA. (HUMARIA.)

Peziza (Humaria) exasperata. Berk.

PLATE 6.—Fig. 21.

Coccinea. Cupula subglobosa, extus verruculoso; margine inflexo. Ascis cylindraceis. Sporidiis globosis, echinulatis. Paraphysibus septatis, vix incrassatis.

Peziza exasperata, Berk. in Grevillea iii. fig. 55; Cooke, in Bulletin Buff. Soc. N. Sci. March, 1875.

On burnt earth.

North America (U.S.).

Cups 1 c.m. broad. Sporidia .012-.013 m.m. diam.

Figured from specimens derived from the late Dr. M. A. Curtis.

Peziza (Humaria) echinosperma. Berk.

PLATE 6.—Fig. 22.

Subgregaria, vel sparsa, subdifformia, aurantiaca, demum pallidiore, glabra, subconcava, extus pallida. Ascis cylindraceis. Sporidiis subsphæroideis, papillatis. Paraphysibus filiformibus, granulis aurantiacis repletis.

Peziza echinosperma, Peck, in 24th Report of New York State Museum, pp. 95, t. 3, fig. 10-13; Grevillea iv. fig. 232.

On damp ground. June.

North America (U.S.).

Cups 2-4 m.m. broad. Sporidia .016-.02 × .016 m.m., often flattened by compression in the ascus, and hence subquadrate, and less perfectly globose than in allied species.

The specimens figured are from the herbarium of C. H. Peck, Esq., of Albany, New York.

Peziza (Humaria) auriflava. Cooke.

PLATE 6.—Fig. 23.

Sessilis, subhemispherica, glabra, gelatinosa, aurantio-flava, disco plano. Ascis cylindraceis. Sporidiis globosis, echinulatis. Paraphysibus simplicibus, l. furcatis, apicem versus incrassatis.

Ascobolus Crecqheraultii, Crouan Ann. des Sci. Nat. 1158, x. t. 13, c. f. 12-16 ; Flor. Finis. p. 56 (non *Peziza Crecqheraultii*, Crouan.

On clayey soil. Spring.

France.

Cups 5 m.m. broad. Sporidia .016-.018 m.m., echinulate, and not reticulated as in *P. Crouani*, to which species it is referred by Karsten.

Peziza (Humaria) miltina. Berk.

PLATE 6.—Fig. 24.

Sessilis, sparsa, coccinea, applanata, margine subtus pallidiore, libero. Ascis cylindraceis. Sporidiis globosis, lævibus. Paraphysibus filiformibus.

Peziza miltina, Berk. in Flor. Nov. Zeal. ii. 199.

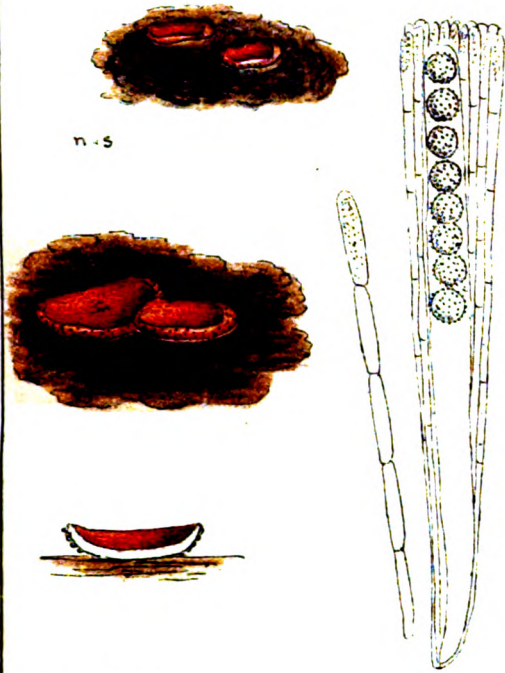
On the naked soil amongst mosses.

New Zealand.

Cups 1 c.m. broad. Sporidia .016 m.m. diam. This, and some other figures, being drawn and coloured from dried specimens, the colouring must be regarded as approximate, in these instances, rather than absolute.

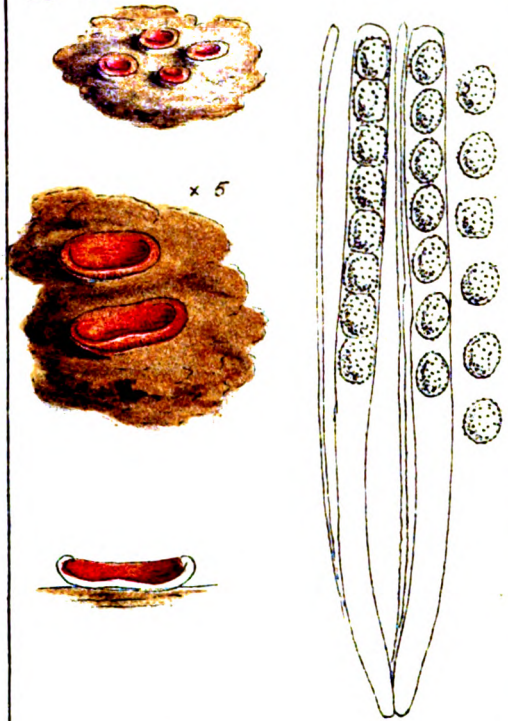
Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

21



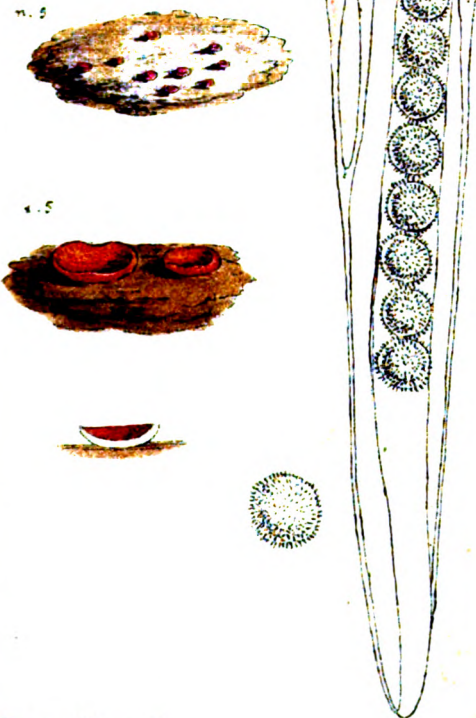
P. exasperata. B.

22 n. 5



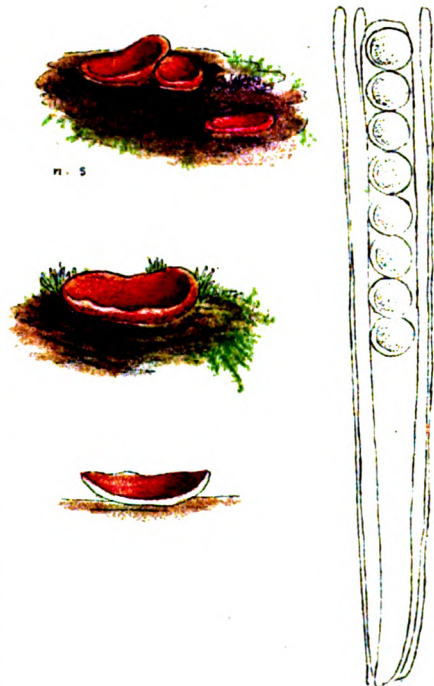
P. echinosperma. Pk.

23



P. auriflava. C.

24



P. miltina. B.

Peziza (Humaria) humosa. Fries.

PLATE 7.—Fig. 25.

Sessilis, carnosa, concavo-plana, glabra, sanguineo-rubra, margine integerrimo. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus clavatis, subfurcatis.

Peziza humosa, Fries Obs. Myc. p. 309; Fries Sys. Myc. ii. 71; Cooke Handbook, No. 2001; Grevillea iii. fig. 71 (non Fckl. F. R. 2290); Berk. & Br. Ann. Nat. Hist. No. 1156* t. 3, f. 15.

On the naked soil. Autumn.

Great Britain, Scandinavia, Denmark, Germany, Belgium, France, Russia, North America (U.S.).

Cups 2-4 m.m. Sporidia $\cdot 022\text{--}\cdot 024 \times \cdot 01\text{--}\cdot 012$ m.m., sometimes $\cdot 02 \times \cdot 014$. Paraphyses highly developed.

Messrs. Berkeley and Broome took considerable trouble to determine accurately the red species of *Humaria*, and this accords with their determination. *Peziza humosa*, Fckl. 2290, and Rehm. Asc. No. 4, is very different.

EXSICCATI.—Cooke F. B. i. 475; Rab. F. E. 715.

Peziza (Humaria) Mulleri. Berk.

PLATE 7.—Fig. 26.

Sparsa, sessilis, irregularis, marginata, extus subtiliter tomentosa, hymenio coccineo. Ascis cylindraceutis. Sporidiis ellipticis, elongatis, 1-2 nucleatis, mycelio amplo. Paraphysibus apicem versus incrassatis.

Peziza Mulleri, Berk., in Journ. Linn. Soc. 1872, p. 176.

On the ground.

Australia.

Cups about 1 m.m. broad. Sporidia $\cdot 018 \times \cdot 006\text{--}\cdot 007$ m.m. Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Humaria) euchroa. Karst.

PLATE 7.—Fig. 27.

Sessilis, plus minusve aggregata, primum clausa, sphæroidea, dein hemispherica, tandem applanata, planiuscula, interdum radiato-fissa, sub-arachnoidea, margine sæpe subcrenulato-inæquali, demum semper integro, sub-aurantiaco-rosea, extus pallidiori. Ascis cylindraceis, apicē iodo non tinctis. Sporidiis ellipsoideis, uniseriatis, biguttulatis. Paraphysibus articulatis supra leviter incrassatis.

Peziza euchroa, Karst. Symb. p. 228; Karst. Myc. Fenn. p. 46; Grevillea iii. fig. 70.

On the ground. Aug. Sept.

Finland.

Cups 1-12 m.m. broad. Sporidia $\cdot 018 \times \cdot 009$ m.m.

EXSICCATI.—Karst. F. F. 816.

Peziza (Humaria) leucoloma. Hedw.

PLATE 7.—Fig. 28.

Sessilis, sparsa, planiuscula, aurantiaco-rubra, margine flocculis albidis fimbriato. Ascis cylindraceis. Sporidiis ellipticis, lævibus. Paraphysibus apicem versus incrassatis.

Peziza leucoloma, Hedw. Musc. Frond. t. 4, fig. A; Rehent. Fl. Neom. p. 386; Fries Sys. Myc. ii. 71; Cooke Handbook, No. 2000; Grevillea iii. fig. 72 (non Karst. Myc. Fenn. 63.).

Leucoloma Hedwigii, Fekl. Sym. Myc. 317.

Amongst moss. September.

Great Britain, Scandinavia, Germany, Belgium, France, Switzerland, Italy, Russia, North America (U.S.).

Cups 2-3 m.m. broad. Sporidia $\cdot 018\text{-}\cdot 02 \times \cdot 009\text{-}\cdot 01$ m.m.

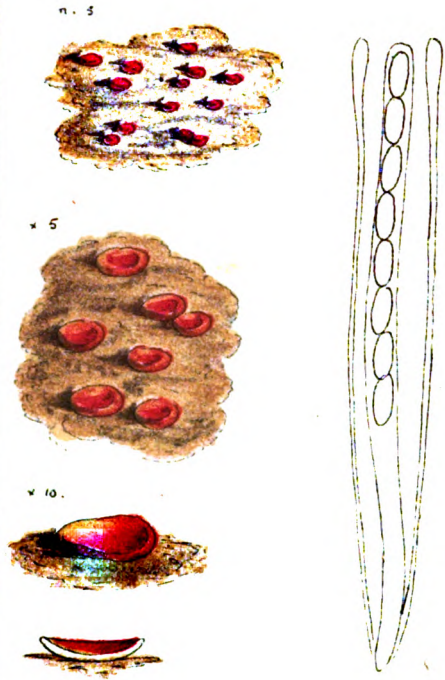
EXSICCATI.—Fekl. F. R. 1219.

25



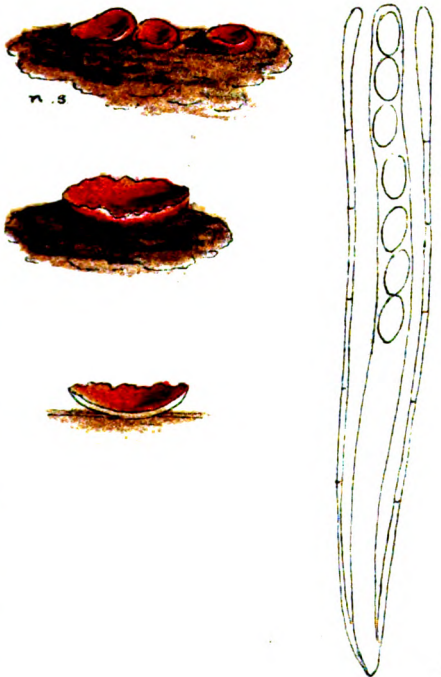
P. humosa. Fr.

26



P. Mulleri. B.

27



P. euchroa. K.

28



P. leucoloma. H.

PEZIZA. (HUMARIA.)

Peziza (Humaria) carbonigena. Berk.

PLATE 8.—Fig. 29.

Gregaria, congesta, aurantiaca, cupulæ umbilicato, sessili, flexuoso, leniter granuloso. Ascis cylindræis. Sporidiis ellipsoideis. Paraphysibus apicem versus clavatis.

Peziza carbonigena, Berk. in Flor. Tasm. ii. 274.

On charcoal.

Tasmania.

Cups scarce 1 m.m. broad. Sporidia $\cdot 022 \times \cdot 012$ m.m. narrowed towards either extremity.

The specimens figured were kindly communicated by the Rev. M. J. Berkeley.

Peziza (Humaria) corallina. Cooke.

PLATE 8.—Fig. 30.

Sessilis, glabra, hemispherica, extus aurantio-flava, hymenio plano, coccineo. Ascis subclavatis. Sporidiis fusiformibus binucleatis. Paraphysibus apicem versus subincrassatis, granulis aurantiacis repletis.

Peziza corallina, Cooke, in Grevillea iii. fig. 83.

Ascobolus coccineus, Crouan Ann. Sci. Nat., 1857, vii. t. 4, f. 15; Flor. Finis. p. 58.

Leucoloma coccinea, Fckl. Sym. Myc. 318.

On the ground amongst moss.

Great Britain, France, Germany.

Cups 1-2 m.m. broad. Sporidia $\cdot 03\text{--}\cdot 035 \times \cdot 006\text{--}\cdot 007$ m.m.

This species was found in Britain some years since by Dr. E. Capron at Shere. The paraphyses appear to be septate when fresh.

EXSICCATI.—Fckl. F. R. 1854.

Peziza (Humaria) fuispora. Berk.

PLATE 8.—Fig. 32.

Gregaria, subconferta, sessilis. Cupulis hemisphericis, planis, vel concaviusculis, luteis, tomentosis. Ascis cylindraceis. Sporidiis utrinque leviter attenuatis, fusiformibus, binucleatis.

Peziza fuispora, Berk. in Hook. Journ. 1846, p. 5; Ann. Nat. Hist. No. 1481; Grevillea iii. fig. 84.

On soil mixed with charcoal.

Tasmania, Great Britain.

Cups 2-5 m.m. broad. Sporidia $\cdot 03\text{-}\cdot 032 \times \cdot 01$ m.m.
Figured from specimens furnished by the Rev. M. J. Berkeley.

EXSICCATI.—Rabh. F. E. No. 1812.

Peziza fuispora, var. *aggregata.* Berk & Br.

PLATE 8.—Fig. 31.

Gregaria, confluens, obconica, aurantia, basi albotomentosa; hymenio concavo. Ascis cylindraceis. Sporidiis fusiformibus.

Peziza aggregata, Berk. & Br. Ann. Nat. Hist. No. 1155; Cooke Handbook, No. 1998.

On heathy ground.

Great Britain.

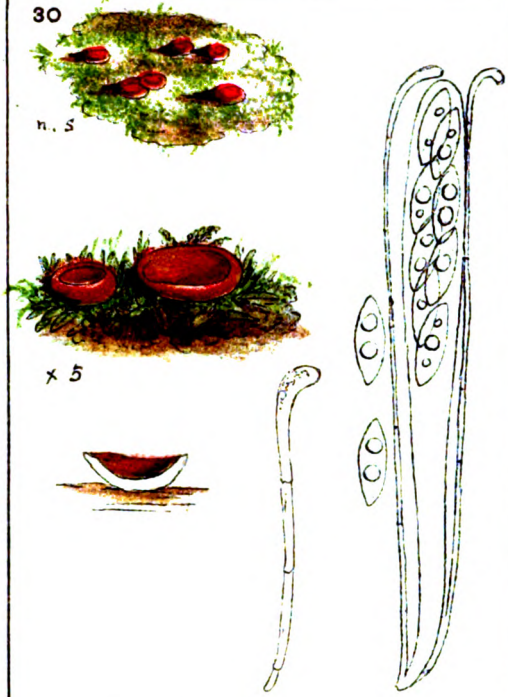
Cups scarce 1 m.m. broad. Sporidia $\cdot 028\text{-}\cdot 03 \times \cdot 008$ m.m.
The specimens figured are from the herbarium of the Rev. M. J. Berkeley, and do not appear to differ specifically from *P. fuispora*. The sporidia are slightly narrower.

29



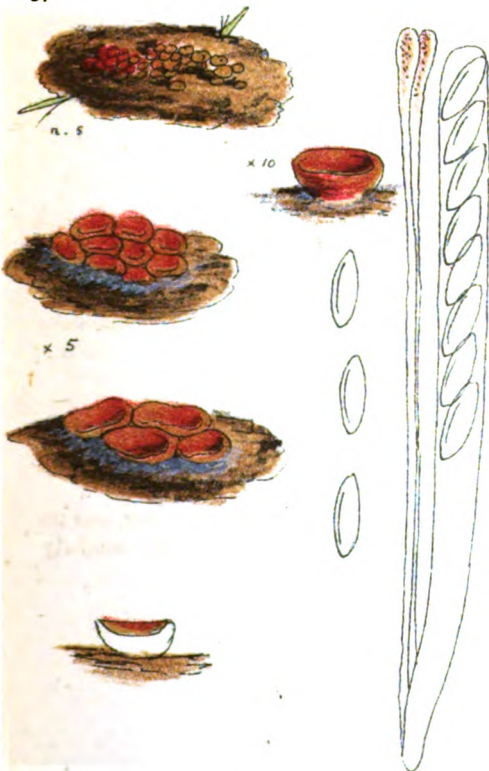
P. carbonigena B.

30



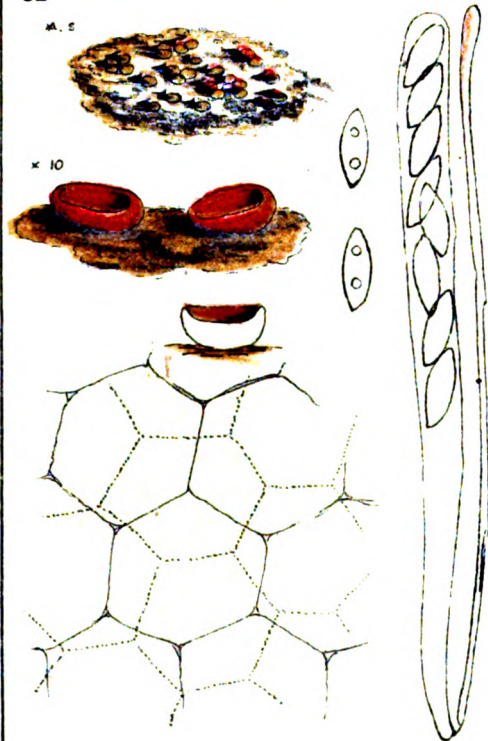
P. corallina C.

31



P. aggregata B & Br.

32



P. fusispora B.

Peziza (Humaria) modesta. Karst.

PLATE 9.—Fig. 33.

Sessilis, subgregaria, planiuscula, vix marginata, sicca decolorata, et lutescentia (in statu vivo sub-aurantiaco-lutea, ni fallor). Ascis cylindraceis. Sporidiis sphæroideis, papilloso-asperulis, uniguttulatis. Paraphysibus apicem versus incrassatis.

Peziza modesta, Karst. Mon. Pez. Fenn. p. 122; Karst. Myc. Fenn. 64.

On sandy soil. May—October.

Finland.

Cups 1-2 m.m. broad. Sporidia ·018-·02 m.m.

Peziza (Humaria) globifera. Berk.

PLATE 9.—Fig. 34.

Sparsa, sessilis, lutea. Cupulis crateriformibus, margine inflexo, quandoque lobato. Ascis clavatis, vel cylindraceis. Sporidiis globosis, lævibus, uni-vel biserialibus.

Peziza globifera, Berk. in Journ. Linn. Soc. x. 366; Grevillea iii. f. 57.

Peziza sphæroplea, Berk. & Curt. Bullet. Buff. Soc. Nat. Sci. 1875, 289.

On scorched ground.

North America (U.S.), Cuba, Ceylon.

Cups 1-2 m.m. broad. Sporidia ·008-·01 m.m. diam.

Figured from specimens derived from the Rev. M. J. Berkeley.

EXSICCATI.—Wright F. Cub. 669.

Peziza (Humaria) convexella. Karst.

PLATE 9.—Fig. 35.

Sessilis, subsparsa, submarginata, glabra, convexiuscula, sicca concava, sanguineo-rubra. Ascis cylindraceutis. Sporidiis sphaeroideis. Paraphysibus gracilibus, flexuosis, intus granulosis.

Peziza convexella, Karst. Mon. Pez. Fenn. p. 123; Karst. Myc. Fenn. p. 54.

On the naked ground. August.

Finland.

Cups 1-2 m.m. broad. Sporidia .014-.016 m.m. diam.

Peziza (Humaria) convexula. Pers.

PLATE 9.—Fig. 36.

Immersa, e plano convexa, subimmarginata, glabra, carneo-ochracea. Ascis cylindraceutis. Sporidiis ellipsoideis, binucleatis, hyalinis. Paraphysibus septatis, apicem versus incrassatis.

Peziza convexula, Pers. Obs. p. 85; Grevillea iii. fig. 81; Fries Sys. Myc. ii. 74.

Leucoloma convexula, Fckl. Sym. Myc. p. 318.

Peziza chrysophthalma, Gerard in Bullet. Torr. Club.

On naked soil. Spring—Autumn.

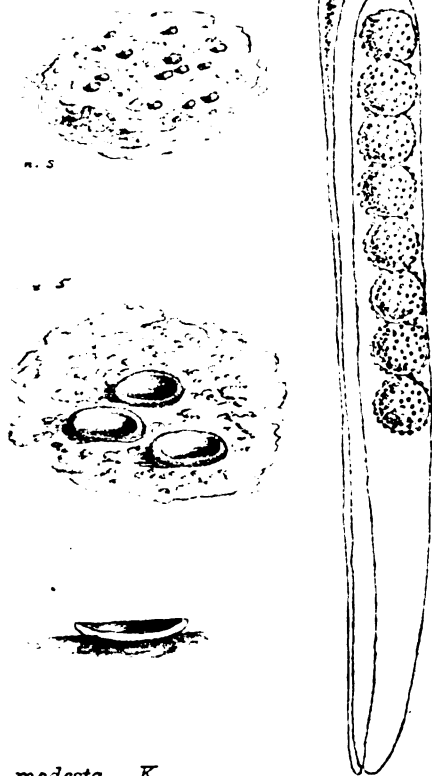
Great Britain, France, Belgium, Germany, Scandinavia, Austria, North America (U.S.).

Cups 2 m.m. broad. Sporidia .022 × .011 m.m.

Figures derived from specimens published by Fuckel, with which Gerard's *P. chrysophthalma*, according to authentic specimen, agrees.

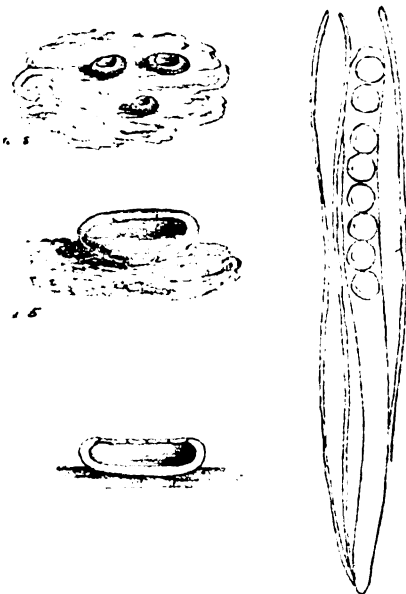
EXSICCATI.—Fckl. F. R. 1875.

33



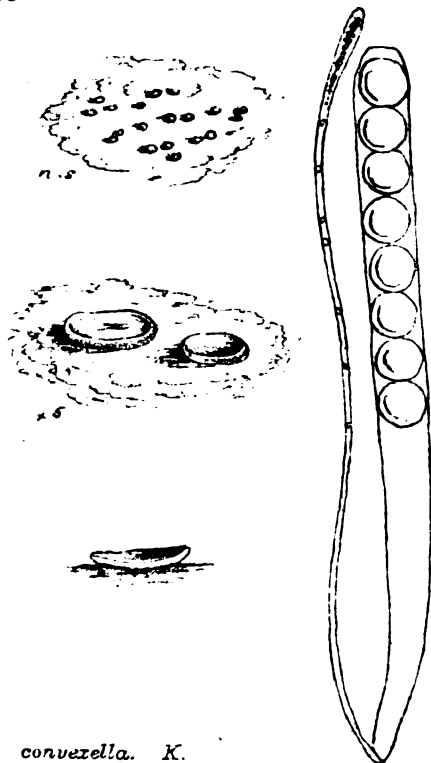
P. modesta. K.

34



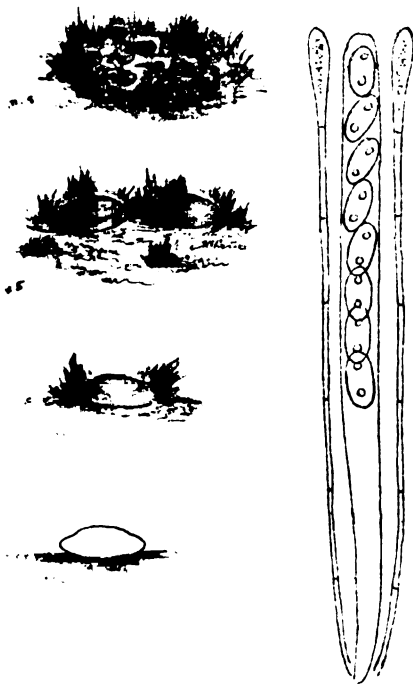
P. globifera F & C.

35



P. convexella. K.

36



P. convexula P.

PEZIZA. (HUMARIA.)

Peziza (Humaria) quisquiliarum. B. & C.

PLATE 10.—Fig. 37.

Lutea, crateriformis, sessilis, margine inflexo. Ascis lineari-clavatis. Sporidiis fusiformibus, curvatis, 3-4 septatis.

Peziza quisquiliarum, Berk. & Curt. in Journ. Linn. Soc. x. 366 (nec *P. quisquiliaris*, Weinm.; nec *Pez. quisquiliaris*, Karst.).

On dead twigs, &c.

Cuba.

Cups 2-5 m.m. broad. Sporidia $\cdot 025 \times \cdot 006\text{-}\cdot 007$ m.m. Evidently allied to *P. sulfurata*, Fr., of which I have not seen specimen.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Humaria) flavotingens. B. & Br.

PLATE 10.—Fig. 38.

Gregaria, substipitata, e mycelio floccoso oriunda, cupulæformis, pulvere flavo sparsa. Ascis brevibus. Sporidiis ellipticis.

Peziza flavotingens, Berk. & Br. Journ. Linn. Soc. xiv. 104.

Amongst fragments of herbs.

Ceylon.

Cups 5 m.m.—1 c.m. broad. Sporidia $\cdot 01 \times \cdot 006$ m.m.

The sulphury yellow mycelium is profuse and very characteristic. Figured from specimens communicated by the Rev. M. J. Berkeley. The sporidia were immature.

Peziza erecta, Sow., sometimes grouped with *Humaria*, clearly belongs to *Sarcoscypha*, and is allied to such species as *P. theleboloides*.

Peziza (Humaria) glumarum. *Desm.*

PLATE 10.—Fig. 39.

Conferta, gracilis, junior conico-globosa, flocculis albis obsita, demum concavo-planiuscula, glabra, flexuosa, aurantio-lutea; margine sublacerato, albido. Ascis cylindraceutis. Sporidiis ellipticis, lævibus, hyalinis.

Peziza glumarum, Desm. Ann. Sci. Nat. 1841. xv. p. 129; Grevillea iii. fig. 77.

On chaff. Spring.

Great Britain, France, North America (U.S.).

Cups 4-8 m.m. broad. Sporidia $\cdot 018 \times \cdot 01$ m.m. Figured from Desmazieres (i. 1054).

EXSICCATI.—Desm. C. F. i. 1054. ii. 454.

Peziza (Humaria) limnicola. *Hazs.*

PLATE 10.—Fig. 40.

Sparsa, vel subgregaria, ochraceo-lutea, carnosae, subhemispherica, dein applanata, margine pallidiore. Ascis subcylindraceutis. Sporidiis ellipticis, lævibus, enucleatis.

Peziza limnicola, Hazslinszky in litt.; Grevillea iv. fig. 231.

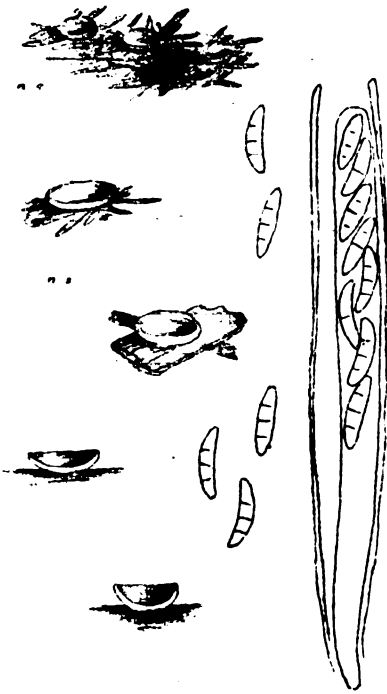
On mud by the side of lake.

Austria.

Cups $\frac{1}{2}$ m.m. broad. Sporidia $\cdot 028 \times \cdot 012$ m.m.

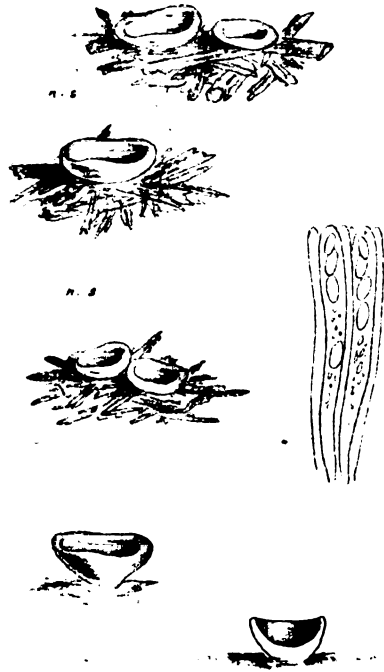
Figured from specimens collected by Herr Lojka in the Prater at Vienna. It is uncertain what may be *Peziza limbata*, Wallr., but apparently not the present species.

37



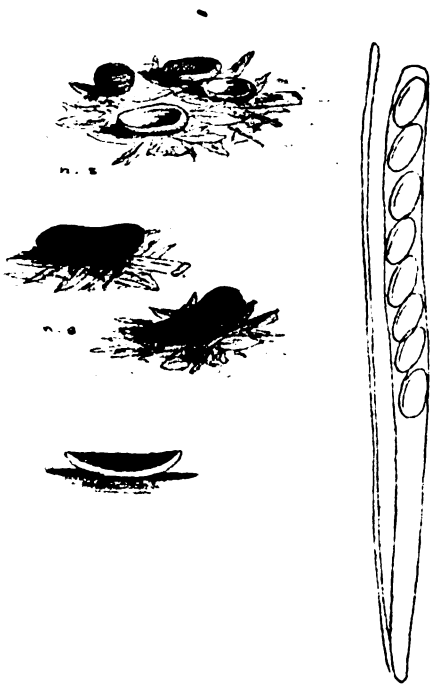
P. quisquiliarum B & C.

38



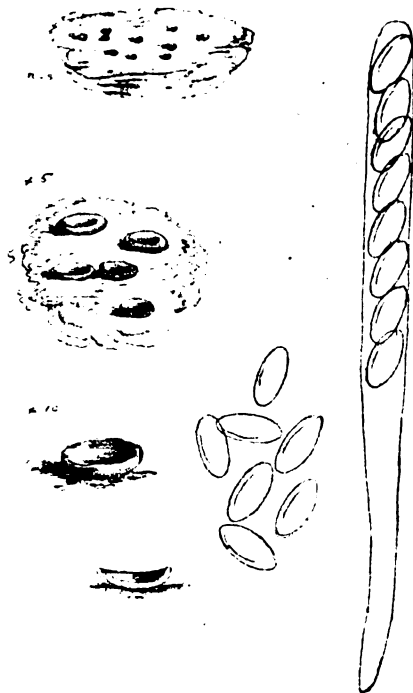
P. flavo-tingens B.

39



P. glumarum D.

40



P. limnicola H.

Peziza (Humaria) xanthomela. Pers.

PLATE 11.—Fig. 41.

Sessilis, gregaria, subdifformis, subtus nigrescens, disco subconvexo, lutescente. Ascis cylindraceutis. Sporidiis ellipticis, parvulis, hyalinis, lævibus.

Peziza xanthomela, Pers. Syn. p. 665 ; Fries Sys. Myc. ii. 74 ; Grevillea iii. fig. 86.

In larch woods.

Germany.

Cups 2 m.m. broad. Sporidia $\cdot 011$ - $\cdot 012 \times \cdot 006$ m.m. The figures in plate are derived from the specimens published by Rabenhorst.

EXSICCATI.—Rabh. F.E. 315.

Peziza (Humaria) adusta. C. & P.

PLATE 11.—Fig. 42.

Gregaria, subglobosa, dein hemispherica, applanata, irregularis, sicco brunneis, fibrillis paucis radiantibus obsita, disco flavido-fusco. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis. Paraphysibus clavatis, superne brunneis.

Peziza adusta, Cooke & Peck, Grevillea iii. fig. 66 ; Bullet. Buff. Soc. 1875, p. 290.

On burnt ground.

North America (U.S.).

Cups 2-3 m.m. broad. Sporidia $\cdot 018 \times \cdot 008$ m.m. A distinct and characteristic species, for which I am indebted to Mr. C. H. Peck, of Albany, New York.

Peziza (Humaria) pinetorum. Fckl.

PLATE 11.—Fig. 43.

Gregaria, carnosae, plana, cinerea, glabra, margine acuto, obscuriori, basi conicis in stipitem nigrum attenuatis, disco pallidiori. Ascis elongatis, stipitatis. Sporidiis lanceolato-oblongis.

Peziza pinetorum, Fckl. Fung. Rhen. No. 2082; Grevillea iii. fig. 85.
Leucoloma pinetorum, Fckl. Sym. Myc. 319.

Amongst pine leaves.

Germany.

Cups 4-5 m.m. broad. Sporidia $\cdot 022\text{-}\cdot 026 \times \cdot 006$ m.m.

EXSICCATI.—Fckl. F.R. 2082.

Peziza (Humaria) Gerardi. Cooke.

PLATE 11.—Fig. 44.

Sessilis, sparsa, carnosae, violaceae, hemisphaerica, applanata, extus cinereo-violaceae, intus laetior. Ascis cylindraceutis. Sporidiis fusiformibus, uninucleatis. Paraphysibus filiformibus, supra clavatis.

Peziza Gerardi, Cooke, in Hedwigia, 1875, p. 81; Grevillea iii. fig. 206.
Peziza violaceae, Gerard in litt.

On the ground.

North America (U.S.).

Cups 4-5 m.m. broad. Sporidia $\cdot 032\text{-}\cdot 035 \times \cdot 008\text{-}\cdot 009$ m.m. long. This elegant species is figured from the original specimens communicated by Mr. W. R. Gerard. I do not know any other species with which it can possibly be confounded.

41



n. s.

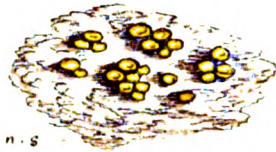


x 5



P. xanthomela. P.

42



n. s.



x 5



x 10



P. adusta C & P.

43



n. s.



x 5

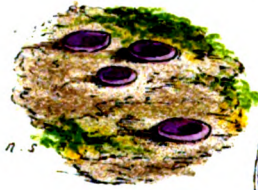


x 5



P. pinetorum. F.

44



n. s.



x 5



P. Gerardi. C.

Peziza (Humaria) tetraspora. Fckl.

PLATE 12.—Fig. 45.

Sparsa, sessilis, margine subtilissime sordide laciniato, miniato-vitellina, plana, vel subconvexa. Ascis stipitatis, tetrasporis (rarissimis 5-6). Sporidiis ovato-ellipticis, 1-4 guttulatis, hyalinis.

Peziza tetraspora, Grevillea iii. fig. 82.

Leucoloma tetraspora, Fckl. Sym. Myc. 317.

Ascobolus tetrasporus, Fckl. in Hedwigia, 1866, p. 4, t. 5, fig. a. b. c.

Amongst *Bryum argenteum*. Autumn.

Germany.

Cups 2 m.m. broad. Sporidia $\cdot 032\text{-}\cdot 035 \times \cdot 01$ m.m.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F. R. 1856.

Peziza (Humaria) semi-immersa. Karst.

PLATE 12.—Fig. 46.

Sessilis, semi-immersa, e hemispherico-concava, demum explanata, ochraceo-testacea, vel fulvescentia, margine flocculis albidis crenulata. Ascis cylindraceo-clavatis. Sporidiis ellipsoideis, vel oblongato-ellipsoideis, uniguttulatis. Paraphysibus filiformibus, apicem versus haud vel paullo incrassatis.

Peziza semi-immersa, Karst. Mon. Pez. 117; Grevillea iii. fig. 75.

On the naked soil. Sept.

Great Britain, Finland.

Cups 3 m.m.-1 c.m. broad. Sporidia $\cdot 018 \times \cdot 009\text{-}\cdot 01$ m.m.

This species has been found by Mr. W. Phillips in the neighbourhood of Shrewsbury, scarcely differing from Karsten's specimens, from which the figures have been drawn.

EXSICCATI.—Karst. F. F. 724.

Peziza (Humaria) Oocardii. Kalch.

PLATE 12.—Fig. 47.

Sparsa vel gregaria. Disco rotundato, lentiformi, adultiore undulato-lobato, fuscescente, siccitate nigrescente. Ascis amplis, ad basim vacuis, superne octosporis, sporidiis ellipticis, hyalinis.

Peziza Oocardii, Grevillea iii. fig. 207.

Peltidium Oocardii, Kalch, in Rabh. F. E. 521; Karst. Myc. Fenn. p. 84.

On stones and (var. *ligniaria*, Karst.) on putrid pine wood,

Finland, Austria, Hungary, Germany.

Cups 4-5 m.m. broad. Sporidia $\cdot 02\text{-}022 \times \cdot 011\text{-}012$ m.m.

Although Kalchbrenner constituted a new genus for the special accommodation of this species, I cannot see any good and substantial reason for removing it from *Peziza*.

EXSICCATI.—Rabh. F. E. 521; Karst. F. F. 636 (var.).

Peziza (Humaria) salmonicolor. B. & Br.

PLATE 12.—Fig. 48.

Parva, gregaria, hemispherica, demum applanata, cupulis hymenioque salmonicoloribus. Ascis oblongis. Sporidiis biserialibus, ellipticis, enucleatis.

Peziza salmonicolor, Berk. & Br. Ann. Nat. Hist. 1158, t. iv. f. 19; Cooke Handbook, No. 2007; Grevillea iii. fig. 202.

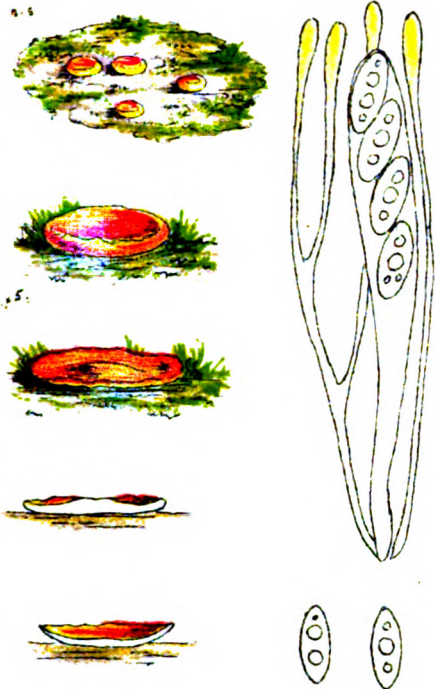
On the side of a ditch. October.

Great Britain.

Cups 1-3 m.m. broad. Sporidia $\cdot 02\text{-}022 \times \cdot 012$ m.m.

Figures derived from specimens kindly furnished by the Rev. M. J. Berkeley.

45



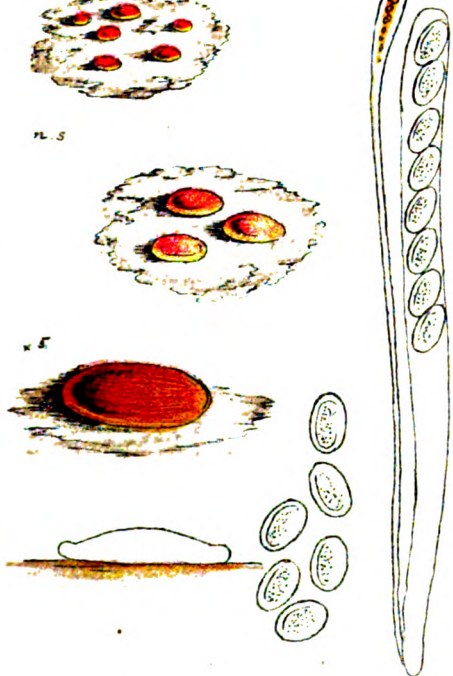
P. tetraspora. Fl.

46



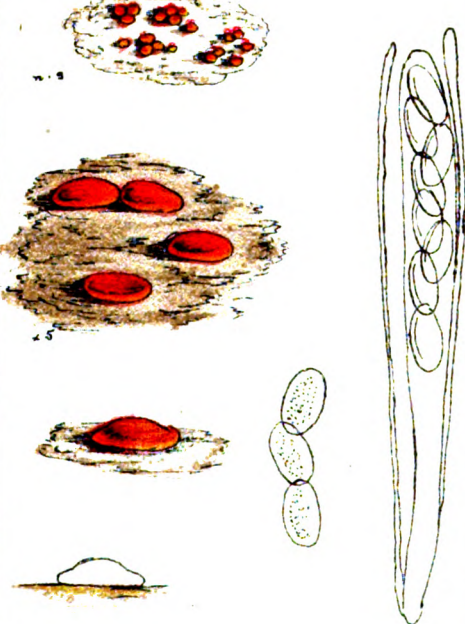
P. semi immersa. K.

47



P. occardii. K.

48



P. salmonicolor. B & Fr.

PEZIZA. (HUMARIA.)

Peziza (Humaria) astroidea. Hazs.

PLATE 13.—Fig. 49.

Sessilis, sparsa, albomarginata, glabra, coccinea. Cupula hemispherica, concava, margine reflexo, astroidea-lacerato, albido. Ascis cylindraceis. Sporidiis sphæroideis, lævibus.

Peziza astroidea, Hazslinszky, in litt. *Grevillea* iv. fig. 239.

Amongst moss.

Hungary.

Cups 1 m.m. broad. Sporidia .01 m.m. diam.

The specimens figured were communicated by Professor F. Hazslinszky of Eperies. The species resembles *P. Crouani* in external features and habit, but the fruit differs in the sporidia being smaller, and quite smooth.

Peziza (Humaria) Polytrichi. Schum.

PLATE 13.—Fig. 50.

Subsessilis, orbicularis, concavinscula, cinnabarina, extus diluitor, flocculis aciculatis obsita. Ascis cylindraceis. Sporidiis globosis, lævibus.

Peziza Polytrichi, Schum. Saell. p. 423; Fl. Dan. t. 1916, f. 1; Fr. Sys. Myc. ii. 70 (non Karsten nec Nylander).

Peziza leucoloma, Karst. Myc. Fenn. 63 (?)

On the ground amongst *Polytrichum*. Aut.

Denmark, Finland, Great Britain, Scandinavia.

Cups 3-5 m.m. broad. Sporidia .011-.013 m.m.

This accords with the opinion expressed by Messrs. Berkeley and Broome in Ann. Nat. Hist.

Peziza (Humaria) asperior. Nyl.

PLATE 13.—Fig. 51.

Sparsa, miniato-fulvescentia, applanata, extus pilis fusciscentibus brevibus obsessa. Ascis cylindraceutis. Sporidiis sphæroideis, vel subsphæroideis, episporio papilloso exasperato.

Peziza asperior, Nyl. Obs. Pez. p. 21; Karst. Mon. Pez. 128; *Grevillea* iii. fig. 216; Karst. Myc. Fenn. 75 (sine syn.).

On moist earth. July. Oct.

Lapland, Finland, Austria.

Cups 2-4 m.m. broad. Sporidia .02-.022 m.m. diam.

The specimens figured are from Dr. Rehm, on whose authority they are referred to this species, which clearly belongs to the present section, the hairs being too fugacious to secure a place in *Sarcoscypha*. The fruit, moreover, indicates affinity with some of the species with which it is here associated. Karsten gives as synonyms undoubted species of *Sarcoscypha* as *P. hirta*, *P. trechispora*, which are very different from the species here figured. It is with some hesitation that I accept Dr. Rehm's determination.

EXSICCATI.—Rehm. Ascomy. No. 3.

Peziza (Humaria) hinnulea. B. & Br.

PLATE 13.—Fig. 52.

Sessilis, flexuosa, marginata, carnosoceracea, badia, margine fimbriato. Ascis cylindraceutis, sporidiis globosis, lævibus, nucleo globoso magno. Paraphysibus apicem versus incrassatis.

Peziza hinnulea, Berk. & Br. Ann. Nat. Hist. No. 1320*; *Grevillea* ii. p. 129, 154.
Peziza psammophila, Berk. & Curt. ined.

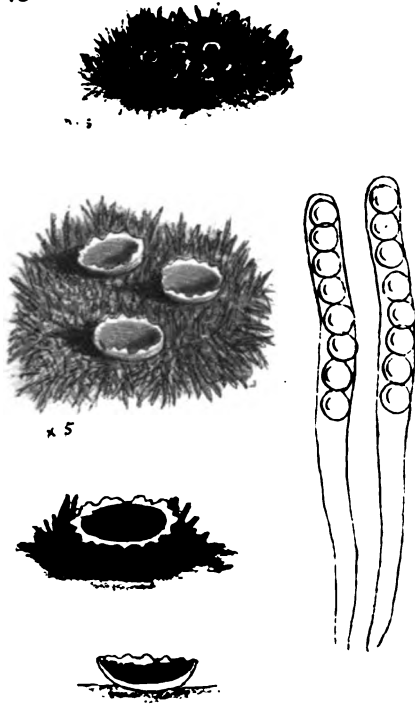
On the ground.

Great Britain, North America (U.S.).

Cups 1 c.m. broad. Sporidia .012-.014 m.m. diam.

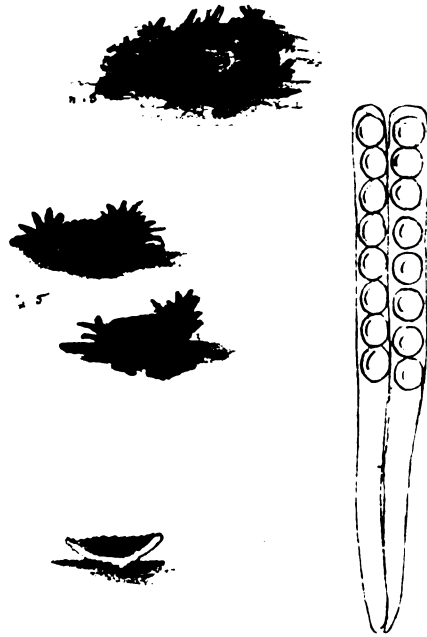
The sporidia are scarcely distinguishable from those of *P. schizospora*, and the size and colour of the cups are very similar, but the external cells of the cup are very different, approximating to *Sarcoscypha*, to which section indeed it has sometimes been referred. The specimens figured are from the herbarium of the Rev. M. J. Berkeley.

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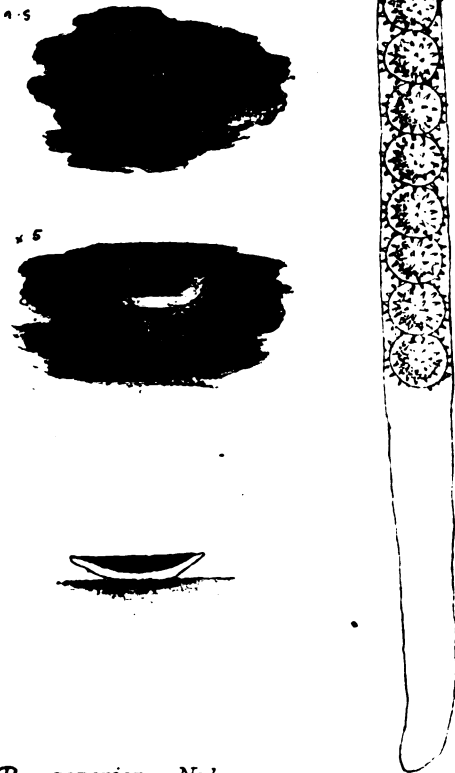
P. astroidea. Hazs.

50



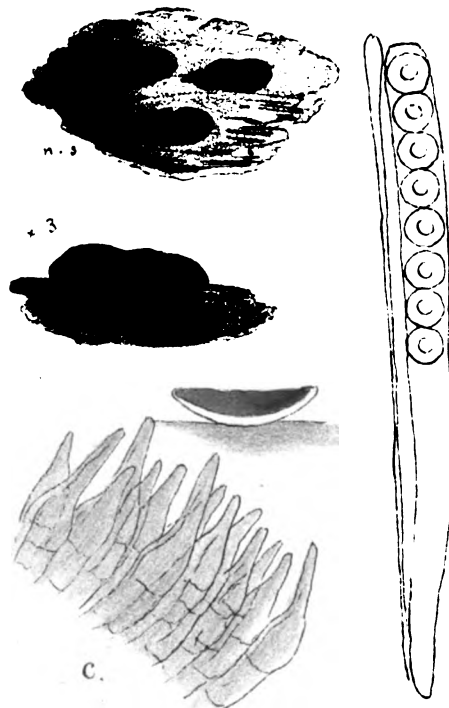
P. Polytrichi. Sch.

51



P. asperior. Nyl.

52



P. hinnulea. B & Br

PEZIZA. (HUMARIA)

Peziza (Humaria) vivida. Nyl.

PLATE 14.—Fig. 53.

Substipitatis, sparsa vel gregaria, carnosae, cupuliformis, subprofunde excavata, rubro-fuscescens, extus pallidior, flocculosa, margine integerrimo acuta. Ascis cylindraceo-clavatis. Sporidiis ellipticis, subtilissime granulatis.

Peziza vivida, Nyl. in Flora, 1865, p. 467. Nyl. Obs. Pez., p. 22. Gonn. & Rabh. Myc. Eur. iii. t. 4, f. 3. Grevillea iii. fig. 80, p. 120.

Peziza Polytrichi, Rabh. Herb. Myc. ii. 310.

Amongst moss.

Great Britain, France.

Cups 5 m.m. broad. Sporidia $\cdot 023 \times \cdot 012$ m.m.

Figured from specimens published in Rabenhorst's Herb. Mycol. ii. 310. A specimen from Mougeot is in the Edinburgh University Herbarium under the name of *Peziza leucoloma*.

EXSICCATI.—Rabh. H. M. ii. 310.

Peziza (Humaria) araneosa. Bull.

PLATE 14.—Fig. 54.

Substipitatis. Cupula explanata, repanda, utrinque aurantio-miniata, subtus fibrillis intricatis operata. Stipite brevi, firmo. Ascis cylindraceis. Sporidiis ellipsoideis.

Peziza araneosa, Bulliard Champ. t. 280; Fries Sys. Myc. ii. 69; Grevillea iii. fig. 203.

Peziza rubra, Peck. in Report New York Museum.

Leucoloma araneosa, Fckl. Sym. Myc. App. i. 50.

On the ground.

France, Germany, North America (U.S.).

Cups 5 m.m. broad. Sporidia $\cdot 014 \times \cdot 007$ m.m.

Figured from Fuckel's specimens, with which an authentic specimen of *Peziza rubra*, Peck, has been compared and fully accords.

EXSICCATI.—Fckl. F. R. 2389.

Peziza (Humaria) Sowerbei. Cooke.

PLATE 15.—Fig. 55.

Substipitatis, sparsa, aurantio-miniata, extus pallidior subfibrillosis. Stipite brevi, attenuati. Ascis cylindraceutis. Sporidiis ellipticis.

Peziza araneosa, Sow. Fung. t. 365, fig. 5; *Grevillea* iii. fig. 64.

On bark and wood, amongst moss.

Great Britain.

Cups 5 m.m. broad. Sporidia $\cdot 008\text{-}009 \times \cdot 004$ m.m.

It is generally admitted that the *P. araneosa*, Sowerby, is not identical with the *P. araneosa*, Bulliard.

The figures here given are from specimens communicated by Mr. C. E. Broome, and are identical with those published by him in Rabenhorst's *Fungi Europæa*. Karsten is clearly wrong in referring it to *Helotium subulenticulare*, Fries.

EXSICCATI.—Rabh. F. E. 30.

Peziza (Humaria) ollaris. Fries.

PLATE 14.—Fig. 56.

Sessilis, conferta, ex hemispherico explanata, marginem versus albidopubescentia, hymenio aurantiaco-luteo, extus dilutior. Ascis cylindraceutis. Sporidiis ellipsoideis, uniguttulatis. Paraphysibus apicem versus incrassatis.

Peziza ollaris, Fries Sys. Myc. ii. 68; *Grevillea* iii. fig. 79.

On the ground amongst mosses.

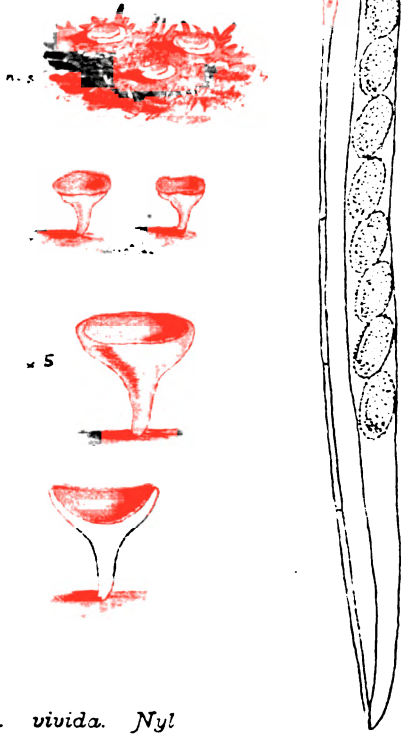
Germany, Austria, Scandinavia, North America (U.S.).

Cups 1 c.m. broad. Sporidia $\cdot 028\text{-}03 \times \cdot 008$ m.m.

It seems to be a most singular infatuation which has led Karsten to unite *P. ollaris*, Fr., with *P. aurantia*, Pers. (Myc. Fenn. p. 43.)

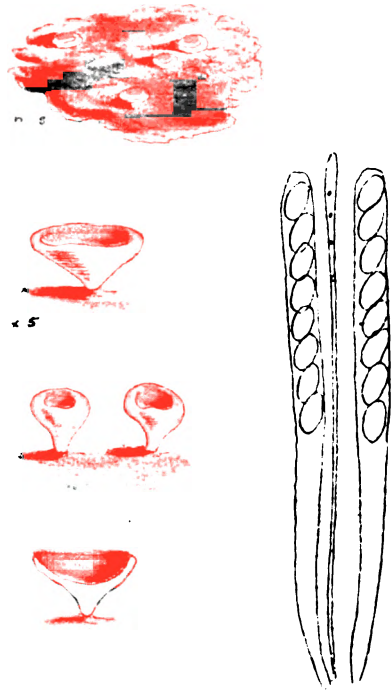
EXSICCATI.—Rabh. H. M. 423.

53



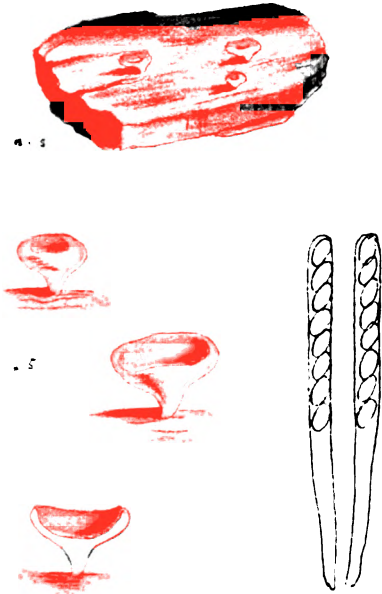
P. vivida. Nyl

54



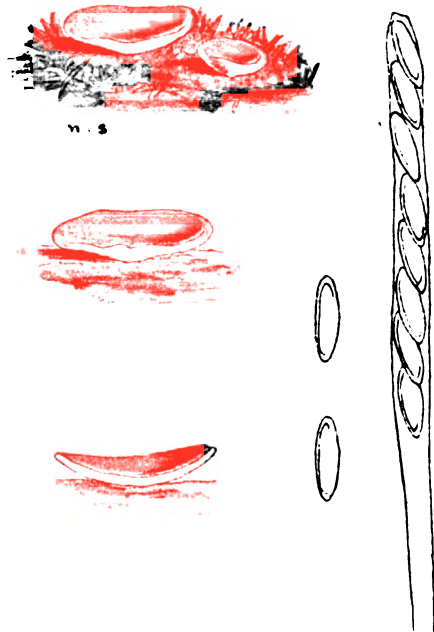
P. araneosa. Bull.

55



P. Sowerbei. C.

56



P. ollaris. Fr.

Peziza (Humaria) rutilans. Fries.

PLATE 15.—Fig. 57.

Subsessilis, e campanulato explanata, extus subtiliter pubescens, pallida, disco aurantio-rubro. Ascis cylindraceutis. Sporidiis ellipticis.

Peziza rutilans, Fries Sys. Myc. ii. 68; Cooke Handbook, No. 1994; Grevillea iii. fig. 74; Karst. Myc. Fenn. 45.

Leucoloma rutilans, Fckl. Sym. Myc. 318.

Amongst mosses.

Great Britain, Scandinavia, France, Germany, Denmark, Russia, Austria, Australia, North America (U.S.).

Cups $\frac{1}{4}$ to $\frac{1}{2}$ inch broad. Sporidia $.026 \times .011$ m.m.

Figured from specimens published in "Fungi Britannici."

EXSICCATI.—Cooke F. B. i. 475, ii. 188; Fckl. F.R. 1222; Phillips E.B. 15.

Peziza (Humaria) bella. B. & C.

PLATE 15.—Fig. 58.

Sparsa, sessilis, aurantiaca, subplana, leniter marginata. Ascis cylindraceutis. Sporidiis ellipticis, lævibus, utrinque angustatis. Paraphysibus linearibus, guttulatis.

Peziza bella, Berk. & Curt. in Journ. Linn. Soc. x. 366.

On rotten wood.

Cuba.

Cups 1 c.m. broad. Sporidia $.03-.034 \times .012-.014$ m.m., apparently not more than four sporidia matured in an ascus.

Peziza ruberrima, B. & Br. in Journ. Linn. Soc. xiv. p. 104, on dead wood from Ceylon, appears to be doubtful.

Peziza (Humaria) granulata. Bull.

PLATE 15.—Fig. 59.

Sessilis, planiuscula; granulato-rugosa, fulvo-aurantiaca. Ascis subcylindraceis. Sporidiis ellipsoideis.

Peziza granulata, Bulliard Champ. p. 258, t. 433, fig. 3; Fries Sys. Myc. ii. 67. Karst. Pez. Mon. p. 118; Nyl. Obs. Pez. p. 17; Cooke Handbook, No. 2005; Grevillea iii. fig. 65.

Peziza scabra, Fl. Dan. t. 655, f. 2.

Ascobolus granulatus, Fckl. Sym. Myc. 287.

On cow dung.

Great Britain, France, Germany, Scandinavia, Finland, Switzerland, Russia, Belgium, North America (U.S.), Ceylon.

Cups 1-3 m.m. or more. Sporidia $\cdot 02 \times \cdot 01$ m.m.

Peziza subgranulata, B. & C. in Journ. Linn. Soc. x. 366, is an allied species on dung, from Cuba, of which I have been unable at present to see a specimen.

EXSICCATI.—Desm. C. F. i. 270; Rabh. F. E. 724; Phillips E. B. 16; Karst. F. F. 255; Fckl. F. R. 1876; Thumen M. U. 123.

Peziza (Humaria) exidiiformis. B. & Br.

PLATE 15.—Fig. 60.

Gregaria, orbicularis, luride purpurea; margineeelevato, inflexo; stipite sursum incrassato. Ascis cylindraceis. Sporidiis late ellipticis, binucleatis. Hymenio cribroso.

Peziza exidiiformis, Berk. & Br. Ann. Nat. Hist. No. 1480; Grevillea iii. 120.

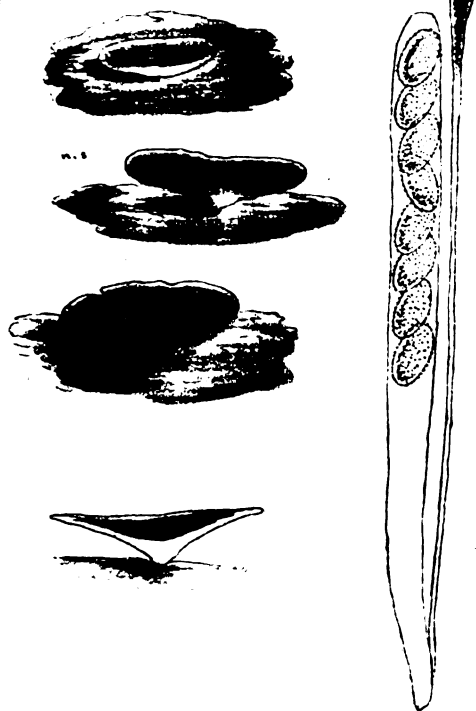
On silver sand, and rotten wood. March.

Great Britain.

Cups 4-5 m.m. broad or more, contracting much when dry. Sporidia $\cdot 017 \times \cdot 01$ m.m.

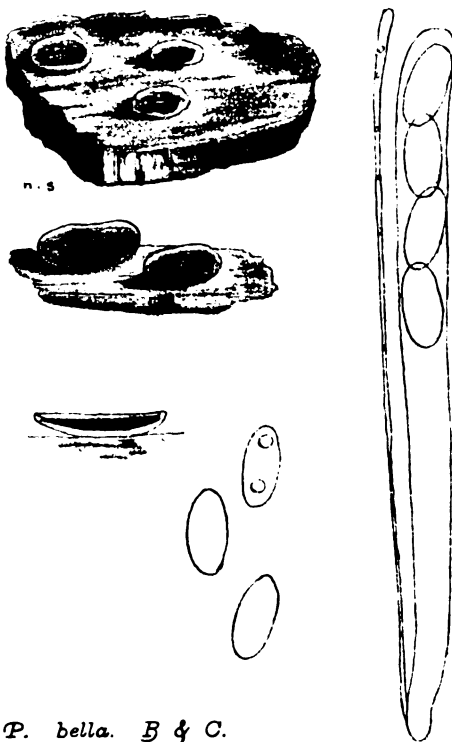
The figures are from specimens kindly communicated by the Rev. M. J. Berkeley.

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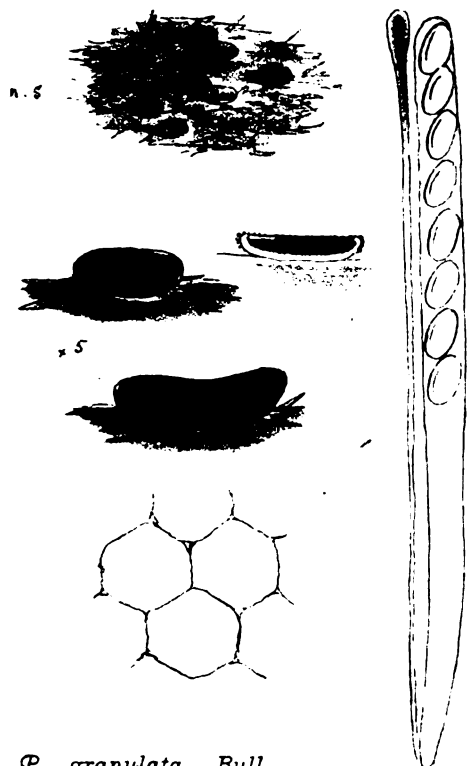
P. rutilans. Fr.

58



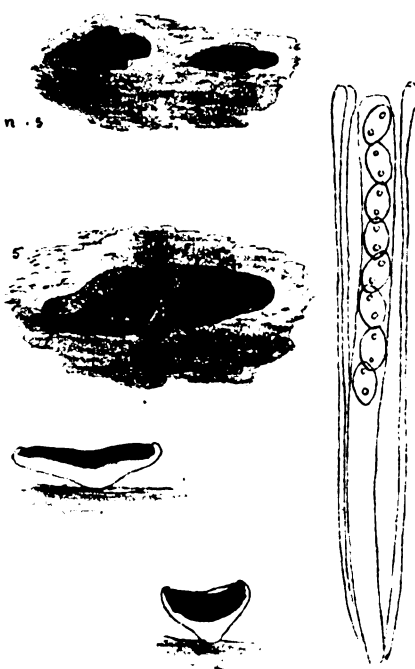
P. bella. B & C.

59



P. granulata. Bull.

60



P. exidiiformis. B & Br.

PEZIZA. (HUMARIA.)

Peziza (Humaria) ustorum. B. & Br.

PLATE 16.—Fig. 61.

Sparsa, sessilis. Cupulis concavis, extus fuscis, rugulosis; hymenio coccineo. Ascis cylindraceutis. Sporidiis ellipticis, obtusissimis, uni-vel binucleatis. Paraphysibus apicem versus incrassatis, granulatis.

Peziza ustorum, Berk. & Br. in Journ. Linn. Soc. xiv. p. 105.

On burnt earth.

Ceylon.

Cups 1 m.m. broad. Sporidia $\cdot 015\text{--}\cdot 017 \times \cdot 008\text{--}\cdot 009$ m.m.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Humaria) chateri. Smith.

PLATE 16.—Fig. 62.

Subgregaria, sessilis, concava, demum expansa, intus aurantio-rubra, extus pallide brunnea; margine incurvo. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis, asperatis. Paraphysibus apicem versus incrassatis.

Peziza Chateri, Smith Gard. Chron. 1872, cum icone; Grevillea i. p. 120, t. viii. fig. 1-2, iii. fig. 68.

On the ground.

Great Britain.

Cups 3-12 m.m. broad. Sporidia $\cdot 012 \times \cdot 005$ m.m.

The specimens figured were from the herbarium of Mr. C. E. Broome, of Bath-easton, and are identical with specimens from Mr. W. G. Smith, and those published in *Fungi Europæa*. The cells of the cup are peculiar, but not so formal as figured in *Gardener's Chronicle*.

EXSICCATI.—Rabh. F. E. 1517.

***Peziza (Humaria) macrocystis.* Cooke.**

PLATE 16.—Fig. 63.

Gregaria vel sparsa, cupulæforma, dein applanata. Cupula extus brunnea, glabra, vel leniter granulosa; hymenio concavo, aurantio-rubro; margine integro, elevato. Ascis cylindraceutis. Sporidiis arcte ellipsoideis, binucleatis. Paraphysibus apicem versus clavatis, granulis aurantiacis repletis.

Peziza subhirsuta var. *macrocystis*, Cooke in Grevillea i. 129.

On the ground.

Great Britain.

Cups 2-4 m.m. broad. Sporidia $\cdot 02 \times \cdot 009$ m.m.

The large cells of the cup are absent in *Peziza subhirsuta*, to which this species is allied. There are also other points of difference sufficient to warrant its recognition as a distinct species.

***Peziza (Humaria) Thumeni.* Karst.**

PLATE 16.—Fig. 64.

Confertissima, sessilis, subiculo denso albo vel albido insidentia, primitus obconoidea pallidaque, mox explanata et flava, glabra. Ascis cylindraceutis. Sporidiis ellipsoideis, vel sublanceolatis.

Peziza Thumeni, Karsten, in Thumen Mycologia Universalis, No. 126.

Amongst moss, twigs, &c. Winter.

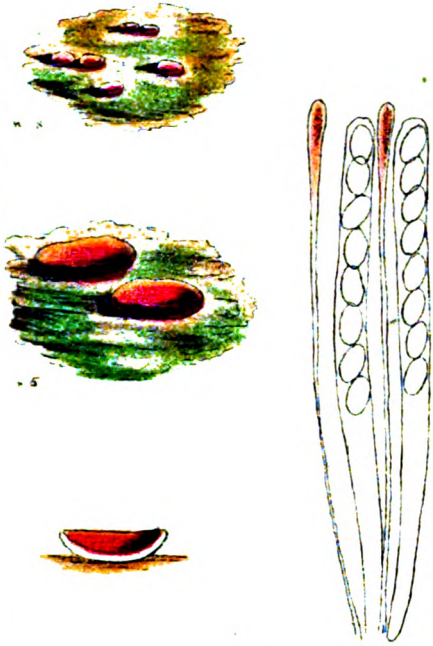
Finland.

Cups $\frac{1}{2}$ -1 m.m. broad. Sporidia $\cdot 022\text{-}\cdot 024 \times \cdot 008\text{-}\cdot 01$ m.m.

Allied to *P. omphalodes*, but distinguished by the profuse subiculum and other features.

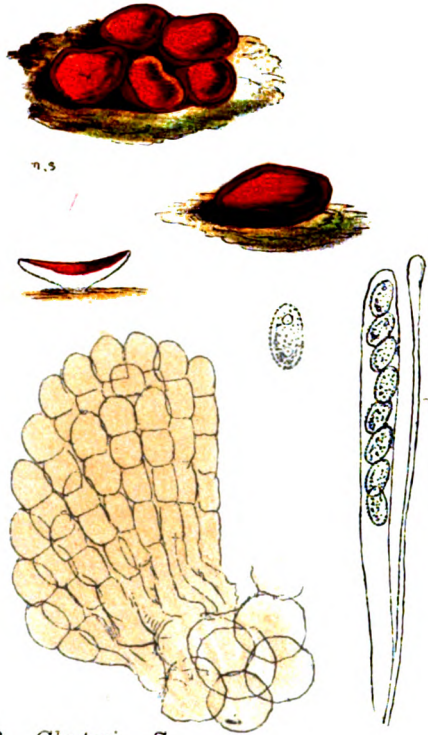
EXSICCATI.—Thumen, M. U. 126.

61



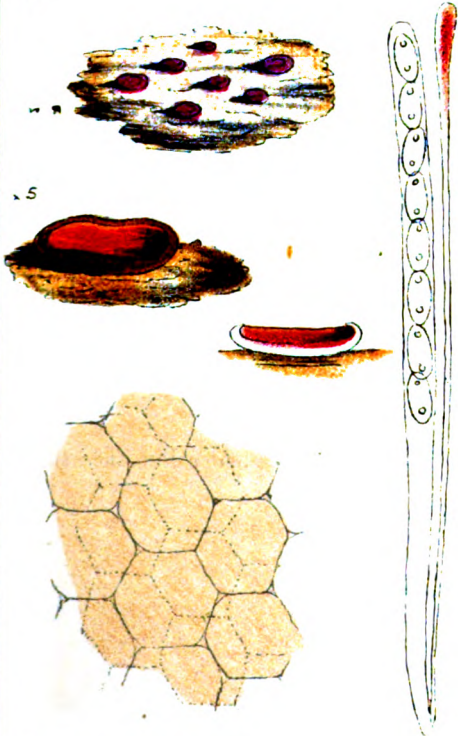
P. ustorum. B.

62



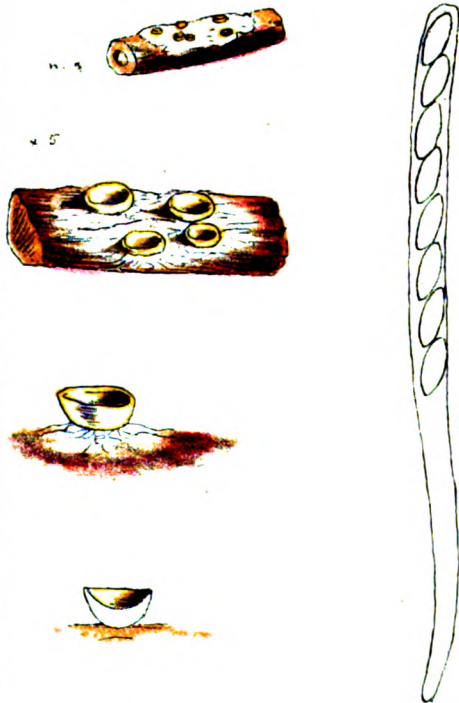
P. Chateri. S.

63



P. macrocystis. C.

64



P. Thumeri. K.

Peziza (Humaria) omphalodes. Bull.

PLATE 17.—Fig. 65.

Sessilis, conferta, sæpius confluentia, convexiuscula vel planiuscula, aurantiaco-rubella, vel aurantiaco-lutescentia, tomento albo fugaci insidentia. Ascis subcylindraceis. Sporidiis ellipsoideis.

Peziza omphalodes, Bulliard Champ. p. 264; Fries Sys. Myc. ii. 73; Karst. Mon. Pez. 120; Cooke Handbook, No. 2004; Grevillea iii. fig. 50.

Pyronema omphalodes, Fckl. Sym. Myc. 319.

Pyronema Marianum, Carus Nov. Act. N. C. xvii. 370.

Pyronema confuens, Tulasne, Carp. iii. 197.

On charcoal, burnt earth, &c.

Great Britain, France, Germany, Finland, Belgium, Russia, Italy, Austria, North America (U.S.).

Cups 1 m.m. broad. Sporidia $\cdot 012 \times \cdot 005\text{--}\cdot 006$ m.m.

Probably *Peziza aurantio rubra*, Fckl. Sym. Myc. 319, cannot be specifically separated from this. I have seen no specimen. The sporidia are reported to be smaller.

EXSICCATI.—Karst. F. F. 256; Rabh. F. E. 267. 708; Saccardo, M. V. 268; Desm. C. F. i. 428; Fckl. F. R. 1218; Cooke F. B. 326.

Peziza (Humaria) subhirsuta. Schum.

PLATE 17.—Fig. 66.

Sessilis, gregaria, planiuscula, aurantiaco-lutea, extus pallidiora, pilis albidis brevibus raris vel obsoletis obsita. Ascis subcylindraceis. Sporidiis ellipsoideis. Paraphysibus sursum leviter incrassatis.

Peziza subhirsuta, Schum. Flor. Dan. t. 1787, f. 2; Fries Sys. Myc. ii.; Karst. Pez. Mon. p. 123; Nyl. Obs. Pez. p. 17; Cooke Handbook, No. 1999; Grevillea iii. fig. 52.

Pyronema subhirsutum, Fckl. Sym. Myc. 320.

On the ground in damp places.

Great Britain, France, Germany, Scandinavia, Denmark, Finland, Austria.

Cups 2-4 m.m. broad. Sporidia $\cdot 018\text{--}\cdot 02 \times \cdot 01$ m.m.

Figured from Desmazieres' specimens.

EXSICCATI.—Desm. C. F. i. 462; Fckl. F. R. 1220.

Peziza (Humaria) melaloma. A. & S.

PLATE 17.—Fig. 67.

Sessilis, conferta, primo concava, dein planiuscula, orbicularia vel flexuosa, testaceo-aurantiaca, sicca testacea, margine pilis atris subtilissimis obsita. Ascis subcylindraceutis. Sporidiis ellipsoideis, plerumque uniguttulatis. Paraphysibus apicem versus incrassatis.

Peziza melaloma, Alb. & Schw. Consp. p. 336, t. 2, fig. 5; Fries Sys. Myc. ii.; Karst. Mon. Pez. p. 123; Nyl. Obs. Pez. 16; Cooke Handbook, No. 1995; Grevillea iii. fig. 53.

Pyronema melalomum, Fckl. Sym. Myc. 319.

On the ground and burnt wood.

Great Britain, France, Germany, Finland, Austria, Scandinavia, Ceylon, North America (U.S.).

Cups 4 m.m. broad. Sporidia $\cdot 015\text{--}\cdot 018 \times \cdot 01$ m.m.
The figures are from specimens published by Rabenhorst.

EXSICCATI.—Karst. F. F. 550; Rabh. F. E. 723; Fckl. F. R. 1221.

Peziza Franzoniana. De Not.

PLATE 17.—Fig. 68.

Gregaria, discreta, vel contigua, madore turgida, hemispherica, e puniceo carnea, tenerrima. Ascii cylindraceuto-clavatis. Sporidiis ellipsoideis, hyalinis. Paraphysibus filiformibus, plasmate dilute roseolo repletis.

Peziza Franzoniana, Grevillea iii. fig. 51.

Pyronema Franzonianum, De Not. Schema, pp. 12.

On pasteboard.

Italy.

Cups 1 m.m. broad. Sporidia $\cdot 014 \times \cdot 0075$ m.m.
Included by Karsten as a variety of *Peziza omphalodes*, to which it can scarcely be referred.

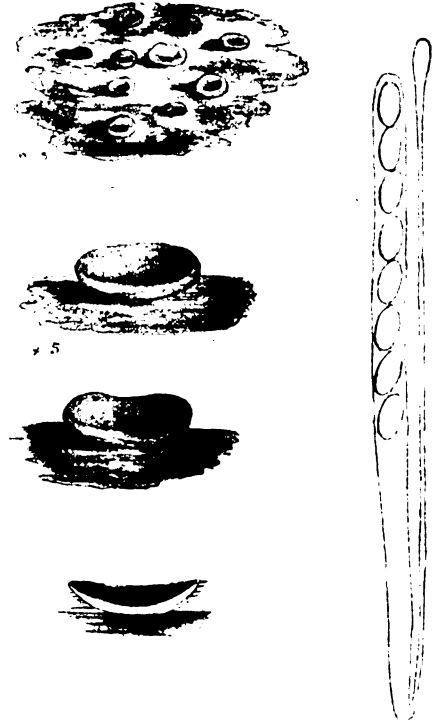
EXSICCATI.—Erb. Critt. Ital. No. 184.

65



P. omphalodes. Bull.

66



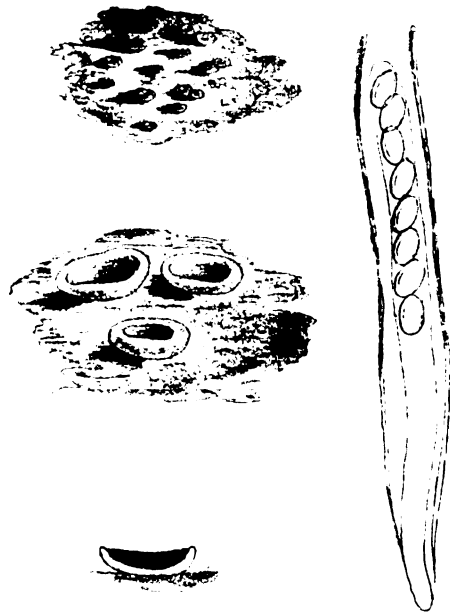
P. subhirsuta. Sch

67



P. melaloma. A & S.

68



P. Franzoniana. F.

Peziza (Humaria) deformis. Karst.

PLATE 18.—Fig. 69.

Sessilis, conferta, subinde confluentia, planiuscula, concava, vel subumbilicata, multiformia, subaurantiaco-pallida vel lutescentia. Ascis cylindraceis. Sporidiis ellipsoideis, uniguttulatis. Paraphysibus apice clavato-incrassatis.

Peziza deformis, Karst.; Mon. Pez. 119; Grevillea iii. fig. 69.

On clay soil. July.

Finland.

Cups 1 m.m. broad. Sporidia $\cdot 013\text{--}015 \times \cdot 0075$ m.m.

EXSICCATI.—Karst. F. F. 628.

Peziza (Humaria) hæmastigma. Hedw.

PLATE 18.—Fig. 70.

Sessilis, convexa, immarginata, glabra, dilute sanguinea. Ascis cylindraceo-clavatis vel clavatis. Sporidiis ellipticis, lævibus.

Peziza hæmastigma, Fries Sys. Myc. ii. 74; Cooke Handbook, No. 2008; Grevillea iii. fig. 78.

Octospora hæmastigma, Hedw. Musc. Frond. t. 5. f. B.

On whitewashed walls.

Great Britain, Germany, Russia.

Cups $\frac{1}{2}$ m.m. broad. Sporidia $\cdot 02 \times \cdot 01$ m.m.

Figured from specimens communicated by Mr. C. E. Broome.

Peziza (Humaria) rubricosa. Fries.

PLATE 18.—Fig. 71.

Sessilis, gregaria, planiuscula, rufa, extus dilutior, marginem versus tenuissimo pubescens. Ascis subcylindraceutis. Sporidiis ellipsoideis, binucleatis.

Peziza rubricosa, Fries Sys. Myc. ii. p. 72; Cooke in Grevillea iii. fig. 76.

Peziza rufa, Fries Obs. ii. 307.

Leucoloma rubricosa, Fekl. Sym. Myc. 318.

On the ground. Autumn.

Scandinavia, Austria, Germany, North America (U.S.).

Cups 3-5 m.m. broad. Sporidia $\cdot 026 \times \cdot 009$ m.m.

The figures are from specimens published by Dr. Rehm; whether or no identical with the species described by Fries is uncertain. It seems to accord with Fuckel's species.

EXSICCATI.—Rehm. Asc. 203.

Peziza (Humaria) scatigena. B. & C.

PLATE 18.—Fig. 72.

Sparsa, sessilis, hemispherica, atrovinosa, recens subviridis, extus farinosa, alba, margine inflexo. Ascis ellipticis. Sporidiis biseriatis, ellipticis, lævibus.

Peziza scatigena, Berk. & Curt. in Journ. Linn. Soc. x. 366.

On dung. October.

Cuba.

Cups 5-7 m.m. broad. Sporidia $\cdot 023-025 \times \cdot 012$ m.m.

In some instances *Peziza Wrightii* is mixed with this species in Wright's specimens. The material was not sufficient to determine satisfactorily whether this is not in reality an *Ascobolus*. It has close relations with *Peziza fimiputris*, Fr., of which species the fruit appears to be unknown.

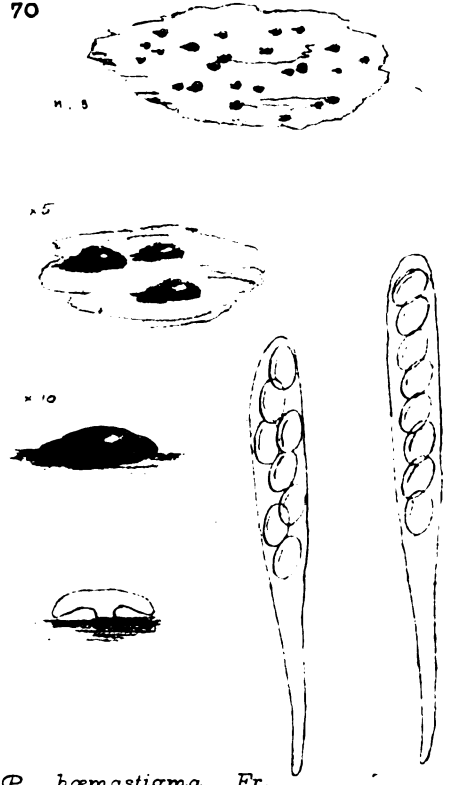
EXSICCATI.—Wright, Cub. No. 667 (in part).

69



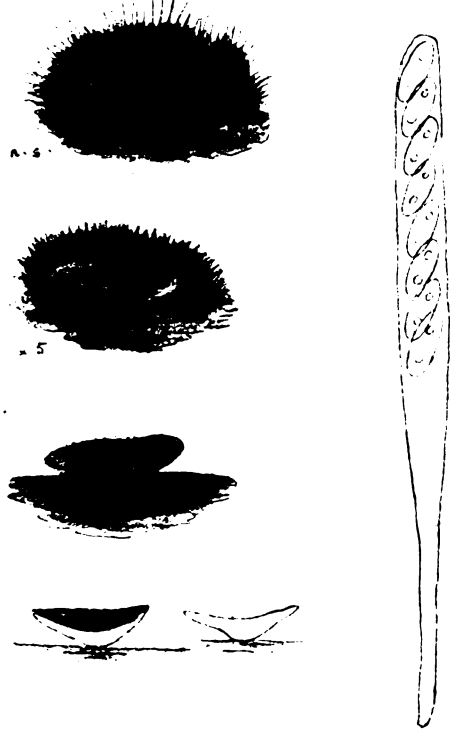
P. deformis. K.

70



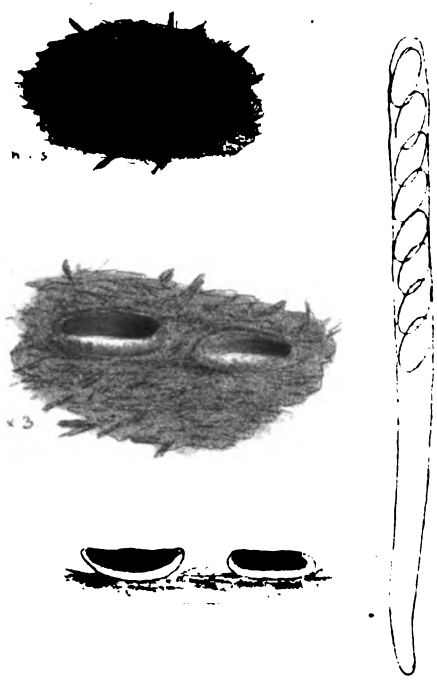
P. haemastigma. Fr.

71



P. rubricosa. Fr.

72



P. scatigena. B.

PEZIZA. (HUMARIA.)

Peziza (Humaria) canina. Karst.

PLATE 19.—Fig. 73.

Sessilis, concava, demum expansa, crassula, firmula, rufescentia, subflocculosa-furfuracea; hymenio sicco fusco-nigricante. Ascis subcylindraceis. Sporidiis ellipsoideis, hyalinis, plerumque uniguttulatis. Paraphysibus apice paullo incrassatis, et fusciscenti-luteolis.

Peziza canina, Karst. *Pez. Asc.* p. 9; *Mon. Pez. Fenn.* 118; Cooke in *Grevillea* iii. fig. 63.

On dogs' dung. May. Sept.

Lapland, Finland.

Cups 1-2 m.m. broad. Sporidia $\cdot 012 \times \cdot 006$ - $\cdot 008$ m.m.
Figured from specimens published by Karsten.

EXSICCATI.—Karst. F. F. 634.

Peziza (Humaria) canina, var. nobilis. Karst.

PLATE 19.—Fig. 74.

Differens a typo cupula paullo majori, colore lætiore, nec non loco natali.

Peziza nobilis, Karst. *Fung. Fenn.* p. 635; *Grevillea* iii. fig. 63.

Peziza subfurfuracea, Nyl. *Obs. Pez.* p. 51.

On human ordure.

Finland.

This variety is considerably larger than the typical form, cups 5-10 m.m. broad, brighter in colour, but agreeing in internal structure, and in form and size of sporidia, which are $\cdot 013 \times \cdot 006$ - $\cdot 007$ m.m.

EXSICCATI.—Karst. F. F. No. 635.

Peziza (Humaria) leporum. Fckl.

PLATE 19.—Fig. 75.

Substipitata, persistenter concava, subtus rugosa, ut vix granulosa, opacius rubra, sordide purpurascens. Ascis stipitatis, cylindraceis. Sporidiis ovatis, nucleatis. Episporio crasso, lævi, dilute flavo, paraphysibus ramosis, ramis apice globuliforme incrassatis.

Peziza leporum, Fckl. Fung. Rhen. 1877; Grevillea iii. fig. 201.

Peziza granulata, $\beta\beta$. Alb. & Schw. Consp. 337.

Ascobolus leporum, Fckl. Sym. Myc. p. 288.

On hares' dung.

Germany.

Cups 2-3 m.m. broad. Sporidia $\cdot 01$ $\cdot 006$ m.m. to $\cdot 013 \times \cdot 009$ m.m. diam.

EXSICCATI.—Fckl. F. R. 1877.

Peziza (Humaria) murina. Fckl.

PLATE 19.—Fig. 76.

Aggregata, carnosae, pallide rufa, plana, in stipitem brevem crassum attenuata; margine crenulato, vix elevato, extus rugulosis, basi fibrillis repentibus fuscis cinctis. Ascis longissimis, cylindraceis, longitudinaliter plicatis, et demum quasi laceratis. Sporidiis globosis, episporio crasso, granuloso tuberculato, fusco.

Peziza murina, Fckl. Fungi Rhen. No. 1597; Grevillea iii. fig. 60.

Plicaria murina, Fckl. Sym. Myc. p. 326.

On dung of mice. Winter.

Germany.

Cups 1 m.m. broad. Sporidia $\cdot 01$ - $\cdot 012$ m.m. diameter.

Cells of the cup rather uniform, elongated hexagonal.

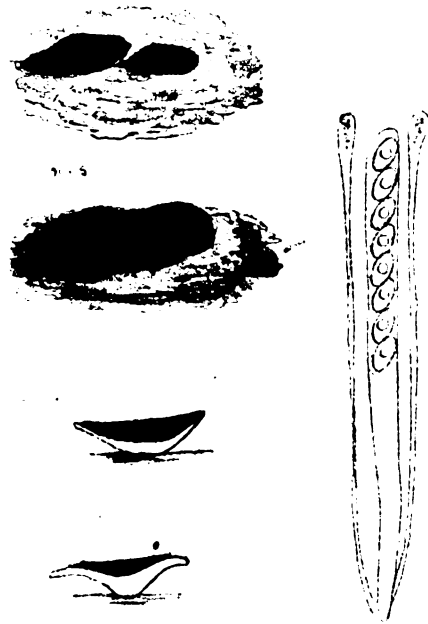
EXSICCATI.—Fckl. F.R. No. 1597.

73



P. canina K

74



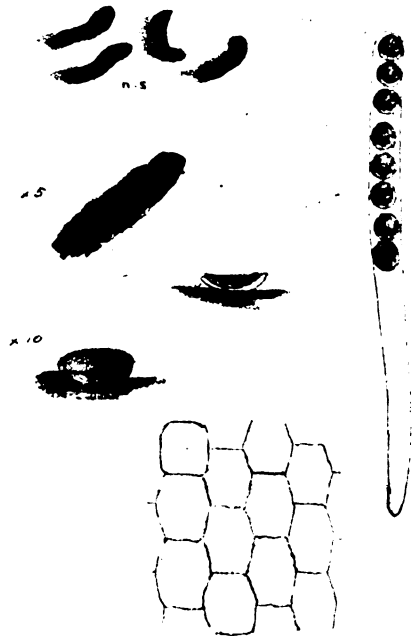
P. nobilis K.

75



P. leporum F.

76



P. murina Fl

PEZIZA. (HUMARIA.)

Peziza (Humaria) macrospora. Wallr.

PLATE 20.—Fig. 77.

Sessilis, carnosa, castaneo-nigricans, primum subglobosa, demum concaviuscula, marginata. Ascis cylindraceutis. Sporidiis elliptico-elongatis, un-nucleatis.

Peziza macrospora, Wallr. Flor. Germ. ii. 500; Grevillea iii. fig. 204.

Humaria macrospora, Fckl. Sym. Myc. 323.

On the ground.

Germany.

Cups 1 c.m. broad. Sporidia $\cdot 02 \times \cdot 01$ m.m.
Figured from specimens published by Fockel.

EXSICCATI.—Fockel. F. R. 1223.

Peziza (Humaria) brunneo-atra. Desm.

PLATE 20.—Fig. 78.

Sessilis, solitaria, majuscula, subplana, integra, carnosa, fragilis, glabra, brunneo-atra. Ascis maximis, cylindricis. Sporidiis ovatis, subhyalinis, leviter granulatis. Paraphysibus clavatis.

Peziza brunneoatra, Desm. Pl. Crypt. i. 826; Ann. des Sci. Nat. 1836, iii. 244; Cooke Handbook, No. 2006; Grevillea iii. fig. 67; Berk. & Br. Ann. Nat. Hist. No. 1157, t. 4, fig. 18.

On the naked soil. Spring.

Great Britain, France, Holland.

Cups 1 c.m. broad. Sporidia $\cdot 02 \times \cdot 01$ m.m.
Figured from specimens published by Desmazieres.

EXSICCATI.—Desm. C. F. i. 826, ii. 26.

Peziza (Humaria) spissa. Berk.

PLATE 20.—Fig. 79.

Subsessilis, irregularis, margine lobato; hymenio crasso, spadiceo; stipite brevissimo, candido. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis.

Peziza spissa, Berk. in Grevillea iii. 152; Bullet. Buff. Nat. Sci. 1875, p. 290.

On the ground.

North America (U.S.).

Cups 1-2 c.m. broad. Sporidia $\cdot 022\text{-}\cdot 024 \times \cdot 011$ m.m. Paraphyses cellular at the tips (fig. 79 p.).

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Humaria) schizospora. Ph.

PLATE 20.—Fig. 80.

Sessilis, gregaria, urceolata, dein applanata, rubra, demum brunnea, extus pruinosa. Ascis cylindraceutis. Sporidiis globosis, lævibus, uniguttulatis. Paraphysibus clavatis.

Peziza schizospora, Phillips, in Grevillea iii. f. 59.

On burnt or sandy soil.

Great Britain.

Cups 4-7 m.m. broad. Sporidia $\cdot 012$ m.m. diam., nucleus ejected when the epispore is ruptured.

The external cells of the cup distinguish this species from *Peziza hinnulea*, B. & Br., to which it has otherwise some resemblance.

The specimens figured were furnished by Mr. W. Phillips, of Shrewsbury.

77



n. s.



x



78



n. s.



P. macrospora. W

P. brunneo-atra. Ph.

79



n. s.



P. spissa. B.

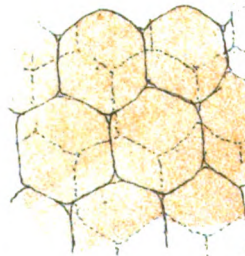
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x



P. schizospora. Ph.

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Peziza (Humaria) constellatio. B. & Br.

PLATE 21.—Fig. 81.

Sparsa, sessilis, subcarnosa, glabra, concava, demum applanata, miniata; margine integerrimo. Ascis cylindraceutis. Sporidiis globosis, lævibus. Paraphysibus linearibus, superne curvulis, granulis aurantiacis repletis.

Peziza humosa, Rehm Ascomyceten, No. 4, (nec Fries.)

Peziza constellatio, Berk. & Br. Annals Nat. Hist. Feb., 1876.

On the ground.

Great Britain, Italy, Bavaria.

Cups 1-2 m.m. broad. Sporidia ·013-·014 m.m. diam. Paraphyses curved at the tips. Between the sporidia of this form and of that published by Fuckel, almost every gradation of size may be met with, so that the range may be stated as from ·011 to ·018 m.m.; a very great diversity, but there are no other apparent differences.

Figured from specimens communicated by the Rev. M. J. Berkeley, and compared with specimens sent from Italy by Professor Saccardo, and those published by Dr. Rehm.

EXSICCATI.—Rehm Ascomy. No. 4.

Peziza (Humaria) constellatio. B. & Br.

var. Fuckelii.

PLATE 21.—Fig. 82.

Ascis cylindraceutis. Sporidiis magnis, sphæroideis. Paraphysibus filiformibus, superne curvatis, granulis aurantiacis repletis.

Crouania humosa, Fckl. Sym. Myc., p. 320.

On the ground.

Germany.

Cups 1-2 m.m. broad. Sporidia ·018 m.m. diam., otherwise not different from fig. 81, from which it can scarcely be specifically separated.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl F. R., 2290.

Peziza (Humaria) violascens. Cooke.

PLATE 21.—Fig. 83.

Subhemispherica, brunneo-violacea, ad basim albida, fibrillis pallidis radicularis obsessa, hymenio plano convexoque. Ascis cylindraceutis. Sporidiis globosis, uninucleatis, granulosis. Paraphysibus filiformibus.

Ascobolus Persoonii. Crouan, Flor. Finis, p. 56. Boudier, Mem. Asc. p. 67.

Amongst small mosses.

Great Britain. France.

Cups 5-7 m.m. broad. Sporidia .008-.009 m.m. diam. Paraphyses slightly curved at the tips.

Figured from specimens sent by W. Phillips, from the neighbourhood of Shrewsbury, which appear to be the species described by Crouan.

Peziza (Humaria) endocarpoides. Berk.

PLATE 21.—Fig. 84.

Sessilis, irregularis, badio-brunnea, concava, demum convexa, expansa, margine libero, extus leniter subflocculoso. Ascis cylindraceutis. Sporidiis globosis, uninucleatis, laevibus. Paraphysibus subclavatis.

Peziza endocarpoides. Berk. in Flor. Nov. Zeal. ii., 199, t. cv. f. 8.

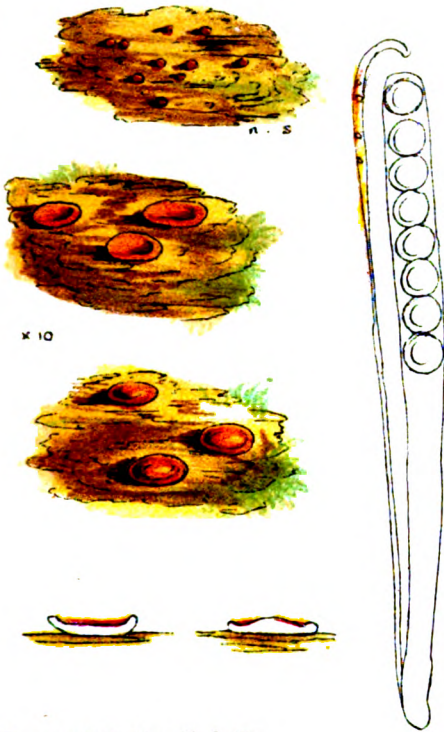
On the ground, amongst moss.

New Zealand.

Cups 1 c.m. broad. Sporidia .008 m.m. diam. The nuclei are not recognizable in dried specimens.

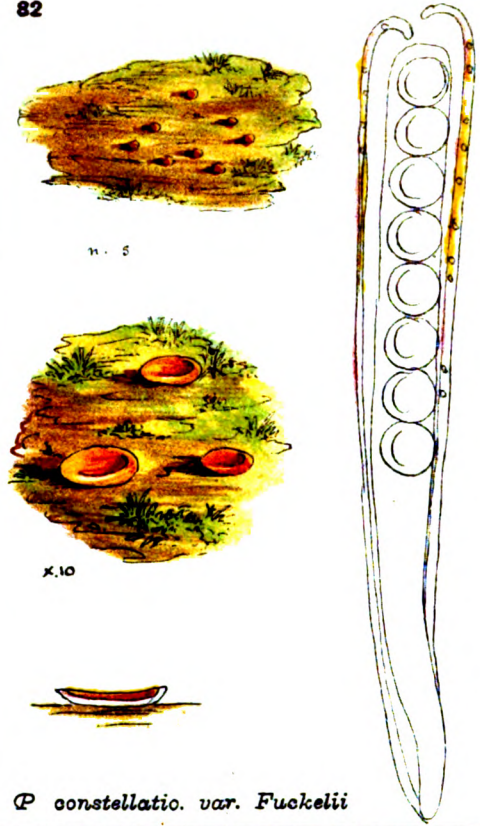
Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

81



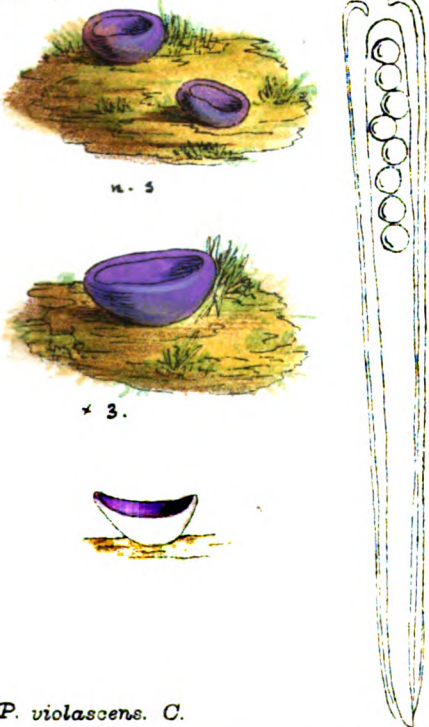
P. constellatio. B & Br

82



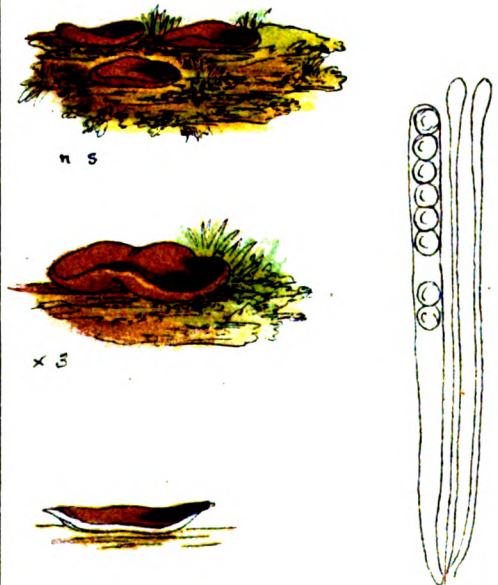
P. constellatio. var. *Fuckelii*

83



P. violascens. C.

84



P. endocarpoides B.

PEZIZA. (HUMARIA.)

Peziza (Humaria) hepatica. Batsch.

PLATE 22.—Fig. 85.

Gregaria, sessilis, concava, brunneo-vinosa, extus granulosa, margine triangulari-dentato. Ascis cylindraceis. Sporidiis ellipticis, lævibus. Paraphysibus septatis.

Peziza hepatica, Batsch. Elen. f. 138. Cooke Handbook, No. 2104. Berk. & Br. Ann. Nat. Hist. 1069, t. 15, f. 19.

On the ground, and rabbits' dung.

Great Britain. Germany.

Cups 2-4 m.m. broad. Sporidia $\cdot 026\text{-}\cdot 028 \times \cdot 012$ m.m. with a thick episore. Hitherto included in *Mollisia*, but more intimately allied with this subgenus.

Figured from specimens communicated by C. E. Broome.

EXSICCATI.—Cooke, F. B. i., 567. ii., 191. Rabh. F. E. 612. Phil. Elv. Britt. 81.

Peziza (Humaria) viridibrunnea. Ces.

PLATE 22.—Fig. 86.

Gregaria, sessilis, carnosula, cupulæforma, viridis, demum hymenio umbrino, convexo, margine oblitterati. Ascis cylindraceis. Sporidiis ellipticis, utrinque obtusis, nucleatis. Paraphysibus filiformibus.

Peziza viridibrunnea, Cesati, in Flora, 1855, p. 267.

On burnt earth.

Italy.

Cups 1-3 m.m. broad. Sporidia $\cdot 017 \times \cdot 01$ m.m. uninucleate. The cups are often densely aggregated and flexuous from mutual pressure. Scarcely to be distinguished from the soil when dry.

The figures are derived from Baron de Cesati's specimens as published in Rabenhorst's Herb. Mycol.

EXSICCATI.—Rabh. H. M., 1919.

Peziza (Humaria) Jungermanniæ. Nees.

PLATE 22.—Fig. 87.

Sparsa, sessilis, carnosâ, glabra, atro-viridis, plana, marginata. Ascis cylindraceo-clavatis. Sporidiis ellipticis, æruginosis. Paraphysibus apicem versus clavatis, æruginosis.

Peziza Jungermanniæ, Nees, in Fries Sys. Myc., ii., 144.

Pseudopeziza Jungermanniæ, Fekl. Symb. Myc., p. 291.

Ascobolus Jungermanniæ, Berk. and Br. Ann. Nat. Hist., 1082, t. 16, f. 23. Cooke Handbook, No. 2199.

Amongst *Jungermanniæ*.

Great Britain. Germany.

Cups 1-2 m.m. broad. Sporidia $\cdot 017 \times \cdot 009$ m.m. Paraphyses simple or branched, pyriform at the tips. This species has been referred to *Ascobolus*, and to the section *Mollisia* of *Peziza*, but its true position appears to be in *Humaria*.

EXSICCATI.—Cooke, F. B., i., 652. Rabh. F. E., 1115.

Peziza (Humaria) Phillipsi. Cooke.

PLATE 22.—Fig. 88.

Sessilis, sparsa, carnosâ, cupulæformis, demum expansa, extus fuliginea, exasperata, hymenio atrovinoso, plano, margine interdum crenulato. Ascis cylindraceis. Sporidiis ellipticis, utrinque attenuatis, verrucosis. Paraphysibus clavatis, septatis.

Ascobolus amethystinus. Phillips (pro parte) Grevillea, iv., p. 84.

On sandy ground.

Great Britain.

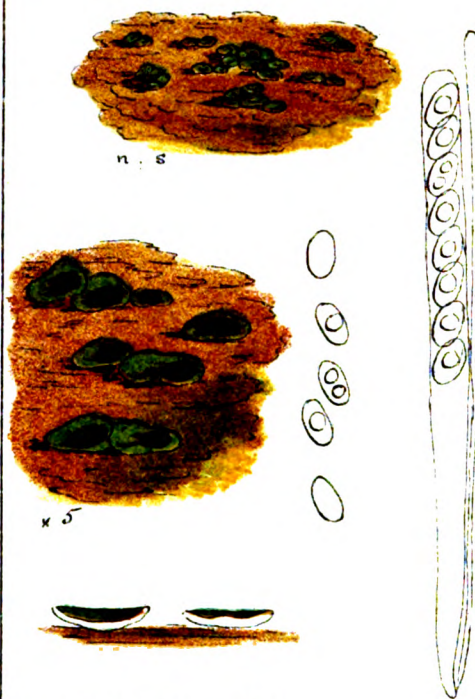
Cups 4-8 m.m. broad. Sporidia $\cdot 025 \times \cdot 011$ m.m. Found mixed with specimens of *Ascobolus amethystinus*, Ph. Communicated by W. Phillips, from the neighbourhood of Shrewsbury. It differs from that species in the deeper vinous disc, the intense amethystine colour of the gelatina hymenia, the cylindrical, and longer, indehiscent asci, larger and more fusiform sporidia, which are more coarsely warted and never coloured, in the shorter paraphyses, and other points, so that there is not the slightest ground for the supposition that one is any form or condition of the other, except in their growing together.

85



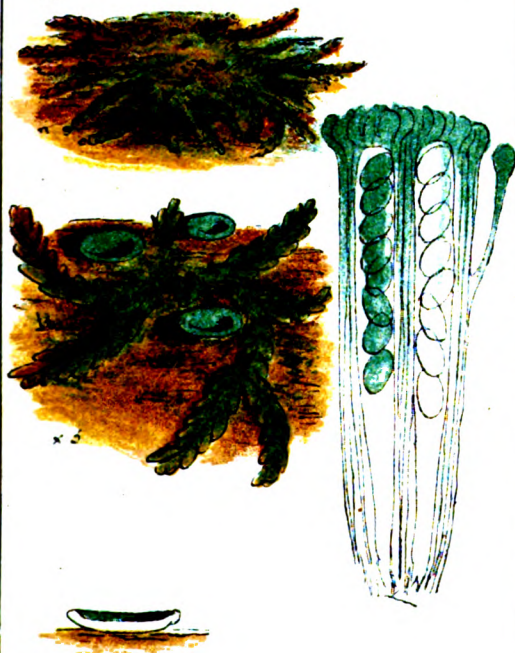
P. hepatica. B.

86



P. viridi-brunnea. Ces.

87



P. Jungermanniae N.

88



P. Phillipsii. C.

Peziza (Humaria) lechithina. Cooke.

PLATE 23.—Fig. 89.

Gregaria, sessilis, vitellina, hemispherica, dein applanata, demum convexula, margine angustis, distincto, crispato. Ascis cylindraceutis. Sporidiis ellipticis, lævis, hyalinis. Paraphysibus septatis, supra clavatis, granulis aurantiacis repletis.

Peziza lechithina, Cooke, in Grevillea, iv., p. 110.

On old trunk crossing a stream. Sept.

Great Britain.

Cups about 5 m.m. broad. Sporidia $\cdot 025 \times \cdot 012$ m.m. Collected in company with the Rev. J. E. Vize, near Forden. It can at once be recognized as wholly different from anything previously described. The cups were grouped on a spot five or six inches in length, and two or three inches broad, on a decorticated trunk, saturated with water, in contiguity to *Peziza scutellata*.

Peziza (Humaria) pluvialis. Cooke.

PLATE 23.—Fig. 90.

Gregaria, quandoque dense stipata, molliuscula, carnea, l. aurantiaco-carnea, mox applanata, convexula, tomento albo fugaci insidentia. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis, lævis. Paraphysibus filiformibus, numerosis, distinctis, granulatis.

On wall paper, and damp walls.

Great Britain. Summer.

Cups $\frac{1}{2}$ m.m. broad. Sporidia $\cdot 018 \times \cdot 008$ m.m. Somewhat resembling *Ascobolus carneus* externally, but closely allied to *Peziza Franzoniana* (Myc. fig. 68), with more profuse and distinct paraphyses, as well as some other features. The figures are from specimens collected by Dr. F. V. Paxton at Chichester, on wall paper, after very wet weather. A form with the cups more orange, and less crowded, was found at the same time by C. J. Muller, on damp plastered wall at Eastbourne. The same species has also since been communicated by W. Phillips from Shrewsbury.

Peziza (Humaria) axillaris. N.

PLATE 23.—Fig. 91.

Sessilis, firmula, vasculiformis, muscigena, aurantia, basi pallidior, margine obtusa. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus linearibus, guttulatis.

Peziza axillaris, Nees Syst. p. 258, fig. 267; Fries Sys. Myc. ii. 145; Pers. Myc. Eur. 514.

Leucoloma axillaris, Fckl. Sym. Myc. p. 318.

On Mosses. Spring.

Great Britain, Scandinavia, Germany.

Cups 1-2 m.m. broad. Sporidia $\cdot 012 \times \cdot 005\text{-}\cdot 006$ m.m. Paraphyses rather thick, granular.

Figured from specimens published by Fockel, and compared with specimens collected in Great Britain.

EXSICCATI.—Fckl. F.R. 1176.

Peziza (Humaria) pilifera. Cooke.

PLATE 23.—Fig. 92.

Sparsa, sessilis, hemispherica, demum applanata, aurantio-rubra, extus filamentis arachnoideis evanidis obsitis, margine connivente, vel recto, irregulariter fimbriato-fisso, pallidior; disco plano, vel parum concavo, concolore. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis, guttulatis. Paraphysibus filiformibus, obscure septatis, parum incrassatis.

Leucoloma Ascoboloides, Rehm Ascomy. No. 54; Winter, in Flora, 1873 (nec. *Peziza ascoboloides*, Mont. nec. De Notaris, nec. *Peziza ascoboloides*, Schwein).

On the ground. Spring.

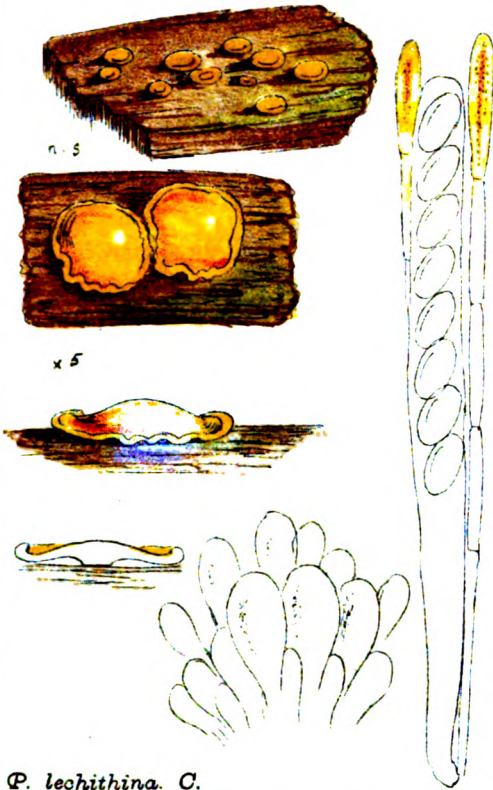
Bavaria.

Cups 1-1½ m.m. broad. Sporidia $\cdot 02 \times \cdot 009$ m.m.

The external hairs are so delicate and evanescent that they are scarce to be found on the dried specimens, and seem to be of the same character as the delicate filaments at the base of *Peziza omphalodes* and its allies, not to be compared with the tomentose species of *Sarcoscypha*. Figured from Dr. Rehm's specimens.

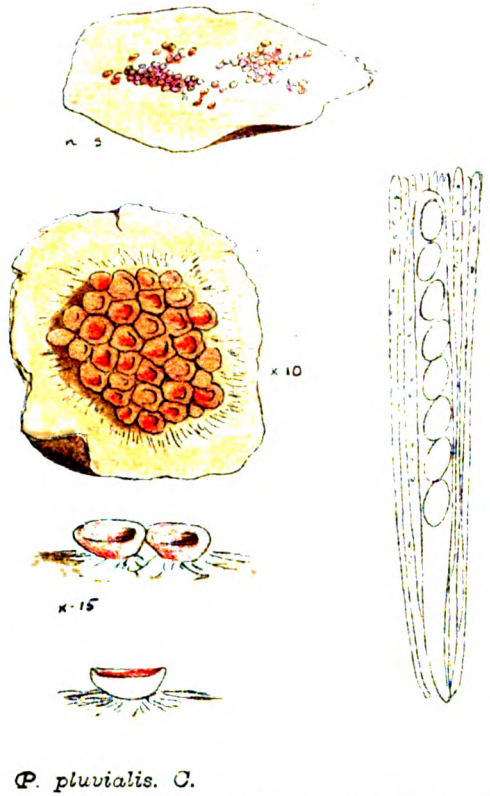
EXSICCATI.—Rehm Ascomy. No. 54.

89



P. lechithina. C.

90



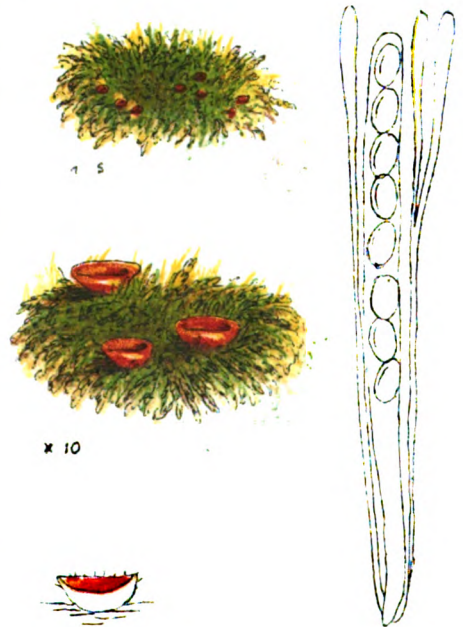
P. pluvialis. C.

91



P. azillaris. N.

92



P. pilifera. C.

WYNNEA. *Berk. & Curt.*

Cupulis elongatis, auriformibus, coriaceis, sursum divisis, basi in stipitem plus minus distinctum connatis.—*Berk. & Curt. in Journ. Linn. Soc.* ix. p. 424, pl. 12 (1866).

Subtropical.

The substance is so totally different from that of *Peziza*, although closely allied to *Peziza leporina* and *Peziza onotica*, that they cannot be placed in the same genus. There are but two species at present known, one of which was at first included under *Peziza*. Both are subtropical, and it is rather singular that one of the species should have been found both in the Eastern and Western hemispheres, and both in the latter. It is probable that both are epixylous, although this is unknown.

Wynnea gigantea. B. & Curt.

PLATE 24.—Fig. 93.

Stipite communi subcylindrico, erasso, rugoso, suberoso, intus albo, sursum ramoso, in cupulas auriformes multiplices quandoque proliferus divisio; cupulis extus glabris, marginibus inflexis, cum hymenio rufis. Ascis cylindraceutis. Sporidiis magnis, subcymbiformibus, hyalinis, lævis.

Wynnea gigantea, Berk. & Curt. in Journ. Linn. Soc. (1866) ix. p. 424, cum iconc.

Habitat uncertain.

Mexico.

Common stem 3 in. high, $\frac{3}{4}$ in. thick, deeply rugose and cracked, divided repeatedly above the subdivisions, elongated into ear-shaped cups $2\frac{1}{2}$ -3 in. long, which are sometimes proliferous. Sporidia $.028 \times .014$ m.m. When steeped in water the inside of the stem acquires a slight foxy tinge, and the water is deeply coloured. General habit figured from the above-named plate. Sporidia from specimen communicated by Rev. M. J. Berkeley.

Wynnea macrotis. Berk.

PLATE 24.—Fig. 94.

Cupulis elongatis, obliquis, auriformibus, basi connato-ramosis, coriaceo-subcartilagineis, hepaticis, extus glabris, hymenio purpurascente. Ascis cylindraceutis. Sporidia ellipticis.

Wynnea macrotis, Berk. in Journ. Linn. Soc. (1866) ix. p. 424.

Peziza macrotis, Berk. in Hook. Journ. Bot. iii. 203; Grevillea iii. fig. 18.

On rotten wood.

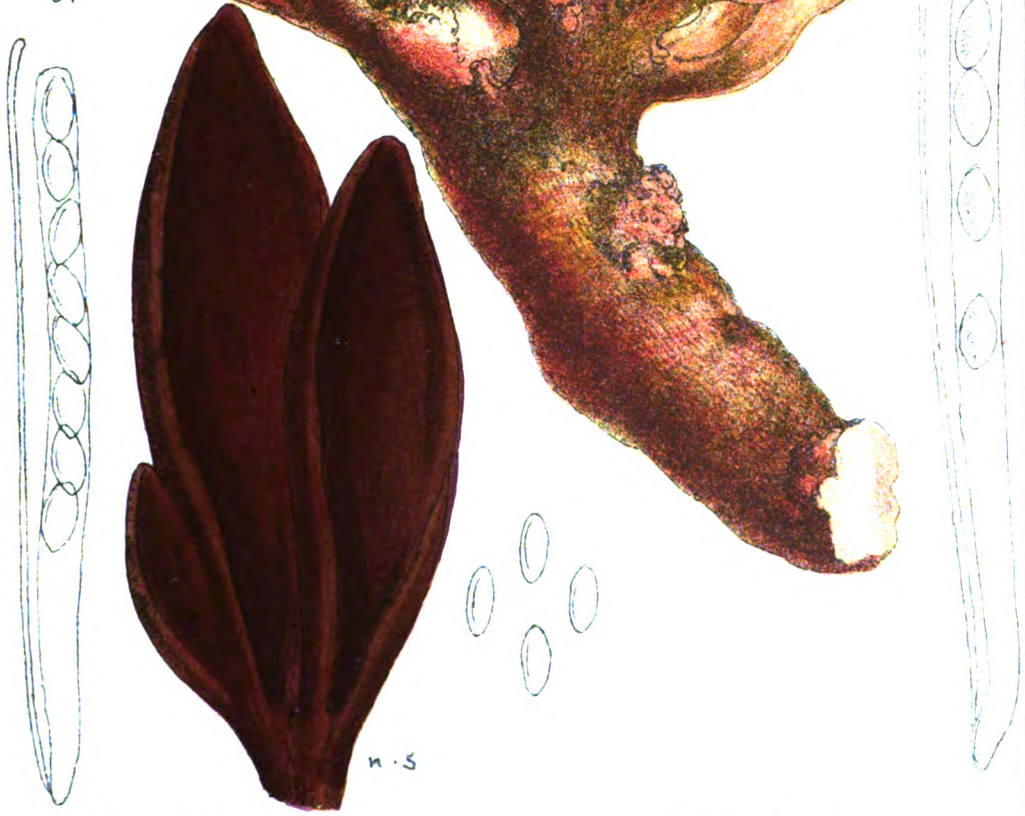
India. Mexico (Sallé).

Sometimes 5 inches in length. Sporidia $.025 \times .012$ m.m., sometimes narrower. There is a slight difference in specimens from Darjeeling and from Nepal, but only varietal. The figures are from specimens in the Herbarium of the Rev. M. J. Berkeley.

93



94



W. macrotis. B.

W. gigantea. B.

WYNNEA.

PEZIZA. *Dill.*

Receptaculum marginatum, cupulæforme, prime subclausum, mox expansum, epidermide tenui contigua. Hymenium læve, persistens, distinctum. Asci ampli, distincti, fixi; sporidiis elastice ejicienda includentes, paraphysibus immixtis. Cupula centro adfixa, passim stipitata, libere evoluta, plus minus cava, demum passim planiuscula, disco polita (nec villosa l. pulveraceo), discolori, velum universale, sed non distinctum et sæpe nullum. Substantia carno-membranacea l. ceracea.—*Fries Sys. Myc.* ii. 40.

Ser. II. **LACHNEA.** *Fries.*

Extus pilosæ l. villosæ. Substantia carnosæ vel ceracæ, firma. Hymenium distinctum concretum.—*Fries Sys. Myc.* ii. p. 78.

Sub-genus I. **Sarcoscypha.**

„ II. **Dasyscypha.**

„ III. **Tapesia.**

„ IV. **Fibrina.**

Sub-gen. i.—Sarcoscypha. Fr.

Substantia carnea l. carnea-ceracea.—*Fries Sys. Myc. ii. 78.*
Terrestres, vel lignatiles.

Sect. i. STIPITATÆ.
„ ii. SESSILIS.

This group, or subgenus, consists of two very distinct sections, characterized by the presence or absence of a stem. Most of the species in the first group are rather large, and the smaller species are more fleshy than in the allied subgenus, *Dasyscypha*. Many of the sessile species are ciliated, with the hymenium of a bright colour, as in the *Humaria* section of *Aleuria*. The external hairs differ much in different species; in some they are delicate, hyaline, and at times almost obsolete; in others they are long, tough, coloured, and occasionally branched; whilst in others, especially around the margin, they are erect, rigid, and bristly.

Peziza (Sarcoscypha) coccinea. Jacq.

PLATE 25.—Fig. 95.

Stipitata; cupula infundibuliformi, extus stipiteque villo brevi adpresso tomentosa albida, hymenio coccineo. Ascis cylindraceutis. Sporidiis arcte ellipticis. Paraphysibus linearibus, guttulatis.

Peziza coccinea, Jacq. Austr. t. 169. Fries Sys. Myc. ii. 79; Nees Sys. f. 288; Bolt. Fung. t. 104; Karst. Myc. Fenn. p. 43; Gonn. & Rabh. Myc. Eur. iii. t. 4, fig. 5; Weinm. p. 434; Grev. S. C. Fl. t. 161; Grevillea iii. fig. 87.

Peziza epidendra, Bull. Champ. t. 467; Sow. Fung. t. 13.

Peziza poculiformis, Hoffm. Crypt. t. 7, f. 5.

Plectania coccinea, Fekl. Sym. Myc. p. 324.

On rotten branches. Spring.

Great Britain, France, Germany, Switzerland, Scandinavia, Austria, Russia, Finland, United States.

Cups $\frac{1}{2}$ -1 inch. Stem $\frac{1}{4}$ inch. Sporidia $\cdot 025$ - $\cdot 027 \times \cdot 009$ m.m.

Figured from specimens published in Fungi Britannici. Fig. *b*, with a cream-coloured disc, grew in company with the other specimens, and differs in no other respect.

EXSICCATI.—Fekl. F. R. 1213; Rabh. H. M. i. 1020; Cooke F. B. i. 651; Phillips E. B. 61.

Peziza (Sarcoscypha) occidentalis. Schwz.

PLATE 25.—Fig. 96.

Stipitata; cupula subinfundibuliformi, tota coccinea, extus villo brevi albidulo subtomentosa; hymenio luteo-coccineo, stipite teneriori; basis stipitis tomento candido involuta. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis. Paraphysibus filiformibus.

Peziza occidentalis, Schwz. Syn. Fung. No. 781; Grevillea, iii. fig. 89.

On fallen branches. Aug.

United States.

Cup 1 c.m. broad; stem 1 c.m. long. Sporidia $\cdot 018 \times \cdot 009$ m.m., rather obtuse at the extremities, more graceful than *P. coccinea*.

Figured from specimens communicated by W. R. Gerard, of Ponghkeepsie, and compared with specimen in the Herbarium, Royal Gardens, Kew.

Peziza (Sarcoscypha) floccosa. Schwz.

PLATE 25.—Fig. 97.

Stipitata, fasciculata; stipite subflexuoso sursum in cupulam tubæformem sensim dilatato; cupula ime tubæformis, limbo dilatato, colore externe lutescenti coccinea, cum stipite strigossissime floccosa, tomento longo recto candido, omnino obtegente cupulam, stipitemque sarcosum; hymenio eleganter coccineo, nudo. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus filiformibus.

Peziza floccosa, Schwein. Syn. Amer. No. 782; Cooke in Grevillea, i. p. 5, t. i. fig. 2, vol. iii. fig. 88.

On the ground, and fallen branches.

United States.

Cups 4-8 m.m. broad, stem 1-2½ c.m. long. Sporidia .02 × .011 m.m. Hairs very long, slender, hyaline, septate. Figured (*a*) from specimens communicated by W. R. Gerard, of Poughkeepsie, New York, and (*b*) from authentic specimens in the Herbarium of the Rev. M. J. Berkeley. The drawings fail in giving the delicate characters of the species.

Peziza (Sarcoscypha) mirabilis. Bors.

PLATE 25.—Fig. 98.

Simplex, vel ex eadem radice polyscypha. Cupula carnosæ, explanato-infundibuliformi, subfragili, extus cum stipite radicato sursum incrassato, albido tomentosa, margine eleganter crenato-incisa; crenarum apicibus rotundatis, reflexis, subrevolutis; disco umbilicato, splendente eximie coccineo. Ascis cylindraceis. Sporidiis ellipticis, 3-5 nucleatis. Paraphysibus linearibus, septatis, granulis coccineis coloratis.

Peziza mirabilis, Borszczow, in Fungi Ingrici, p. 61, t. iv. & v.

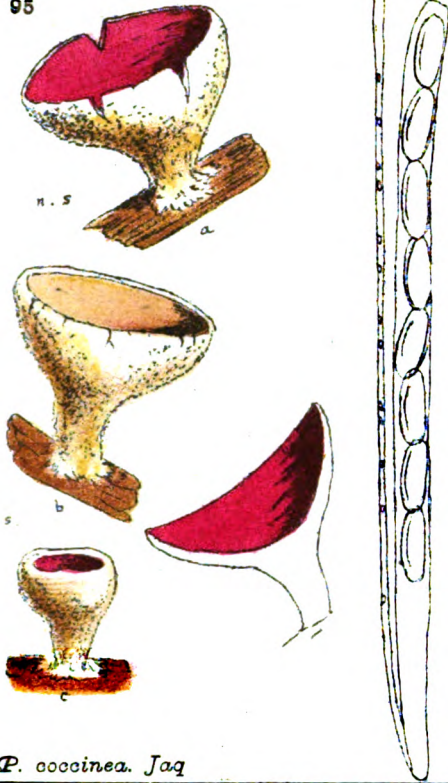
In shady woods, amongst pine leaves. May.

Russia.

Height 1½-2 inches, of from 1 to 10 individuals, rising from a common rooting base. Cups 2-6 lines broad.

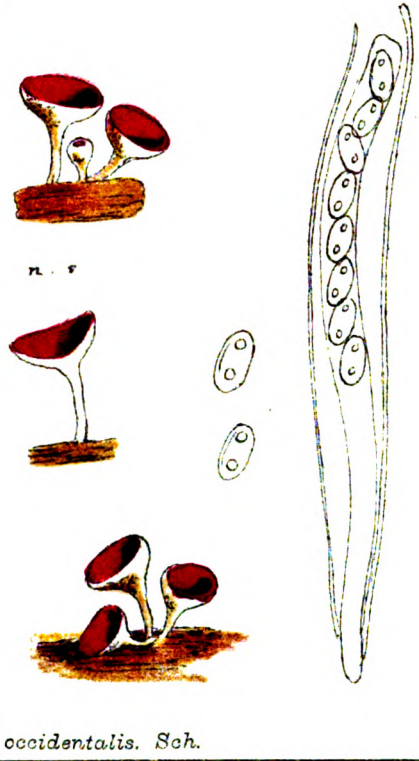
This singular *Peziza* is figured from Borszczow's drawings, on whose authority the fruit is also given, and enlarged to the same scale as in the other species included in this work. We have seen no specimen, but the difficulty which may be experienced in obtaining access to the Fungi Ingrici, has induced us to make an exception in this instance.

95



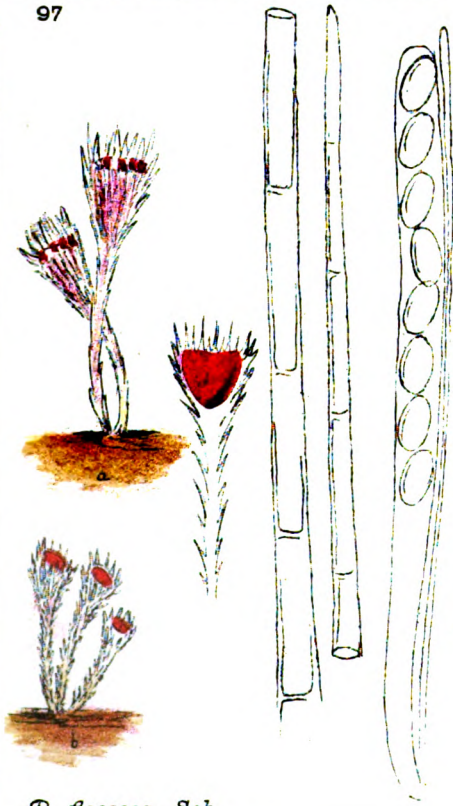
P. coccinea. Jaq

96



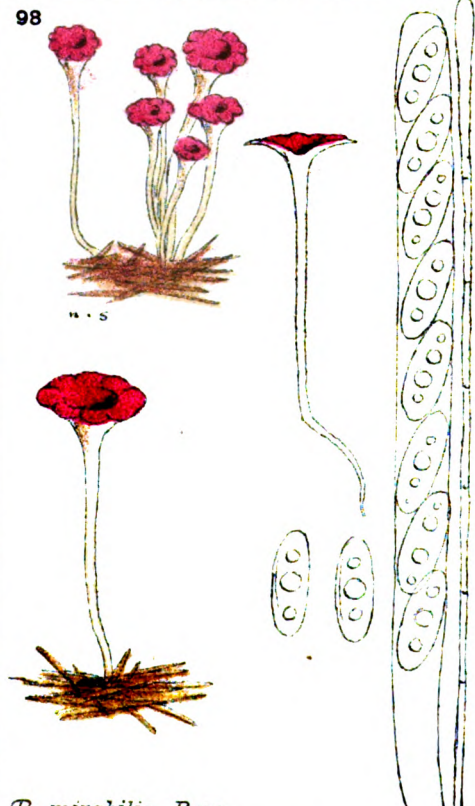
P. occidentalis. Sch.

97



P. floccosa. Sch.

98



P. mirabilis. Boss.

PEZIZA (SARGOSCYPHA.)

Peziza (Sarcoscypha) radiculata. Sow.

PLATE 26.—Fig. 99.

Subcæspitosa, carnosa, radicata, ex-hemisphærico-applanata, disco sulphureo, extus radiceque crassa, alba, villosa. Ascis cylindraceutis. Sporidiis ellipticis, asperatis. Paraphysibus filiformibus.

Peziza radiculata, Sow. Fung. t. 114; Fries Sys. Myc. ii. 81; Crouan Fl. Fin. p. 52; Berk. & Br. Ann. N. H. (1866) No. 1160,* t. 4, f. 23; Grevillea, iii. fig. 92.
Peziza Sowerbæi, Pers. Myc. Eur. p. 232.

On the ground, in gardens, &c. Summer and autumn.

Great Britain, France, Germany.

Cups 1-1½ in. broad. Sporidia .016 × .01 m.m. Hairs septate, hyaline, rather long. Stem rooting.

Figured from specimens communicated by C. E. Broome.

EXSICCATI.—Rabh. F. E. 618.

Peziza (Sarcoscypha) ammophila. Lev.

PLATE 26.—Fig. 100.

Stipitata, turbinata, radicata, ochracea, ore lacerato, triangulari-dentato, margine contracto. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis.

Peziza ammophila, D.R. & Lev. Flore d'Algerie, t. xxviii. fig. 2.

On the ground.

Algeria.

Although not described in the place above quoted, this species is evidently allied to *P. radiculata*. The figure is reproduced from the Flore d'Algerie.

Peziza (Sarcoscypha) alplitodes. Berk.

PLATE 26.—Fig. 101.

Stipitata. Cupula hemispherica, stipiteque elongato hispidulis pallidis; margine undulato. Ascis cylindraceutis. Sporidiis subfusiformibus, brevibus, hyalinis. Paraphysibus linearibus.

Peziza alplitodes, Berk. in Grevillea, iii. 153; Grevillea, iii. fig. 225*; Cooke in Bullet. Buff. Acad. Sci. 1875, p. 291.

On bark amongst moss.

United States (N. Eng.).

Cups about 1 line broad. Stem $1\frac{1}{2}$ c.m. long. Sporidia $.012 \times .003$ m.m. Hairs slender, short, hyaline, septate.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) tomentosa. Schwz.

PLATE 26.—Fig. 102.

Stipitata, olivaceo-umbrina; cupula regularis, concava, extus pallidior, pilis brevibus sparsis obsita; stipite sursum incrassato dilatata. Ascis cylindraceutis. Sporidiis late fusiformibus, nucleatis. Paraphysibus filiformibus.

Peziza tomentosa, Schwz. Amer. Bor. No. 780 (nec Schum. nec Fries); Grevillea, iii. fig. 213.

On fallen wood.

United States.

Cup 1 c.m. broad. Stem 1 c.m. long. Sporidia $.02 \times .012$ m.m., narrowed towards each extremity. Hairs robust, multiseptate, constricted.

This is clearly not the same as the species figured under this name in Flora Danica (pl. 1916, f. 3).

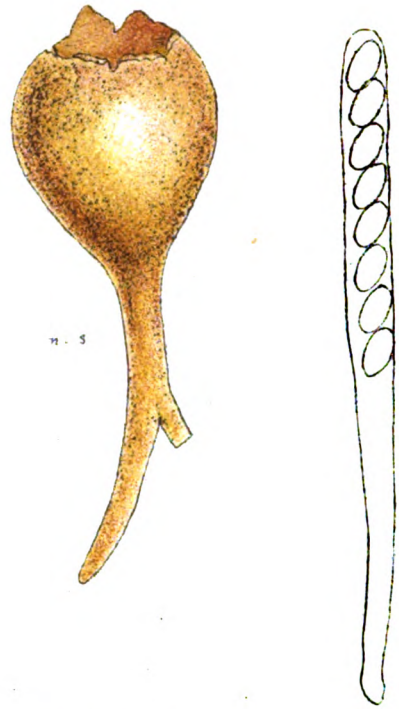
The figures are drawn from authentic specimens in the herbarium of the Rev. M. J. Berkeley.

99



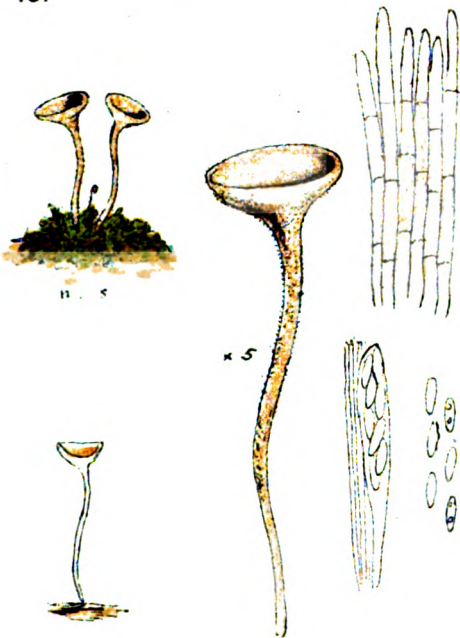
P. radiiculata. Sow.

100



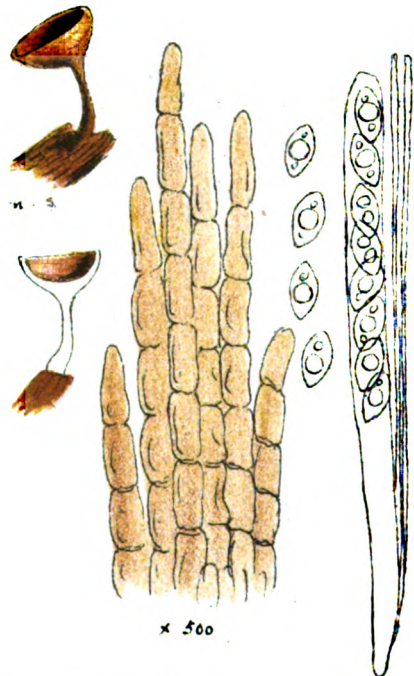
P. ammophila. Lev.

101



P. alphitodes. B & C.

102



P. tomentosa. Schw.

PEZIZA. (SARGOSCYPHA.)

Peziza (*Sarcoscypha*) *melastoma*. *Sow.*

PLATE 27.—Fig 103.

Substipitata. Cupula carnosae, subglobosae, disco urceolatae, nigrae, extus rubiginosae, flocculosae; stipite brevi, tomento denso radicante atro strigoso. Ascis cylindraceis. Sporidiis arcte ellipticis. Paraphysibus linearibus.

Peziza melastoma, Sow. Fung. t. 149; Fries Sys. Myc. ii. 80; Weinm. p. 434; Grevillea, iii. fig. 90.

Peziza atrorufa, Grev. Sc. Crypt. Fl. t. 315.

Peziza rhizopus, Alb. & Schw. Consp. p. 317, t. 1. f. 4; Crouan Fl. Fin. p. 51.

Peziza crenulata, Fekl. Bot. Zeit. 1861 (cum icone).

Plectania melastoma, Fekl. Sym. Myc. p. 324.

On rotten sticks, &c. Spring.

Great Britain, Scandinavia, Russia, Germany, Cuba.

Cups 1-1½ c.m. broad. Sporidia .025 × .009 m.m. Hairs long, flexuous, septate, nodulose, brown. Externally powdered with orange-red granules.

Figured from specimens published by Rabenhorst, and compared with and coloured from specimens collected in England.

EXSICCATI.—Fekl. F. R. 1214, 1215; Rabh. F. E. 716.

Peziza (*Sarcoscypha*) *hirtipes*. *Cooke.*

PLATE 27.—Fig. 104.

Substipitata, carnosae, cupulatae, primo hemisphaericae, extus atro-brunneae, nigrescente, tomentosa, margine incurvo, hymenio pallidiore, stipite brevissimo, pilis radicante atris strigosis. Ascis cylindraceis. Sporidiis ellipticis, binucleatis. Paraphysibus filiformibus.

Peziza hirtipes, Cooke in Hedwigia, 1875, p. 81; Bullet. Buff. Soc. Nat. Sci. 1875, p. 290; Grevillea iii. fig. 91.

On fallen branches.

United States (Maine).

Cups 1-2 inches broad. Sporidia .018 × .01-.012 m.m. Stem very short, attached by long, rigid shining, black hairs. Allied to *P. melastoma*, but distinct. The cups are not at all sprinkled with red powder, as in that species. Figured from the original specimens communicated by the Rev. E. C. Bolles, from Portland (Maine).

Peziza (Sarcoscypha) stygia. B. & Curt.

PLATE 27.—Fig. 105.

Stipitata, pusilla, nigra. Cupula turbinata, extus hispidula. Hymenio plano-concavo, olivaceo-nigro. Stipite longe radicato fibris floccosis strigoso. Ascis cylindraccis. Sporidiis globosis, lævibus. Paraphysibus linearibus, apice curvatis.

Peziza stygia, B. & Curt. in Grevillea, iii. 153 ; Grevillea, iii. fig. 214 ; Cooke in Bullet. Buff. Soc. Sci. 1875, p. 290.

Sides of moist banks amongst moss.

United States (Carolina).

Cups $\frac{1}{2}$ in. wide, $\frac{3}{4}$ in. high. Sporidia $\cdot 01$ m.m. diam. Hairs long, slender, flexuous, septate.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) pusio. B. & C.

PLATE 28.—Fig. 106.

Stipitata. Cupula hemispherica, in stipitem crassum costato-venosum glabrescentem decurrente, extus albida, intus aurantia. Ascis cylindraccis. Sporidiis ellipticis. Paraphysibus filiformibus, nucleatis.

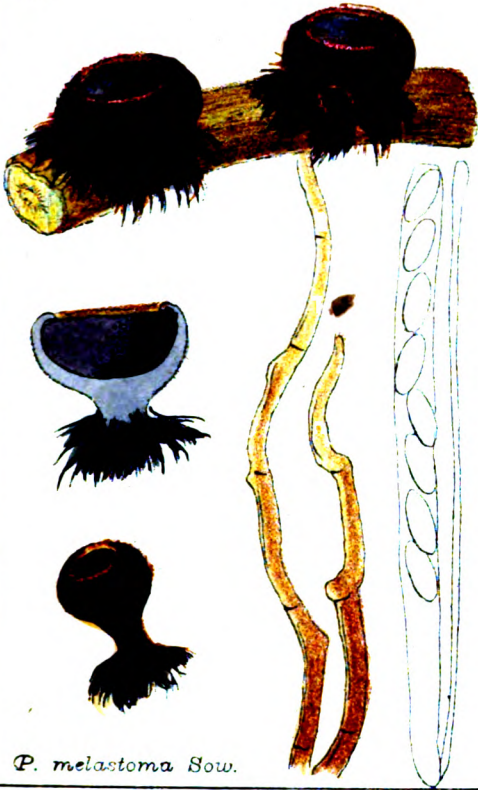
Peziza pusio, Berk. & Curt. in Grevillea, iii. 153 ; Grevillea, iii. fig. 211 ; Cooke in Bullet. Buff. Soc. Sci. 1875, p. 291.

Rooting into the soil, the particles of which it binds together.

United States (Texas).

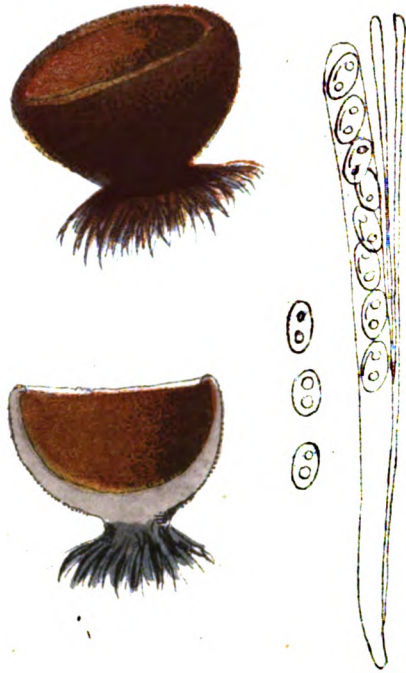
Cups 5 m.m. broad. Stem 1 c.m. long, rooting. Sporidia $\cdot 018$ - $\cdot 02 \times \cdot 009$ m.m. Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

103



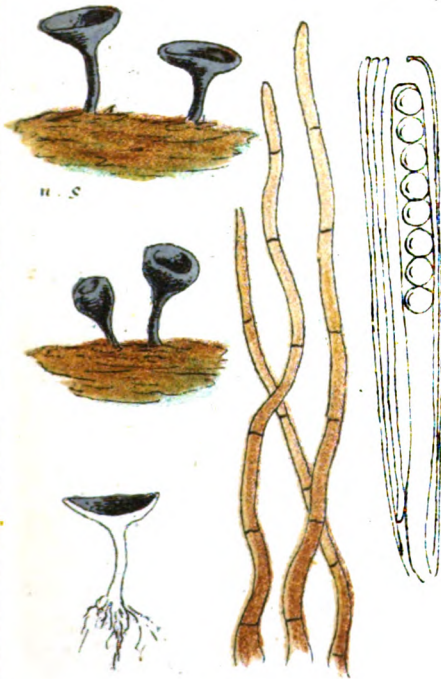
P. melastoma Sow.

104



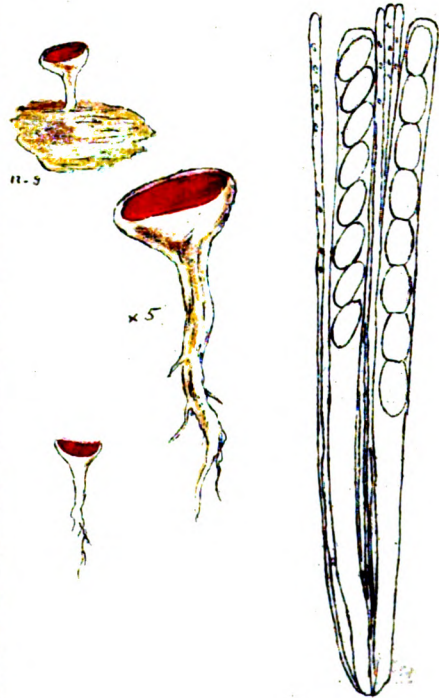
P. hirtipes C.

105



P. stygia B & C.

106



P. pusio B & C.

PEZIZA. (SARGOSCYPHA.)

Peziza (Sarcoscypha) radiculosa. B. & Br.

PLATE 28.—Fig. 107.

Minor, aurantiaca. Cupulis extus luteo-pulverulentis, radicanibus. Ascis cylindraceutis. Sporidiis minoribus, ellipticis, lævibus. Paraphysibus linearibus.

Peziza (Discina) radiculosa, Berk. & Br. Ceylon Fungi, No. 923.

On soil.

Ceylon.

Cups $\frac{1}{4}$ – $\frac{1}{2}$ inch broad, sending down a long root or threads into the soil, flesh yellow, externally at first very minutely pubescent, breaking up into granules, mixed with larger yellow granules, with which the mature cups are powdered. Sporidia $\cdot 0076 \times \cdot 0045$ m.m.

Although not grouped in this section by Messrs. Berkeley and Broome, its proper place appears to be here.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) Colensoi. B.

PLATE 28.—Fig. 108.

Substipitata, pallide alutacea, infundibuliformis, ad basim plicata. Margine inflexo, leniter tomentoso. Ascis cylindraceutis. Sporidiis subfusiformibus. Paraphysibus linearibus.

Peziza Colensoi, Berk. in Flora Nov. Zeal. p. 200, t. cv, fig. 5.

On dead sticks.

New Zealand.

Cups $\frac{1}{2}$ in. diam. Stem short (2 m.m.), thick, plicate at the base, fixed by an orbicular disc. Sporidia $\cdot 025$ m.m. long. Endochrome divided, but not truly septate. The tomentose coating is very delicate and inconspicuous.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) semitosta. B. & C.

PLATE 28.—Fig. 109.

Stipitata, umbrina, extus velutino-hispidula, intus spadicea. Cupula hemispherica, in stipitem rugoso-costatum decurrente. Margine inflexo. Ascis cylindraceutis. Sporidiis subfusiformibus, intus granulatis. Paraphysibus septatis, granulis brunneis repletis.

Peziza semitosta, Berk. & Curt. in Grevillea, iii. 153; Grevillea, iii. fig. 225; Cooke in Bullet. Buff. Acad. Sci. 2875, p. 290.

On the ground.

United States (Penns.).

Cups $1\frac{1}{2}$ in. across. Sporidia $.035-.038 \times .01$ m.m. The substance of the cup is firm, but not in the least coriaceous.

Figured from specimen communicated by the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) pubida. B. & C.

PLATE 28.—Fig. 110.

Stipitata. Cupulis congestis, hemisphericis. Margine inflexo, extus stipiteque brevi velutinis. Ascis cylindraceutis. Sporidiis fusiformibus, granulatis. Paraphysibus septatis, filiformibus, supra subclavatis.

Peziza pubida, B. & Curt. in Grevillea, iii. p. 153; Grevillea, iii. fig. 226; Cooke in Bullet. Buff. Acad. Sci. 1875, p. 291.

On the ground.

United States (Alabama).

Cups $\frac{3}{4}$ in. across. Sporidia $.04-.045 \times .012$ m.m. Hairs short, septate, constricted. Mycelium densely setulose.

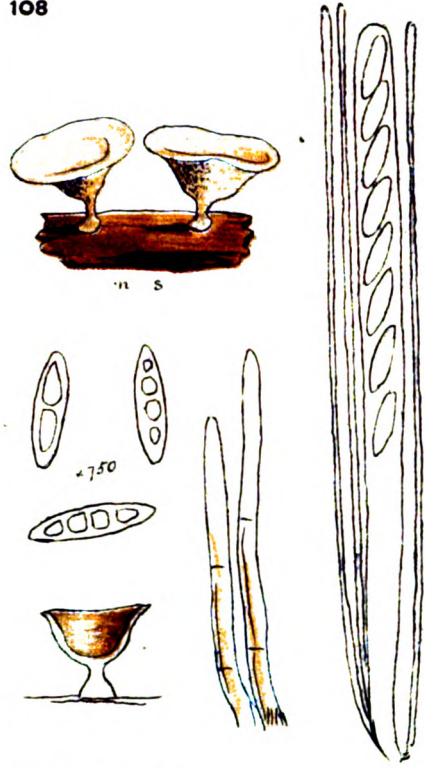
Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

107



P. radiouloso. B & Br.

108



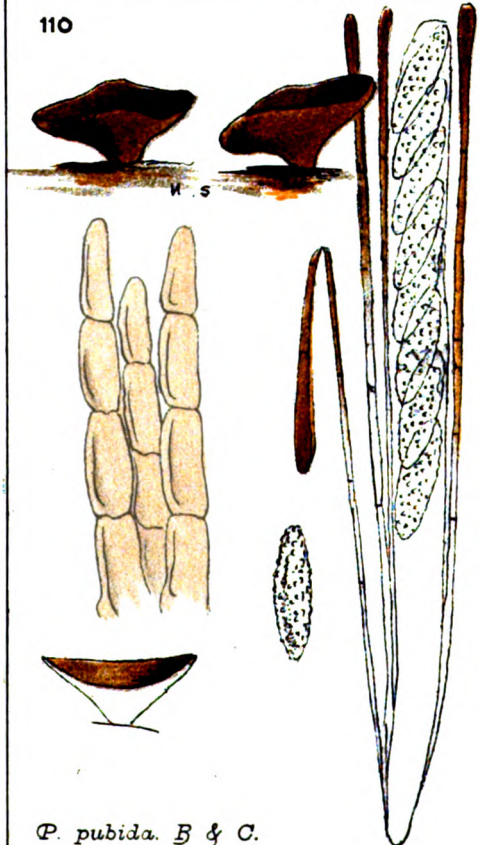
P. Colensoi. B.

109



P. semitosta. B & C.

110



P. pubida. B & C.

Mycographia.]

Peziza (Sarcoscypha) lanuginosa. Bull.

PLATE 29.—Fig. 111.

Sparsa, sessilis, cerea, fragilis, subtus ferrugineo-fuscescens, lanata, intus albo-glauescens.—*Bull. Champ.* p. 261, t. 396, fig. 2.

var. *Sumneri.* Berk. & Br.

Magna, primo-subimmersa; margine fissa, sublobata; disco pallide ochraceo. Ascis cylindraceutis. Sporidiis late fusiformibus, nucleatis. Paraphysibus gracilibus.

Peziza lanuginosa, var. *Sumneri*, Berk. in Linn. Trans. xxv. t. 55, fig. 1; Cooke Handbook, p. 680, No. 2017; Berk. & Br. Ann. N. H. (1866) No. 1161, t. 4, f. 25; Grevillea, iii. fig. 100.

On the ground, under cedars, &c. Spring.

Great Britain, France.

Cups 1-2 in. broad. Sporidia $\cdot 03\text{--}032 \times \cdot 012$ m.m. Hairs long, slender, flexuous, septate. This is hardly the typical form of *Peziza lanuginosa*, as figured by Bulliard. Figured from specimens published in *Fungi Britannici*, from Guy's Cliff, Warwick.

EXSICCATI.—Cooke, F. B. i., 471, ii., 362; Phillips, E. B. 62; Rabb. F. E. 1419.

Peziza (Sarcoscypha) sepulta. Fr.

PLATE 29.—Fig. 112.

Hypogæa, globosa, diu clausa, dein ore constricto dehiscens, demumque in lacinias plures inæquales fissa, disco urceolato e brunneo livido. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis.

Peziza sepulta, Fries Novæ Symb. Myc. (1851) p. 126, Berk. & Br. Ann. Nat. Hist. No. 766; Cooke Handbook, p. 681, No. 2019; Grevillea, iii. fig. 212.

On the ground, after autumnal rains.

Scandinavia, Great Britain.

Cups 1-2 in. diameter. Sporidia $\cdot 022\text{--}024 \times \cdot 012$ m.m. Hairs long, flexuous, branched, septate.

Figured from authentic specimens kindly communicated by the Rev. M. J. Berkeley, and derived from Prof. Fries.

There are specimens in Herb. Berkeley, from Upsal, named *Peziza affinis*, which exhibit in the dried state no characters that would warrant separation from the present species.

EXSICCATI.—Phillips, E. B. 63.

Peziza (Sarcoscypha) fusicarpa. Gerard.

PLATE 29.—Fig. 113.

Sparsa, sessilis, ochracea, hemispherica, extus pubescens, hymenio demum brunneo, margine incurvo. Ascis cylindraccis. Sporidiis fusiformibus, binucleatis. Paraphysibus superne clavatis, granulis brunneis repletis.

Peziza fusicarpa, Gerard in *Bullet. Torr. Club*, 1873, iv. p. 64; Cooke in *Bullet. Buff. Soc. Nat. Sci.* 1875, p. 271; Grevillea, iii. fig. 99.

Peziza velutina, B. & Cart. MSS. (fide Peck.)

On the ground, amongst moss.

United States.

Cups 1-1½ in. broad. Sporidia .04 × .012 m.m. Hairs short, thick, compact, septate, coloured.

The figures are from specimens derived from W. R. Gerard, of Poughkeepsie, New York. Although *Peziza velutina*, B. & C. is unknown to Rev. M. J. Berkeley, it is probable that this was the species intended by Curtis.

Peziza (Sarcoscypha) geaster. B. & Br.

PLATE 29.—Fig. 114.

Sparsa, sessilis, subterranea, fusca, globosa, in lacinias paucas dein rupta, extus villosa. Ascis cylindraccis. Sporidiis ellipticis, nucleatis. Paraphysibus clavatis.

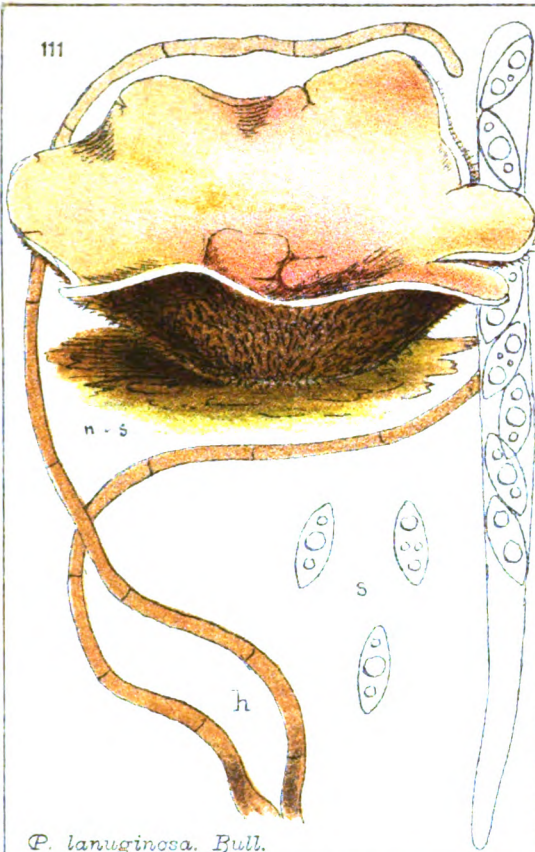
Peziza geaster, Berk. & Br. *Ann. Nat. Hist.* (1866) No. 956, t. 4, f. 26 (nec Gonn. & Rabh. iii. t. 3, f. 5); Grevillea, iii. fig. 223.

Amongst comminuted stone and earth. Oct.

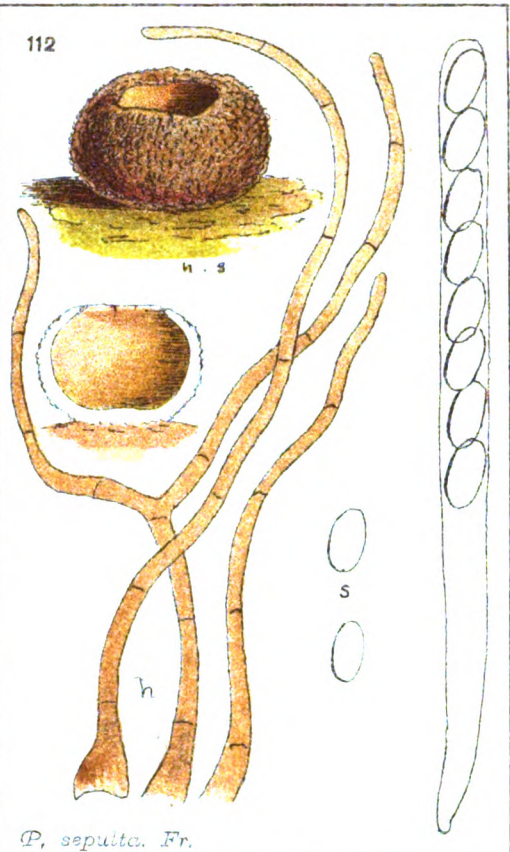
Great Britain.

Cups ½-¾ in. diameter. Sporidia .025-.012 m.m. Allied to *P. sepulta*, Fr. but a far more delicate species, mostly smaller. Hairs much shorter.

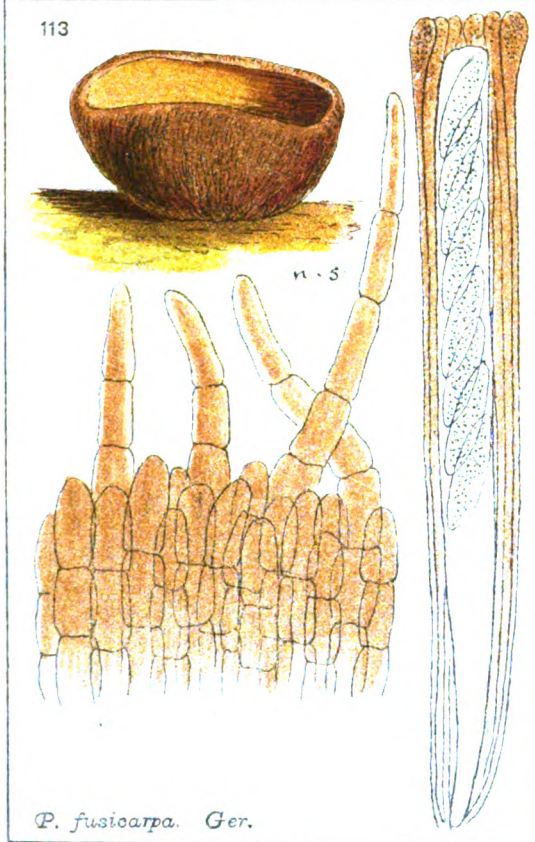
Figured from specimens in the herbarium of the Rev. M. J. Berkeley.



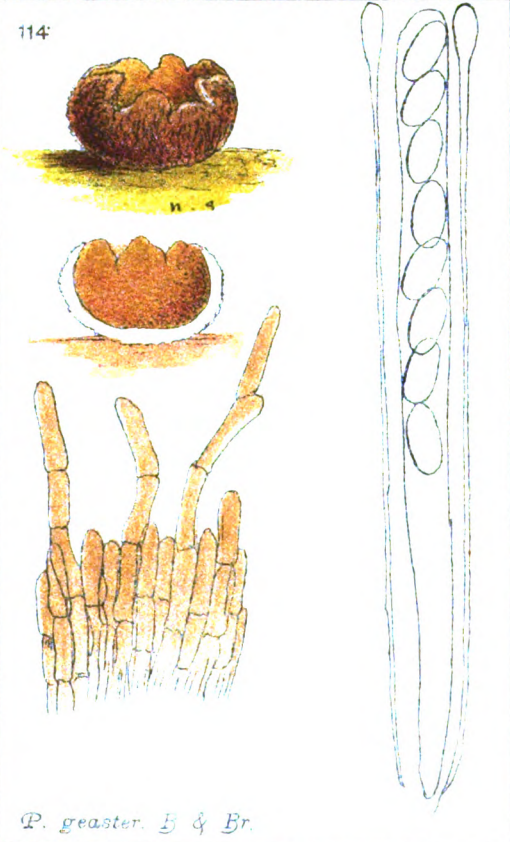
P. lanuginosa. Bull.



P. sepulta. Fr.



P. fusicarpa. Ger.



P. geaster. B & Br.

Peziza Sarcoscypha) hemispherica. Wigg.

PLATE 30.—Fig. 115.

Sparsa, sessilis, primo globosa, mox hemispherica, integerrima, demum quoque margine replicato; præcipue marginem versus pilorum fasciculis sparsis obsita, extus subfusca, disco albo-glaucescente. Asci cylindræis. Sporidiis ellipticis, binucleatis. Paraphysibus clavatis.

Peziza hemispherica, Wigg. Hoffm. Crypt. ii. t. 7, fig. 6; Fries Sys. Myc. ii. 83; Flor. Dan. t. 1558, fig. 2; Karst. Myc. Fenn. 68; Weinm. p. 435; Crouan, Fl. Fin. p. 52; Kickx. Fl. Fland. i. 492; Weberbauer, i. t. i. f. 4; Grevillea, iii. fig. 95.

Octospora fasciculata, Hedw. Musc. Fr. ii. t. 4, f. E.

Humaria hemispherica, Fckl. Sym. Myc. p. 322.

Peziza labellum, Bull. Champ. t. 204.

Peziza hirsuta, Holms. Ot. ii. t. 19.

Elvela albida, Schæff. Ic. t. 151. t. 319.

Peziza hispida, Sow. Fung. t. 148.

On the ground.

Great Britain, France, Germany, Holland, Denmark, Scandinavia, Russia, Belgium, Hungary, Bavaria, United States.

Cups $\frac{1}{2}$ -1 inch broad. Sporidia $\cdot 024 \times \cdot 01$ - $\cdot 012$ m.m. Hairs fasciculate, rather rigid, septate, brown. The sporidia have sometimes a tendency to become rough, and are decidedly so in the specimens published by Dr. Rehm. (See free sporidia, in fig. 115.)

Figured from specimens published by Desmazieres.

EXSICCATI.—Fckl. F. R. 1211; Desm. C. F. i. 1311; Rabh. F. E. 630; Karst. F. F. 143; Rehm. Asc. 5.

Peziza (Sarcoscypha) tenuis. Fckl.

PLATE 30.—Fig. 116.

Sparsa, sessilis, fragilissima. Cupulis primo globosis, subclausis, demum apertis et totis explanatis; margine demum lacerato, extus pilis brevibus, subsparsis fuscis obsitis, disco pallide sordido, furfuraceo-pulverulente. Ascis stipitatis, cylindræis. Sporidiis ovatis, 1-3 guttulatis, hyalinis. Paraphysibus simplicibus, linearibus, subclavatis, continuis.

Peziza tenuis (Fckl) Cooke, in Grevillea, iii. fig. 97.

Humaria tenuis, Fckl. Sym. Myc. p. 322.

On the ground.

Germany.

Cups 1 inch broad. Sporidia $\cdot 024 \times \cdot 012$ m.m. Hairs flexuous, septate, brown.

Figured from specimens published by Fuckel. In this, and other figures, coloured from the dried specimens, too much reliance must not be placed on the absolute identity of the colours with those of fresh specimens.

EXSICCATI.—Fckl. Fungi Rhen. No. 2289.

Peziza (Sarcoscypha) arenosa. Fckl.

PLATE 30.—Fig. 117.

Sparsa, sessilis. Cupulis hæmisphericis, demum campanulatis, plerumque ad dimidiam partem laceratis, laciniis triangularibus irregularibusve. Substantia carnosa, disco albo-glaucescente, extus pilis longis pallide fuscis densissime tectis. Ascis longissimis, cylindraceutis. Sporidiis ellipticis, utrinque obtusissime rotundatis, uniguttulatis, hyalinis.

Peziza arenosa, Fckl. Sym. Myc. p. 321; Grevillea, iii. fig. 96.

Peziza hemispherica, Rabh. Herb. Myc. ii. No. 630.

On sandy soil.

Germany.

Cups $\frac{1}{2}$ -1 inch broad. Sporidia $\cdot 02 \times \cdot 01$ m.m., very similar to the preceding and following species. Hairs flexuous, septate, nodulose, branched. It is very difficult to extricate the particles of sand which are interwoven with the fibres.

Figured from specimens published in Rabenhorst's Herb. Myc. No. 630.

EXSICCATI.—Fckl. F.R. No. 1212; Rabh. Hb. Myc. ii. 630.

Peziza (Sarcoscypha) arenicola. Lev.

PLATE 30.—Fig. 118.

Sparsa, sessilis. Cupulis subglobosis, dein cupuliformis, ceraceis, fibrillosis, arena crustatis; ore constricto, demum fisso dentato, hymenio fuscescente. Ascis cylindraceutis. Sporidiis ellipticis, uniguttulatis. Paraphysibus subclavatis.

Peziza arenicola, Léveille in Ann. des Sci. Nat. (1848) ix. pp. 140; Grevillea, iii. fig. 210.

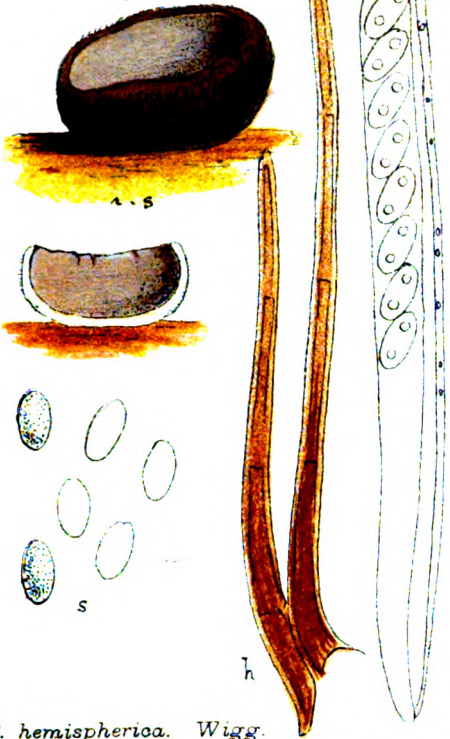
On sandy soil. Spring and autumn.

France.

Cups $\frac{1}{2}$ inch broad. Sporidia $\cdot 02 \times \cdot 012$ m.m. Hairs long, flexuous, simple or branched, septate.

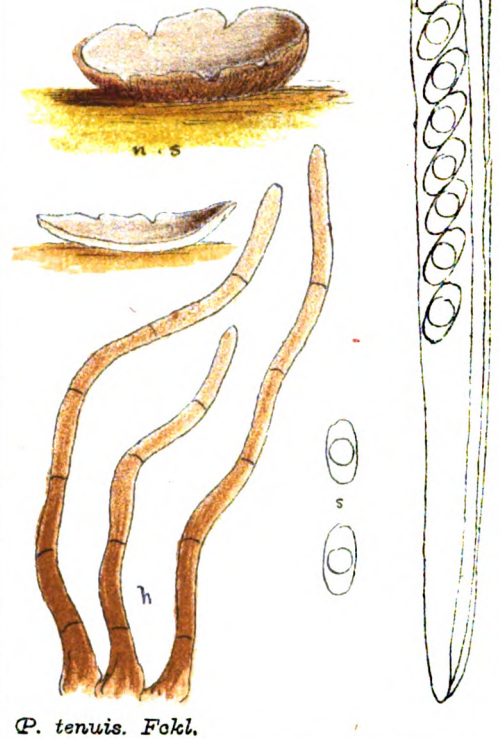
Figured from authentic specimens in the herbarium of the Rev. M. J. Berkeley.

115



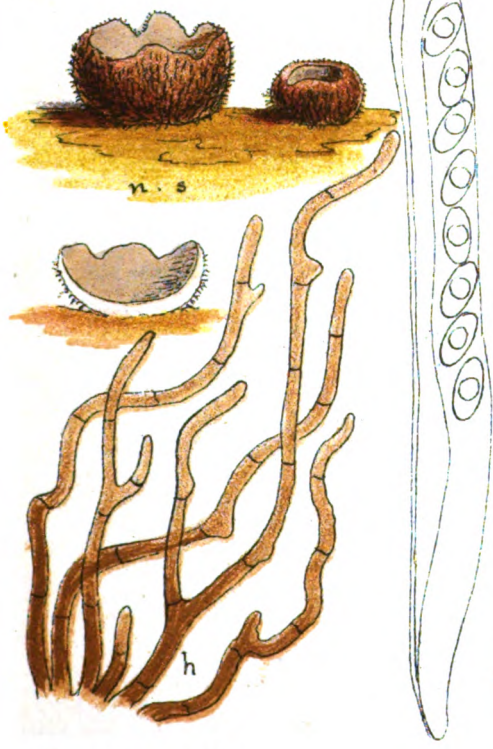
P. hemispherica. Wigg.

116



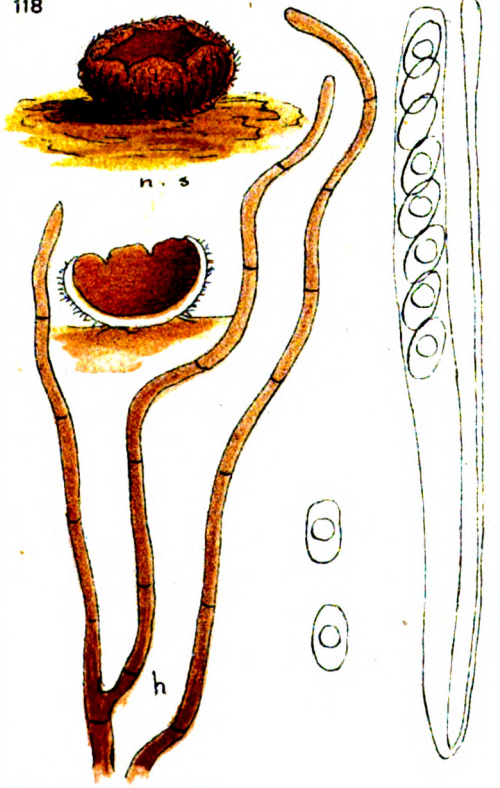
P. tenuis. Fokl.

117



P. arenosa. Fokl.

118



P. arenicola. Lev.

PEZIZA. (SARCOSYPHA.)

Peziza (Sarcoscypha) pellita. C. & P.

PLATE 31.—Fig. 119.

Sparsa, sessilis. Cupulis subglobosis, dein expansis, demum radiato-fissis, in lobis 4-5 irregularibus ruptis; disco carneo-rufescente. Ascis cylindraceutis. Sporidiis ellipticis, nucleatis. Paraphysibus subclavatis.

Peziza pellita, Cooke & Peck in *Grevillea*, vol. i., p. 5, t. i. fig. 3; *Grevillea*, iii. fig. 101.

On soil covering rocks.

United States.

Cap scarcely an inch broad. Sporidia $\cdot 018\text{-}\cdot 025 \times \cdot 0125$ m.m. Hairs scarcely so flexuous as in allied species, septate, brown.

Figured from the original specimens communicated by C. H. Peck, of Albany, N.Y.

Peziza (Sarcoscypha) nigrella. Pers.

PLATE 31.—Fig. 120.

Gregaria, subcæspitosa, sessilis, primo globoso-hemispherica, dein expansa, concava, integerrima, atra, extus tomento compacto byssino, basi radicante, tecta. Ascis cylindraceutis. Sporidiis globosis, lævibus. Paraphysibus clavatis, granulatis.

Peziza nigrella, Pers. Syn. p. 648; Fries Sys. Myc. ii. 81; Karst. Myc. Eur. p. 61; Weinm., p. 434; Crouan Fl. Fin. p. 51; Kickx. Fl. Fland. i. 492; Gonn. & Rabh. Myc. Eur. iii. t. 4, fig. 6; Weberbauer, i. t. 3, f. 5; *Grevillea*, iii. fig. 93.

Pseudoptectania nigrella, Fckl. Sym. Myc. p. 324.

On the ground in pine woods. Summer.

Great Britain, France, Germany, Holland, Switzerland, Scandinavia, Russia, Finland, Belgium, United States.

Cups about $\frac{1}{2}$ inch broad. Sporidia $\cdot 014$ m.m. diam. Hairs flexuous, contorted, often spirally twisted, septate.

The figures are from specimens published by Rabenhorst.

EXSICCATI.—Fckl. F.R. 1216; Desm. C.F. i. 870; Rabh. F.E. ii. 219, 1819; Karst. F.F. 632; Klotsch, 1921; Rehm. Asc. 252.

Peziza (Sarcoscypha) arenosa, var. Bloxami. C.

PLATE 31.—Fig. 121.

Sparsa, sessilis. Cupula subglobosa, dein cupulaeforma, extus brunnea fibrillosa, ore constricto, demum fisso dentato, hymenio ochraceo-carneo. Ascis cylindraceutis. Sporidiis ellipticis, uniguttulatis.

Peziza Bloxami, Cooke in fig. 121 (nec Berk & Br.).

Amongst sand.

Great Britain.

Cups $\frac{1}{2}$ - $\frac{3}{4}$ inch broad. Sporidia $\cdot 028 \times \cdot 015$ m.m.

The specimens were found some years since by the Rev. H. H. Higgins, near Liverpool, and communicated to the Rev. A. Bloxam, in whose herbarium they were named *P. sepulta*, from which species it differs considerably. Our figures are from specimen communicated by the latter gentleman. *Peziza arenosa*, Fckl., *Peziza arenicola*, Lev., and the present, are so closely allied in size, habit, habitat, and fructification, that it is very probable that all three will be regarded as varieties of the same species; a view in which we are disposed to concur. All the forms are figured for comparison.

Peziza (Sarcoscypha) flavo-virens. Fckl.

PLATE 31.—Fig. 122.

Cupulis sessilibus, sparsis, primo concavis, demum magis explanata, extus tomento denso ferrugineo tectis, disco amœne flavo-viridi, plerumque immutabili. Ascis longissimis, cylindraceutis. Sporidiis in asci superiori parte monostichis, perfecte globosis, reticulatis, flavo-fuscis.

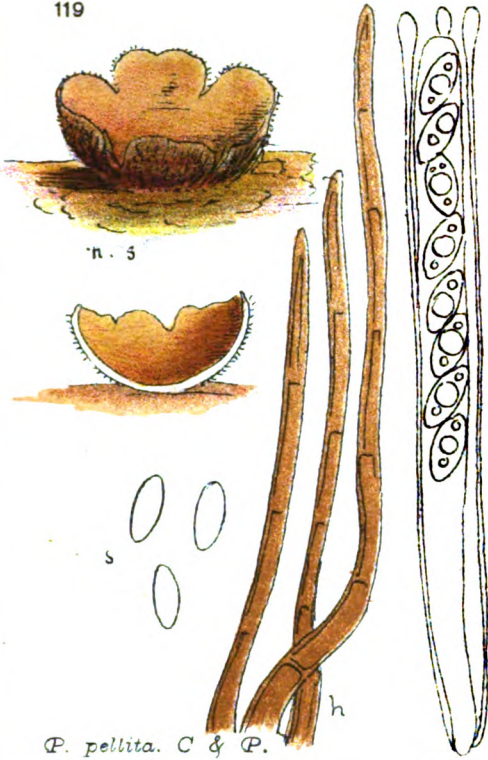
Plicaria flavo-virens, Fckl. Sym. Myc. Supp. 2, p. 64.

On sand banks.

Germany.

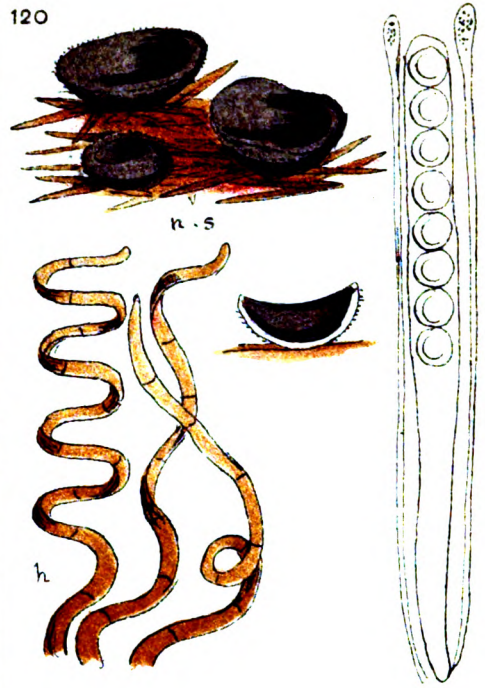
Cups 1 inch broad. Sporidia $\cdot 016$ m.m. diam. Hairs slender, septate. The specimen figured is believed to be the species intended by Fockel.

119



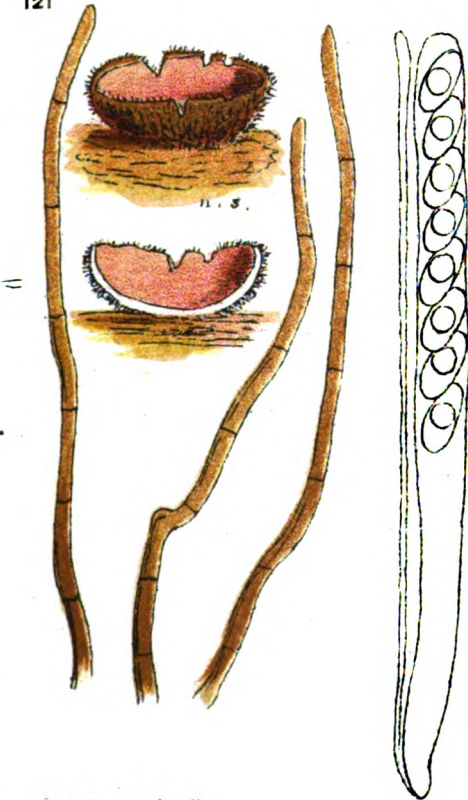
P. pellita. C & P.

120



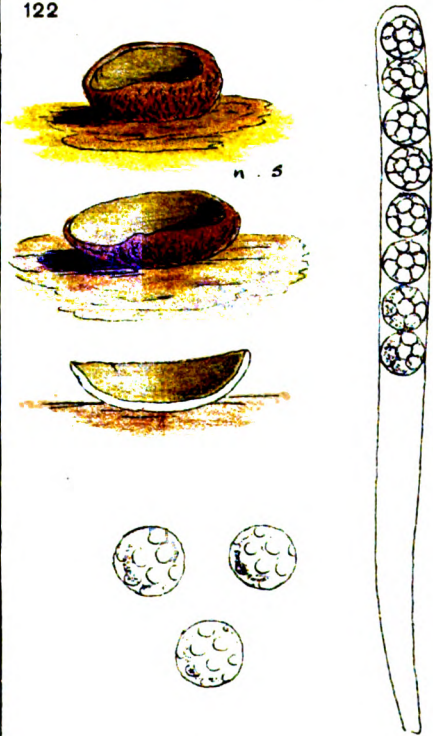
P. nigrella. P.

121



P. Blozami. C

122



P. flavovirens. Fekl.

PEZIZA (SARCOSYPHA)

Peziza (Sarcoscypha) gregaria. *Rehm.*

PLATE 32.—Fig. 123.

Gregaria, sessilis. Cupulis hemisphaericis, concavis, margine involuto, demum apertis, difformibus, repandis, extus brunneis, pilis rigidis fasciculatis, concoloribus, septatis, strigose densissimeque obsitis; disco livido-fusco, demum pallidiore. Ascis elongato-cylindraceutis. Sporidiis elongato-ellipsoideis, hyalinis. Paraphysibus filiformibus, apice paulo incrassatis.

Peziza gregaria, Rehm. Asc. No. 6; Grevillea, iii. fig. 221; Winter, in Flora, 1873.

Peziza hemispherica var. β , *proximella*, Karst. Mon. p. 125; Karst. Myc. Fenn. p. 69 (?)

Peziza hemispherica var. *minor*, Nyl.

Peziza brunnea, Cooke in Grevillea, iii. fig. 98 Desm. et multis aliis.

On the ground.

Great Britain, France, Germany, Austria, Bavaria, Russia (Finland).

Cups 1-3 m.m. broad. Sporidia $\cdot 022 \times \cdot 01$ m.m., sometimes externally minutely rough. Hairs fasciculate, rather short and rigid, septate, brown.

Figured from specimens published in Fungi Britannici, compared with those published by Dr. Rehm and Desmazieres.

EXSICCATI.—Cooke F.B. ii. 368; Rehm Ascomy, 6; Rabh. F.E. 1220; Desm. C.F. 1312.

Peziza (Sarcoscypha) confusa. *Cooke.*

PLATE 32.—Fig. 124.

Gregaria, sessilis, subsphaeroidea, mox hemispherico-depressa, vel convexa, fusca, pilis brevibus hirta. Ascis cylindraceutis. Sporidiis sphaeroideis, uniguttulatis, laevibus. Paraphysibus apice incrassatis.

Peziza confusa, Cooke in Bullet. Buff. Ac. Sci. 1875, 291.

Peziza brunnea, Nyl. Obs. p. 21; Karst. Myc. Fenn. p. 75; Grevillea, iii. fig. 98a.

On the ground.

Russia (Finland), Germany, United States (New York).

Cups 2-6 m.m. broad. Sporidia globose, $\cdot 013$ - $\cdot 017$ m.m. Hairs erect, subfasciculate, attenuated upwards, brown, septate. For observations on its relations to *Pez. brunnea*, A. & S., see Grevillea, vol. iv. pp. 125 (1876).

Figured from specimens communicated by W. R. Gerard, of Poughkeepsie, New York, and compared with specimens issued by Karsten.

EXSICCATI.—Karst. F.F. 528.

Peziza (Sarcoscypha) fusco-atra. *Reb.*

PLATE 32.—Fig. 125.

Sessilis, carnosa, subglobosa, tomentosohirta, fusco-atra, hymenio concavo, sordido pallido. Ascis cylindraccis. Sporidiis ellipticis, lævibus, uniguttulatis. Paraphysibus filiformibus, subclavatis.

Peziza fusco-atra, Rebent. Fl. Neom. p. 385; Fries Sys. Myc. ii. 82; Grevillea, iii, fig. 94.

On the ground.

Germany, Scandinavia.

Cup 5-7 m.m. broad and high. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 01$ m.m. Hairs septate, brown, some straight and short, others longer and flexuous. When young resembling in form *Cyathus striatus*.

Figured from specimens published in Rabenhorst's *Fungi Europæi*.

EXSICCATI.—Rabh. F.E. 614.

Peziza Sarcoscypha) (brunnea. *A. & S.*

PLATE 32.—Fig. 126.

Gregaria, subcæspitosa, majuscula brunnea, e concavo depresso-plana, subflexuosa, extus pilis minutis fasciculatis hirta.

Peziza brunnea, A. & S. Consp. p. 317, t. 9, fig. 3.

Peziza hybrida, Sow. Fung. t. 369, fig. 1 (?)

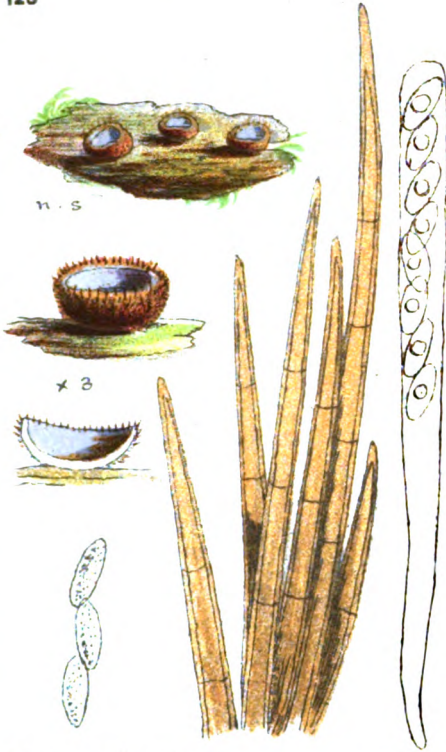
On the ground in moist woods. June—Sept.

Germany, Britain.

Cups 1-3 lines broad, growing in dense clusters. Allied to *P. hemisphærica*, but differing in size and colour. It appears to me that the species described and figured by Alb. & Schw. and Sowerby is identical, and that it is neither *P. gregaria*, Rehm., nor *P. confusa*, C., both of which have been referred to it.

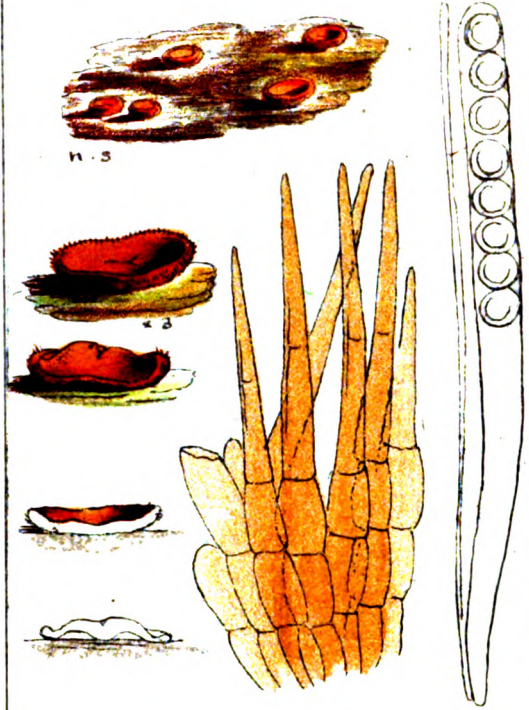
Fig. *a* is copied from Alb. & Schw. Consp. t. 9, fig. 3. Fig. *b* from Sowerby's *Fungi*, t. 369, fig. 1. It seems more prudent for the present to reproduce these figures, and wait for stronger evidence than can now be offered in favour of the identity of *P. confusa* with the species which Albertini and Schweinitz had in view.

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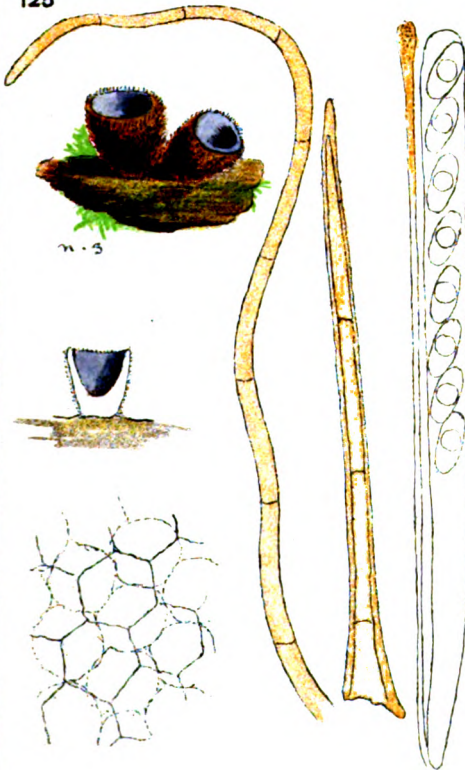
P. gregaria. Rehm.

124



P. confusa. C.

125



P. fusco-atra Reb.

126



P. brunnea A & S.

Peziza (Sarcoscypha) miniata. Fuckel.

PLATE 33.—Fig. 127.

Gregaria, quandoque dense congesta, carnosae, hemisphaericae, demum magis explanatae, margine implexo, integro, disco aetate immutabile miniato, extus sparse marginem versus densius crispulo-pilosis, pilis brevibus, nigro-fuscis. Ascis cylindraceis. Sporidiis ellipticis, episorio valde tuberculato, plerumque guttulis binis, hyalinis. Paraphysibus clavatis, miniatis.

Humaria miniata, Fekl. Sym. Myc. App. iii. p. 32.

On the ground.

Germany.

Cups 1 inch broad. Sporidia $\cdot 022 \times \cdot 009$ m.m. Hairs very short, septate, brown.

Allied to *P. umbrorum*, Fekl., but larger, brighter coloured, and with different fruit. It is certainly a most attractive species.

Figured from specimens published by Fuckel.

EXSICCATI.—Fekl. F.R. 2688.

Peziza (Sarcoscypha) hirta. Schum.

PLATE 33.—Fig. 128.

Sessilis, subhemisphaerica, extus fusco-hirta, margine subinflexo, intus miniata. Ascis cylindraceis. Sporidiis arcte ellipticis, verruculosis. Paraphysibus supra clavatis, aurantio-granulatis.

Peziza hirta, Schum. Saell, p. 422; Fries Sys. Myc. ii. 84; Pers. Myc. Eur. p. 245; Cronan Fl. Fin. p. 51; Berk. & Br. Ann. N.H. No. 557, 768; Cooke, Handbook, No. 2021.

Peziza scutellata, Cooke Fungi Britannici, ii. 187; Grevillea, iii. fig. 218.

On the ground, &c. Aug.—Oct.

Great Britain, Scandinavia, Denmark, Germany, Switzerland, France, United States, Ceylon, Cuba.

Cups 5-8 m.m. broad. Sporidia $\cdot 025 \times \cdot 01$ m.m. Marginal hairs short, slender, septate, brown, $\cdot 2$ - $\cdot 3$ m.m. long.

Figured from specimens communicated by the Rev. M. J. Berkeley.

EXSICCATI.—Cooke F.B. i. 576, ii. 187; Philips E.B. 19 (junior); Wright Cub. 671; Rabb. F.E. 27 (very imperfect in my copy).

Peziza (*Sarcoscypha*) *trechispora*. *B. & Br.*

PLATE 33.—Fig. 129.

Sessilis, sparsa, depressa, planiuscula, aurantio-miniata, extus pilis pallidofulvis vestita. Ascis cylindraccis. Sporidiis globosis, echinulatis. Paraphysibus supra clavatis.

Peziza trechispora, Berk. & Br. Ann. Nat. Hist. xviii. (1846) p. 77; Cooke Handbook, No. 2022; Grevillea, iii. fig. 103.

On the ground in woods.

Great Britain, France.

Cups $\frac{1}{3}$ inch or more broad. Sporidia $\cdot 02$ m.m. diam. Marginal hairs slender, short, septate, brown, $\cdot 2$ m.m. long.

Figured from specimens collected by C. E. Broome, and published in *Fungi Britannici*.

EXSICCATI.—Cooke F.B. i. 288; Rabh. F.E. 26.

Peziza (*Sarcoscypha*) *geneospora*. *Berk.*

PLATE 33.—Fig. 130.

Sessilis, carnosa, media, cupula expansa, concaviuscula, aurantio-coccinea, extus pilis badiis vestita. Ascis amplis, cylindraccis. Sporidiis magnis, ellipticis, verrucosis, uninucleatis. Paraphysibus linearibus, supra clavatis, septatis.

Peziza geneospora, Berk. in Hook. Lond. Journ. 1851, p. 203; Grevillea, iii. fig. 102.

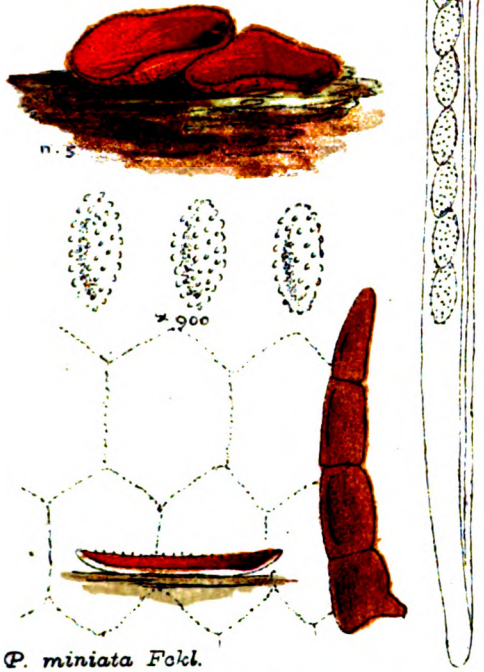
On rotten wood. Oct.

India.

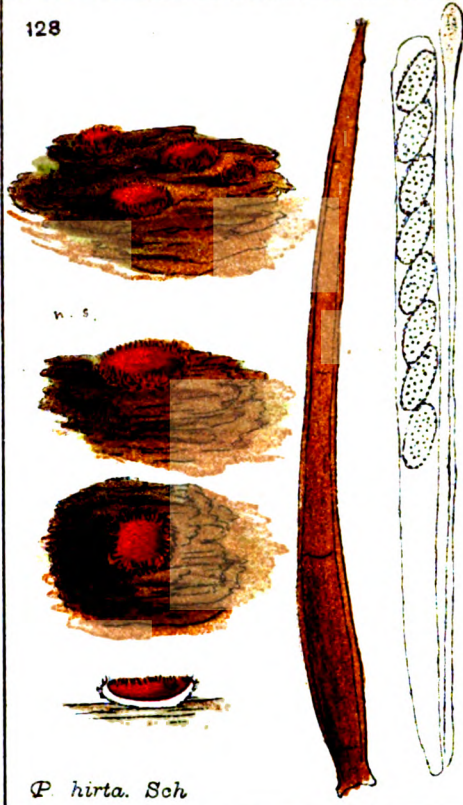
Cups $\frac{1}{2}$ -1 inch or more across. Sporidia $\cdot 03 \times \cdot 01$ - $\cdot 011$ m.m. Marginal hairs rather long, septate, brown.

Figured from specimens communicated by the Rev. M. J. Berkeley.

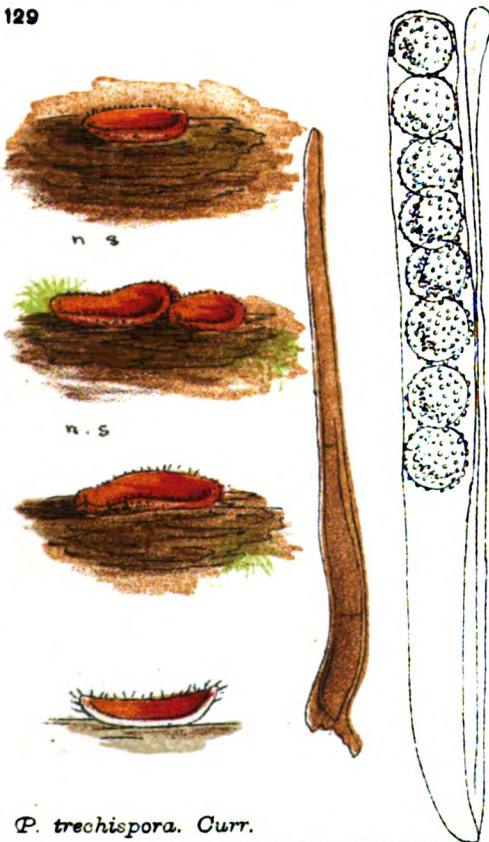
127



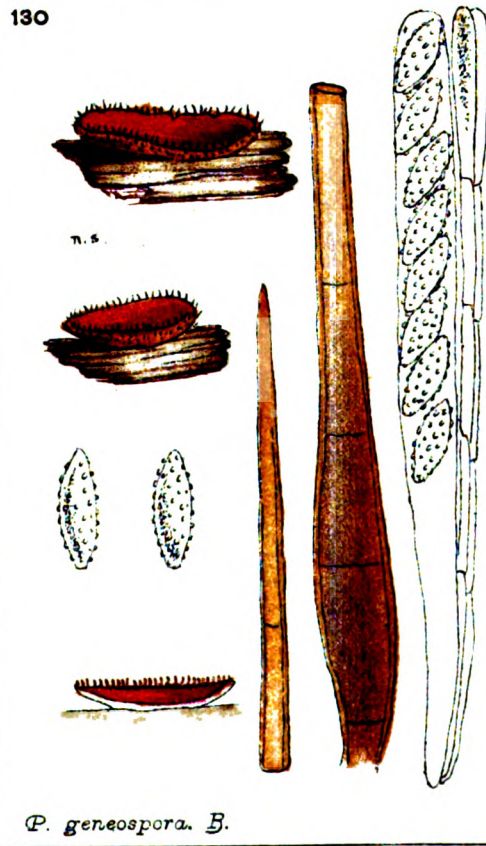
128



129



130



PEZIZA (SARGOSCYPHA)

Peziza (Sarcoscypha) scutellata. Linn.

PLATE 34.—Fig. 131.

Sessilis, applanata, miniato-rubra, extus pallidior, marginem versus setis nigris strictis hispida. Ascis cylindraccis. Sporidiis ellipticis, intus granulatis. Paraphysibus supra clavatis, aurantio-granulatis.

Peziza scutellata, Linn. Succ. 458; Fries Sys. Myc. ii. 85; Sow. Fung. t. 24; Bull. Champ. p. 247, t. 10; Fl. Dan. t. 1457, f. 2; Karst. Myc. Fenn. p. 70; Weinm. p. 437; Kickx. Fl. Fland. i. p. 491; Cooke Hdbk. No. 2025; Weberbauer, i. t. 3, f. 3; Grevillea, iii. fig. 114.

Elvela ciliata, Schæff. Icon. t. 284.

Peziza ciliata, Hoffm. Veg. Crypt. ii. p. 25. t. 7, f. 3; Holms. Ot. ii. p. 56, t. 18.

Octospora scutellata, Sch. Fl. Bar. ii. 504.

Octospora hirta, Hedw. Musc. t. 3, B.

Humaria scutellata, Fckl. Sym. Myc. p. 321.

On rotten wood, &c. Sum.—Aut.

Great Britain, Holland, Scandinavia, Denmark, France, Germany, Finland, Russia, Belgium, Bavaria, Austria, Hungary, Canada, United States, Java, Tasmania (?).

Cups 5-8 m.m. broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 011\text{-}\cdot 013$ m.m. granular within, but not truly rough. Marginal hairs long, $\cdot 6$ m.m. septate, brown, attenuated in the upper half.

Figured from specimens derived from the Rev. M. J. Berkeley, and compared with those published by Karsten and Fockel.

EXSICCATI.—Fckl. F.R. 1210; Desm. C.F. i. 702; Karst. F.F. 144; Phillips E.B. 64.

Peziza (Sarcoscypha) Margaritacea. Berk.

PLATE 34.—Fig. 132.

Sessilis, hemispherica, demum expansa, miniata, extus setis fuscis strictis hispida, margine sicco, subinflexo. Ascis cylindraccis. Sporidiis ellipticis, verruculosis, hyalinis. Paraphysibus superne clavatis, septatis, granulis aurantiacis repletis.

Peziza Margaritacea, Berk. in Herb.; Grevillea, iii. fig. 219.

On rotten wood.

Australia.

Cups 5-7 m.m. broad. Sporidia $\cdot 025\text{-}\cdot 027 \times \cdot 016\text{-}\cdot 018$ m.m. Marginal hairs short, $\cdot 2$ m.m., septate, brown.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) setosa. Nees.

PLATE 34.—Fig. 133.

Gregaria, sessilis, excavata, aurantiaca, extus setis longis erectis fuscis vestita. Ascis cylindraceutis. Sporidiis arcte ellipticis, lævibus. Paraphysibus linearibus, supra subclavatis.

Peziza setosa, Nees. Syst. p. 260, f. 275; Fries Sys. Myc. ii. 87; Weinm. p. 439 (?). Crouan Flor. Fin. p. 52; Grevillea, iii. fig. 220.

Humaria setosa, Fckl. Sym. Myc. p. 321.

On rotten trunks. Aut.

Germany, Holland, Switzerland, Russia, France, United States.

Cups 5 m.m. broad. Sporidia $\cdot 02 \times \cdot 01$ m.m. Marginal hairs long, $\cdot 4$ - $\cdot 5$ m.m., attenuated upwards, septate, brown.

Figured from specimens published by Fockel. Small forms of *P. scutellata* are sometimes referred to this species.

EXSICCATI.—Fckl. F.R. 1866. Thum. F. A. 1013.

Peziza (Sarcoscypha) Kerguelensis. Berk.

PLATE 34.—Fig. 134.

Sessilis, plana, adnata, margine tantum ut pherimum libero, coccinea, externe setis brevioribus subflaccidis plus minus contextis, primum pallidis deinde saturate rubris vestita, dissepimentis demum absorptis. Ascis cylindraceutis. Sporidiis late ellipticis, glabris, uniguttulatis. Paraphysibus linearibus, clavatis.

Peziza Kerguelensis, Berk. in Flora Antarctica, p. 145, t. 164, f. 3; Grevillea, iii. fig. 116.

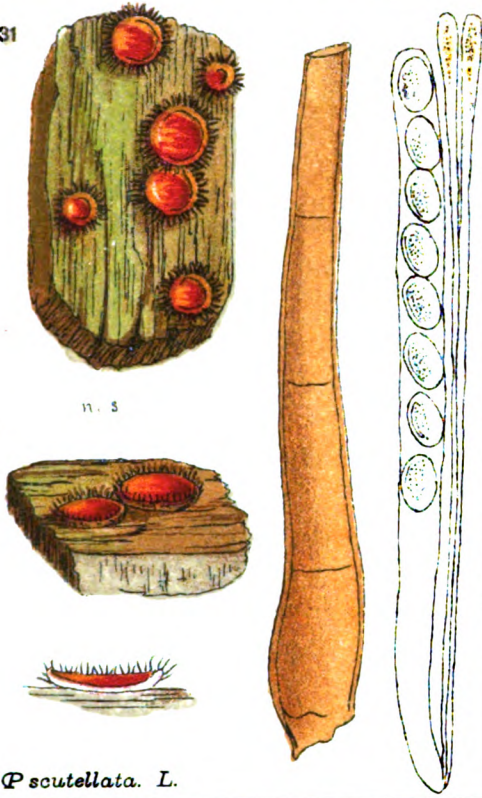
On boggy earth, &c.

Kerguelen's Land.

Cups $\frac{1}{2}$ - $\frac{3}{4}$ inch broad. Sporidia $\cdot 023 \times \cdot 017$ m.m. Marginal hairs few, slender, delicate brown, $\cdot 15$ - $\cdot 18$ m.m. long.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

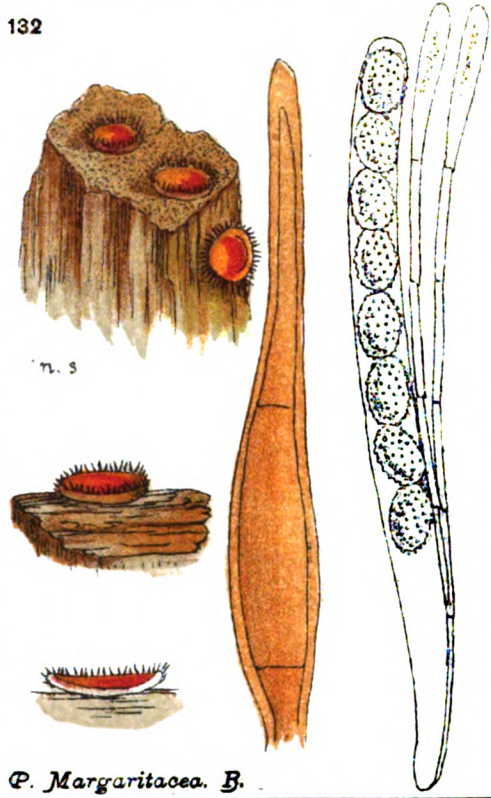
131



n. s

P. scutellata. L.

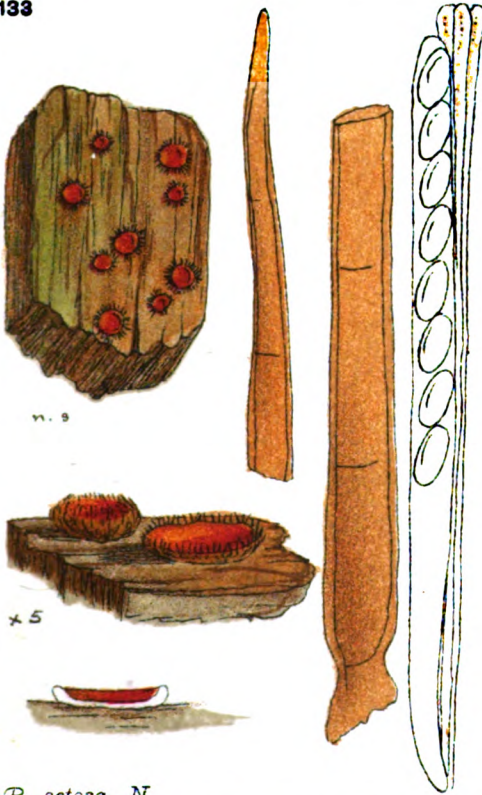
132



n. s

P. Margaritacea. B.

133

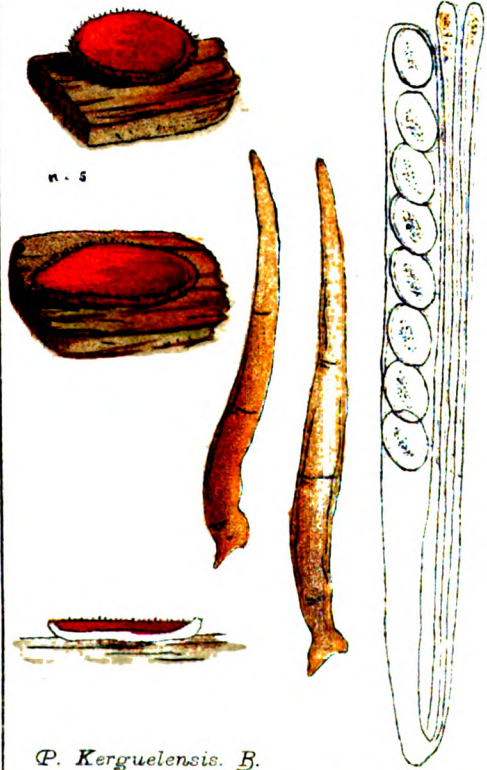


n. s

x 5

P. setosa. N.

134



n. s

P. Kerguelensis. B.

PEZIZA (SARCOSYPHA.)

Peziza (Sarcoscypha) stictica. Berk. & Curt.

PLATE 35.—Fig. 135.

Sessilis, sparsa, carnosa. Cupulis subhæmisphericis; hymenio aurantiaco-rubro, concavo, setis badiis cincto. Ascis cylindraceutis. Sporidiis late ellipticis, punctis minutis exasperatis. Paraphysibus linearibus.

Peziza stictica, Berk. & Curt., Cuban Fungi, No. 677; Grevillea, iii. fig. 105.

On the ground by the side of paths. June.

Cuba.

Cups 6-8 m.m. broad. Sporidia $\cdot 016 \times \cdot 011$ m.m., minutely dimpled like the head of a thimble. Marginal hairs rather short, brown, septate, attenuated upwards. Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) carneosanguinea. Fckl.

PLATE 35.—Fig. 136.

Sparsa, vel gregaria, sessilis, carnosa, extus marginoque arcte elevato, dilute fuscis, pilis brevibus, fuscis obsitis; hymenio primo concavo, demum plano, carneo-sanguineo. Ascis cylindraceutis. Sporidiis ellipticis, 2-3 guttulatis, lævibus. Paraphysibus simplicibus, clavatis.

Humaria carneosanguinea, Fckl. Sym. Myc., p. 323; Grevillea, iii. fig. 107.

On the ground.

Germany.

Cups 2-5 m.m. broad. Sporidia $\cdot 02 \times \cdot 01$ m.m. Marginal hairs short, flexuous, septate.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F. R., No. 2288.

Peziza (Sarcoscypha) umbrata. *Fr.*

PLATE 35.—Fig. 137.

Sessilis, carnosa, plano-concava, depressa, planiuscula, carneo-miniata, vetusta expallens, extus pilis badiis brevioribus obsessa. Ascis cylindraceis. Sporidiis ellipticis, lævibus. Paraphysibus superne incrassatis.

Peziza umbrata, Fries Summ. Veg. Scan. p. 351; Karst. Myc. Fenn. p. 69; Greville, iii. fig. 112.

Peziza umbrosa, Fries Sys. Myc. ii. 85; (pro parte), Kickx. Fl. Fland. i. p. 491.

On the ground. Autumn.

Scandinavia, Holland, Switzerland, Belgium.

Cups 6 m.m. broad. Sporidia $.018 \times .009$ m.m. Marginal hairs short, delicate, somewhat flexuous, septate.

Figured from specimens published by E. Cœmans in Rabenhorst's *Fungi Europæi*.

EXSICCATI.—Rabh. F.E. 217.

Peziza (Sarcoscypha) umbrorum. *Fckl.*

PLATE 35.—Fig. 138.

Sessilis, carnosa, carneo-miniata, hemispherica, demum concava, vel planiuscula, extus pilis badiis brevioribus obsessa. Ascis cylindraceis. Sporidiis late ellipticis vel oblongis, hyalinis, episporio tuberculato. Paraphysibus supra clavatis.

Peziza umbrosa, Fries Sys. Myc. ii. 85 (pro parte); Berk. & Br. Ann. Nat. Hist. (1866) No. 1163, t. 4, f. 28. (*var. cum sporidiis subglobosis.*)

Humaria umbrosa, Fckl. Sym. Myc. p. 323.

Peziza umbrata, Cooke Handbook, No. 2024.

On the ground.

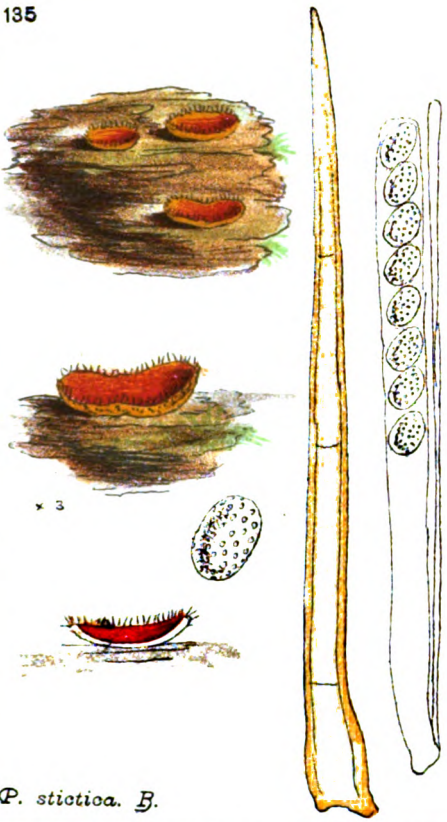
Great Britain, Scandinavia, Germany, Hungary, United States (Maine).

Cups 6 m.m. to 1 c.m. broad. Sporidia $.02-.022 \times .018$ m.m. Marginal hairs short, rather broad, septate, brown. The sporidia are sometimes nearly globose, always rough.

Figured from specimens published by Fuckel.

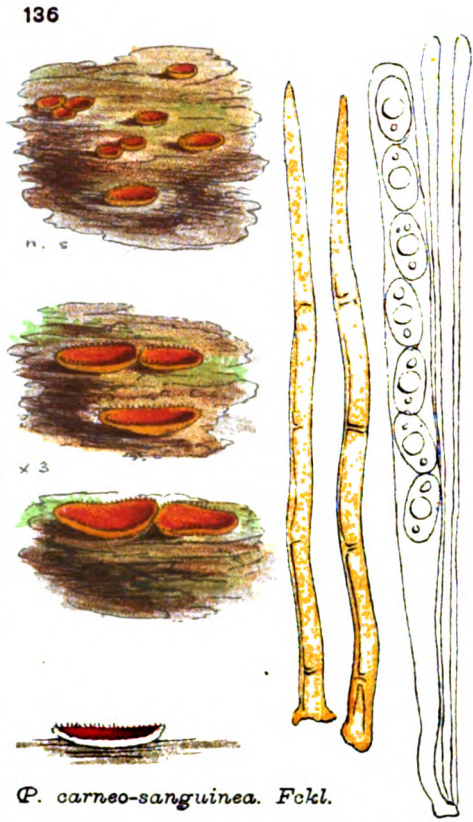
EXSICCATI.—Fckl. F.R. No. 2080; Phillips E.B. 65.

135



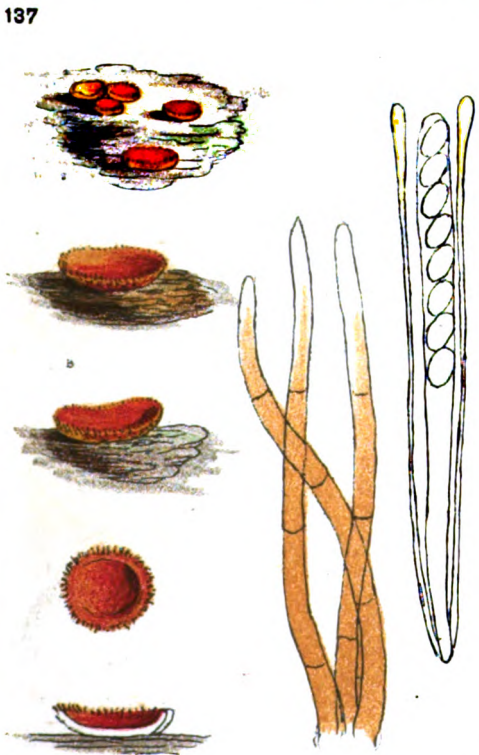
P. stictioa. B.

136



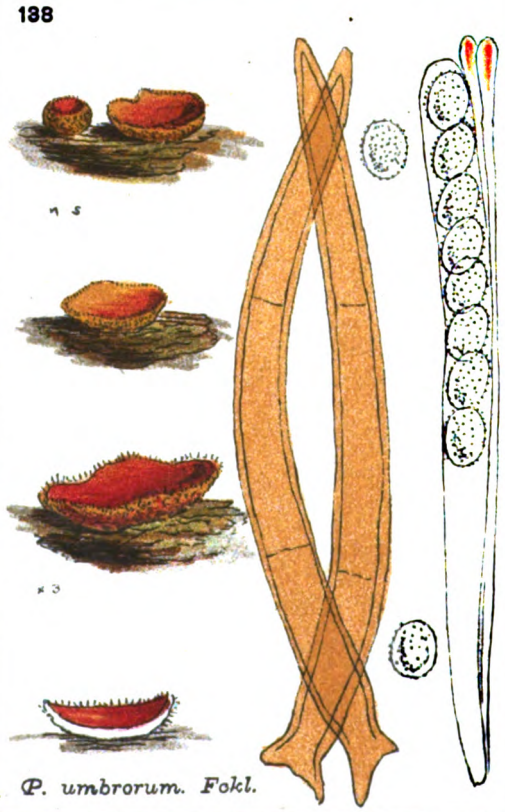
P. carneo-sanguinea. Fekl.

137



P. umbrata. Fr.

138



P. umbrorum. Fekl.

PEZIZA. (SARCOSCYPHA.)

Peziza (Sarcoscypha) livida. Schum.

PLATE 36.—Fig. 139.

Sessilis, subcarnosa, ex hemispherico-applanata, intus livido-glauca, extus fuliginosa, ciliis longis strigosis obsessa. Ascis cylindraceis. Sporidiis ellipticis, asperulis. Paraphysibus linearibus, supra subclavatis.

Peziza livida, Schum. Saell. ii. p. 422; Fl. Dan. t. 1915, f. 3; Fries Sys. Myc. ii. 86; Weinm. p. 438; Grevillea, iii. fig. 222.

Peziza scutellata, Batsch. Cont. f. 154.

Humaria livida, Fekl. Sym. Myc. 322 (?)

On rotten wood. Spring.

Great Britain, Denmark, Germany, Switzerland, Scandinavia, Russia.

Cups 5 m.m. broad. Sporidia $\cdot 02 \times \cdot 01$ m.m. Marginal hairs short, broad, obtuse, septate, brown, $\cdot 2$ - $\cdot 25$ m.m.

Peziza caerulea, Bolt. Fung. t. 108, fig. 2, is allied to this species.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) erinacea. Schwz.

PLATE 36.—Fig. 140.

Gregaria, orbicularis, depressa, ochraceo-alba, extus setulis longis badio-fuscis obsita. Ascis cylindraceis. Sporidiis ellipticis, nucleatis, laevibus. Paraphysibus supra clavatis.

Peziza erinaceus, Schwein Syn. Car. No. 1194; Fries Sys. Myc. ii. 86; Berk. in Grevillea, iii. 154; Grevillea, iii. fig. 217.

On rotten wood (*Liriodendron* and *Juglans*).

United States (Penns.).

Cups 2-4 m.m. broad. Sporidia $\cdot 02 \times \cdot 01$ - $\cdot 011$ m.m. Hairs short, brown, $\cdot 25$ m.m.

Figured from authentic specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) albo-spadicea. Grev.

PLATE 36.—Fig. 141.

Gregaria, sessilis, carnosae, subglobosae, hemisphaericae, demum applanatae, extus margineque pilis spadiceis strigosis; hymenio albido. Ascis cylindraceis. Sporidiis ellipticis, uninucleatis, laevibus. Paraphysibus supraclavatis.

Peziza albo-spadicea, Grev. Flor. Edin. p. 420; Cooke Handbook No. 2030; Berk. Eng. Fl. v. 194.

On the ground, in woods.

Great Britain. United States.

Cups about 5 m.m. broad. Sporidia $\cdot 02 \times \cdot 009\text{--}\cdot 01$ m.m. Hairs very short and delicate, about $\cdot 1$ m.m. long.

Figured from specimens communicated from the United States, by W. E. Gerard, of Poughkeepsie, which appear to be the species intended by Greville.

Peziza (Sarcoscypha) olivascens. Cooke.

PLATE 36.—Fig. 142.

Sparsa, sessilis, lentiformis, sicca contracta, cupulaeformis, obscure olivaceo-fusca, adpressa, setosa, humectata expansa; hymenio olivaceo-viridis, margine setis elongatis, articulatis, rigidis, fuscis, erecto-patentibus obsita. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus filiformibus, apice capitato-incrassatis.

Peziza olivascens, Cooke in Grevillea, iii. fig. 115.

Peziza macrochaeta, Rabh. in Gonn. & Rabh. Mycol. Eur. t. 5, f. 4 (nec Fries).

Peziza scutellata, β , *macrochaeta*, D'Not. Erb. Critt. Ital. 585; Comm. Critt. Ital. 1863, p. 387.

On rotten wood.

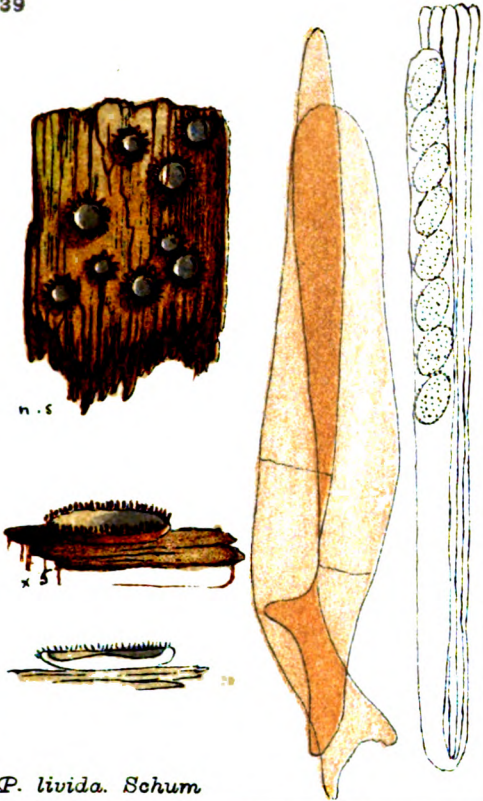
Italy, Germany.

Cups 3-6 m.m. broad. Sporidia $\cdot 02 \times \cdot 012$ m.m. Marginal hairs long, very thick, septate, coloured.

Figured from specimens published in Erb. Critt. Ital.

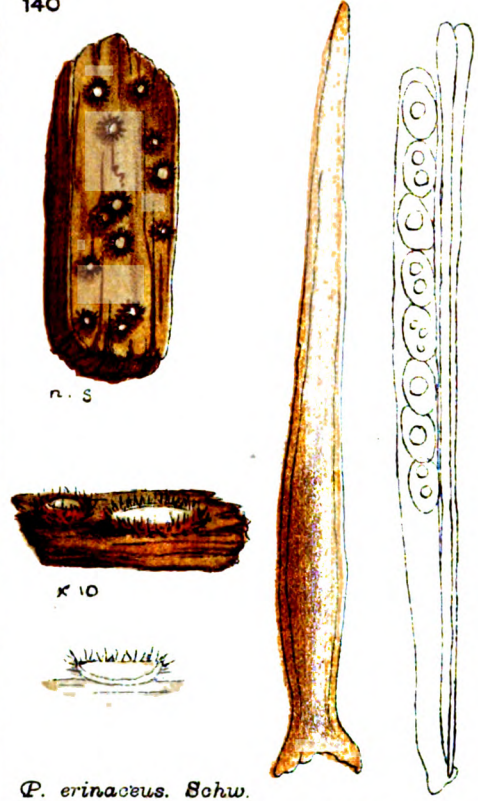
EXSICCATI.—Erb. Critt. Ital. i. 585.

139



P. livida. Schum

140



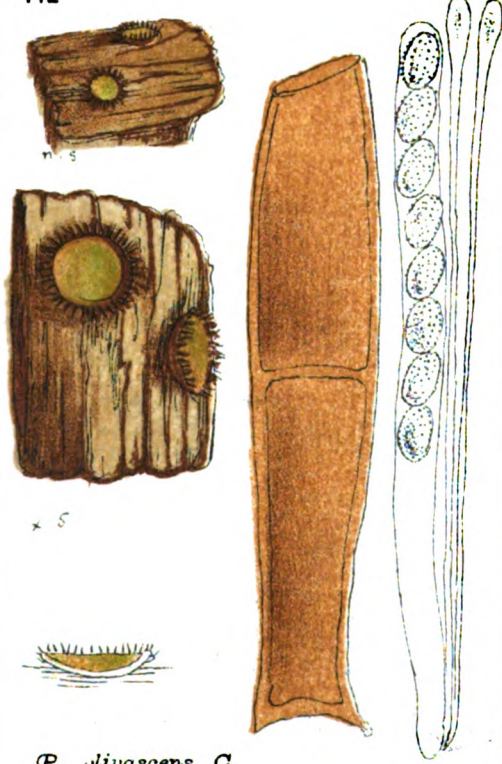
P. erinaceus. Schw.

141



P. albo-spadiosa. Gr.

142



P. olivascens. C.

PEZIZA (SARCOSYPHA.)

Peziza (*Sarcoscypha*) *vitellina*. *P.*

PLATE 37.—Fig. 143.

Subcœspitosa, carnososa, major, sessilis, flexuosa, læte flava, ad marginem setosa. Ascis cylindræis. Sporidiis late ellipticis, asperulis. Paraphysibus supra clavatis.

Peziza vitellina, Pers. Myc. Eur. p. 257; Fries Sys. Myc. ii. 84; Cooke Hdbk. No. 2023; Berk. & Br. Ann. N.H. (1866) No. 1163*t. 4, f. 29; Grevillea, iii. fig. 110.

On the ground. August.

Great Britain, France.

Cup about 5 m.m. broad. Sporidia $\cdot 022 \times \cdot 015$ m.m. Hairs rather long, septate, coloured.

Figured from specimens derived from Dr. Mougeot, and labelled "*P. vitellina*, Pers. ab ipse."

Peziza (*Sarcoscypha*) *Cubensis*. *B. & C.*

PLATE 37.—Fig. 144.

Sessilis, carnososa; cupula concava, coccinea, setis badiis cincta. Ascis cylindræis. Sporidiis late ellipticis, extus granulatis. Paraphysibus linearibus.

Peziza Cubensis, Berk. & Curt. in Cuban Fungi, No. 672.

On logs.

Cuba.

Cups 2-6 m.m. broad. Sporidia $\cdot 018\text{-}\cdot 02 \times \cdot 011$ m.m. Marginal hairs very short, septate, brown. This is very closely allied to *P. Texensis*, but the marginal hairs are of a very different character in the two species.

Figured from specimens communicated by the Rev. M. J. Berkeley.

Peziza (*Sarcoscypha*) *Texensis*. *Berk. & Curt.*

PLATE 36.—Fig. 145.

Sessilis, carnosa, applanata, sordide aurantiaca, extus parce setis fusiformibus pallidis, basi bulbosis, septatis sparsa; margine ciliato. Ascis cylindraccis. Sporidiis ellipticis, extus granulatis. Paraphysibus linearibus.

Peziza Texensis, Berk. & Curt. in *Grevillea*, iii. p. 154, No. 725; Cooke in *Bullet. Buff. Ac. Sci.* 1875, p. 291.

On the ground.

United States (Texas).

Cups 5-6 m.m. broad. Sporidia $\cdot 022\text{-}\cdot 023 \times \cdot 013$ m.m. Marginal hairs very short, septate, brown, attenuated and hyaline at the tips.

Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

Peziza (*Sarcoscypha*) *Lusatiæ*. *Cooke.*

PLATE 37.—Fig. 146.

Gregaria, sessilis, cupulæformis, demum applanata, aurantio-rubra, extus setis erectis fuscis vestita. Ascis cylindraccis. Sporidiis ellipticis, magnis, verruculosis. Paraphysibus superne clavatis, subaurantiacis.

Peziza setosa, Krietschmar in *Herb. Edin.*; Cooke in *Grevillea*, iii. fig. 113.

On rotten wood.

Germany (Lusatia).

Cups 5 m.m. broad. Sporidia $\cdot 025 \times \cdot 015$ m.m. Marginal hairs short.

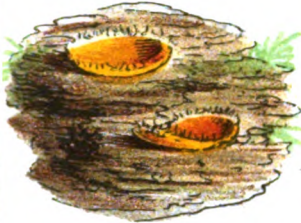
This species differs from *P. scutellata* and *P. setosa* in the larger, rough sporidia, shorter and more slender hairs; and from *P. hirta* in the much broader sporidia, although it is closely allied to these and also to *P. Margaritacea*, B.

Figured from the specimens in the University Herbarium, Edinburgh.

143



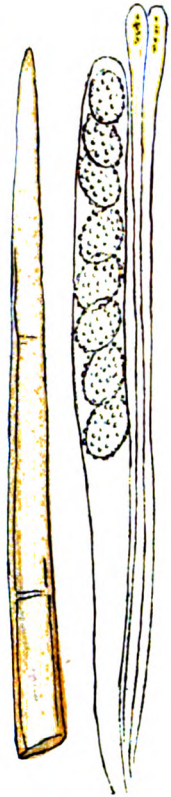
v. s



x 3



P. vitellina. P.



144



v. s



x 3



P. Cubensis. B & C.



145



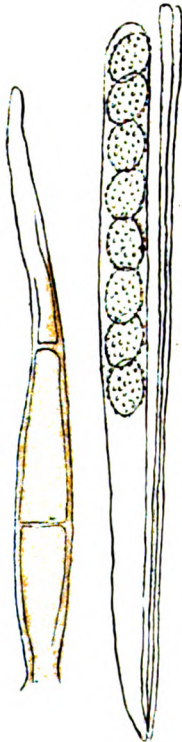
v. s



x 3



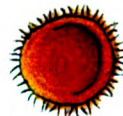
P. Texensis. B.



146



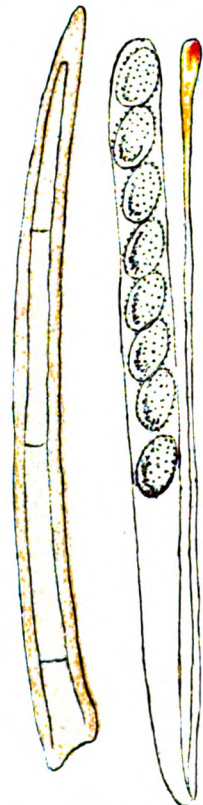
v. s



x 5



P. Lusatia. C.



PEZIZA. (SARCOSYPHA.)

Mycographia.]

Peziza (Sarcoscypha) stercorea. P.

PLATE 38.—Fig. 147.

Gregaria, sessilis, carnosae, concava, fulvae, extus setis badiis subrectis prope marginem obsessa, ciliata. Ascis cylindraceis. Sporidiis arcte ellipticis, laevibus. Paraphysibus clavatis.

Peziza stercorea, Pers. Obs. ii. p. 89; Fries Sys. Myc. ii. 87; Karst. Myc. Fenn. p. 71, Weinm. p. 439; Crouan Fl. Fin. p. 52; Kickx. Fl. Fland. i. 491; Cooke Handbook, No. 2028; Grevillea, iii. fig. 117.

Peziza lutea, Reich. in Berl. Ges. Naturf. iii. p. 216, t. 4, f. 7.

Peziza equina, Fl. Dan. t. 779, f. 3; Sow. Fung. t. 352.

Octospora scutellata, Hedw. Musc. ii. t. 3, f. A.

Peziza scutellata, Bolt. Fung. t. 108, f. 1.

Peziza ciliata, Bull. Champ. p. 257, t. 438, f. 2.

Humaria stercorea, Fckl. Sym. Myc. p. 321.

On dung, and rich earth. Summer.

Great Britain, Germany, France, Scandinavia, Denmark, Holland, Belgium, Finland, Russia, Austria, Hungary, United States, Falkland Islands, Chili, Tasmania.

Cup 1-3 m.m. broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 008\text{-}\cdot 009$ m.m. Marginal hairs long, $\cdot 5\text{-}\cdot 6$ m.m., under hairs stellate or peltate.

Figured from specimens collected in Scotland by the late A. Jerdon.

EXSICCATI.—Fckl. F.R. 2081 (?) Karst. F.F. 633.

Peziza (Sarcoscypha) alpina. Fckl.

PLATE 38.—Fig. 148.

Gregaria, carnosae, sessilis, cupula primo clausa, dein concava, demum applanata, orbicularis; margine distincto, acuto, erecto, aurantiaco-flavis, extus pilis concoloribus stellatis, margine setosis articulatis obsita. Ascis cylindraceis. Sporidiis ellipticis, laevibus. Paraphysibus clavatis, simplicibus, granulis luteis repletis.

Humaria alpina, Fckl. Sym. Myc. App. iii., p. 32.

Humaria stercorea, var. *aurantiaco-flava*, Fckl. Sym. Myc. App. ii. p. 64.

On cow dung.

Germany.

Cups 1-2 m.m. broad. Sporidia $\cdot 015\text{-}\cdot 016 \times \cdot 008$ m.m. Marginal hairs robust, long, straight, $\cdot 6$ m.m. or more; lower hairs variously stellate, peltate, or cruciate, septate. Allied very closely to *P. stercorea*.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F. R., No. 2687.

Peziza (Sarcoscypha) coprinaria. Cooke.

PLATE 38.—Fig. 149.

Subgregaria, sessilis, carnosa, aurantio-rubra vel coccinea, hemispherica, dein applanata; margine elevato, pilis pallide fuscis septatis vestita. Ascis cylindraceutis. Sporidiis ellipticis, laevibus. Paraphysibus supra clavatis, granulis aurantiacis repletis.

Peziza coprinaria, Cooke in Grevillea, iv. p. 91.

On cow dung. Autumn.

Great Britain (Scotland).

Cups 1 c.m. broad. Sporidia $.018-.02 \times .01$ m.m. External cells of cup very large. Marginal hairs long, simple, septate $\frac{1}{2}$ m.m. long, mixed with others that are shorter, mostly confined to the margin, not branched or stellate. Cups remain flattened in drying.

Figured from specimens exhibited at the Perth Show of the Cryptogamic Society of Scotland.

Peziza (Sarcoscypha) scubalonta. C. & Ger.

PLATE 38.—Fig. 150.

Sparsa, sessilis, carnosa, hemispherica, demum expansa, sicco contracta, extus pilis fuscis septatis dense obsita; hymenio concavo, aurantio, sicco rubro. Ascis cylindraceutis. Sporidiis ellipticis, laevibus. Paraphysibus filiformibus, supra expansis, subclavatis, granulis aurantiacis repletis.

Peziza scubalonta, Cooke and Gerard in Grevillea, iv. p. 92.

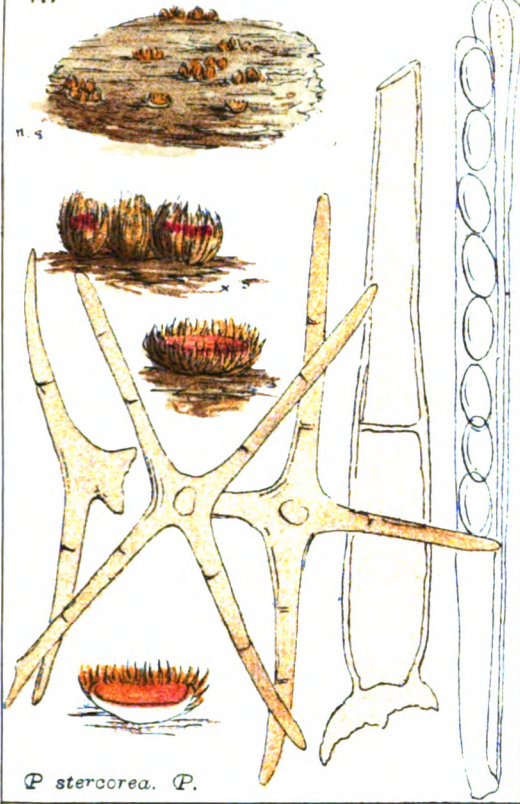
On dung.

United States.

Cups 1 c.m. broad. Sporidia $.016 \times .008$ m.m. Marginal hairs slender and simple, $.2$ m.m. None of the hairs are stellate or branched; external cells of the cups small. The distinctions between the four species on plate 38 are indicated in the figures. All are closely allied.

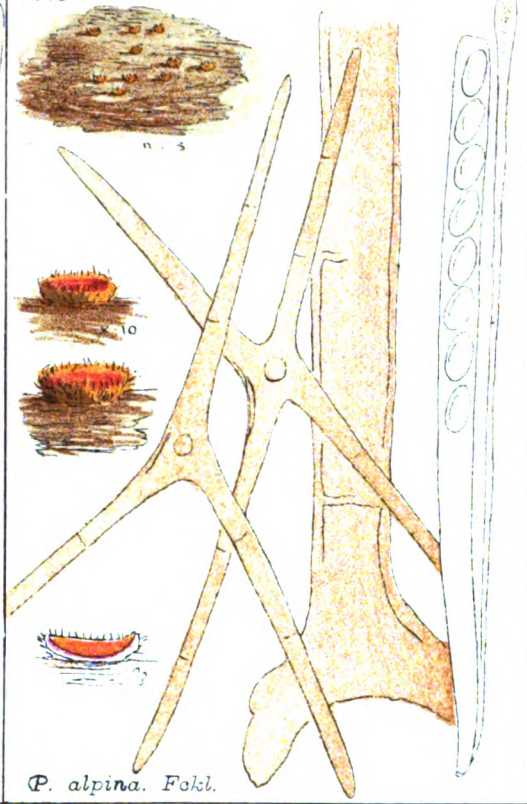
Figured from the original specimens from the Catskill Mountains collected and forwarded by W. R. Gerard, of Poughkeepsie, New York.

147



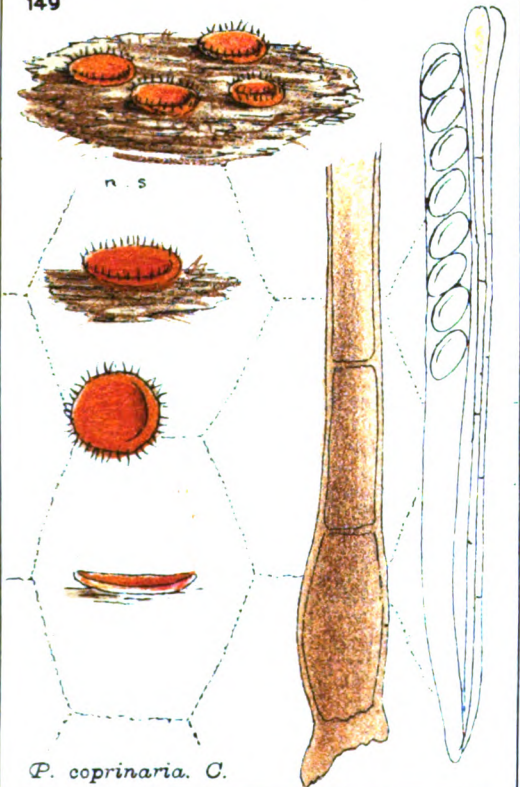
P. stercorea. P.

148



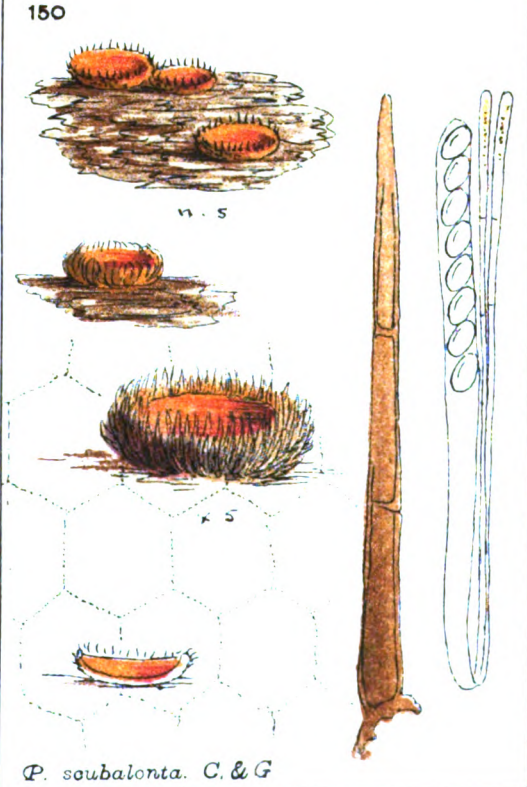
P. alpina. Fekl.

149



P. coprinaria. C.

150



P. soubalonta. C. & G

PEZIZA (SARGOSCYPHA.)

Peziza (*Sarcoscypha*) *theleboloides*. A. & S.

PLATE 39.—Fig. 151.

Subgregaria, carnosae, subglobosae, dein dolioliformis, albida, ore concavo, sordida lutescente, extus setis pallidis hispidula. Ascis cylindraceis. Sporidiis ellipticis, laevibus. Paraphysibus vix incrassatis, filiformibus.

Peziza theleboloides, Alb. & Schw. Consp. p. 322, t. 12, f. 4; Fries Sys. Myc. ii. 88; Cooke Hdbk. No. 2029; Berk. & Br. Ann. N.H. No. 1065, t. 15, fig. 17; Grevillea, iii. fig. 118.

On dung, spent hops, &c.

Great Britain, Scandinavia, Germany, United States.

Cups 5 m.m. to 1 c.m. broad. Sporidia $\cdot 012\text{--}\cdot 014 \times \cdot 007$ m.m. Hairs slender, hyaline, septate, about $\cdot 2$ m.m. long. This is doubtless the species intended by Albertini and Schweinitz.

Figured from specimens collected by C. E. Broome, and published in *Fungi Britannici*.

EXSICCATI.—Phillips E.B. 20; Rabh. F. E. 621; Cooke F.B. i. 571, ii. 185.

Peziza (*Sarcoscypha*) *rubra*. Cooke.

PLATE 39.—Fig. 152.

Gregaria, carnosae, aurantio-rubrae, subglobosae, demum expansae, margine elevato, pilis brevibus fuscis obsita. Ascis cylindraceis. Sporidiis ellipticis, laevibus. Paraphysibus clavatis.

Peziza theleboloides var. *rubra*, Cooke in *Fungi Britt. ser. i.* No. 572; Grevillea, iii. fig. 119.

On spent hops.

Great Britain.

Cups about 5 m.m. broad. Sporidia $\cdot 018\text{--}\cdot 02 \times \cdot 01$ m.m. Hairs reddish-brown, about $\cdot 2$ m.m. long, two or three times as thick as in *P. theleboloides*, with which species it has been confounded. Although growing in company, there appears to be good grounds for regarding them as distinct.

Figured from specimens collected by C. E. Broome, and published in *Fungi Britannici*.

EXSICCATI.—Cooke F. B. i. 572, ii. 186.

Peziza (Sarcoscypha) Dalmeniensis. Cooke.

PLATE 39.—Fig. 153.

Sessilis, carnosa, cupula hemispherica, demum expansa, læte flava, margine elevato, pilis erectis, longiusculis, concoloris obsita. Ascis cylindraccis. Sporidiis ellipticis, lævibus. Paraphysibus supra arcte clavatis.

Peziza Dalmeniensis, Cooke in Grevillea, iii. p. 66, t. 34, fig. 121.

On the ground, in woods. Sept.

Great Britain (Scotland).

Cups 1 c.m. broad. Hairs .6 m.m. long, septate, tawny-yellow. Sporidia .012 × .007 m.m. Resembling in some features *P. theleboloides*, A. & S.

Figured from the original specimens in the herbarium of the author, and in the University herbarium at the Royal Botanic Gardens, Edinburgh. Since collected by W. Phillips, near Shrewsbury.

EXSICCATI.—Phillips E. B. (ined.)

Peziza (Sarcoscypha) pulcherrima. Cr.

PLATE 39.—Fig. 154.

Sessilis, carnosa, subcylindricis, demum subhemispherica, concava, aurantio-flava, extus margineque pilis brevis, strictis, articulatis, pallide fuscis obsita; hymenio plano. Ascis cylindraccis. Sporidiis ellipticis, lævibus. Paraphysibus filiformibus, apice incrassatis, granulis flavidis repletis.

Ascobolus pulcherrimus, Crouan Ann. des Sci. Nat. 1858, x. t. 139; Fckl. Sym. Myc. p. 289; Crouan Fl. Fin. p. 55; Boudier Mem. Asc. p. 67.

On cow dung. Summer—Aut.

France, Germany.

Cups 1-2 m.m. diam. Sporidia .028 × .012 m.m. Hairs about 2 m.m. long, slender, septate.

Figured from specimens published by E. Coemans in Rabenhorst's Fungi Europæi.

Peziza erecta, Sow. t. 369, is evidently closely allied to this species.

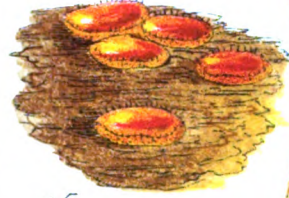
EXSICCATI.—Fckl. F.R. 1859; Rabh. F.E. 385.

151



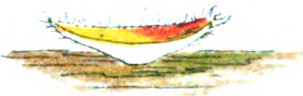
P. theleboides. A & S.

152



P. rubra. C.

153



P. Dalmaniensis. C.

154



P. pulcherrima. Cr.

PEZIZA. (SARCOSYPHA.)

Peziza (Sarcoscypha) albo-tecta. B. & C.

PLATE 40.—Fig. 155.

Sessilis, carnosa, carnea, ubique farinacea tomentosa; cupulis centro affixis, subtus rugosis; hymenio demum plano. Ascis subclavatis, brevibus. Sporidiis elongatis, leniter clavatis, biseriatis, hyalinis. Paraphysibus linearibus.

Peziza albo-tecta, Berk. & Curt. Cuban Fungi, No. 676; Grevillea, iii. fig. 106.

On earth, in savannahs.

Cuba.

Cups 1-2 m.m. diam. Sporidia $\cdot 012\text{-}\cdot 014 \times \cdot 005$ m.m., smaller and narrower than in allied species. Looks at first sight like a Lichen; margin sometimes crenate, at length quite obliterated.

Figured from specimens published by Wright, and compared with those in the herbarium of the Rev. M. J. Berkeley.

EXSICCATI.—Wright Cub. No. 676.

Peziza (Sarcoscypha) luteo-pallens. Nyl.

PLATE 40.—Fig. 156.

Sessilis, testaceo-pallida vel testaceo-lutescentia, planiuscula, extus sub-arachnoidea, parum crassa; margine attenuato, integro vel subintegro. Ascis cylindraceutis. Sporidiis ellipsoideis. Paraphysibus filiformibus.

Peziza luteo-pallens, Nyl. Obs. Pers. p. 18; Karst. Mon. Pez. p. 118; Grevillea, iii. fig. 72.

Pyronema luteo-pallens in Rehm. Ascomyceten.

On the ground. October.

Finland, Austria.

Cups 4-7 m.m. Sporidia $\cdot 012 \times \cdot 006$ m.m. Hairs delicate, septate.

Figured from specimens collected by Professor Lojka, in Galicia, and published by Dr. Rehm.

EXSICCATI.—Rehm. Ascomy. No. 7.

Peziza (Sarcoscypha) albo-cincta. B. & C.

PLATE 40.—Fig. 157.

Sparsa, substipitata; cupula coccinea, concava, extus margineque floccis niveis ornatis. Ascis cylindraceutis. Sporidiis ellipticis, echinulatis.

Peziza albo-cincta, B. & Curt. in Grevillea, iii. p. 154 (nec Ravenel, nec Grevillea, iii. fig. 111); Cooke in Bullet. Buff. Acad. Sci. 1875, p. 291.

On the ground, amongst moss.

United States (Carolina).

Cups 1-2 m.m. broad. Sporidia $.022 \times .01-.011$ m.m. Hairs slender, hyaline, septate, 2-3 m.m. long or more.

Since the figures were drawn, we have received specimens from Ravenel, which agree in all other particulars with specimens in herb. Berk., except that the cups are attenuated downwards into a thick stem, as decided as in *P. vivida*, Nyl.

Figured from specimens communicated by the Rev. M. J. Berkeley. Some of the specimens distributed by Ravenel under this name are quite different.

Peziza (Sarcoscypha) monilifera. Berk. & Curt.

PLATE 40.—Fig. 158.

Minuta, terrestris, lutea, hymenio primum umbilicato, demum flexuoso, immarginato. Ascis cylindraceutis. Sporidiis uniseriatis, globosis, lævibus. Paraphysibus linearibus, superne leniter clavatis.

Peziza monilifera, Berk. & Curt. Cuban Fungi. No. 673.

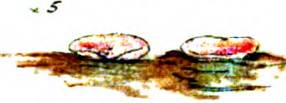
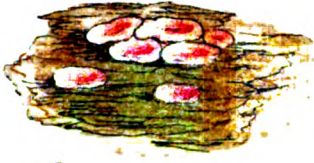
On the ground.

Cuba.

Cups 1 m.m. broad. Sporidia $.015-.016$ m.m. diam. Hairs very delicate, septate.

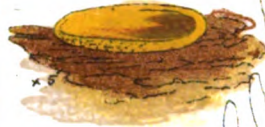
Figured from specimens in the herbarium of the Rev. M. J. Berkeley.

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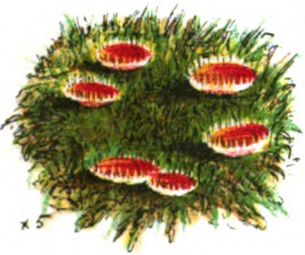
P. albo-tecta. B & C

156



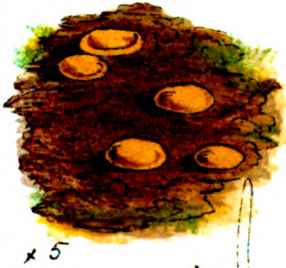
P. luteo-pallens. N.

157



P. albo-cincta. B & C

158



P. monilifera. B.

Part 3.]

OCTOBER, 1876.

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Figures of Fungi

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South Frederick Street. LEIPZIG: A. DURE. NEW YORK: WESTERMANN & Co.

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40.	„ <i>limnicola</i> , Hazs.	80.	„ <i>schizospora</i> , Ph.

HELVELLA. *Fr.*

Receptaculum pileatum, centro suffultum, deflexum, subinflatum, sinuosum, subtus concavum, sterile, supra margineque hymenio tectum. Hymenium læve, persistens. Stipes constanter præsens, cum centro receptaculi contiguus, cavus, vel medulla floccosa farctus. Pileus adultus mitræformis, compressus, lobatus, siccus, subtus pruinosis. Substantia ceraceo-membranacea.—*Fries Sys. Myc.* II. 15.

Terrestrial.

Chiefly in temperate regions.

Sect. I. MITRÆ.—Pileus ceraceo-membranaceus, primo adnatus ; stipes firmus.

a. Stipite lacunoso.

b. Stipite lævi.

Sect. II. PEZIZOIDEÆ.—Pileus submembranaceus, lævis, semper liber.

Helvella crispa. Fries.

PLATE 41.—Fig. 159.

Pileo deflexo, lobato, liberato, crispo, pallido. Stipite fistuloso, costato-lacunoso. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus filiformibus.

Helvella crispa, Fries Sys. Myc. ii. p. 14; Berk. Outl. t. 21, fig. 4; Cooke, Handbook, No. 1944; Grev. Sc. Crypt. Fl. t. 143; Vitt. Mang. t. 31, f. 1; Lenz. fig. 57; Badham t. v. f. 1; Barla, t. 43, f. 1-5; Price, Illus. f. 57.

Helvella mitra, Purt. Midl. Fl. iii. t. 16; Bull, t. 466, f. A.

Helvella leucophæa, Tratt. Austr. f. 36.

On the ground. Aut. Esculent.

Britain, Denmark, Scandinavia, Germany, Austria, France, Switzerland, Italy, Russia, Netherlands, United States.

Sporidia 0.18×0.09 m.m.

Figured from specimens published in Fungi Britannici.

EXSICCATI.—Fekl. F. Rhen. 1242; Berk. Br. Fungi, No. 264; Erb. Critt. Ital. i. 464; Rabh. F. Eur. 238; Cooke F. Brit. i. 555.

Helvella lacunosa. Afz.

PLATE 41.—Fig. 160.

Pileo inflato, lobato, cinereo-nigro, lobis deflexis, adnatis. Stipite fistuloso, costato-lacunoso. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus filiformibus, supra leniter clavatis.

Helvella lacunosa, Afz. in Act. Holm. 1783, p. 304; Klot. Flor. Bor. t. 383. Fries Sys. Myc. ii. p. 15; Holms. Otis. p. 45, t. 24; Cooke, Handbook, No. 1945; Weberbauer, t. 5, f. 2; Lenz. fig. 58; Barla, t. 43, f. 6-11.

Helvella mitra, Bull, t. 190, t. 466, f. B; Grev. S. Cr. Fl. t. 36.

Helvella nigra, Berg. Phyt. t. 147.

Elvella mitra, Flor. Dan. t. 116.

Elvella nigricans, Schæff. Ic. t. 154.

On the ground. Spring—Aut. Esculent.

Britain, Denmark, Scandinavia, France, Russia, Portugal, Germany, Italy, Netherlands, United States.

Sporidia 0.18×0.01 m.m.

Figured from specimens published in Welwitsch's Cryptotheca Lusitanaica.

EXSICCATI.—Erb. Critt. Ital. i. 465; Welw. Crypt. Lusit. 56; Berk. Brit. Fungi, No. 265; Fekl. F. Rhen. No. 1241.

Helvella sulcata. Afz.

PLATE 41.—Fig. 161.

Pileo deflexo, lobato, adnato. Stipite farcto, costis æqualibus sulcato. Ascis cylindraccis. Sporidiis ellipticis. Paraphysibus linearibus, septatis, supra incrassatis.

Helvella sulcata, Afzel. in. Vet. Ac. Handbk. 1783, p. 304; Cooke, Handbook, No. 1946; Fr. Sys. Mys. ii. 15.

Helvella monachella, Thumen F. Austr. No. 11.

On the ground. Aut.

Britain, Scandinavia, Austria, Russia, United States.

Usually of small size. Sporidia $\cdot 02 \times \cdot 01$ - $\cdot 011$ m.m.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

EXSICCATI.—Thum. F. Austr. No. 11.

Helvella subcostata. Cooke.

PLATE 41.—Fig. 162.

Pileo deflexo, libero, sublobato, lævi; subtus pallidiore, costato-venoso. Stipite æquali, longitudinaliter costato. Ascis cylindraccis. Sporidiis ellipticis, obtusis, uninucleatis. Paraphysibus sursum incrassatis.

Helvella costata, Afz. in Herb. Berk. (non Schweinitz).

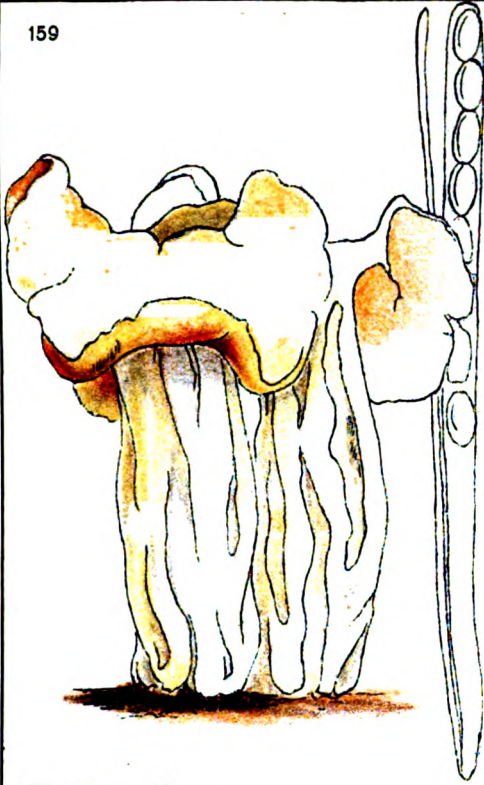
On the ground.

Locality unknown, believed to be Northern Europe.

Pileus $2\frac{1}{2}$ in. broad. Stem $2\frac{1}{2}$ in. long. Sporidia $\cdot 018$ - $\cdot 02 \times \cdot 01$ m.m., obtuse and uninucleate.

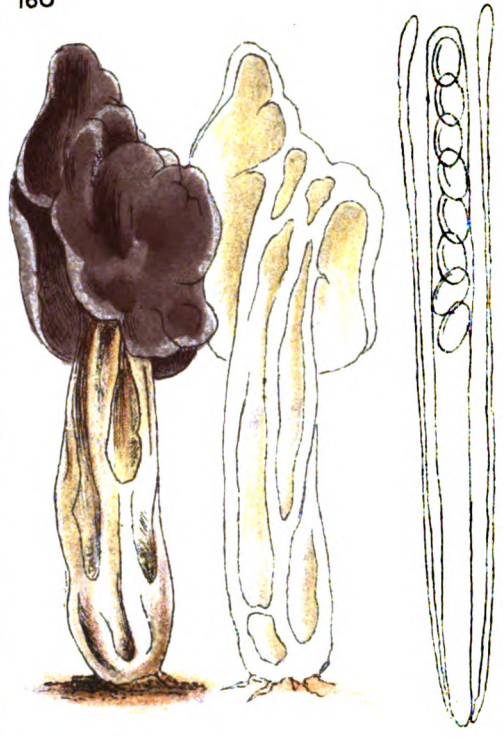
Figured from specimen in the Herbarium of the Rev. M. J. Berkeley, under the name of *Helvella costata*, Afz.

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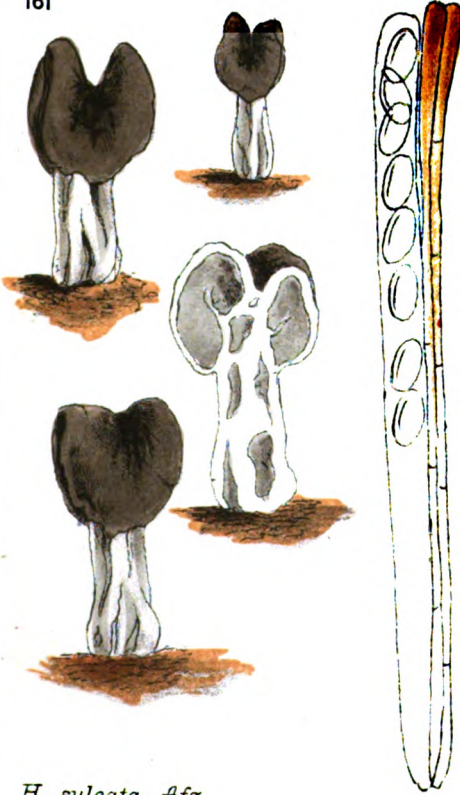
H. crispa. Fr.

160



H. lacunosa. Afz.

161



H. sulcata. Afz.

162



H. subcostata. C.

HELVELLA.

Helvella elastica. Bull.

PLATE 42.—Fig. 163.

Pileo libero, lævi, inflato, demum acute lobato. Stipite elongato, tenui, attenuato, pruinoso. Ascis cylindraccis. Sporidiis ellipticis. Paraphysibus filiformibus, sursum leniter incrassatis.

Helvella elastica, Bull. Champ. p. 289, t. 242; Fries Sys. Myc. ii. 21; Cooke, Handbk. No. 1947; Krombh. t. 21, fig. 21.

Elvela fuliginosa, Schæff. Icon. t. 320.

Helvella mitra, Bolt, t. 95.

Helvella fuliginosa, Dicks. ii. p. 25; Sow. Fung. t. 154.

In moist places in shady woods. Sum.—Aut.

Britain, France, Scandinavia, Germany, Austria, Netherlands, Russia, Italy, United States.

Sporidia $\cdot 02 \times \cdot 01$ - $\cdot 011$ m.m. Variable in colour and size.
Figured from specimens published in *Fungi Britannici*.

EXSICCATI.—Erb. Critt. Ital. 233; Desm. Crypt. Fr. i. 425; Berk. Brit. Fungi, No. 266; Cooke F. Britt. i. 233; Fekl. F. Rhen. 137.

Helvella gracilis. Peck.

PLATE 42.—Fig. 164.

Pileo libero, lævi, demum lobato, deflexo, ochraceo. Stipite elongato, tenui, subpruinoso, concolori, demum fistuloso. Ascis cylindraccis. Sporidiis late ellipticis. Paraphysibus sursum incrassatis.

Helvella gracilis, Peck. in 24th Report of N.Y. State Museum, p. 94.

On the ground.

United States.

Size and habit that of *H. elastica*, wholly ochraceous. Sporidia $\cdot 018$ - $\cdot 02 \times \cdot 012$ m.m.

Figured from specimens communicated by C. H. Peck from New York, U.S. It is apparently only different in colour from the usual condition of *H. elastica*, of which it is probably a variety.

Helvella fistulosa. A. & S.

PLATE 42.—Fig. 165.

Pileo planiusculo, repando, demum deflexo, supra livido-fuligineo, subtus lævi, incarnato-rosello. Stipite longo, sursum incrassato, carneo. Ascis cylindraccis. Sporidiis ellipticis, binucleatis. Paraphysibus filiformibus.

Helvella fistulosa, Alb. & Schw. Consp. p. 299 ; Fries Sys. Myc. ii. 21 ; Krombh. Schw. t. 19, f. 30 ; Weberbauer, t. 5, f. 3.

Amongst moss in woods. Oct.

Germany, Bohemia.

Sporidia $\cdot 02 \times \cdot 01$ m.m.
Figured from specimens published by Fuckel.

EXSICCATI.—Fekl. F.R. No. 1239.

Helvella fuliginosa. Pers.

PLATE 42.—Fig. 166.

Pileo complanato, demum reflexo, undulato-lobato, fuligineo. Stipite tenui, elongato, gracili, concolori. Ascis cylindraccis. Sporidiis ellipticis. Paraphysibus filiformibus.

Helvella fuliginosa, Pers. in Herb. Paris.

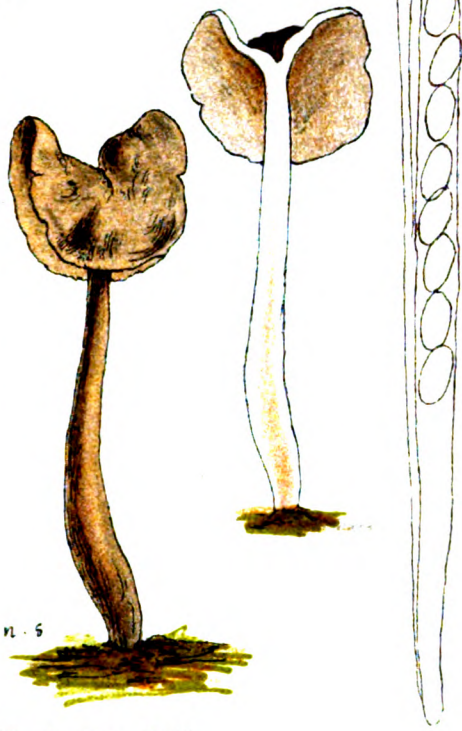
On the ground.

France.

Sporidia $\cdot 022\text{--}\cdot 025 \times \cdot 012\text{--}\cdot 014$ m.m.

Figured from specimen in the Herbarium of the Academy in the Jardin des Plantes, Paris, under the above name, which is usually regarded as synonymous with *H. elastica*, but the sporidia are decidedly larger. Whether it is permanently to be regarded as a distinct species must depend on the examination of further specimens.

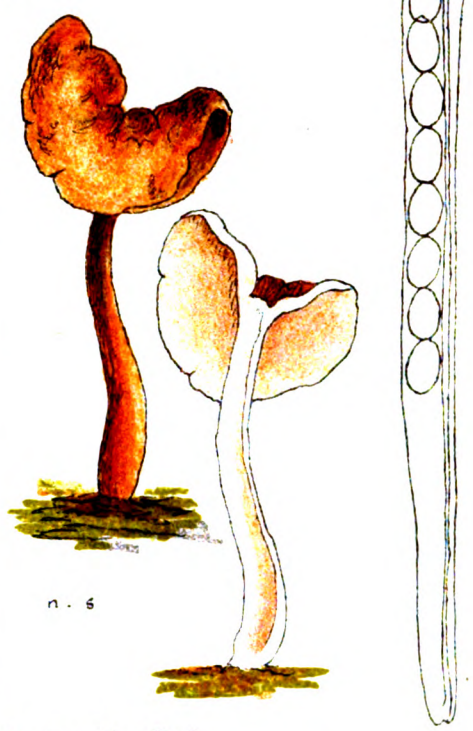
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n. 5

H. elastica. Bull

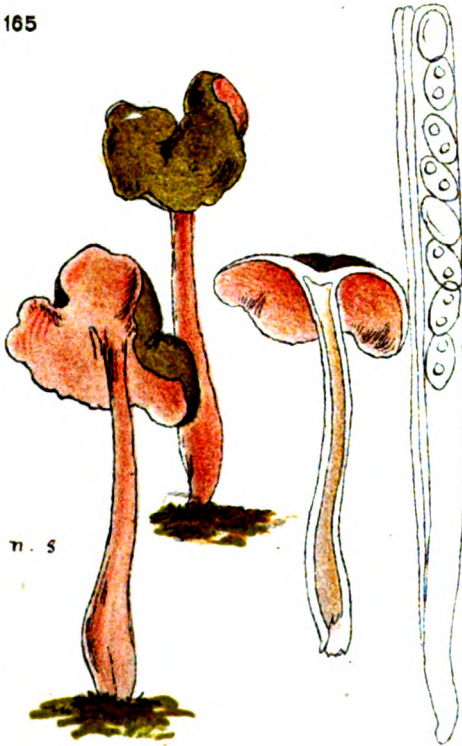
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n. 5

H. gracilis. Peck.

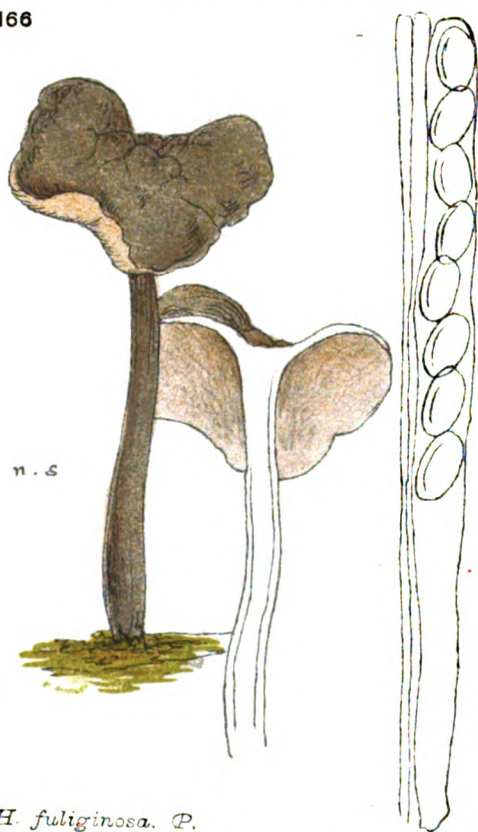
165



n. 5

H. fistulosa. A & S.

166



n. 5

H. fuliginosa. P.

Helvella atra. König.

PLATE 43.—Fig. 167.

Fulgineo-nigra. Pileo deflexo, utrinque adpresso, libero, subtus lævi. Stipite farcto, furfuraceo-villoso. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus sursum leniter incrassatis.

Helvella atra, König. Zæga, Fl. Isl. 20 ; Fries Sys. Myc. ii. 19 ; Holms. Ot. ii. t. 25 ; Krombh. Schw. t. 21, f. 18-20.

Helvella nigrescens, Pers. Syn. p. 617 ; Obs. Myc. i. 71.

Helvella atra, Flor. Dan. t. 534, f. 1.

In moist woods. Sum.—Aut.

Scandinavia, Denmark, Russia (Finland), Germany, Austria, United States.

Sporidia $\cdot 017 \times \cdot 008$ m.m.

Figured from specimens published by Fuckel.

EXSICCATI.—Rabh. F. Eur. 236 ; Fckl. F.R. No. 1238.

Helvella Klotschiana. Corda.

PLATE 43.—Fig. 168.

Pileo sub-bilobato, deflexo, membranaceo, lævi, opaco, fusco, margine repando, subtus lævi, luteolo. Stipite tenui, subcylindrico, flavido, intus albo pleno. Ascis cylindraceutis. Sporidiis uniseriatis, ellipticis, uniguttulatis. Paraphysibus sursum clavatis, brunneis.

Helvella Klotschiana, Corda in Sturm. Fl. iii. t. 57.

Helvella elastica, Rabh. Fung. Eur. No. 130.

Germany, Italy.

Sporidia $\cdot 012\text{-}\cdot 014 \times \cdot 006$ m.m.

Figured from specimens published in Erb. Critt. Ital.

EXSICCATI.—Erb. Critt. Ital. i. 137 ; Rabh. F. Eur. 130.

Helvella ephippium. Lev.

PLATE 43.—Fig. 169.

Gregaria, villosa, cinerea. Pileo 2-3 lobato, deflexo, libero. Stipite cylindrico, lævi, farcto. Ascis cylindraccis. Sporidiis ellipticis. Paraphysibus sursum incrassatis, granulis fuscis repletis.

Helvella ephippium, Leveille Ann. des Sci. Nat. 1841, p. 240, t. 16, fig. 7; Cooke, Handbk. No. 1948.

On the ground, in grassy places. Sum.

Britain, France, Russia (Finland), United States.

Sporidia $\cdot 018 \times \cdot 01$ m.m.

This species differs from all its allies in the decidedly villose under-surface and stem (fig. *h* \times 500).

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

EXSICCATI.—Desm. Crypt. Fr. i. 1414 (nondum vidi).

Helvella pusilla. Berk. & Curt.

PLATE 43.—Fig. 170.

Pusilla. Pileo deflexo, libero, brunneo, subtus griseo. Stipite glaberrimo, fistuloso, cartilagineo. Ascis cylindraccis. Sporidiis arcte ellipticis.

Helvella pusilla, Berk. and Curt. in Proceedings, Academy of Arts and Sciences, Philadelphia, iv. p. 127.

On sandy flats.

Behring's Straits.

Whole plant not exceeding an inch in height. Stem very delicate. A neat but minute species.

Sporidia $\cdot 02 \times \cdot 008$ - $\cdot 009$ m.m.

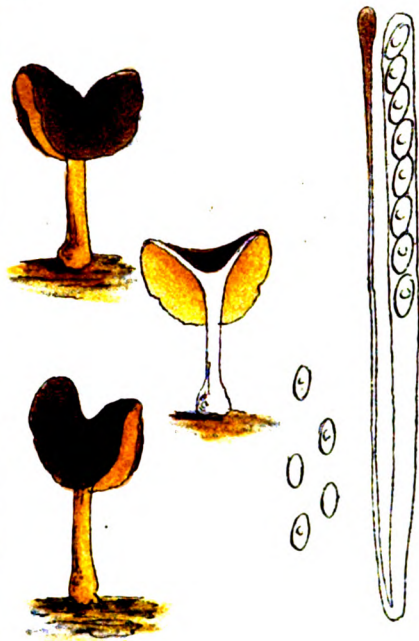
Figured from drawings communicated by the Rev. M. J. Berkeley.

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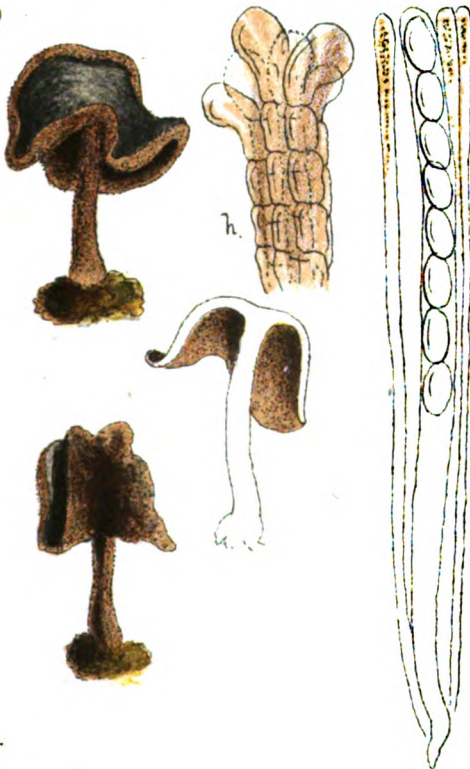
H. atra. Kon.

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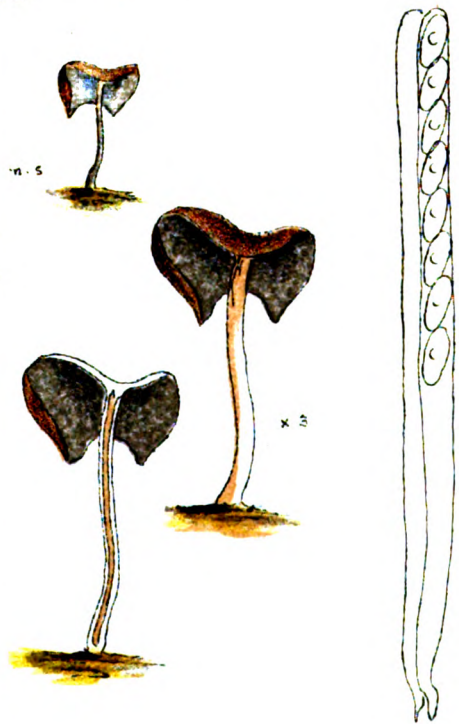
H. Klotschiana. C^a.

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H. ephippium. Lev.

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H. pusilla. B & C.

LEOTIA. *Fries.*

Receptaculum pileatum, centro suffultum, orbiculare, patens, margine revolutum, supra margineque hymenio vestitum. Hymenium confluens, undulatum vel læve, persistens. Asci fixi, clavato-cylindrici. Stipes constanter præsens, distinctus, in receptaculum totus diffusus. Pileus subirregularis, semper a stipite liber, convexus, sensim depressus, tumens, mollis, fructificans viscosus, margine repandus. Substantia carnosio-mollis, sub-tremellosa.—*Fries Sys. Myc.*, ii., 25.

Mostly terrestrial.

In temperate climates.

Leotia lubrica. Pers.

PLATE 44.—Fig. 171.

Gregaria, subcæspitosa, tremellosa. Pileo tumido, repando, flavo-viridi. Stipite cavo, sub-æquali, flavo. Ascis subcylindræceis. Sporidiis arcte ellipticis, hyalinis. Paraphysibus linearibus.

Leotia lubrica, Pers. Syn. p. 613; Pers. Mv. Eur. t. ix.; Berk. Outl. t. 22, f. 1; Grev. Sc. Crypt. Fl. t. 56; Cooke, Handbk, No. 1964, fig. 327; Karst. Myc. Fenn. 26; Fekl. Sym. Myc. p. 284; Sacc. Myc. Ven. p. 162; Kickx Flor. Fland. i. p. 500; Crouan Fl. Finis, p. 58.

Leotia lacunosa, Fries Sys. Myc. ii. 29.

Leotia gelatinosa, Hill. Hest. 43.

Elvela lubrica, Scop. Carn. ii. 477.

Helvella lutea, Berg. Phyt. i. t. 151.

Helvella gelatinosa. Bull. Champ. p. 296, t. 470, f. 2. Sow. Fung. t. 70.

In woods.

Britain, France, Belgium, Scandinavia, Russia (Finland), Germany, Italy, India (Himalayas), Tasmania, United States.

Sporidia $\cdot 025 \times \cdot 008$ m.m. Figures drawn from specimens published in Fungi Britannici.

EXSICCATI.—Karst. F. Fenn. 461; Schm. & Kze. 224; Erb. Critt. Ital. i. 45; Cooke F. Britt. i. 231; Moug. & Nestl. 583; Rabh. F. Eur. 714; Rabh. Hb. Myc. 29; Fekl. F. Rhen. 1138; Berk. Brit. Fung. 255; Rehm. Asc. 101.

Leotia circinans. Pers.

PLATE 44.—Fig. 172.

Gregaria, subcæspitosa, vel in circulos disposita. Pileo carnosio, convexo, demum undulato; margine involuto, subtus nervis in stipitem decurrentibus. Stipite fistulosa, subpulverulento. Ascis clavatis. Sporidiis linearibus, rectis, vel curvulis, ascis subæquantibus. Paraphysibus filiformibus.

Leotia circinans, Persoon Comm. Clav. p. 31; Icon. et Descr. p. 16, t. 5, fig. 5-7; Fries Sys. Myc. ii. 27.

Cudonia circinans, Fekl. Sym. Myc. 332; Karst. Myc. Fenn. p. 25.

Leotia gracilis, Pers. Myc. Eur. i. 198.

Helotium circinans, Swartz Vet. Ac. Handl. 1812, p. 15.

Helvella revoluta, Wahl. Ups. p. 464.

Leotia lutea, (sub *Vibrissca*) in Reports N. York Museum. Cooke in Bullet. Buffalo Academy of Sciences, 1875.

In fir woods. Aut.

Britain, Scandinavia, Germany, Russia (Finland), United States.

Sporidia $\cdot 05$ - $\cdot 06$ m.m. long. Drawn from specimens communicated by the Rev. M. J. Berkeley, collected in Scotland by the Rev. J. Stevenson, of Glamis.

EXSICCATI.—Karst. F. Fenn. 153. Rabh. F. Eur. 312. 38. Fekl. F. R. No. 1139.

***Leotia viscosa.* Fries.**

PLATE 44.—Fig. 173.

Subcæspitosa. Pileo convexo, undulato, viscoso, atro-viridi. Stipite cavo, sulcato, sursum incrassato, luteo. Ascis cylindraceis. Sporidiis cylindricis, rectis, vel curvulis, utrinque obtusis. Paraphysibus filiformibus.

Leotia viscosa, Fries Sys. Myc. ii. 30.

Tremella stipitata, Bosc. in Berl. Mag., 1811, p. 89, t. 6., fig. 14.

Hygromitra stipitata, Nees Sys. f. 144.

Helvella viscosa, Spr. Sys. iv. 489.

Gyrocephalus carolinensis, Pers. Act. Soc. Linn. Paris, 1824.

In sandy places.

United States.

Sporidia $\cdot 03 \times \cdot 006$ m.m. Grows in light sandy soil, generally preferring roads but little used, the pileus only for the most part appearing above the ground.

Figured from specimens issued by H. W. Ravenel, of South Carolina, in *Fungi Carol.*

EXSICCATI.—Rav. Fung. Car. iv. 22.

***Leotia chlorocephala.* Schwz.**

PLATE 44.—Fig. 174.

Pileo globoso, glaberrimo, subpellucido, vel viridi æruginoso. Stipite longissimo, torto, pulvigero. Ascis clavato-cylindraceis. Sporidiis cylindricis, utrinque obtusis, curvulis, nucleatis. Paraphysibus filiformibus.

Leotia chlorocephala, Schwz. Syn. Fung. p. 33. Fries Sys. Myc. ii. 30. Berk. & Curt. in Grevillea, iii. p. 149.

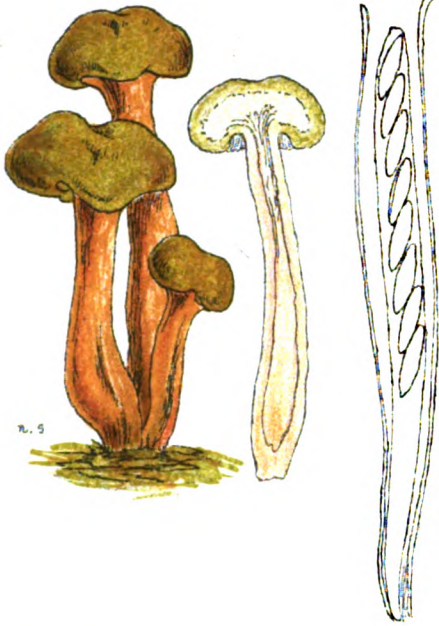
On the ground.

United States.

Sporidia $\cdot 02\text{--}\cdot 022 \times \cdot 005$ m.m. Quite distinct from *L. viscosa*, with which it has some times been confounded.

Figured from specimens distributed by H. W. Ravenel under No. 1633.

171



L. lubrica. P.

172



L. circinans. P.

173



L. viscosa. Fr.

174



L. chlorocephala. S.

LEOTIA.

MITRULA. *Fries.*

Clavula ovata, lævis, basi stipitem discretum, arcte ambiens.
Carnosa, simplex, distincte stipitata.—*Fries Sys. Myc.* i. 491.

On decaying vegetable substances, usually in swampy places.

Mostly in temperate regions.

Sect. I.—**CAPITULATA.** Clavulis subovatis.

Sect. II.—**GEOGLOSSOIDEA.** Clavulis cylindricis.

This genus is scarcely so well characterized as many with which it is associated. Some of the species are evidently so closely allied to certain species of *Geoglossum*, that it is difficult, with the present characters, to draw the line of demarcation between them. This is more particularly the case with *Mitrula lutescens*, B., and a still larger species, *Mitrula pistillaris*, B., from Louisiana. Probably the better plan would be to unite these two with *Geoglossum*, making a subgenus of the coloured species, leaving the black species in another subgenus. The species most in harmony with the original diagnosis of the genus *Mitrula*, are those comprised within the section *Capitulata*. As for *Mitrula inflata*, Fr., and *Mitrula crispata*, Fr., their affinities seem to be rather with *Spathularia*.

Mitrlula paludosa. Fries.

PLATE 45.—Fig. 175.

Gregaria, subcæspitosa, fragilis, glabra, intus totus cava, aqua sæpius repleta. Stipes nunc rectus, nunc elongatus, flexuosus, albus, dilute incarnatus, vel flavescens. Clavula forma varia, obtusa, lutea, raro bifida. Ascis subcylindræis. Sporidiis subfusiformibus, hyalinis. Paraphysibus filiformibus.

Mitrlula paludosa, Fries Sys. Myc. i. 491; Cooke Handb. 1952; Huss Myc. i. t. 9; Karst. Myc. Fenn. p. 28; Fckl. Sym. Myc. pp. 332; Kickx Fl. Fland. i. 501; Crouan Fl. Finis, p. 58.

Clavaria phalloides, Bull Champ. t. 465, f. 3.

Clavaria epiphylla, Dicks. Crypt. t. 3, f. 10.

Leotia Ludwigii, Pers. Syn. t. 3, f. 13.

Leotia Dicksonii, *Leotia Bulliardii*, *Leotia laricina*, Pers. Syn. 612.

Leotia uliginosa, Grev. Sc. Crypt. Fl. t. 312; Pers. Myc. Eur. i. 200.

Amongst rotting leaves.

Britain, Scandinavia, France, Germany, Denmark, Belgium, Russia, United States.

Sporidia $\cdot 012\text{--}014 \times \cdot 0035$ m.m. Figured from specimens published by W. Phillips.

EXSICCATI.—Desm. Cr. Fr. i. 606; Rabh. Hb. Myc. 132; Fckl. F. Rhen, 1236; Klot. Hb. Myc. 238; Berk. Br. Fungi. 278; Phil. Elv. Brit. No. 2; Karst. F. F. 24.

Mitrlula cucullata. Fries.

PLATE 45.—Fig. 176.

Gregaria, sicca, tenacella. Stipes subflexuosus, filiformis, badius, nigrescens, glaber, vel deorsum precipue tomentosus. Clavula conica, vel ovata, obtusa, lævis, cinnamomea, expallens. Ascis clavato-elongatis. Sporidiis anguste lanceolatis, hyalinis, 2-3 guttulis.

Matrlula cucullata, Fries Epic. 384; Karst. Myc. Fenn. p. 28; Fckl. Sym. Myc. p. 332.

Mitrlula (Heyderia) abietis, Fries Sys. Myc. i. 493.

Mitrlula Heyderi, Pers. Disp. p. 56, t. 3, f. 12; Flor. Dan. t. 1670, f. 2.

Mitrlula (Heyderia) pusilla, Fries Epicr. i. 584.

Leotia mitrlula, Pers. Syn. p. 611.

Leotia pucilla, Nees Sys. t. 160.

Geoglossum cucullatum, Fries El. i, 233; Eng. Fl. v. 179.

Elvela cucullata, Batsch. f. 152.

Clavaria ferruginea, Sow. t. 84.

Amongst pine leaves.

Britain, France, Scandinavia, Germany, Italy, Russia, Denmark, United States.

Sporidia $\cdot 012 \times \cdot 003$ m.m. Figured from specimens published in Fungi Britannici.

EXSICCATI.—Desm. Cr. Fr. i, 1155; Erb. Critt. Ital. i. 466. Rabh. F. Eur. 37, 669; Kze. & Schm. 98; Fckl. F. Rhen. 1237; Wartm. & Sch. 431; Cooke F. Brit. i. 232; Berk. Fung. 254; Phil. Elv. Britt. No. 53; Karst. F. F. 447.

Mitrula alba. Sm.

PLATE 45.—FIG. 177.

Albida. Capitulo globoso, lævi, albo. Stipite farcto, concolori. Ascis linearibus. Sporidiis lanceolatis, hyalinis, enucleatis.

Mitrula alba, W. G. Smith, in *Grevillea*, i. p. 136, t. 10 lower figs.

Amongst submerged leaves. April.

Britain.

Stem 1-1½ in. high. Sporidia .016 × .003 m m. Figured from drawings made by W. G. Smith. Specimens of which we have not seen.

Mitrula lutescens. Berk.

PLATE 45.—FIG. 178.

Flavida, subviscosa. Stipite solido, squamoso. Ascis cylindrico-clavatis. Sporidiis fusiformibus, leniter curvulis, nucleatis. Paraphysibus filiformibus.

Mitrula lutescens, Berk., *Hedwigia*, 1875, p. 9.

Geoglossum luteum, Peck., in *Mycographia*, fig. 12.

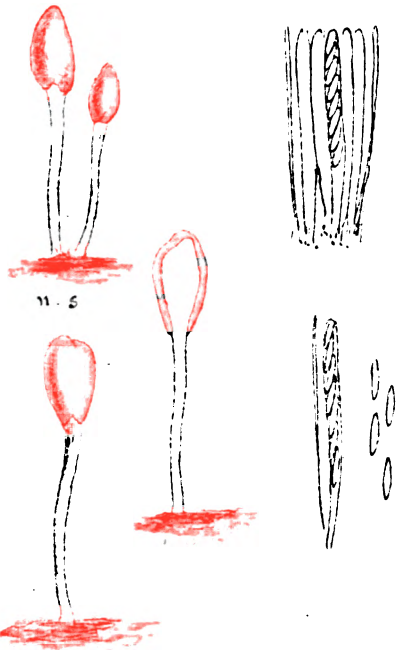
On the ground.

United States.

Clubs from 1½-2 inches high. Sporidia .035 m.m. long.

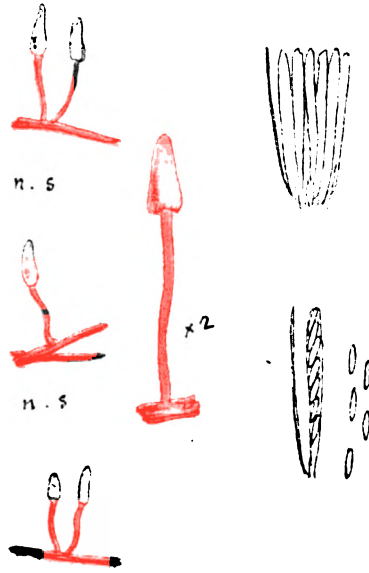
Drawn from specimens in the Herbarium of the Rev. M. J. Berkeley. *Geoglossum luteum*, Peck., is doubtless the same plant (see *Mycographia*, fig. 12) in a more mature condition. We had not seen the present species when that figure was drawn. The curved tips of the paraphyses in that species cannot alone be regarded of specific value.

175



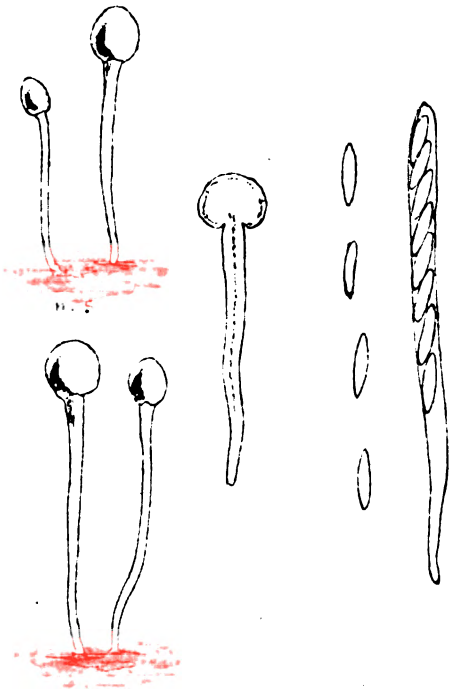
M. paludosa. Fr.

176



M. cucullata. Fr.

177



M. alba. Sm.

178



M. lutescens. P.

Mitrla lutea. Mont.

PLATE 46.—Fig. 179.

Geoglossoides. Stipite mediocri, cum capitulo luteo clavæformi confluenta. Ascis longe clavatis. Sporidiis linearibus, continuis, intus granulosis. Paraphysibus filiformibus.

Mitrla lutea, Mont. Ann. des Sci. Nat., 1855, iii., p. 91 ; Mont. Syll., p. 183.

On the ground amongst mosses.

Guiana.

Sporidia $\cdot 03 \times \cdot 004$ m.m.

Drawn from the original specimens (Leprieur, No. 1075), in Herb. Montagne, preserved in the Museum at the Jardin des Plantes, Paris.

Mitrla Berterii. Mont.

PLATE 46.—Fig. 180.

Geoglossoides, atrofusca, elongata, filiformis. Pileo myosuroide, a stipite dilutiore, æquilongo, ob marginem incrassatum distincto. Ascis cylindræceis. Sporidiis subfusiformibus. Paraphysibus filiformibus.

Mitrla Berterii, Mont. in Flor. Chilensis, vii., 397 t. 8, fig. 5 ; Mont. Syll., p. 183.

On the bark of trees.

Juan Fernandez. Chili.

Sporidia $\cdot 01$ m.m. long, very narrow.

Drawn from original specimens in Heb. Mus. Paris, and in the Herbarium of the Rev. M. J. Berkeley.

Mitrula vinosa. Berk.

PLATE 46.—Fig. 181.

Purpureo-vinosa, gracilis. Stipes filiformis, rectus, glaber, clavula cylindrico-clavata. Ascis subclavatis. Sporidiis linearibus, sub-oblongatis, minutis, curvulis. Paraphysibus filiformibus.

Mitrula vinosa, Berk. in Flor. Tasman. ii., 273.

On dead wood.

Tasmania.

Sporidia .01 m.m. long. Ascii longer than in *M. Berterii*. Altogether the two species are too closely allied, and it is doubtful whether they can be maintained as distinct. Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Mitrula elegans. Berk.

PLATE 46.—Fig. 182.

Parva. Stipite elongato, gracili, sursum subattenuato. Capitulo brevi, clavæformi, vel obovati, stipite vix crassiore, sicco aurantio-brunneo. Ascis lanceolatis. Sporidiis oblongo-elongatis. Paraphysibus filiformibus.

Mitrula elegans, Berk. N. American Fungi, in Grevillea, No. 705. Hedwigia (1875), p. 9.

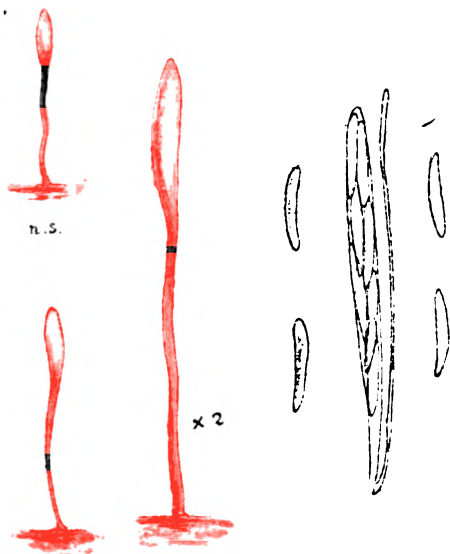
Leotia elegans, Berk. in Lond. Jour. Bot., 1846, p. 6.

On the ground.

United States.

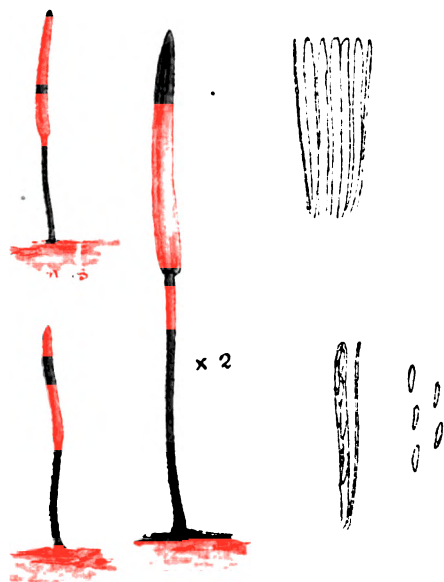
Sporidia .012 m.m. long. A very elegant and distinct species. Figured from original specimen in the Herbarium of the Rev. M. J. Berkeley.

179



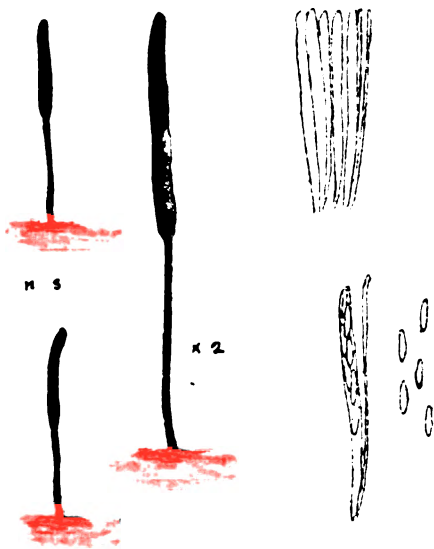
M. lutea. M.

180



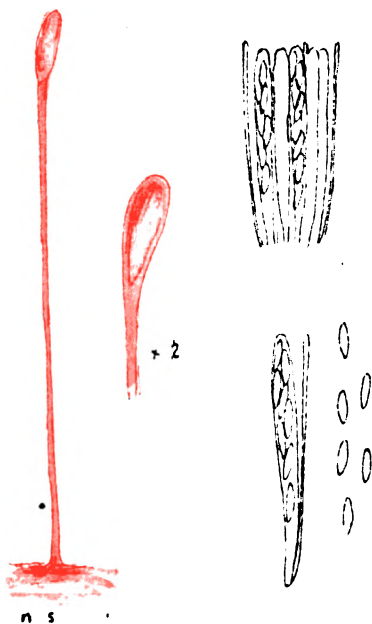
M. Berterii. M.

181



M. vinosa. B.

182



M. elegans. B.

MITRULA.

PEZIZA. *Dill.*

Receptaculum marginatum, cupulæforme, prime subclausum, mox expansum, epidermide tenui, contigua. Hymenium læve, persistens, distinctum. Asci ampli, distincti, fixi; sporidiis elastice ejicienda includentes, paraphysibus immixtis. Cupula centro adfixa, passim stipitata, libere evoluta, plus minus cava, demum passim planiuscula, disco polita (nec villosa l. pulveracea), discolori, velum universale, sed non distinctum et sæpe nullum. Substantia carnosomembranacea l. ceracea. *Fries Sys. Myc.* ii. 40.

Ser. I. **ALEURIA**, extus pruinosa, l. floccoso-furfuracea.

Ser. II. **LACHNEA**, extus pilosa, l. villosa.

Ser. III. **PHIALEA**, extus subnuda, glabra.

Ser. I. ALEURIA. *Fries.*

Velum universale, concretum, tenue, superficiem pruinosa l. floccoso-furfuracea reddens. Substantia carnosomembranacea, mollis, fragilis. Ascis maximis.—*Fries Sys. Myc.* ii. 42.

Sub-genus I. **Macropodes.**

„ II. **Cochleata.**

„ III. **Cupulata.**

„ IV. **Humaria.**

Sub.-gen. i.—MACROPODES. Fries.

Cupula integra, stipite firmo, crasso, vel elongato, quandoque sulcato.—
Fries Summa Veg. p. 348.

A.—Crassipes.

B.—Gracilipes.

C.—Ciliatæ.

Some objections may be urged against the latter section. The species seem to belong technically to *Sarcoscypha*, but upon examination it will be seen that the filiform and tooth-like appendages are not simple hairs, but complex and multicellular bodies possessing more the character of scales. These species evidently bear the same relation to *Macropodes* as *Peziza inflexa* and *Peziza coronata* to *Hymenoscypha*; *Peziza Hindsii* and *P. sulcipes* are clearly the intimate allies of *P. ambulacrorum* and *P. Afzelii*.

Peziza (Macropodes) acetabulum. Linn.

PLATE 47.—Fig. 183.

Cyathiformis, fuliginea, extus venis ramosis costata, e stipite brevi fistuloso lacunoso porrectis. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus sursum leniter incrassatis.

Peziza acetabulum, Linn. Sp. Pl. ii. 1650; Bull. Champ. p. 267, t. 485, f. 4; Fries Sys. Myc. ii. 44; Sow. Fung. t. 59; Cooke, Handbk. No. 1964, fig. 331; Vitt. Mang. t. 30, f. 2; Grevillea, iii. p. 30, f. 1.

Fungoides acetabuliforme, Vaill. Bot. t. 13, f. 1.

Acetabula vulgaris, Fekl. Sym. Myc. p. 330; Sacc. Myc. Venet. p. 168.

On the ground in woods. Spring. Esculent.

Britain, France, Germany, Scandinavia, Italy, United States.

Cups 1-2 in. or more broad. Stem $\frac{1}{2}$ -1 in. long. Sporidia $\cdot 018\text{-}\cdot 02 \times \cdot 012$ m.m.

External cells of the cup concatenate, with their free extremities breaking up, so as to give a farinose appearance to the surface.

Figured from specimens published in *Fungi Britannici*.

EXSICCATI.—Fekl. F. R. 1231, 2084, 2084; Cooke, F. Britt. i. 556, ii. 182; Rab. F. E. 316; Phil. Elv. Britt. 6.

Peziza (Macropodes) calyx. Sacc.

PLATE 47.—Fig. 184.

Cupula calyciformi-campanulato, badia, extus pallidiore, pruinosa, intus saturatiore, sublævigata, margine sæpius crenulato, dein fisso. Stipite albo, crassiusculo, cylindraceuta, longitudinaliter costata, inferne profunde radicato. Ascis cylindraceutis, breviter stipitatis. Sporidiis ellipticis, uniguttulatis. Paraphysibus filiformibus, sursum angustissime clavatis, fuscidulis.

Acetabula calyx, Saccardo, Myc. Venet. p. 168, t. viii, f. 14-18.

On the ground in grassy places.

Italy.

Sporidia $\cdot 02 \times \cdot 012$ m.m.

This can scarce be regarded as other than a variety of *P. acetabulum*, the only appreciable difference being the absence of the costate veins and less sulcate stem, which are sometimes much suppressed in veritable *P. acetabulum*.

Drawn from specimens communicated by Professor Saccardo.

Peziza (Macropodes) sulcata. Pers.

PLATE 47.—Fig. 185.

Hypocrateriformis, expallens, albida, extus lævis. Stipite farcto, crasso, lacunoso. Ascis cylindraceutis. Sporidiis ellipticis, demum asperatis. Paraphysibus superne clavatis, intus granulosis.

Peziza sulcata, Pers. Syn. 643, t. 5, f. 1; Fries Sys. Myc. ii. 44; Grevillea, iii. fig. 2; Gonn. & Rabh. iii. t. i. fig. 6.

Acetabula sulcata, Fekl. Sym. Myc. 330 (partly).

In mixed woods. May. June.

Germany, Scandinavia, United States.

Cups $\frac{1}{2}$ in. broad, and upwards. Stem 1 in. long 4 lin. thick. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 012$ m.m.

Persoon himself appears almost to have doubted whether there was any specific difference between this and *P. leucomelas*, the external forms passing so much into each other. The rough sporidia in the present species seems to afford sufficient grounds for distinction. Some authors have evidently confounded the two species.

The figures are drawn from specimens published by Rabenhorst.

EXSICCATI.—Rabh. Herb. Myc. ii. 627.

Peziza (Macropodes) leucomelas. Pers.

PLATE 47.—Fig. 186.

Solitaria. Cupula albida, stipitata; stipite crasso, interrupte sulcato. Hymenio cinereo-nigrescente. Ascis cylindraceutis. Sporidiis ellipticis, uninnucleatis. Paraphysibus superne clavatis.

Peziza leucomelas, Pers. Myc. Eur. p. 219.

Peziza macropus, Sturm. Fl. (pro parte), No. 31, t. 20, fig. d.

Peziza sulcata, Fekl. Fung. Rhen. No. 2085.

On the ground in woods.

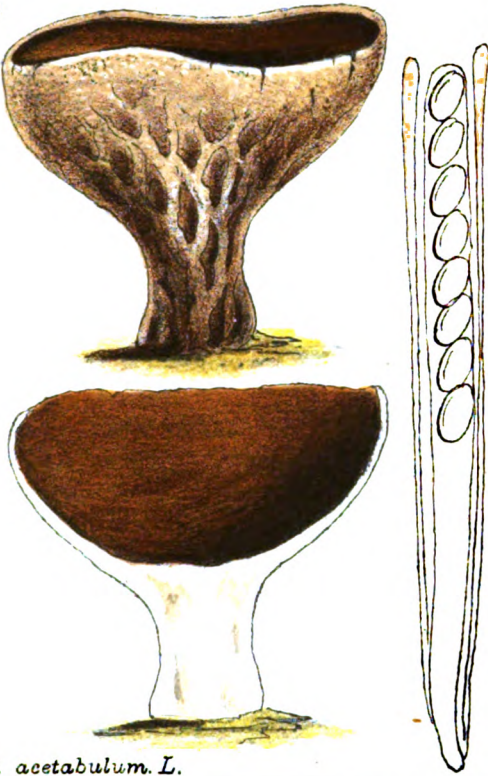
France, Germany.

Sporidia $\cdot 02 \times \cdot 012$ m.m.

Figured from drawings by Delile, communicated by Prof. J. de Seynes. Sporidia from specimens in the Herbarium of the Rev. M. J. Berkeley, and in Herb. Paris.

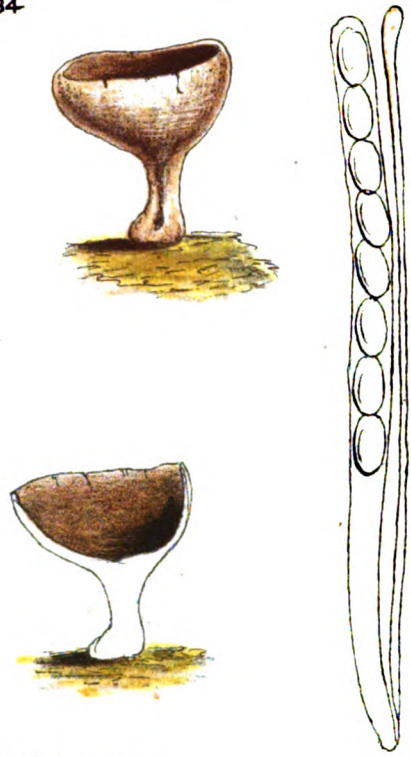
EXSICCATI.—Fekl. F. R. 2085.

183



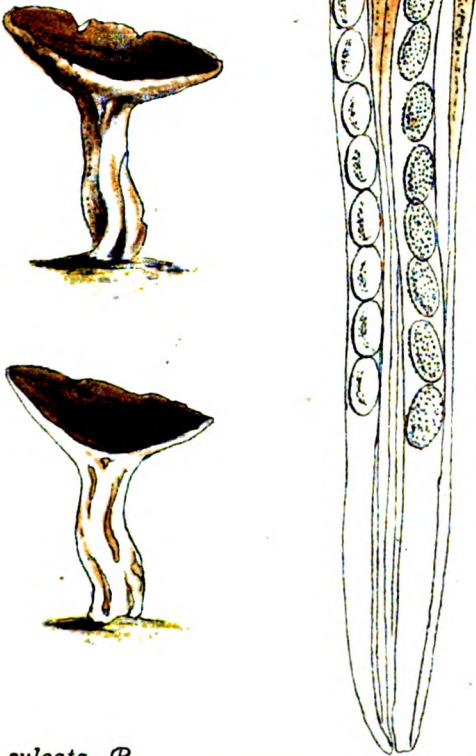
P. acetabulum. L.

184



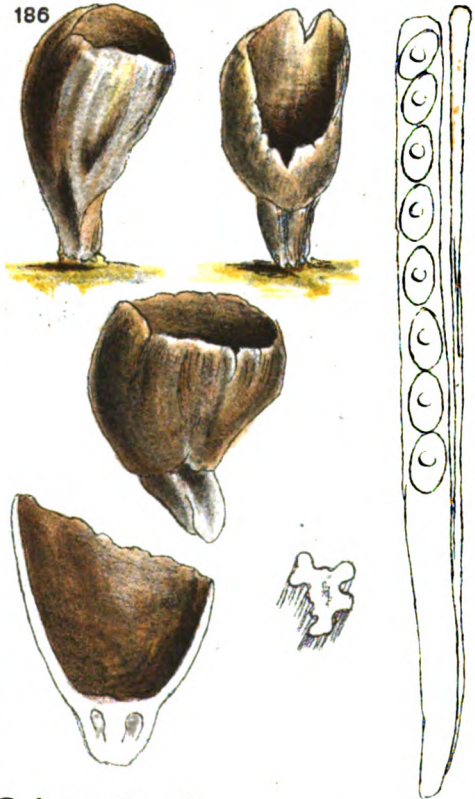
P. calyx. Sacc.

185



P. sulcata. P.

186



P. leucomelas. P.

Peziza (Macropodes) corium. Weber.

PLATE 48.—Fig. 187.

Stipitata, ceracea, sicco subcoriacea. Cupula hypocrateriformis, demum expansa, interdum lateraliter compressa, atra, extus velutina. Stipite æquali, vel deorsum incrassati, profunde sulcati, l. subrugosi, glabri, ad basim pallidiore. Ascis cylindraceis. Sporidiis ellipticis, primo nucleatis. Paraphysibus supra clavatis, brunneis.

Peziza corium, Weberbauer, Pilze, t. iii. f. 7.

On the ground. Apr. May.

Britain, Germany.

Sporidia $\cdot 018$ - $\cdot 02 \times \cdot 01$ m.m. Resembling *Peziza macropus*, P. in size and form but otherwise different.

Clearly the plant of Weberbauer, although the description which accompanies his figures is most meagre and unsatisfactory. The external hairs are figured on our plate, and are of a peculiar structure, resembling those of *P. micropus*. The substance is waxy and brittle when fresh.

Figured from specimens first collected in Britain by C. B. Plowright, of Kings Lynn.

Peziza (Macropodes) macropus. Pers.

PLATE 48.—Fig. 188.

Cupula hemispherica, hirto-verrucosa, cinerea, disco murino expallente, stipite longissimo, attenuato. Ascis cylindraceis. Sporidiis longe ellipticis, leniter granulosis. Paraphysibus clavatis.

Peziza macropus, Pers. Obs. ii. p. 26, t. i. f. 2; Flor. Dan. t. 1200, f. 2; Fries, Sys. Myc. ii. 57; Cooke, Handbk, No. 1965; Sturm. Fl. 31, t. 20, fig. e.; Grev. S. C. Flor. t. 70; Grevillea, fig. 7.

Peziza stipitata, Bull. Champ. t. 457, f. 2; Sow. Fung. t. 38.

Peziza hispida, Schæff. Icon. t. 166; Bull. Champ. t. 196; Bolt. t. 96.

Peziza sublicia, Holms. Ot. ii. t. 10.

Macropodia macropus, Fekl. Sym. Myc. p. 331; Sacc. Myc. Ven. p. 168.

Helvella macropus, Karst. Myc. Fenn. p. 37.

On the ground. Sum. Aut.

Britain, France, Germany, Scandinavia, Bohemia, Russia, United States.

Solitary, 1-3 in. high; cups 1-2 in. broad, at length flattened. Sporidia $\cdot 03 \times \cdot 01$ - $\cdot 012$ m.m.

The external cells of the cup are concatenate, with their extremities free, so as almost to partake of the character of short flaccid hairs. A similar structure prevails also in *P. acetabulum*. There is decided evidence of papillate projections on the surface of mature sporidia.

Figured from specimens published in Fungi Britannici.

EXSICCATI.—Cooke, F. Britt. i. 289; Desm. Cr. Fr. i. 427; Karst. F. Fenn. 73; Fekl. F. R. 1234.

Peziza (Macropodes) bulbosa. Hedw.

PLATE 48.—Fig. 189.

Cupula hemispherica, cinerascens, minute squamulosa; disco fusco; stipite firmo, tuberoso. Ascis cylindraceis. Sporidiis subglobosis, lævi. Paraphysibus paucis.

Peziza bulbosa, Nees Sys. f. 289; Fries Sys. Myc. ii. 58; Grevillea, iii. fig. 8.

Octospora bulbosa, Hedw. Musc. Fron. t. x. f. c.

Fungoides fuscum, Buxb. Petr. iv. t. 29. f. 3; Schæff. t. 152.

On the ground in woods. Sum. Aut.

Germany, Russia, Bavaria.

Stem $\frac{1}{2}$ in. and more long, scarcely 1 line thick, Cups $\frac{1}{2}$ -1 in. broad. Sporidia $\cdot 015 \times \cdot 012$ m.m.

If there are any similar external cells to those described in *P. macropus*, they certainly are not distinguishable in the dried specimens. If this be true, then it affords further grounds for maintaining this as a distinct species. The sporidia evince no tendency to become rough.

Figured from specimens published by Rabenhorst.

EXSICCATI.—Rabh. F. E. 1308.

Peziza (Macropodes) helvelloides. Fr.

PLATE 48.—Fig. 190.

Cupulata, complanata, dein explanata, orbicularis, demum reflexo, fusco-atro; subtus stipiteque æquali, squamuloso, scabris. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus subclavatis.

Peziza helvelloides, Fries Summa V.S. p. 348; Grevillea, iii. fig. 6.

Helvella pezizoides, Fries Sys. Myc. ii. p. 20; Afzel. in Vet. Ac. Handb. 1873, t. 10, f. 2; Sacc. Myc. Venet. p. 169; Karst. Myc. Fenn. p. 36; Fekl. Sym. Myc. 333.

In pine woods and mossy places. Aut.

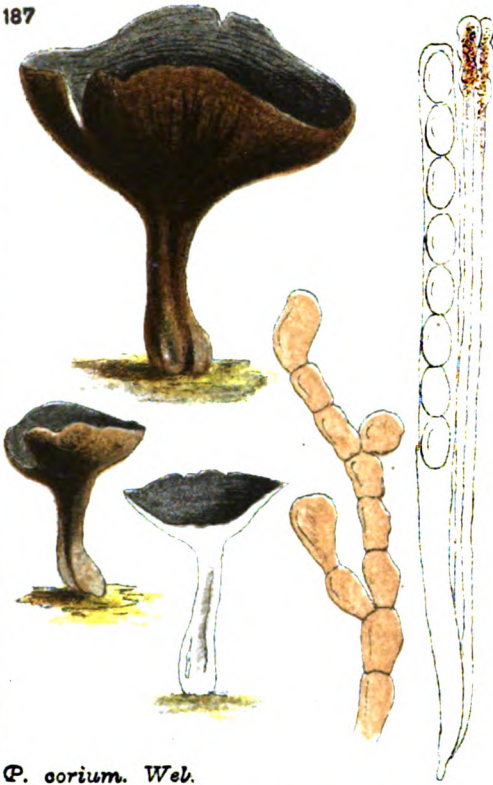
Germany, Scandinavia, Italy, Russia.

Cup scarcely 1 in. broad; Stem 1-2 in. high, 1-2 lines thick. Sporidia $\cdot 015\text{-}\cdot 017 \times \cdot 01$ m.m. This is not a satisfactory *Helvella*, though sometimes included in that genus.

Figured from specimens published in Rabenhorst's Herb. Myc.

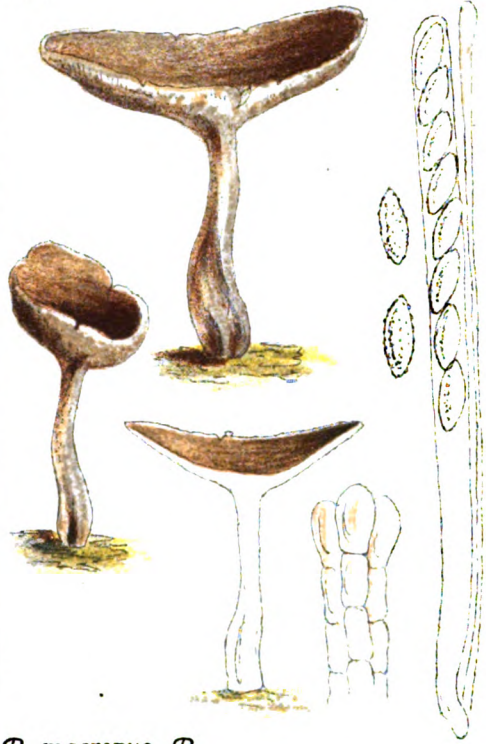
EXSICCATI.—Rabh. F. Eur. ii. 237; Karst. F. F. 446; Fekl. F. R. 1880; Rabh. Hb. Myc. ii. 26.

187



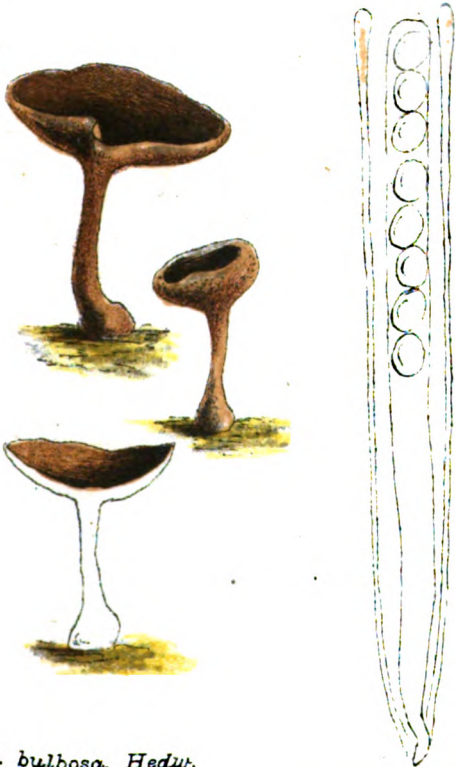
P. corium. Web.

188



P. macropus. P.

189



P. bulbosa. Hedw.

190



P. helvelloides Fr.

PEZIZA. (MACROPODES.)

Peziza (Macropodes) sordescens. Berk. & Curt.

PLATE 49.—Fig. 191.

Stipitata. Capula expansa, primum aureo-flava. Hymenio spadiceo. Stipite cylindrico, pallido, tomentosio. Ascis cylindraceis. Sporidiis ellipticis, binucleatis. Paraphysibus superne clavatis.

Peziza sordescens, Berk. & Curt. in Grevillea, iii. p. 150.

On soil over which a thin mycelium is spread, which binds together the particles.

United States (N. Eng.).

Sporidia $.015 \times .0075$ m.m. Outer surface of the cups dark when old. Figured from the original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Macropodes) Percevali. Berk. & Cooke.

PLATE 49.—Fig. 192.

Solitaria. Cupula demum expansa, subpruinosa. Margine arcte inflecta. Stipite crassiusculo, deorsum sub-attenuato, leniter fibrilloso-radicato. Ascis clavato-cylindraceis. Sporidiis (ellipticis?). Paraphysibus sursum incrassatis, brunneolis.

Peziza ciborium, Fr. Sys. Myc. ii. 59 (partly).

Peziza ciborium, var. major. Berk. & Br. in Ann. Nat. Hist. No. 1479.

On the ground.

Britain, Scandinavia.

Cup $1\frac{1}{2}$ in. broad, stem $1-1\frac{1}{2}$ in. long, $\frac{1}{4}$ in. and more thick, terminated by a few rooting fibrils. Sporidia immature, according to Berkeley $.025 \times .012$ m.m., apparently elliptical, larger than in *P. ciborium*, the asci are considerably larger, and of a different character.

Figured from original specimen in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Macropodes) melaena. Fr.

PLATE 49.—Fig. 193.

Fusco-atra. Cupula campanulata, glabra. Stipite brevi, striato, basi fibrilloso, subradicato. Ascis cylindraceis. Sporidiis globosis, lævibus. Paraphysibus leniter clavatis.

Peziza melaena, Fries Sys. Myc. ii. 60 ; Grevillea, iii. fig. 10.

Peziza Vogesiaca, Moug. & Nest. No. 584.

Fungoides nigrum, Buxb. Petr. iv. p. 282, f. 1.

France, Germany, Russia, Scandinavia.

In pine woods. Spring.

Stem 3-5 lines long. Cups about 1 inch broad. Sporidia .013 m.m. diam. Figured from the original specimens published by Mougeot & Nestler.

EXSICCATI.—Moug. & Nest. No. 584 ; Desm. Cr. Fr. 584.

Peziza (Macropodes) Japonica. Berk. & Curt.

PLATE 49.—Fig. 194.

Fusco-atra. Cupulis congestis, subpedicellatis, plicato-rugosis, e floccis brunneis, in fasciculum unitis, oriundis. Ascis cylindraceis. Sporidiis ellipticis.

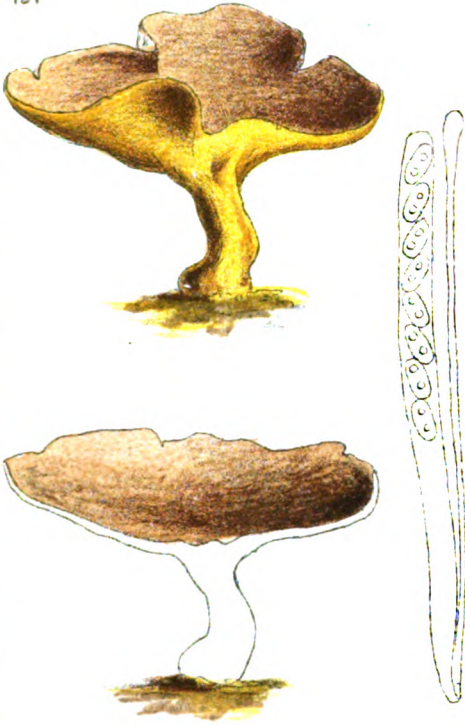
Peziza Japonica, Berk. & Curt. in Proceed. Amer. Acad. Arts & Sci. iv. p. 127.

On roots.

Japan.

Sporidia .022 × .011 m.m. This is a small species, apparently very similar to small forms of *Peziza melastoma*, but Messrs. Berkeley and Curtis describe it as allied to *Peziza melaena*. The stem seems to be suppressed to a tuft of black rooting fibrils. Figured from drawing communicated by the Rev. M. J. Berkeley.

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P. sordescens B & C

192



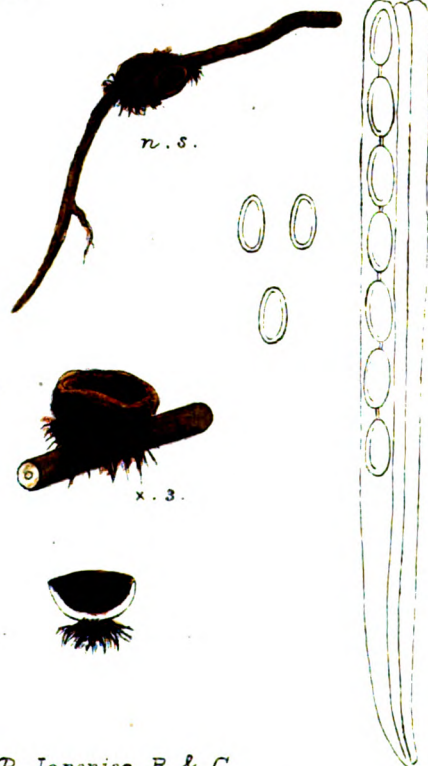
P. Percevalii B & C.

193



P. melaena. Fr.

194



P. Japonica B & C

PEZIZA. (MACROPODES.)

Peziza (Macropodes) hesperidea. C. & P.

PLATE 50.—Fig. 195.

Stipitata, subsolitaria. Cupula carnosâ, subglobosa, dein patellæformis, intus rubro-aurantiaca, extus pallidiore, glabra. Margine glabro, lævi. Stipite gracili, erecto, vel subflexuoso, albo farinoso-tomentoso. Ascis cylindraceis. Sporidiis arcte ellipticis.

Peziza hesperidea, Cooke & Peck, in Grevillea, i. p. 5. t. i. fig. 1; Grevillea, iii. fig. 5.

Amongst leaves.

United States.

Cups $\frac{1}{2}$ –1 in. broad; stem 1–1 $\frac{1}{2}$ in. long, scarcely exceeding 1 line thick; sporidia $\cdot 0225 \times \cdot 0125$ m.m.

Figured from original specimens communicated by C. H. Peck, from Goat Island (No. 216).

Peziza (Macropodes) ciborium. Vahl.

PLATE 50.—Fig. 196.

Cinnamomea. Cupula campanulata, subpruinosa. Stipite lævi, basi fibriloso-radicaloso. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus filiformibus.

Peziza ciborium, Vahl. in Flor. Dan. t. 1078, f. 1; Fries Sys. Myc. ii. 59; Pers. Syn. p. 659; Gonn. & Rabh. iii. t. i. fig. 5.

On the ground, in swampy places. April.

Denmark, Scandinavia.

Sporidia $\cdot 01$ – $\cdot 011 \times \cdot 006$ m.m.

Fries describes two forms, one of which is that figured in Flora Danica; the other a more robust form, probably that which is included here under the name of *P. Percevali*. If so, the latter must be regarded as a distinct species, as the fruit is undoubtedly different.

Figured from authentic specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Macropodes) rapulum. Bull.

PLATE 50.—Fig. 197.

Tenuis, flavescendo-fusca. Cupula infundibuliformi, glabriuscula. Stipite torto, radice elongato, fibrilloso. Ascis cylindraceutis. Sporidiis ovato-ellipticis. Paraphysibus filiformibus.

Peziza rapulum, Bull. Champ. 295, t. 485, f. 3; Fries Sys. Myc. ii. 59; Cooke, Handbk. No. 1967.

Peziza rapula, Pers. Syn. p. 658; Nees Sys. f. 291.

Peziza radicata, Holms. Ot. ii. t. 9.

On the ground, amongst leaves, &c. Spring.

Britain, France, Germany, Denmark, United States.

Stem 1-2 in. long, with a long filiform rooting base; cups $\frac{1}{2}$ in. or more broad, varying from straw colour to cinereous. Sporidia $.01 \times .0075$ m.m.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Macropodes) aluticolor. Berk.

PLATE 50.—Fig. 198.

Aluticolor. Cupula cyathiformis, extus rugosa. Margine inflexo. Stipite sulcato, ad basim dilatato. Ascis cylindraceutis. Sporidiis late fusiformibus, binucleatis. Paraphysibus superne clavatis.

Peziza aluticolor, Berk. Fungi Austral. No. 220.

Australia.

Cups $\frac{1}{3}$ in. across. Stem 1 line high. Sporidia $.025-.03 \times .012$ m.m.

Figured from specimens communicated by the Rev. M. J. Berkeley.

195



P. hesperidea. C & P.

96



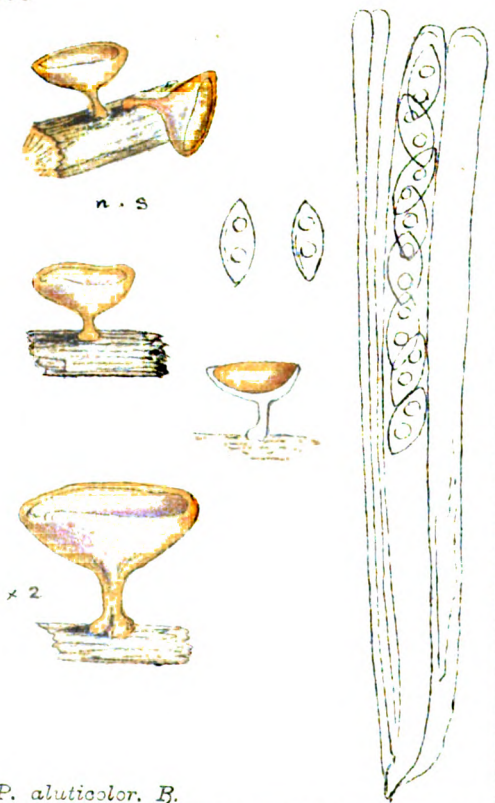
P. ciborium. V.

197



P. rapulum. Bull.

198



P. aluticolor. B.

Peziza (Macropodes) sulcipes. Berk.

PLATE 51.—Fig. 199.

Cupula poculiforma, tenue, extus aleuriata. Margine fimbriato. Stipite gracili, lacunoso, costis in cupulam extensis. Ascis cylindraceis. Sporidiis ellipticis.

Peziza sulcipes, Berk. in Hook. Lond. Journ. 1842, i. 141.

On wood (?).

Surinam.

Cup 1 inch broad, thin. Stem $\frac{1}{4}$ in. high, not 1 line thick, sulcato-costate, the ribs extended over the base of the cup, where they are sometimes divided above with reticulated interstices. Sporidia elliptical, immature, but apparently about .02 m.m., long. The marginal teeth are compounded of narrow parallel cells. [See remarks on, page 106 *ante*.]

Figured from specimens communicated by the Rev. M. J. Berkeley.

Peziza (Macropodes) Hindsii. Berk.

PLATE 51.—Fig. 200.

Amæne rubra, cyathiformis, extus lævissime parce flavo-fusca pruinosa. Margine fimbriato. Stipite fistuloso, lævi, deorsum attenuato. Ascis cylindraceis. Sporidiis longe ellipticis, binucleatis.

Peziza Hindsii, Berk. in Hook. Lond. Journ. 1842, i. p. 456 ; Grevillea, iii. fig. 3.

On dead wood. July.

Brazil, Guiana, New Ireland, St. Domingo, Cuba, Ceylon.

Cups $1\frac{1}{4}$ in. or more broad, with about three grooves around the cup. Stem 1 inch high. Sporidia .02-.022 \times .012 m.m.

Figured from specimens distributed by Wright from Cuba, together with one of the marginal teeth.

EXSICCATI.—Wright, Fungi Cub. 664.

Peziza (Macropodes) institia. Berk.

PLATE 51.—Fig. 201.

Straminea. Cupula anguste cyathiformis, subcostata, setosa. Margine squamis setiformis ciliato. Stipite gracile, deorsum attenuato, sulcato, fistuloso. Hymenio pallide flavo. Ascis cylindraceis. Sporidiis fusiformibus, curvulis. Paraphysibus filiformibus, furcatis.

Peziza institia, Berk. & Curt. U.S. Exp. No. 1051; Ceylon Fungi, No. 927.

On wood.

Ceylon, Bonin Islands.

Cups $\frac{1}{2}$ in. broad. Sporidia $.035 \times .01$ m.m.

Figured from specimens communicated by the Rev. M. J. Berkeley. The hair-like appendages of the cup are of the same character as in *P. Hindsii*.

Peziza (Macropodes) tricholoma. Mont.

PLATE 51.—Fig. 202.

Stipitata. Cupula carnosae, hemispherico-turbinata, lutea, extus rugoso-costata, setis concoloribus longis rigidis praesertim ad marginem hirsuta. Stipite glabro. Ascis cylindraceis. Sporidiis fusiformibus.

Peziza tricholoma, Mont. Ann. des Sci. Nat. 1834, ii. p. 77, pl. 4, fig. 2; Mont. Syll. p. 184; Berk. & Curt. Cuban Fungi; Grevillea, iii. fig. 12.

Peziza hystrix, Berk. Ann. Nat. Hist. March, 1852, p. 201.

On rotten wood. Esculent.

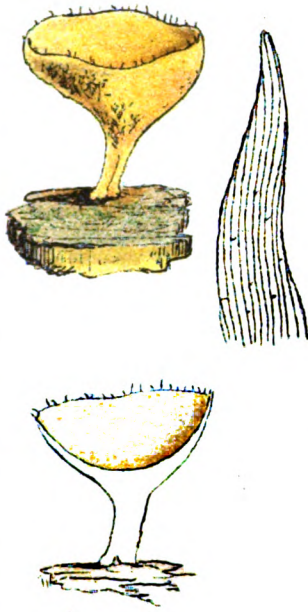
Brazil, Guiana, Isle of France, Ceylon, Vera Cruz, St. Domingo, Cuba.

Sporidia $.03 \times .01$ m.m. The form *P. hystrix* was described under the impression that the hairs were only marginal in Montagne's species, whereas his figure and specimens show all grades to that of *P. hystrix*, in which the hairs extend to the stem. There is no appreciable difference in the fruit, hence we feel justified in uniting them.

Figured from Montagne's specimens in Mus. Herb. Paris, and compared with specimens in Herb. Berkeley.

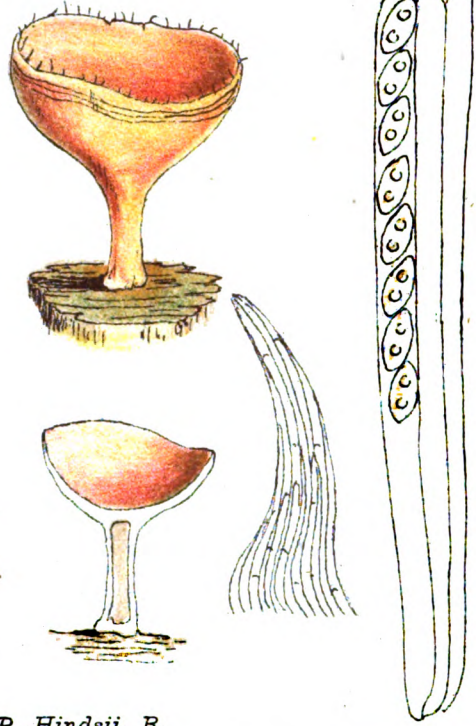
EXSICCATI.—Sallé St. Domingo, No. 35.

199



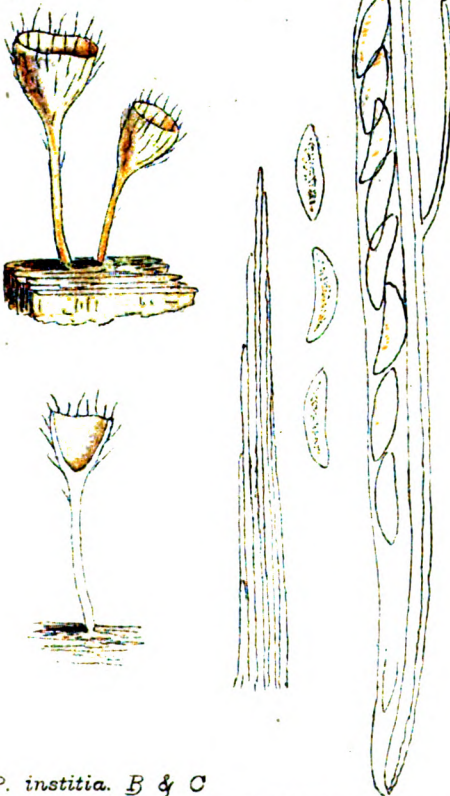
P. sulcipes. B.

200



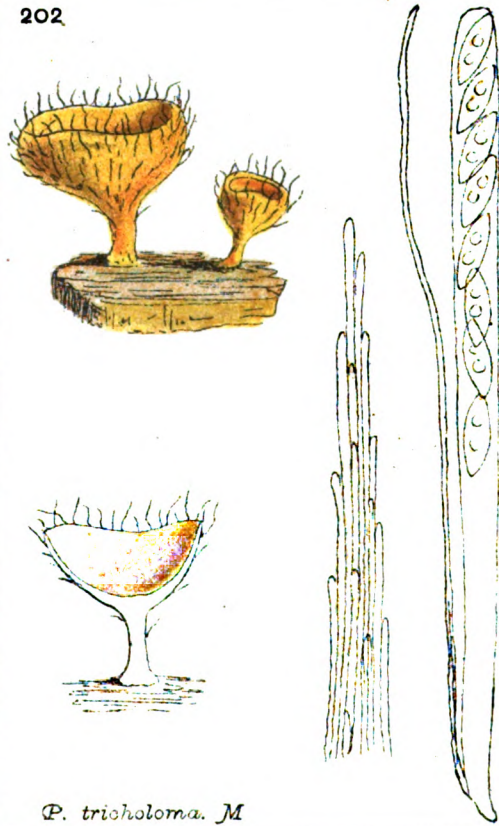
P. Hindsii. B.

201



P. institia. B & C

202



P. tricholoma. M

PEZIZA. (MACROPODES.)

PEZIZA. *Dill.*

Receptaculum marginatum, cupulæforme, primo subclausum, mox expansum, epidermide tenui contigua. Hymenium læve, persistens, distinctum. Asci ampli, distincti, fixi; sporidiis elastice ejicienda includentes, paraphysibus immixtis. Cupula centro adfixa, passim stipitata, libere evoluta, plus minus cava, demum passim planiuscula, disco polita (nec villosa l. pulveracea), discolori, velum universale, sed non distinctum et sæpe nullum. Substantia carnosomembranacea l. ceracea.—*Fries Sys. Myc.* ii. 40.

Ser. I. ALEURIA, extus pruinosa, l. floccoso-furfuracea.

Ser. II. LACHNEA, extus pilosa, l. villosa.

Ser. III. PHIALEA, extus subnuda, glabra.

Sub-genus ii. Cochleata. Fries.

Cupula sessili, extus pruinosa; dimidiato-elongata, vel obliqua, cæspitosa, contorta, flexuosa, demum sæpius uno latere incisa, subconvoluta.—*Fries Sys. Myc.* ii. 46

A. Aurantoidea.—Cupulis flexuosis, amæne coloratis.

B. Auriculoidea. Cupulis auriformibus.

C. Badioidea. Cupulis sub-regularibus.

Peziza (Cochleatæ) aurantia. Vahl.

PLATE 52.—Fig. 203.

Subsessilis, irregularis, obliqua, aurantiaca, extus sub-pruinosa albida. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis, asperis. Paraphysibus superne clavatis, intus granulis aurantiacis repletis.

Peziza aurantia, Flor. Dan. t. 657, f. 2; Pers. Obs. 2, p. 76; Nees Sys. f. 279; Fries Sys. Myc. ii. 49; Cooke, Handbk. No. 1975; Brit. Fungi, t. i.; Weberbauer, t. 1, f. 1, t. 2, f. 3; Gonn. & Rabh. t. 1, f. 3; Flor. Boruss. t. 384; Secr. Myc. iii, 294; Karst. Myc. Fenn. 43; Weinm. p. 414.

Peziza aurantiaca, Harzer, t. 72 B.

Peziza cochleata, Batsch, f. 157.

Peziza coccinea, Schæff. Icon. t. 148; Bull. Champ. t. 474; Sow. Fung. t. 78.

Helvella coccinea, Bolt. t. 100.

Peziza dichroa, Holms. Ot. ii. t. 7.

Aleuria aurantia, Fekl. Sym. Myc. 325; Sacc. Myc. Ven. 167.

On the ground. Aut.

Britain, France, Germany, Scandinavia, Denmark, Austria, Italy, Switzerland, Russia, India, Australia, United States.

Cups 1-3 inches broad, of a bright clear orange colour. Often cæspitose, and much contorted. Sporidia $\cdot 016 \times \cdot 008$ m.m.

Figured from specimens collected in Epping Forest.

EXSICCATI.—Fekl. F. R. 1228; Desm. Cr. Fr. i, 521; Karst. F. F. 142; Rabh. Hb. Myc. i. 523; Phil. Elv. Britt. 12.

Peziza (Cochleatæ) inæqualis. B. & Curt.

PLATE 52.—Fig. 204.

Magna, subelliptica, subtus alba, adpresso tomentosa, centro affixo. Hymenio aurantiaco. Ascis cylindraceutis. Sporidiis cymbæformibus, lævibus, binucleatis. Paraphysibus sursum incrassatis.

Peziza inæqualis, Berk. & Curt., Cuban Fungi, No. 660.

On rotten wood (?).

Cuba.

Cup 3 in. broad. Resembling *P. aurantia*, but with different fruit. Sporidia $\cdot 002 \times \cdot 007$ m.m.

Figured from specimens communicated by the Rev. M. J. Berkeley.

Peziza (Cochleatæ) *luteonitens*. *B. & Br.*

PLATE 52.—Fig. 205.

Conferta, luteo-nitens. Cupulis globosis, demum concavis, subregularibus, dein flexuosis. Ascis cylindraccis. Sporidiis ellipticis, binucleatis. Paraphysibus filiformibus, supra subclavatis.

Peziza luteonitens, Berk. & Broome, Ann. Nat. Hist. No. 556 ; Cooke, Handbk. No. 1976.

On the ground.

Britain.

Cups $\frac{1}{4}$ - $\frac{1}{2}$ in. broad, resembling stunted specimens of *P. aurantia*. Sporidia $\cdot 01$ - $\cdot 012 \times \cdot 005$ m.m.

There is an evident tendency in the mature sporidia to become rough, which brings the species into very close proximity to *P. aurantia*.

Figured from the original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cochleatæ) *Venezuelæ*. *B. & Curt.*

PLATE 52.—Fig. 206.

Sessilis, carnosa, aurantiaca. Cupulis hemisphericis, demum concavis, flexuosis, extus pallidiore. Ascis cylindraccis. Sporidiis fusiformibus, 2-5 nucleatis. Paraphysibus sursum leniter incrassatis.

Peziza Venezuelæ, B. & Curt. MSS. in Herb. Berk.

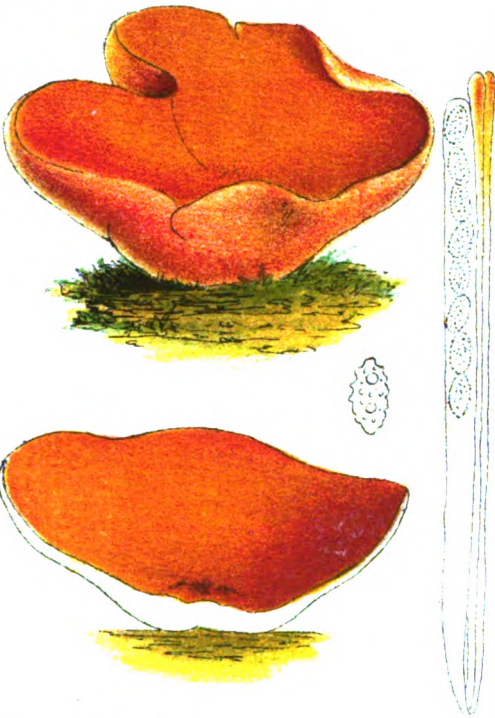
On the ground.

Venezuela.

Cups scarcely 1 inch broad. Sporidia $\cdot 03$ - $\cdot 033 \times \cdot 01$ - $\cdot 012$ m.m. Resembling also *P. aurantia*, but with very different fruit.

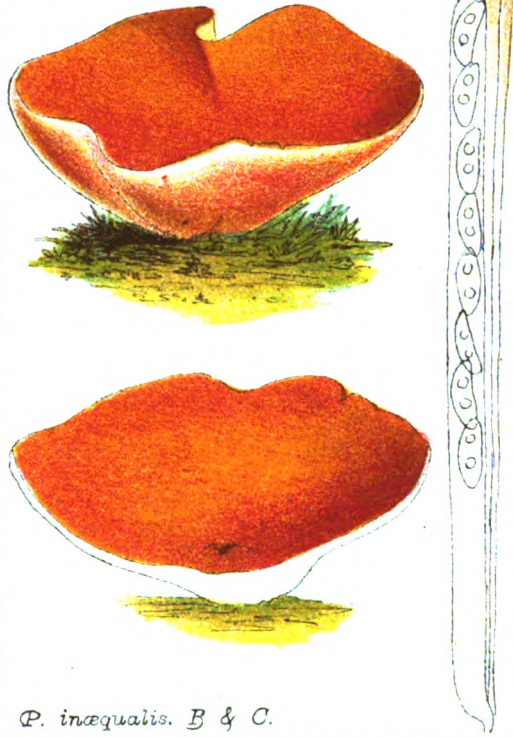
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

203



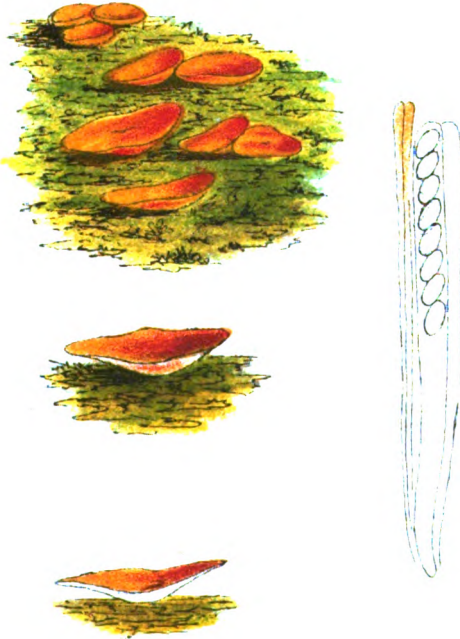
P. aurantia. Oed.

204



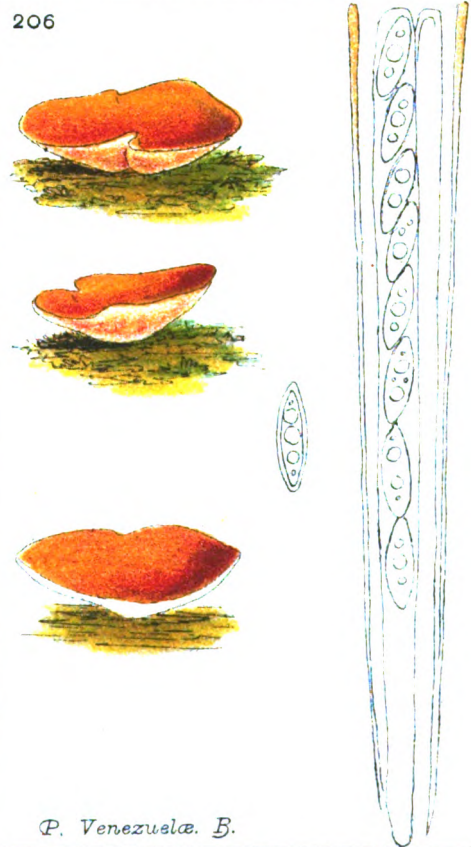
P. inaequalis. B & C.

205



P. luteo-nitens. B & Br.

206



P. Venezuelae. B.

PEZIZA. (COCHLEATE.)

Peziza (Cochleatæ) fibrillosa. Curr.

PLATE 53.—Fig. 207.

Subsessilis, aurantiaca. Cupulis irregularibus, extus margineque fibrilloso-tomentosis, albidis. Ascis cylindraceutis. Sporidiis ellipticis, lævibus, enucleatis. Paraphysibus filiformibus, globoso-clavatis.

Peziza fibrillosa, Curr. in Linn. Trans. xxiv. p. 153 ; Cooke, Handbk. No. 1977.

On the ground. Oct.

Britain.

Cups 1 in. broad. Sporidia $\cdot 015 \times \cdot 01$ m.m. The exterior of the cups, especially near the margin, is very fibrillose, and quite different from any form of *Peziza aurantia*, which it resembles externally. It has recently been found near King's Lynn, by C. B. Plowright.

Figured from the type specimens in the Herbarium of F. Currey, Esq.

Peziza (Cochleatæ) luculenta. Cooke.

PLATE 53.—Fig. 208.

Sessilis, carnosæ, amæne aurantiaca. Cupulis concavis, extus fibrillosis, pallidiore. Ascis cylindraceutis. Sporidiis ellipticis, obtusis, binucleatis, lævibus. Paraphysibus sursum clavatis, granulis aurantiacis repletis.

Peziza luculenta, Cooke in Herb.

Peziza luteonitens, Cooke in Grevillea, iii. fig. 122.

On the ground.

Britain.

Cups scarcely an inch broad, very much resembling *P. fibrillosa*, Curr. but with decidedly different fruit. Sporidia $\cdot 025 \times \cdot 012$ m.m.

Figured from specimens collected by H. C. Sorby, Esq., F.R.S., President of the Royal Microscopical Society of London.

Peziza (Cochleata) fulgens. Pers.

PLATE 53.—Fig. 209.

Magna, sessilis, campanulata, integra, superne aurantio-rubra, inferne alba. Ascis cylindraceutis. Sporidiis globosis, lævibus. Paraphysibus linearibus, paucis, hyalinis.

Peziza fulgens, Pers. Myc. Eur. i. 241 ; Weberbauer, t. 3, f. 1 ; Weinm. p. 427.

Peziza cyanoderma, DBy. in Rabh. F. E. 516.

Pseudoplectania fulgens, Fekl. Sym. Myc. 324.

In pine woods. May. June.

Germany, Russia, Scandinavia.

Cup 1-1½ in. broad, 1 in. high. Sporidia .005-.006 m.m. diam. A very distinct species. Figured from specimens published by Rabenhorst.

EXSICCATI.—Rabh. F. Eur. 516.

Peziza (Cochleata) onotica. Pers.

PLATE 53.—Fig. 210.

Sparsa, vel gregaria, substipitata, uno latere elongata, auriformis, extus farinacea, intus rosea, basi demum rugosa. Ascis cylindraceutis. Sporidiis ellipticis, 1-2 nucleatis. Paraphysibus sursum incrassatis.

Peziza onotica, Pers. Syn. p. 637 ; Fries Sys. Myc. ii. 48 ; Cooke, Handbk. 1974 ; Karst. Pez. p. 110 ; Karst. Myc. Fenn. p. 41 ; Ditm. Sturm. iii. t. 16 ; Sv. Bot. t. 486, f. 1 ; Weberbauer t. 1, f. 6 ; Gonn. & Rabh. t. 2, f. 1 ; Flor. Boruss. t. 396 ; Weinm. p. 414.

Peziza leporina, Sow. Fung. t. 79.

Peziza rosea, Schum. Saell. p. 416.

Peziza caligata, Nyl. Obs. p. 8.

Peziza unicus, Peck in Reports of N.Y. State Museum.

Otidea onotica, Fekl. Sym. Myc. 329.

Peziza ochracea, Karst. Mon. Pez. p. 110.

In woods, amongst leaves, &c. Sum.—Aut.

Britain, France, Scandinavia, Denmark, Germany, Russia, United States.

Cups 1-3 in. high and two thirds as broad. Sporidia .014 × .008 m.m. There can be very little doubt regarding this species, and yet the measurements of the sporidia given by different authors are variable. Figured from specimens published in Fungi Britannici.

EXSICCATI.—Fekl. F.R. 1232 ; Cooke F. Britt. ii. 365 ; Rabh. F.E. 215.

207



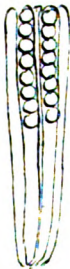
P. fibrillosa. Curr.

208



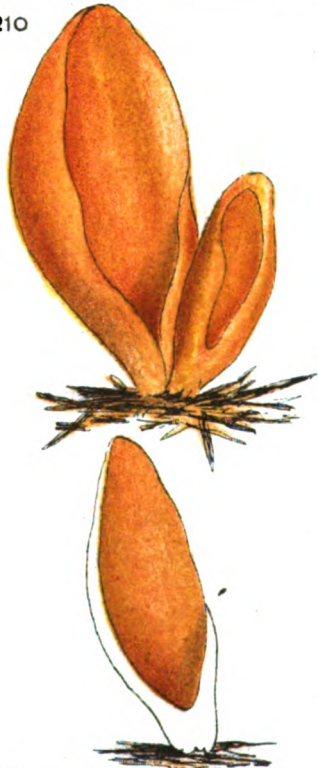
P. luculenta. C.

209



P. fulgens. P.

210



P. onotica. P.

Peziza (Cochleatæ) leporina. Batsch.

PLATE 54.—Fig. 211.

Gregaria, substipitata, uno latere elongata, auriformis, subferruginea, extus farinosa, basi que intus lævis. Ascis cylindraceutis. Sporidiis ellipticis, nucleatis. Paraphysibus linearibus, sæpe curvatis.

Peziza leporina, Batsch El. p. 117; Pers. Syn. p. 637; Fries Sys. Myc. ii. 47; Nees Sys. f. 278; Cooke, Handbk. No. 1973; Weberbauer, t. 1, f. 7; Gonn. & Rabh. t. 2, f. 4; Weinm. p. 414.

Peziza auricula, Schæff. Icon. t. 156 (in part); Flor. Dan. t. 1077, f. 2.

Peziza cochleata, Holms. Ot. ii. t. 6.

Otidea leporina, Fekl. Sym. Myc. 329.

On the ground, amongst moss. Aug.—Oct.

Britain, France, Germany, Scandinavia, Russia, Hungary.

Cups 1-2 in. high, $\frac{1}{2}$ -1 in. and more broad. Sporidia $\cdot 012$ - $\cdot 014 \times \cdot 007$ - $\cdot 008$ m.m. Figured from specimens collected and drawn by Wm. Phillips, Esq.

EXSICCATI.—Fekl. F.R. 1233; Rehm. Asc. 251; Phil. Elv. Britt. 11.

Peziza (Cochleatæ) cochleata. Bull.

PLATE 54.—Fig. 212.

Cæspitosa, sessilis, magna, contorta, umbrina, extus pruinosa. Ascis cylindraceutis. Sporidiis ellipticis, sæpe nucleatis. Paraphysibus linearibus.

Peziza cochleata, Bull. Champ. t. 154, f. 2; Sow. Fung. t. 5; Fries Sys. Myc. ii. 50; Gonn. & Rabh. t. 2, f. 5; Secr. Myc. iii. 296; Cooke, Handbk. No. 1971; Weinm. p. 416.

Fungoides fuscum, Buxb. Petr. iv. t. 29, f. 1.

Peziza umbrina, Pers. Obs. i. 77; Sv. Bot. t. 486, f. 2.

Elvela ochroleuca, Schæff. Ic. t. 274 (varietas).

Otidea cochleata, Fekl. Sym. Myc. 329; Sacc. Myc. Ven. p. 107.

In shady woods. Sum.—Aut.

Britain, France, Germany, Scandinavia, Switzerland, Russia, Australia.

Cups 1-3 in., sometimes more, more or less irregular and contorted. Sporidia $\cdot 018 \times \cdot 008$ m.m.

Figured from specimen collected at Epping, and compared with those in Montagne's Herbarium, and Dr. Greville's in the Edinburgh University Herbarium.

EXSICCATI.—Fekl. F.R. 1230.

Peziza (Cochleatæ) auricula. Cooke.

PLATE 54.—Fig. 213.

Subcaespitosa, carnosa, uno latere elongata, auriculoidea, carneo-rubra, extus farinosa. Ascis cylindraceutis, stipitatis. Sporidiis ellipsoideis, lævibus. Paraphysibus sursum clavatis.

Peziza cochleata, Cooke, Fungi Britt. i. 473.

Peziza leporina, Rabh. F. Eur. No. 512 ; Nylander Obs. p. 9 ; Karst. Monog. Pez. p. 111.

Peziza auricula, Schæff. Icon. t. 156 (in part).

On the ground.

Britain, Germany, Hungary.

Cups 1-2 in. broad and high.

Sporidia $\cdot 022\text{-}\cdot 028 \times \cdot 012\text{-}\cdot 014$ m.m. Resembling *P. onotica* in habit, but different in colour and fruit.

Figured from specimens published in Fungi Britannici. We have the same species from Kreitschmar collected in Lusatia under the name of *P. cochleata* and from Professor Hazslinszky under the name of *P. leporina*.

EXSICCATI.—Cooke F. Britt. i. 473 ; Rab. F.E. 512.

Peziza (Cochleatæ) alutacea. Pers.

PLATE 54.—Fig. 214.

Subsessilis, contorta, externe albida, intus pallescente fuliginea. Ascis cylindraceutis. Sporidiis ellipticis, leniter asperulis. Paraphysibus paucis, linearibus.

Peziza alutacea, Pers. Syn. p. 638.

Peziza cochleata β . *alutacea*, Fries Sys. Myc. ii. 50 ; Weinm. p. 416.

Plicaria alutacea, Fckl. Sym. Myc. 327.

In woods. Aut.

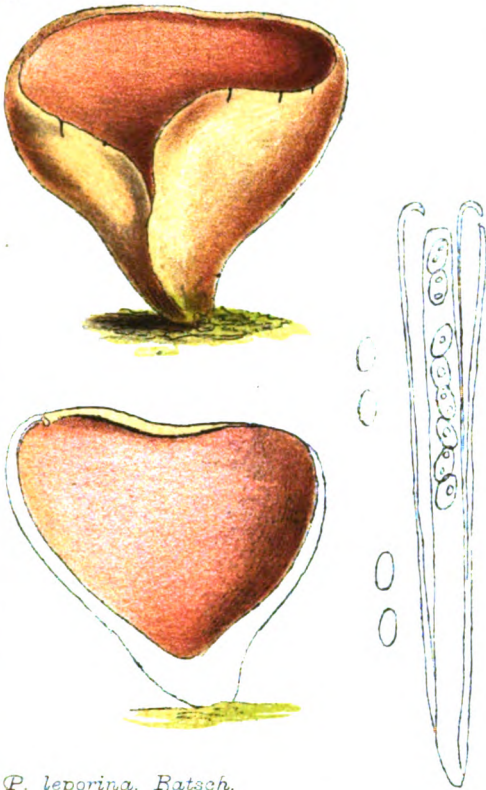
Germany, Russia.

Cups 2 in. or more broad, similar to *P. cochleata*. Sporidia $\cdot 012\text{-}\cdot 014 \times \cdot 006\text{-}\cdot 007$ m.m. The rough sporidia is sufficient to justify us in keeping this form distinct under the above specific name.

Figured from specimens published by Fockel.

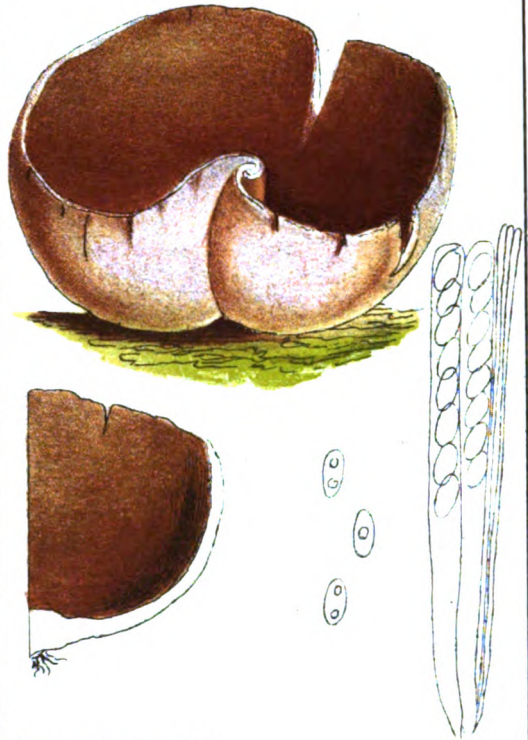
EXSICCATI.—Fckl. F. R. 1229.

211



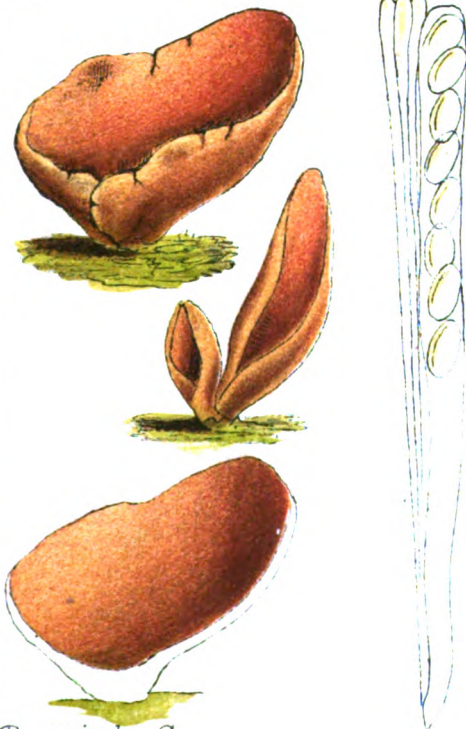
P. leporina. Batsch.

212



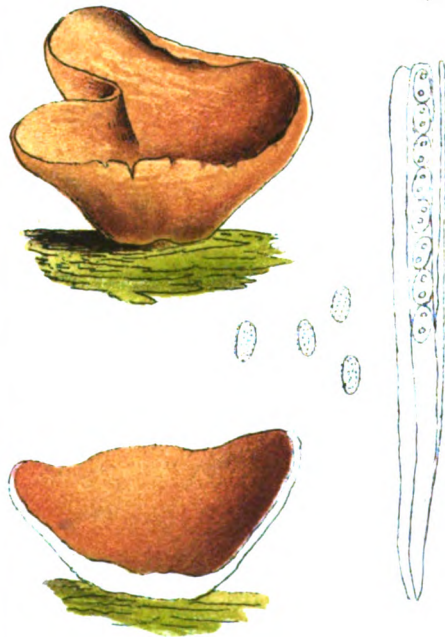
P. cochleata Bull.

213



P. auricula. C.

214



P. alutacea. P.

Peziza (Cochleatæ) Darjeelensis. Berk.

PLATE 55.—Fig. 215.

Cupula expansa, subcochleata, umbrina, extus pallida, aleuriata. Ascis cylindraceutis. Sporidiis minoribus, scabro-punctatis, endosporio simplici. Paraphysibus linearibus.

Peziza Darjeelensis, Berk. in Hook. Journ. 1851, iii. p. 202.

On the ground.

India (Darjeeling).

Cups 2 in. or more broad. Sporidia $\cdot 015 \times \cdot 008$ m.m.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cochleatæ) euplecta. Cooke.

PLATE 55.—Fig. 216.

Sessilis, obliqua, subochracea, intus fuscescens, extus farinosa, basi plicatocostata. Ascis cylindraceutis, elongatis. Sporidiis ellipticis, lævibus. Paraphysibus sursum incrassatis.

Peziza phlebophora var. (Alabama), Berk. & Curt. in Grevillea, iii. 151.

On the ground.

United States (Alabama).

Cups $\frac{1}{2}$ - $1\frac{1}{2}$ in. broad. Sporidia $\cdot 02 \times \cdot 012$ m.m. Quite different from *P. phlebophora*, with which it was at first associated.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cochleatæ) phlebophora. *B. & Br.*

PLATE 55.—Fig. 217.

Cupulis poculiformibus, obliquis, ochraceo-flavidis, substipitatis, subtiliter pulverulentis, basi venoso-costatis. Ascis cylindraccis. Sporidiis ellipticis, lævibus. Paraphysibus paucis, linearibus.

Peziza phlebophora, Berk. & Br. Ann. Nat. Hist. No. 1153, t. 3, fig. 9; Cooke, Handbk. No. 1970.

On clay banks.

Britain.

Cups $\frac{1}{2}$ - $1\frac{1}{2}$ in. across. Sporidia $\cdot 01$ - $\cdot 012 \times \cdot 006$ m.m.
Figured from specimens communicated by the Rev. M. J. Berkeley.

Peziza (Cochleatæ) costata. *Fr.*

PLATE 55.—Fig. 218.

Sessilis, subcontorta, e dilute griseo albescens, subtus alba, jugis a basi radiantibus elevatis ramosis costata. Ascis cylindraccis. Sporidiis late ellipticis. Paraphysibus sursum clavatis.

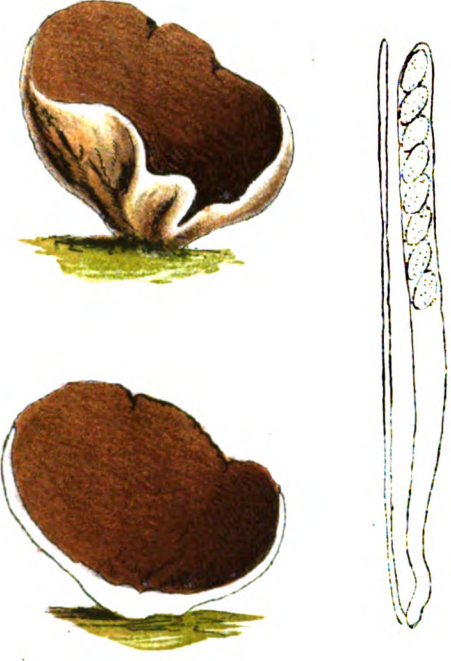
Peziza costata, Fries Nova Symb. p. 104.

On the ground. Aug.

Sweden. United States (Ohio).

Cups 2-3 in. broad. Sporidia $\cdot 018 \times \cdot 014$ m.m.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley, and originally communicated by Fries.

215



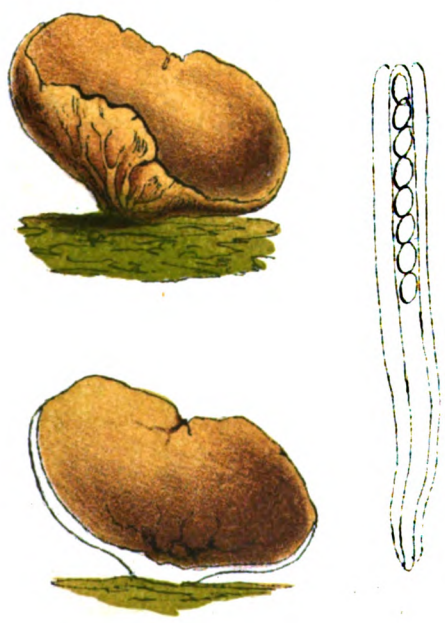
P. Darjeelensis. B.

216



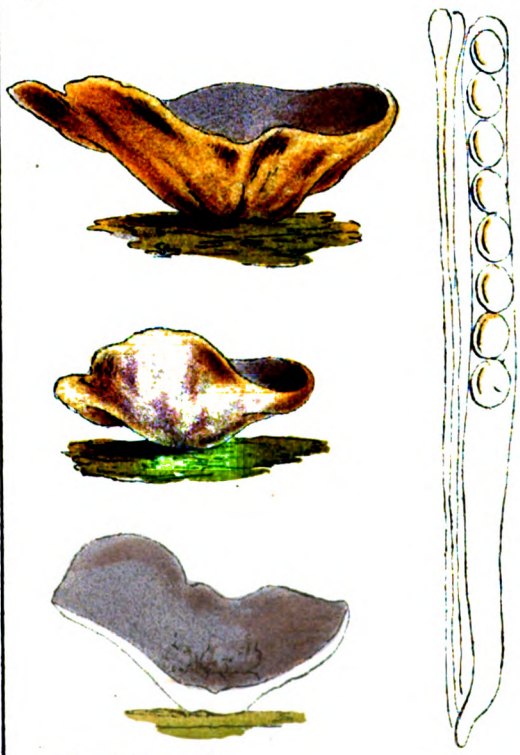
P. euplecta. C.

217



P. phlebophora. B & Br.

218



P. costata. Fr

PEZIZA. (COCHLEATÆ)

Peziza (Cochleatæ) Drummondii. Berk.

PLATE 56.—Fig. 219.

Media. Cupulæformis, sessilis, subtus costis validis terram intransibus suffulta, spadicea, hymenio brunneo. Ascis cylindræis. Sporidiis ellipticis. Paraphysibus clavatis.

Peziza Drummondii, Berk. in Hook. Journ. 1845, iv. p. 71, t. 11, f. 10.

On the ground.

Australia.

Cups $\frac{1}{4}$ in. broad. Sporidia $\cdot 015 \times \cdot 008$ m.m. Resembling a stunted form of *Peziza phlebophora*, but differing in fruit.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cochleatæ) hirneoloides. Berk.

PLATE 56.—Fig. 220.

Sessilis, vel brevissime stipitata, rubra, subtus alba; hymenio lævissime Ascis cylindræis. Sporidiis cymbæformibus, quandoque leniter curvatis. Paraphysibus sursum incrassatis.

Peziza hirneoloides, Berk. Cuban Fungi, No. 661.

On rotten wood.

Cuba. Australia.

Cups $1-1\frac{1}{2}$ in. across. The species looks at first sight very much like an *Hirneola*, the hymenium is so smooth. Sporidia $\cdot 02-\cdot 022 \times \cdot 008$ m.m.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cochleatæ) dochmia. B. & C.

PLATE 56.—Fig. 221.

Stipite crassiusculo, obtuso, sursum dilatato. Hymenio fusco, subtus pallida. Ascis cylindraceis. Sporidiis cymbiformibus, lævibus, binucleatis. Paraphysibus clavatis.

Peziza dochmia, Berk. and Curt. in Cuban Fungi, No. 656.

On rotten wood (?). Nov.

Cuba.

Cups 1 inch or more broad. Sporidia $\cdot 025\text{--}\cdot 03 \times \cdot 01$ m.m.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cochleatæ) lechria. B. & Br.

PLATE 56.—Fig. 222.

Minor, obliqua, extus umbrina. Hymenio badio. Ascis cylindraceis. Sporidiis ellipticis, lævibus. Paraphysibus clavatis.

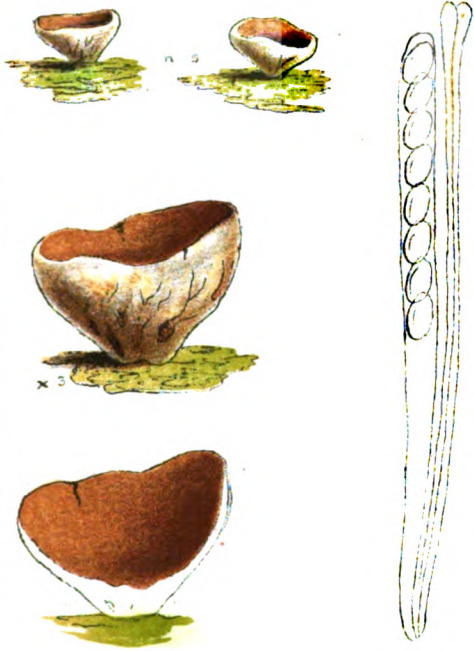
Peziza lechria, Berk. & Br. Ceylon Fungi, No. 924.

On rotten wood.

Ceylon.

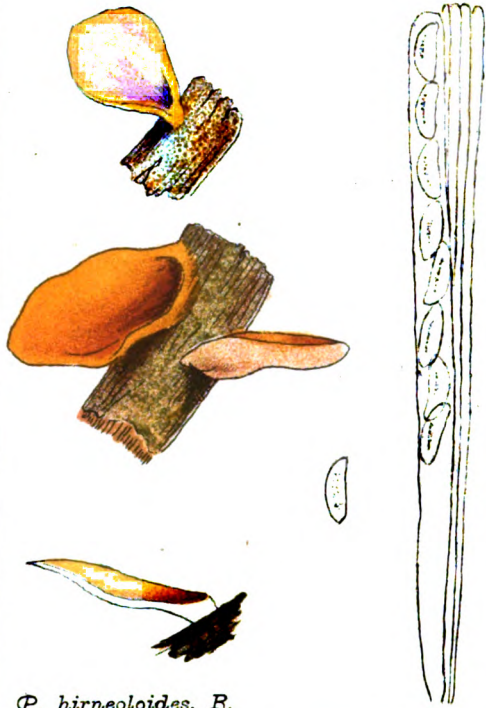
Cups about $\frac{1}{2}$ inch high. Sporidia $\cdot 02 \times \cdot 01$ m.m.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

219



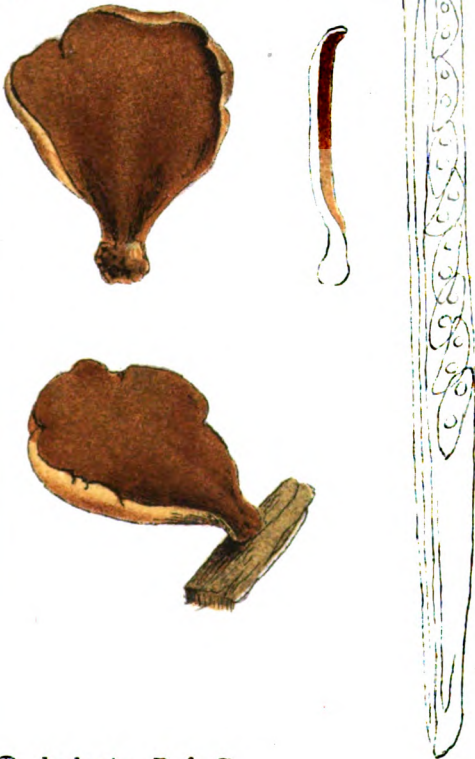
P. Drummondii. B.

220



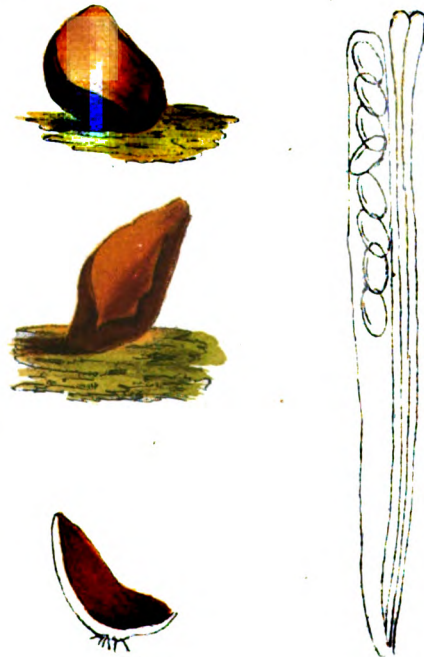
P. hirneoloides. B.

221



P. dochmia. B & C.

222



P. lechria. B.

Peziza (Cochleatæ) abietina. Pers.

PLATE 57.—Fig. 223.

Subcæspitosa, concava, flexuosa, integra, subcinnamomea, extus farinosa, basi lacunosa, albido villosa. Ascis cylindraceutis. Sporidiis, ellipticis, hyalinis, lævibus. (Paraphysibus crassis.)

Peziza abietina, Pers. Syn. p. 637; Fries Sys. Myc. ii. 47; Karst. Pez. p. 110; Nyl. Obs. p. 9; Gonn. & Rabh. t. 1, f. 5; Secr. Myc. iii, 294; Karst. Myc. Fenn. p. 40; Weinm. p. 414.

Peziza integra, Schmm. Saell. ii. 419.

Peziza grandis, Pers. Syn. p. 639 (sec. Fries.)

Otidea abietina, Fekl. Sym. Myc. 330.

In pine woods. Aug. Oct.

Germany, Scandinavia, Denmark, Switzerland, Russia.

Cups 1-2 inches broad, 1 in. high. Sporidia $\cdot 018 \times \cdot 01$ m.m.
Figured from specimens published by Fockel.

EXSICCATI.—Fockel. F. R. 1226.

Peziza (Cochleatæ) Bauerana. Cooke.

PLATE 57.—Fig. 224.

Substipitata, carnosæ, deorsum in stipitem crassum attenuata, margine integro; sicco subinvoluta, disco badio, extus pallidiore. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus linearibus.

Peziza venosa, Bauer. in Rabh. Fung. Eur. 615.

On the ground.

Germany.

Cups $1\frac{1}{2}$ in. broad, 1 inch high. Sporidia $\cdot 014 \times \cdot 0075$ m.m.
Figured from the specimens published in Rabenhorst's *Fungi Europæi*, under the name of *Peziza venosa*.

EXSICCATI.—Rabh. F. E. 615.

Peziza (Cochleatæ) atrovinosa. Gerard.

PLATE 57.—Fig. 225.

Subgregaria. Sessilis, cupulæforma, demum expansa, lævi, glabra, atrovinosa; disco concolore. Ascis cylindræcis. Sporidiis ellipticis, asperatis. Paraphysibus filiformibus, subclavatis.

Peziza atrovinosa, Cooke and Ger. in *Bullet. Buff. Acad. Sci.* 1875, p. 288.

On the ground.

United States (N. Y.).

Cups 1-2 inches broad. Sporidia $\cdot 014 \times \cdot 008$ m.m.

Figured from specimens communicated by W. R. Gerard, of Poughkeepsie, N. Y. It should doubtless be regarded as a variety of *P. badia*.

Peziza (Cochleatæ) badia. Pers.

PLATE 57.—Fig. 226.

Subsessilis, integra, flexuosa, brunnea, margine primo involuto, extus pruinosa, dilutior, subolivacea. Ascis cylindræcis. Sporidiis ellipticis, extus granulatis.

Peziza badia, Pers. *Obs.* 2, 78; Pers. *Myc. Eur.* p. 224; Fries *Sys. Myc.* ii. 46; Weberbauer, t. 2, f. 2; Gonn. & Rubh. t. 1, f. 3; *Sacr. Myc.* iii. 296; Cooke, *Handbk.* No. 1969; Karst. *Myc. Fenn.* p. 56; Weinm. p. 413.

Helvella cochleata, Bolt. *Fung.* t. 99.

Plicaria badia, Fckl. *Sym. Myc.* 327; *Sacc. Myc. Ven.* p. 167.

On the ground. in grassy places. Sum. Aut.

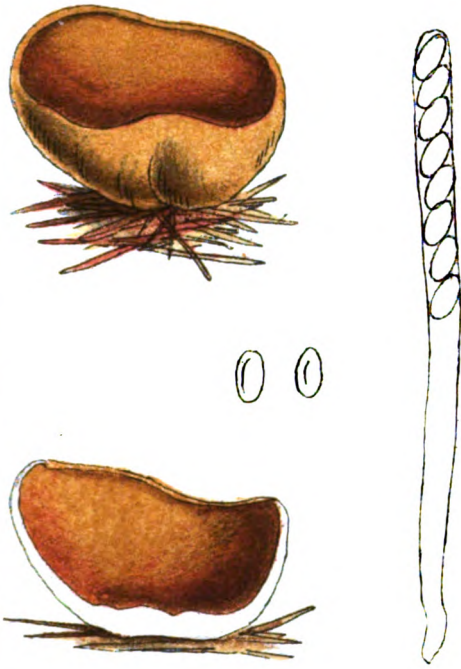
Britain, France, Germany, Scandinavia, Russia, Switzerland, Italy, United States.

Cups 1-2 inches broad. Sporidia $\cdot 015\text{-}\cdot 017 \times \cdot 008$ m.m.

Figured from specimens communicated by W. Phillips, and published in his *Elvellæci Britannici*.

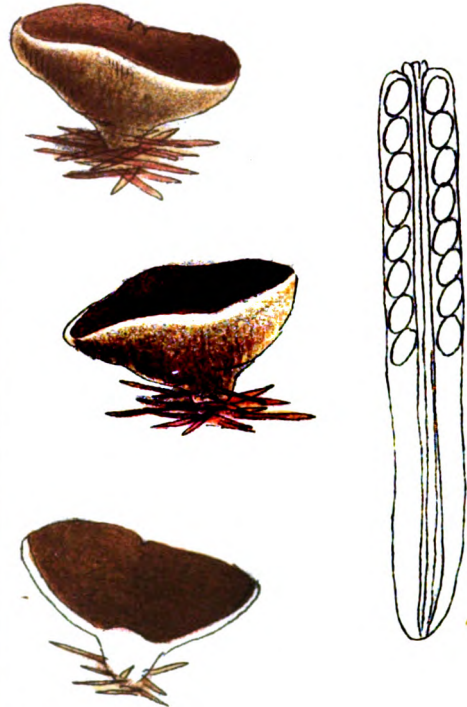
EXSICCATI.—Rabh. *Hb. Myc.* i. 337; Karst. *F. F.* 141; Cooke *F. Britt.* ii. 366; Phil. *Elv. Brit.* No. 9.

223



P. abietina. P.

224



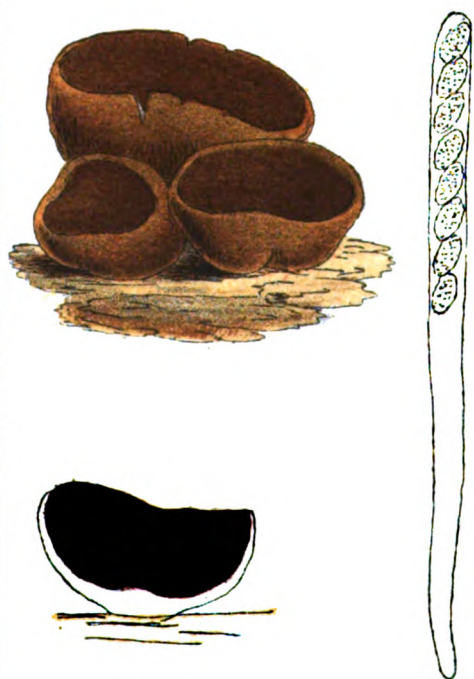
P. Bauerana C

225



P. atrovinosa. Ger.

226



P. badia. P.

Peziza (Cochleata) reticulata. Grev.

PLATE 58.—Fig. 227.

Magna, intus fulvo rufescens, medio plicato, reticulato, extus albida, pruinosa, cupula margine involuta, primo integra, demum varie lacerata, subrepanda. Stipite vel brevi crasso, vel subnullo. Ascis cylindraceis. Sporidiis elongato-ellipticis. Paraphysibus supra clavatis, granulis brunneolis repletis.

Peziza reticulata, Grev. Sc. Crypt. Fl. iii. t. 156 ; Krombh. t. 61, f. 18-22 ; Berk. Outl. t. xxii. f. 6.

Plicaria reticulata, Fekl. Sym. Myc. 328.

Peziza venosa, Cooke, Handbk. No. 1968 (partly).

On the ground. Spring. Esculent.

Britain, France, Germany, Bohemia.

Cups 2-5 inches broad. Sporidia $\cdot 023 \times \cdot 01$ m.m.

This has usually been united with *P. venosa*, but as we think without good reason. The odour is by no means so powerful and nitrous as in that species, the colour is lighter, substance less tough, sporidia more constant, and different in size and form.

Figured from specimens collected in France, and communicated by Prof. de Seynes.

EXSICCATI.—Fekl. F. R. 2083.

Peziza (Cochleatæ) venosa. Pers.

PLATE 58.—Fig. 228.

Sessilis, subcontorta, badio-umbrina, inferne alba, venis costatis rugosa. Ascis cylindræis. Sporidiis ellipticis. Paraphysibus copiosis, supra clavatis, brunneis.

Peziza venosa, Pers. Myc. Eur. p. 220 ; Fries Sys. Myc. ii. 46 ; Weberbauer, t. 2, f. 1 (?) ; Cooke, Handbk. No. 1968.

Elvela cochleata, Wieff. in Jacq. Misc. ii. t. 17, f. 1.

On the ground. Spring. Esculent.

Britain, Scandinavia, Germany, Austria.

Cups 1-2 inches broad, or more. Sporidia $\cdot 018 \times \cdot 01$ m.m. The strong nitrous odour of this species is very characteristic.

Figured from specimens published in *Fungi Britannici*, and compared with specimens named by Tulasne in *Herb. Paris*.

EXSICCATI.—Cooke F. Britt. 1, 557.

Peziza (Cochleatæ) ancilis. Pers.

PLATE 58.—Fig. 229.

Griseo-brunnea, integra, stipite brevissimo, apice costato-diviso, ramulis crassiusculis, cum capula coalitis. Ascis cylindræis. Sporidiis late ellipticis, obtusis, uninucleatis. Paraphysibus filiformibus.

Peziza ancilis, Pers. Myc. Eur. p. 219 ; Fries Sys. Myc. ii. 43 ; Secr. Myc. iii. 294.

Peziza venosa, var. *ancilis*, Weinm. p. 413.

On the ground in woods. May.

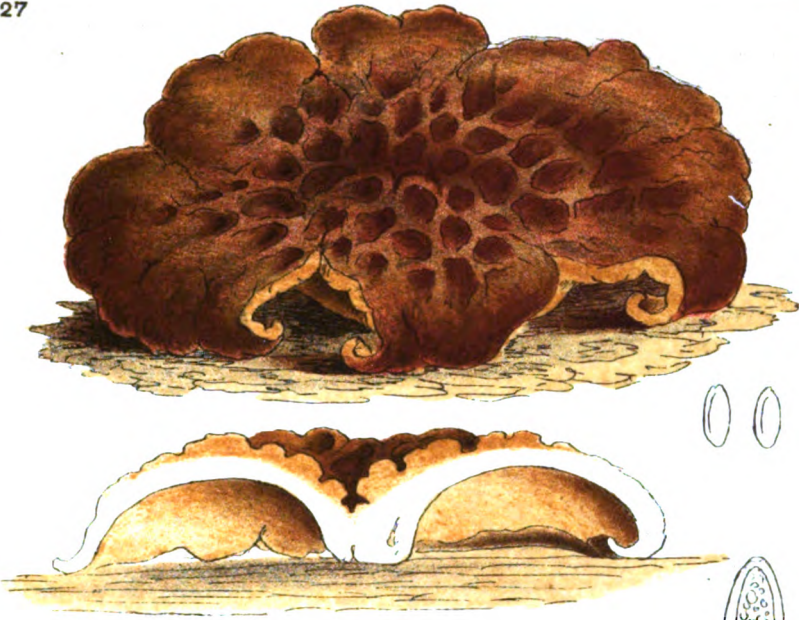
Germany, Scandinavia, Switzerland, Russia, Hungary.

Cups 2-5 in. broad. Sporidia $\cdot 02 \times \cdot 012$ m.m.

Figured from specimens published in *Rabenhorst's Fungi Europæi*.

EXSICCATI.—Rabh. F. Eur. 805.

227



x 1200

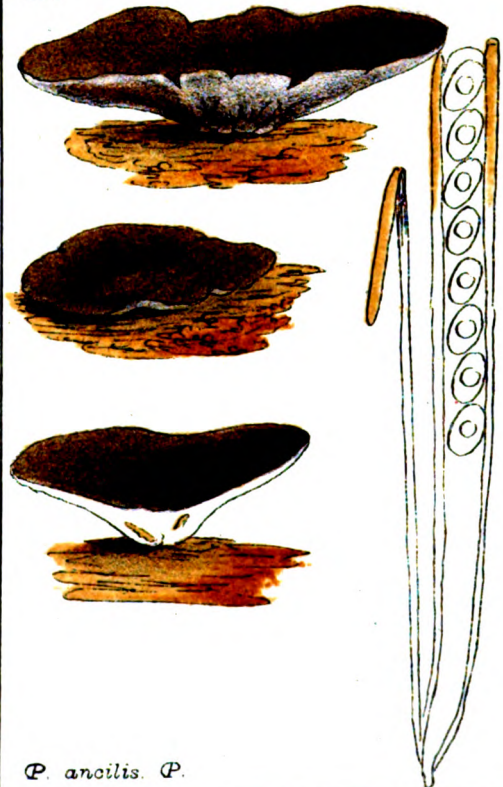
P. reticulata. Grev.

228



P. venosa. P.

229



P. ancilis. P.

PEZIZA (COCHLEATAE.)

Peziza (Humaria) obnupta. Karst.

PLATE 59.—Fig. 230.

Sessilis, gregaria, e conico vel sphæroideo, truncato, plus minus dilatata, sublutea, hymenio-planiusculo, vel concaviusculo, luteo, vel subaurantiaco-luteo, primum membranula albida furfure contexta, dein rumpente oblecto, margine tenui, subflexuoso. Sporidiis fusoido-oblongatis, plerumque biguttulatis. Paraphysibus copiosis, apice clavatis.

Peziza obnupta, Karst. Mon. Pez. p. 119 ; Karst. Myc. Fenn. p. 47.

On dung.

Finland.

Cups 1-2 m.m. broad, densely gregarious. Sporidia $\cdot 017 \times \cdot 008$ m.m. Figured from specimens kindly communicated by Dr. P. A. Karsten.

Peziza (Humaria) merdaria. Fries.

PLATE 59.—Fig. 231.

Subsessilis, carnosa, glaberrima, badia, margine nigrescente, disco plano-umbilicato. Ascis cylindraceutis. Sporidiis ovoideis, hyalinis. Paraphysibus simplicibus, leniter incrassatis.

Peziza merdaria, Fries Eleu. ii. p. 11 ; Crouan Fl. Finis. p. 53.

On human dung.

Russia, France, Scandinavia.

Scarcely 1 line broad, crowded. Sporidia $\cdot 012\text{-}\cdot 014 \times \cdot 0075$ m.m. Figured from specimens communicated by Professor Elias Fries, of Upsal.

Peziza (Humaria) cremoricolor. Berk.

PLATE 59.—Fig. 232.

Minuta, applanata, cremoricolor. Ascis cylindraceutis. Sporidiis ellipticis lævibus. Paraphysibus linearibus.

Peziza cremoricolor, Berk. in Grevillea, No. 714.

On human dung.

North America (U.S.).

Minute, about 1 line broad, flattened (1-2 m.m.) Sporidia $\cdot 016 \times \cdot 01$ m.m. Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Humaria) cynocopra. Dun.

PLATE 59.—Fig. 233.

Sessilis, carnosã, parva, pallida, carneo-rubra, vel carneo-ochracea, convexa, demum depressa, disco concavo, margine tumido. Ascis cylindraceutis. Sporidiis ellipticis.

Peziza cynocopra, Dunal. MSS.

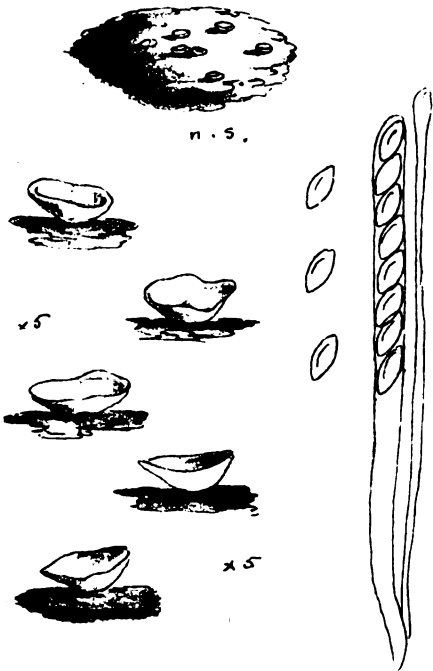
On dogs' dung.

France.

Cups about $\frac{1}{2}$ m.m. broad. Sporidia $\cdot 02 \times \cdot 009$ m.m.

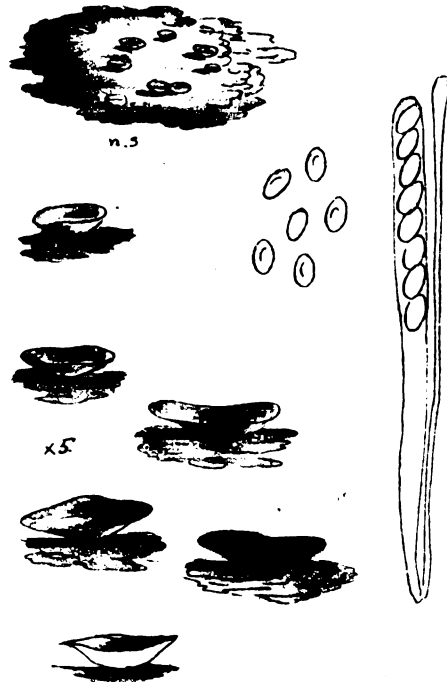
A very peculiar little species, communicated by Prof. J. de Seynes, with sketches made by Dunal, from which the figures have been executed.

230



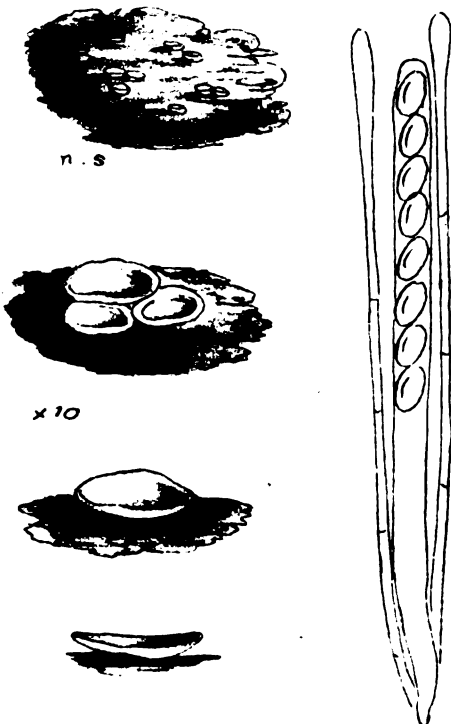
P. abrupta. K.

231



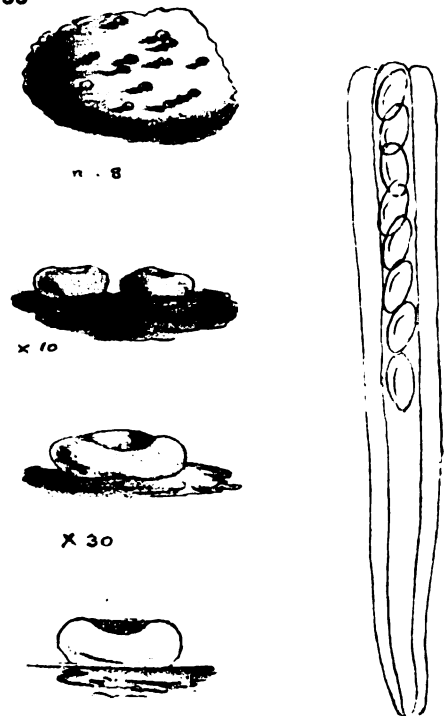
P. merdaria. Fr.

232



P. cremoricolor. B & C.

233



P. cynocopa. Dun.

PEZIZA. (HUMARIA.)

Peziza (Sarcoscypha) albicans. Fckl.

PLATE 60.—Fig. 234.

Sessilis, carnosa, rubescens, late obconica, plana, vel concava, disco arguto marginato, paulo pallidiore, siccitate albo-pruinoso, extus margineque pilis brevissimis obsitis. Ascis cylindraceis, stipitatis. Sporidiis ellipticis, uninucleatis. Paraphysibus apice 2-3 partitus, hyalinis.

Ascobolus albicans, Fckl. Hedwigia, 1866, p. 3, fig. 2, *a, b, c*; Fckl. Sym. Myc. p. 289.

On the ground, on dung. Summer.

Germany.

Cups 1-2 m.m. broad. Sporidia $\cdot 015 \times \cdot 009$ m.m.
Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F.R. 1855.

Peziza (Sarcoscypha) Carestia. Ces.

PLATE 60.—Fig. 235.

Sessilis, carnosa, primitus ovoidea, demum obconica, disco punctiformi impresso, dein applanato, amæne vitellino, fucato. Ascis cylindraceis. Sporidiis fusiformibus. Paraphysibus parce filiformibus.

Peziza Carestia, Ces. in. Rabh. Herb. Myc. ii. 704; Erb. Critt. Ital. ii. 270.

On the ground.

Italy.

Cups $\frac{1}{2}$ -1 m.m. broad. Sporidia $\cdot 025 \times \cdot 01$ m.m.
Figured from specimens communicated by Baron Cesati.

EXSICCATI.—Rabh. Herb. Myc. ii. 704; Erb. Critt. Ital. ii. 270.

Peziza (Sarcoscypha) porphyra. B. & C.

PLATE 60.—Fig. 236.

Sessilis. Cupula planiuscula, extus fusca velutina, intus atropurpurea. Ascis cylindraceutis. Sporidiis globosis, laevibus. Paraphysibus furcatis.

Peziza porphyra, Berk. & Curt. in Proceed. Amer. Acad. Arts & Sci. vol. iv. p. 127.

On roadsides and banks.

Japan.

Cups about 1 c.m. broad. Sporidia $\cdot 014$ m.m. diam.

Figured from the original drawings communicated by the Rev. M. J. Berkeley. Specimens we have not seen.

Peziza (Sarcoscypha) crucipila. C. & Ph.

PLATE 60.—Fig. 237.

Sparsa, sessilis, carnosae, coccinea, demum applanata, extus pallidiore, pilis furcatis, vel cruciatis pallidis vestita. Ascis cylindraceutis. Sporidiis longe ellipticis. Paraphysibus supra clavatis, granulis aurantiacis repletis.

Peziza crucipila, Cooke & Phillips MSS.

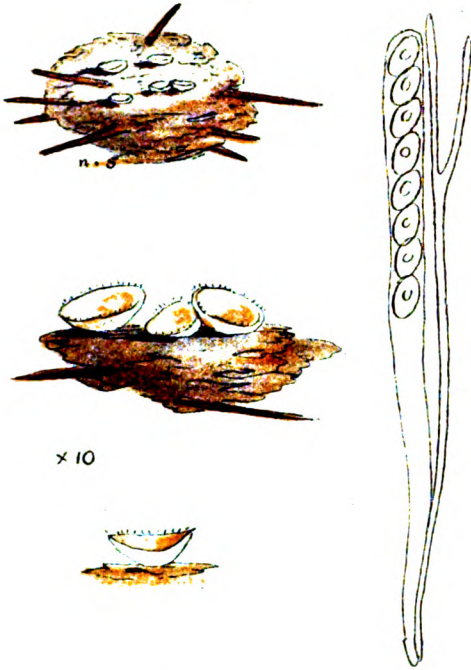
On the ground.

Great Britain.

Cups 1-2 m.m. broad. Sporidia $\cdot 02 \times \cdot 009$ m.m. Hairs, when simple, about $\frac{1}{3}$ th millim. long.

Figured from specimens collected by W. Phillips, near Shrewsbury.

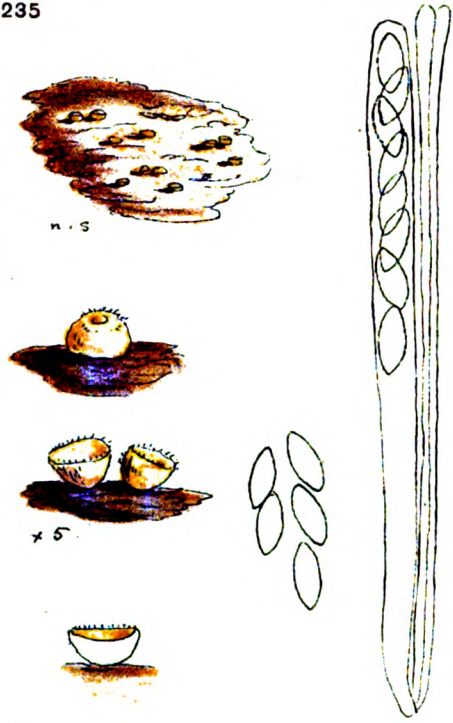
234



x 10

P. albicans Fekl.

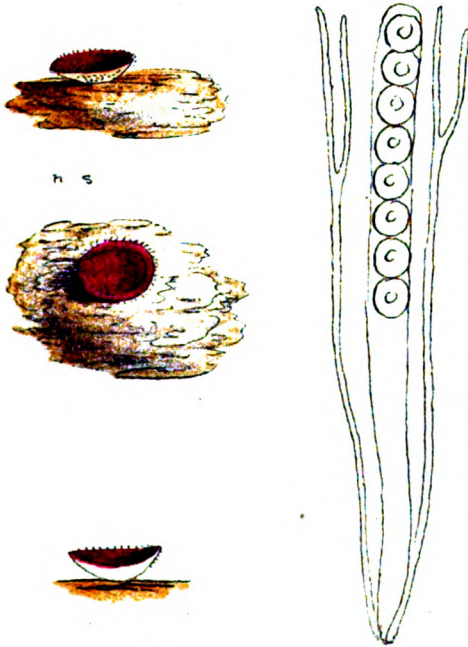
235



x 5

P. Carestia Ges.

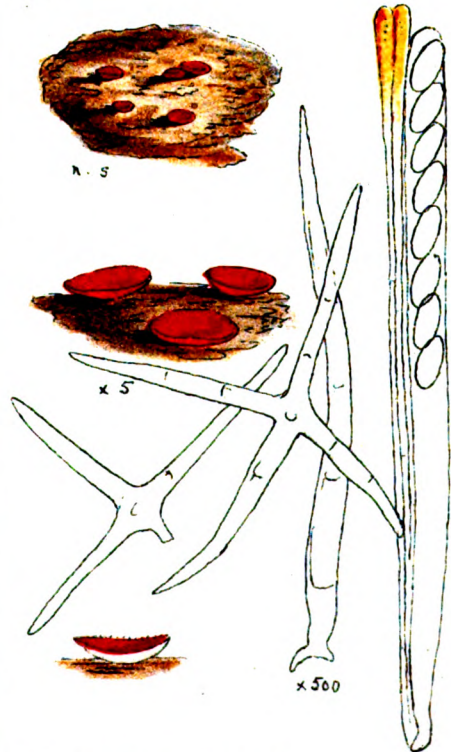
236



n.s

P. porphyra B & C.

237



n.s

x 5

x 500

P. orucipila C & Ph.

PEZIZA. (SARCOSYPHA.)

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PEZIZA. *Dill.*

Receptaculum marginatum, cupulæforme, primo subclausum, mox expansum, epidermide tenui contigua. Hymenium læve, persistens, distinctum. Asci ampli, distincti, fixi; sporidiis elastice ejienda includentes, paraphysibus immixtis. Cupula centro adfixa, passim stipitata, libere evoluta, plus minus cava, demum passim planiuscula, disco polita (nec villosa l. pulveracea), discolori, velum universale, sed non distinctum et sæpe nullum. Substantia carnosomembranacea l. ceracea.—*Fries Sys. Myc.* ii. 40.

Ser. I. ALEURIA, extus pruinosa l. floccoso-furfuracea.

Sub-genus iii. Cupulares, *Fries.*

Cupula sessili, extus pruinosa, vel pustulata, regulari, carnosam.—*Fries Summa. Veg. Scan.*, p. 349.

***Peziza* (Cupulares) *coronaria*. Jacq.**

PLATE 61.—Fig. 238.

Sparsa, subterranea, demum detecta. Cupula subglobosa, stellato-lacerata, extus pallida, intus subviolacea, vel rosea. Stipite brevo, crasso, radicato. Ascis elongatissimo-cylindraceutis. Sporidiis ellipticis, nucleatis, uniseriatis. Paraphysibus rectis, linearibus, superne leniter incrassatis, interdum furcatis.

Peziza coronaria, Jacq. Misc. Austr. i. p. 140, pl. 10, 1778.

Peziza amplissima, Fries. S. Veg. Scan. p. 349.

Peziza eximia, DR. & Lev. Fl. Alger. t. 28, f. 9.

Peziza geaster, Rabh. Myc. Eur. t. 3, f. 5.

Peziza macrocalyx, Smith in Journ. Bot. 1869, p. 345, t. 98 ; Cooke Hdbk. No. 1981.

On the ground under trees.

Britain, Germany, Austria, Scandinavia, France, Algeria.

Cups very large, 4 or 5 inches, when expanded. Asci very long. Sporidia $\cdot 015\text{--}\cdot 018 \times \cdot 008\text{--}\cdot 009$ mm. uniseriate in the upper portion of the ascus, with one or two nuclei. After having been dried and then again moistened the nuclei give the sporidia the appearance of being uniseptate. It was doubtless this illusion which led to the sporidia of *Peziza eximia* in Flora d'Algerie being represented as uniseptate. This appearance is very deceptive in nucleated sporidia, and is not confined to the present species, as we have observed the same thing in *Peziza Summeriana* after it has been some time dried.

As these pages were passing through the press we received from Dr. Paxton a fine specimen of this *Peziza*, collected in Sussex, which in form and colour, as in fruit, agreed exactly with our figure *a*. ; so that undoubtedly those figured by Mr. W. G. Smith were of an unusually intense colour.

The figures on plate 61 were derived from the following sources :—Fig. *a*, from drawings and specimens collected in France by Professor J. de Seynes ; fig. *b*, from drawing of British specimens made by W. G. Smith ; fig. *c*, outline of figure in Fresenius' Beitrage ; fig. *d*, ascus and sporidia from the French specimens of Prof. de Seynes ; fig. *e*, sporidia from the same, very much magnified ; fig. *f*, asci and sporidia from specimens in Rabh. Fung. Eur. 806. The differences from the typical form which these specimens exhibit, although scarcely of specific value, appear to warrant recognition as a distinct variety. The specimens published by Fuckel are almost intermediate, the paraphyses are but slightly coloured.

Peziza (Cupulares) *coronaria*. *Jacq.*

var. *macrocalyx*. *Riess.*

PLATE 61.—Fig. 238 *e* and *f*.

Asci cylindræcis, abbreviatis. Sporidiis ellipticis, primo nucleatis demum recedentibus.

Peziza macrocalyx, Riess. in Fres. Beitr. p. 75, t. 9, f. 7 ; Kalchbrenner in Rabh. Fung. Eur. 806.

Sarcosphæra macrocalyx, Fckl. Sym. Myc. p. 329.

On the ground.

Hungary, Germany.

Asci not exceeding .2 mm. long, whereas in the typical form they are .3-.35 mm. long. Sporidia narrower, .016-.018 × .007 mm. Paraphyses distinctly coloured, Probably the Algerian species belongs to this variety.

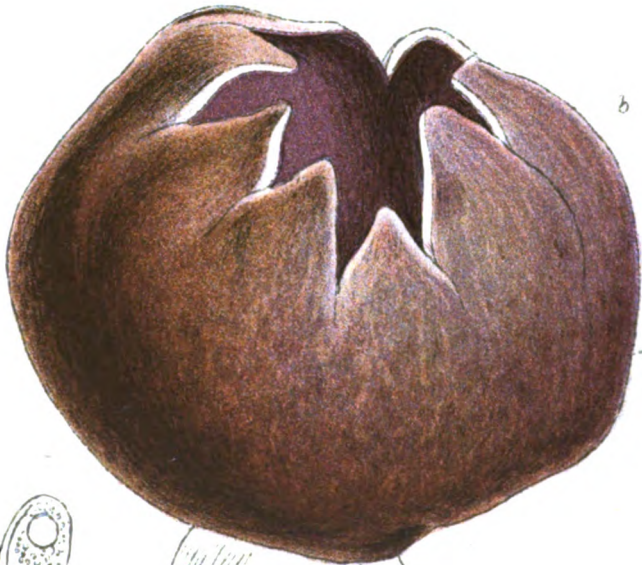
EXSICCATI.—Rabh. Fung. Eur. No. 806 ; Fckl. Fung. Rhen. No. 2196.



a.



d



b



f



e



c

P. coronaria Jacq.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) *perlata*. Fr.

PLATE 62.—Fig. 239.

Cupula explanata, undulata, dilute cinnamomea, subtus lævis, stipiteque brevi, lacunoso-albida, substantia carnosae. Ascis cylindræis. Sporidiis ellipticis, lævibus. Paraphysibus numerosis, superne clavatis, granulatis, brunneis.

Peziza (*Discina*) *perlata*, Fries Sys. Myc. ii. 43 ; Karst. Myc. Fenn. p. 39.
Discina perlata, Fries Sverige Svampar, t. 56.

In woods beside sandy roads. May.

Scandinavia, Finland.

Stem 2-3 lines long. Cups 3-4 inches broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 01$ mm. A large and fleshy species, of which our figure represents a small specimen, included by Fries amongst esculent fungi. Karsten gives the dimensions of the sporidia as $\cdot 025\text{-}\cdot 04$ mm. long, but in his specimen, from which the figure is taken, they only measure as above.

Figured from specimens published by Karsten.

EXSICCATI.—Karst. Fung. Fenn. 531.

***Peziza* (Cupulares) *repanda*. Wahl.**

PLATE 62.—Fig. 240.

Solitaria, vel subcaespitosa, magna, inciso-repanda, intus subrugosa, fusca, extus farinosa, albida, basi radicato-producta. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis. Paraphysibus linearibus, paucis, hyalinis.

Peziza repanda, Wahl. Ups. p. 466; Fries Sys. Myc. ii. 51; Grev. S. C. Fl. t. 59; Berk. Eng. Fl. v. 188; Cooke Hdbk. No. 1978; Weimm. Hym. p. 117.

On old trunks and on the ground.

Britain, Scandinavia, Denmark, Italy, Switzerland, Russia, N. America, Cuba, Australia.

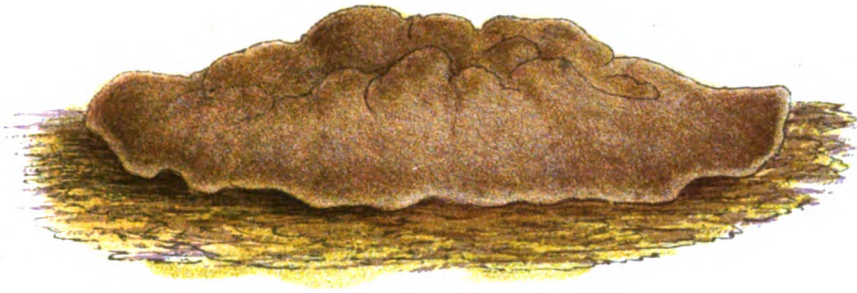
Cups 1 to 4 inches broad. Sporidia $\cdot 018\text{--}02 \times \cdot 01$ mm. Cells of the exterior of the cup very large. This is one of the species with which many others have been confounded, so that it is very difficult to quote synonyms with any degree of certainty. If regard be paid to the sporidia, great paucity of paraphyses, and large external cells, there should not be much difficulty in determining it. Karsten's *Peziza repanda* (Myc. Fenn. p. 54) with sporidia $\cdot 01\text{--}014 \times \cdot 006\text{--}007$ mm. must be something different.

Fuckel describes the sporidia in his Sym. Myc. as "episorio granuloso-tuberculato fusco," measuring $\cdot 016 \times \cdot 008$ mm. This again cannot be the present species.

Some specimens of *Peziza lycoperdioides*, in Herb. Limminghe, resemble Fuckel's description and measurements. Under this name are included also specimens of *Peziza vesiculosa*, and of *Peziza Saccardiana*.

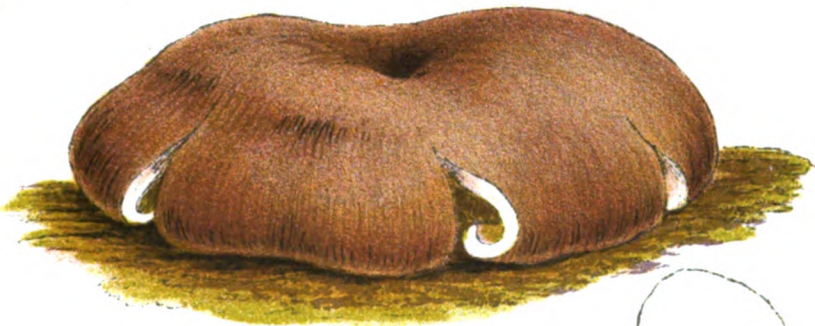
The figures on our plate were derived from a fresh specimen collected in Epping Forest. The asci and sporidia being identical with specimen from the late Dr. Greville in the Edinburgh Herbarium, and with specimens communicated by the Rev. M. J. Berkeley and Mr. C. E. Broome.

239



P. perlata Fr.

240



P. repanda Wahl.

Peziza (Cupulares) isabellina. Sm.

PLATE 63.—Fig. 241.

Gregaria, subcæspitosa, magna, carnosae, sessilis. Cupula subglobosa, regularis, integra, flavo-brunnea, rubricosa, extus subpruinosa, pallidiore. Ascis cylindraceis. Sporidiis ellipticis, intus granulosis. Paraphysibus linearibus, supra clavatis.

Peziza isabellina, W. G. Smith in *Grevillea* i. p. 136, t. 9.

On decayed coniferous wood. Spring.

Britain.

Cups 1-2 inches across, apparently sometimes with a very short or spurious stem. Sporidia $\cdot 014 \times \cdot 08$ mm.

We have never seen this species, but have reproduced the figures from Mr. Smith's drawings. It has not been found, as far as our knowledge goes, since it was discovered by Mr. C. B. Plowright in the neighbourhood of King's Lynn. Such a large and attractive species could scarcely escape notice. The asci and sporidia are copied, and *not* drawn to the scale adopted for our own original drawings.

Peziza (Cupulares) *vesiculosa*. *Bull.*

PLATE 63.—Fig. 242.

Cupula integra, sessilis, prima globosa, turbinata, connivens dein campanulata, ore subcrenata, fusciscenti-albida, extus furfuracea. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus linearibus, supra incrassatis.

Peziza vesiculosa, Bull. Champ. p. 270 ; Fries Sys. Myc. ii. 52 ; Grev. S. C. Fl. t. 107 ; Cooke Hdbk. No. 1980 ; Sow. Fung. t. 4 ; Kickx. Fland. 494 ; Karst. Myc. Fenn. p. 52 ; Weinm. Hym. p. 117.

Peziza lycoperdioides, DC. Fl. Fr. ii. 87 (partly).

Pustularia vesiculosa, Fekl. Sym. Myc. p. 329 ; Sacc. Ven. p. 167.

On the ground, rich soil, manure heaps, &c.

Britain, France, Scandinavia, Italy, Russia, Belgium, Germany, Hungary, N. America.

Cups 1-3 inches broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 012$ mm. The figure in Gonn. & Rabh. Myc. Eur. under this name must be something very different.

Figured from specimen in Phillips's *Elvellacei Britannici*, compared with specimens from Rev. M. J. Berkeley.

EXSICCATI.—Karst. Fung. Fenn. 818 ; Phil. Elv. Britt. 13 ; Erb. Critt. Ital. 773 ; Sacc. Myc. Ven. 733.

Peziza (Cupulares) *succosa*. *Berk.*

PLATE 63.—Fig. 243.

Media, integra, sessilis, hemispherica, pallide cereo-brunnea, extus pallidior, margine inflexo ; carne flavo-succosa. Ascis cylindraceutis. Sporidiis ellipticis, asperatis. Paraphysibus linearibus, supra incrassatis.

Peziza succosa, Berk. Ann. Nat. Hist. No. 156, t. 10, fig. 5 ; Cooke Hdbk. No. 1972 ; Kickx. Fland. i. 495.

On the naked ground in woods.

Britain, Belgium, N. America.

Cups 1 inch diam., hemispherical or subglobose, of a pale waxy-brown within, paler and mealy externally, when broken exuding a yellow juice. Sporidia binucleate, $\cdot 02 \times \cdot 011\text{-}\cdot 012$ mm. minutely rough.

Figured from specimens published by Mr. W. Phillips.

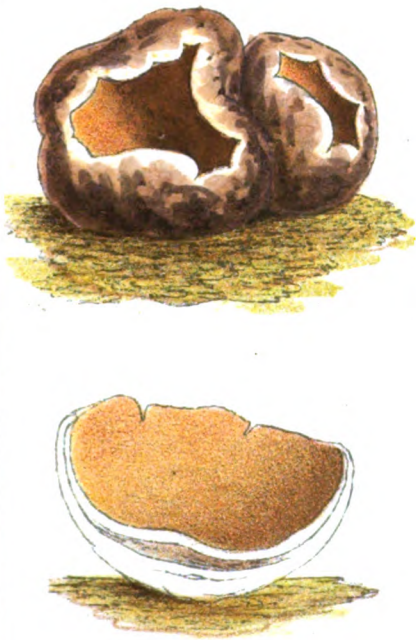
EXSICCATI.—Phil. Elv. Britt. 10.

241



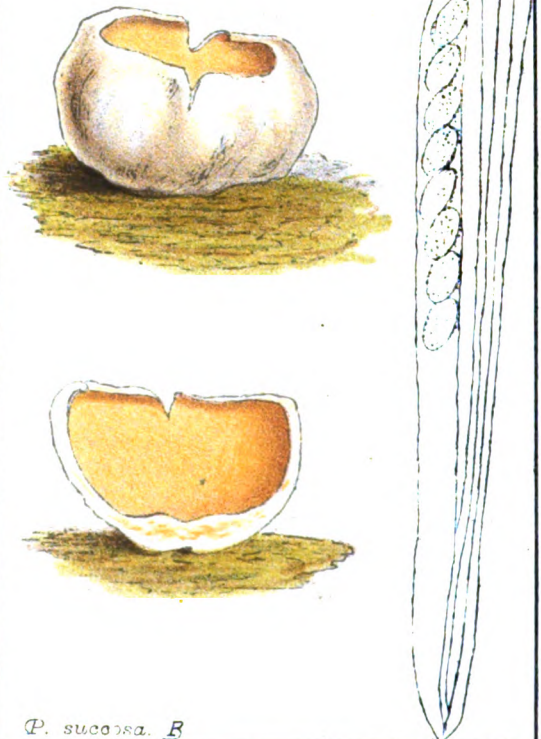
P. isabellina. Sm.

242



P. vesiculosa. Bull.

243



P. sucrosa. B.

PEZIZA. (CUPULARES.)

***Peziza* (Cupulares) *cerea*. Sow.**

PLATE 64.—Fig. 244.

Gregaria, subcæspitosa, valde fragilis, infundibuliformis, repanda, lutescens; extus basi que stipitifor mi, furfuracea albidis. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus linearibus, supra incrassatis.

Peziza cerea, Sow. Fung. t. 3; Fries Sys. Myc. ii. 52; Cooke Hdbk. No. 1979; Karst. Myc. Fenn. p. 54; Bull. Champ. t. 44; Weinm. Hym. 117; Kickx. Fland. p. 495.

Plicaria cerea, Fckl. Sym. Myc. p. 327.

Peziza vesiculosa, var. *cerea*, Rehm. in Ascomyceten, No. 201.

On the ground, on tan, amongst leaves, &c.

Britain, Scandinavia, France, Germany, Russia, Switzerland, Belgium, United States (N. Jersey).

Cups 1-2 inches broad. Sporidia $\cdot 02 \times \cdot 009$ mm. The figure in Gonn. & Rabh. Myc. Eur. pl. 2, f. 1. is much more like some form of *Peziza leporina* than any condition of this species.

Figured from specimens communicated by the Rev. M. J. Berkeley.

EXSICCATI.—Fckl. Fung. Rhen. 1225; Rehm. Asc. No. 201.

***Peziza* (Cupulares) *palmicola*. B. & C.**

PLATE 64.—Fig. 245.

Sessilis, expansa. Cupula explanata, demum crispata, subtus pallida. Hymenio pallide flavo-fusco. Ascis cylindraceutis. Sporidiis late ellipticis, lævibus. Paraphysibus superne clavatis.

Peziza palmicola, Berk. & Curt. Cuban Fungi, in Journ. Linn. Soc. p. 365, No. 657.

On rotten palms. February.

Cuba.

Cups 2 inches across. Sporidia $\cdot 015 \times \cdot 01\text{-}012$ mm. Substance rather thin, and occasionally the sporidia are oval, almost globose.

Figured from the original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) *Petersii*. *B. & C.*

PLATE 64.—Fig. 246.

Gregaria, crispata. Cupula expansa, explanata, integra, extus pallida. Hymenio spadiceo. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis. Paraphysibus filiformibus.

Peziza Petersii, Berk. & Curt. in Grevillea, North Amer. Fungi, No. 710 ; Cooke in Bullet. Buffalo Acad. Sci. 1876, p. 289.

On burnt soil.

N. America (Alabama).

Cups 1 inch or more across, rather shallow, gregarious, crisped, externally pallid ; hymenium bright-brown. Sporidia $\cdot 012 \times \cdot 006$ mm.

Figured from original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) *echinospora*. *Karst.*

PLATE 64.—Fig. 247.

Sessilis. Cupula demum expansa, flexuosa et contorta, fragillima, pallide rufo-fuscescentia, nuda, sicca pruinosa. Ascis cylindraceutis, apicem versus iodo cærulescentes. Sporidiis ellipsoideis, eguttulatis, leviter papilloso-asperulis. Paraphysibus clavato-incrassatis.

Peziza echinospora, Karst. Mon. Pez. 115 ; Myc. Fenn. p. 54.

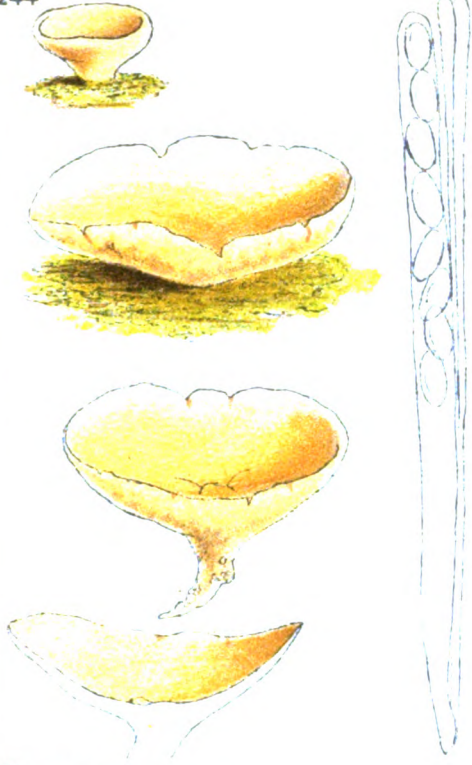
On carbonaceous soil. Autumn.

Finland.

Cups as much as 3 inches in diameter. Sporidia rough, $\cdot 014\text{--}\cdot 018 \times \cdot 007\text{--}\cdot 009$ mm. Figured from specimen published by Karsten. In this, and some other instances, where dried specimens only could be obtained for the figures, too great reliance must not be placed on the tone of colouring.

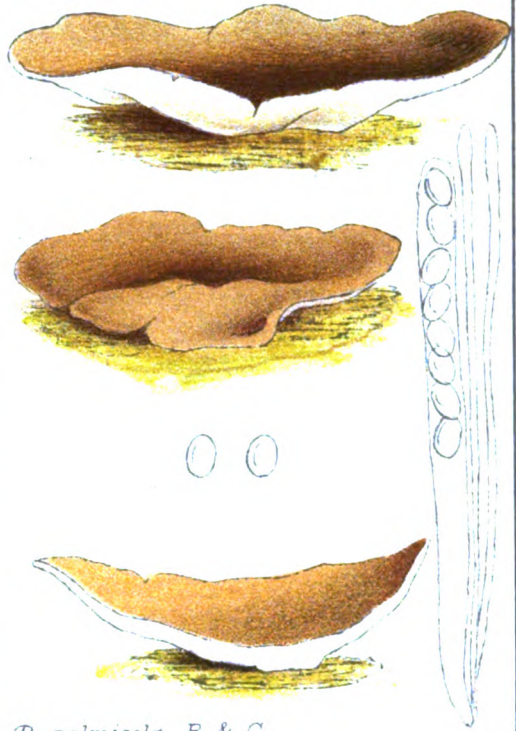
EXSICCATI.—Karst. Fung. Fenn. No. 541.

244



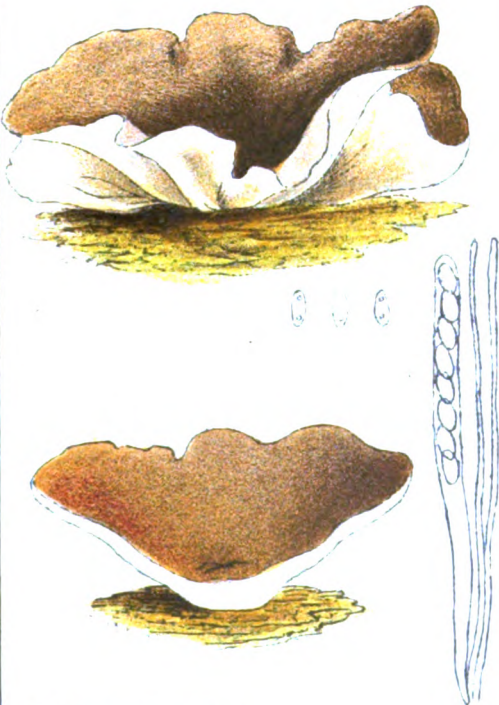
P. serca. Sow.

245



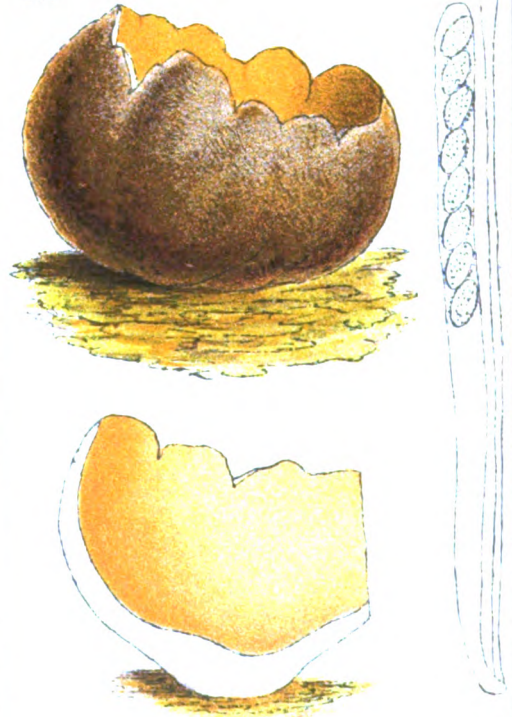
P. palmicola. B & C.

246



P. Petersii B & C

247



P. echinospora K.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) truncicomes. Ger.

PLATE 65.—Fig. 248.

Sessilis. Cupula hemispherica, carnosa, margine tenue, incurva, extus pallida, subfarinosa, intus ochraceo-flava. Ascis cylindraceutis. Sporidiis arcte ellipticis, episporio lævi. Paraphysibus supra clavatis.

Peziza truncicomes, Gerard in litt.

On rotting stumps.

N. America (New York).

Cup $\frac{1}{2}$ – $\frac{3}{4}$ inch across. Sporidia $\cdot 018 \times \cdot 008$ mm. Margin of the cups often irregularly serrated.

Figured from specimens communicated by Mr. W. R. Gerard.

Peziza (Cupulares) griseo-rosea. Ger.

PLATE 65.—Fig. 249.

Sessilis. Cupula carnosula, hemispherica, demum expansa, margine leniter incurva, extus subfarinacea, griseo-ochracea; hymenio pallide rosacea, subochracea. Ascis cylindraceutis. Sporidiis ellipticis, episporio asperulis. Paraphysibus linearibus, vix incrassatis, nucleatis.

Peziza griseo-rosea, Gerard. *Bullet. Acad. Sci. Buffalo*, vi. p. 288.

On ligneous earth. July.

N. America (New York).

Cups about 1 inch broad. Sporidia $\cdot 015 \times \cdot 0075$ mm.

Figured from drawings and original specimens communicated by Mr. W. R. Gerard.

***Peziza* (Cupulares) *sylvatica*. Karst.**

PLATE 65.—Fig. 250.

Gregaria, breviter stipitata. Cupula concaviuscula, nuda, sicca interdum albo-pruinosa, ab initio albida, dein fusca vel umbrina, stipes brevis, crassiusculis, basi tomento byssino albo obvolutus. Ascis cylindraceutis. Sporidiis ellipticis, 1-2 nucleatis. Paraphysibus filiformibus, apice incrassatis.

Peziza sylvatica, Karst. Sym. p. 226 ; Myc. Fenn. p. 52.

On wood and rotting leaves.

Finland.

Cups $\frac{1}{2}$ -1 inch broad. Stem 1-2 mm. long, 1 mm. thick. Sporidia $\cdot 012$ - $\cdot 016 \times \cdot 007$ - $\cdot 008$ mm.

Figured from specimens published by Karsten.

EXSICCATI.—Karst. Fung. Fenn. 819.

***Peziza* (Cupulares) *phyllogena*. Cooke.**

PLATE 65.—Fig. 251.

Subsessilis. Cupula hemisphaerica, brunneo-ochracea, ad basim attenuata, fibrillis radicatis adfixa, margine leniter incurva. Ascis cylindraceutis. Sporidiis ellipticis, episorio asperatis. Paraphysibus linearibus, vix incrassatis.

Peziza phyllogena, Cooke in Herb.

On dead leaves lying on the ground. February.

N. America (Carolina).

Cups not exceeding one inch broad, often less, attached to dead leaves by delicate fibrils. Sporidia $\cdot 018 \times \cdot 008$ mm.

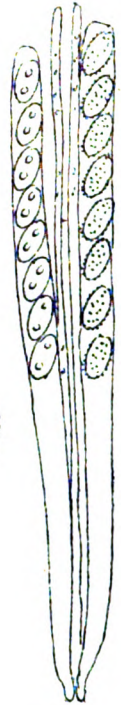
Figured from dried specimens communicated by H. W. Ravenel (No. 1427) ; the colour may, therefore, differ slightly in tone.

248



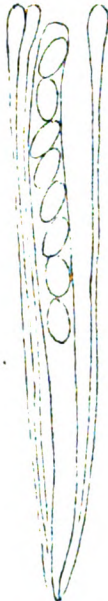
P. truncicomes. Ger.

249



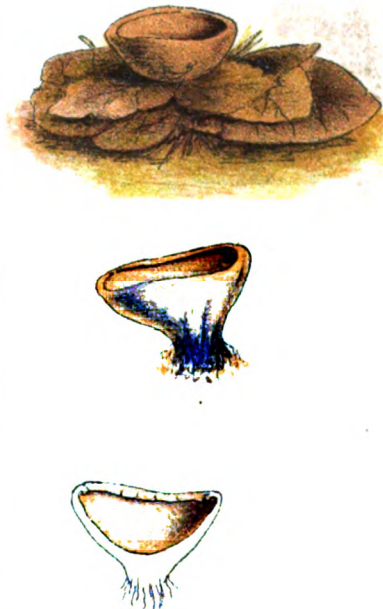
P. griseo-rosea. Ger.

250



P. sylvatica. K.

251



P. phyllogena. C.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) caligans. Cooke.

PLATE 66.—Fig. 252.

Sessilis. Cupula carnosae, hemispherica, demum expansa, extus badiobrunnea, intus carnea, mox laete brunnea, obscurior, margine pallida. Ascis cylindraceutis. Sporidiis ellipticis, episporio leniter asperulis. Paraphysibus supra clavatis.

Peziza caligans, Cooke in Herb.

Amongst moss.

N. America (New York).

Cups one inch broad, when old becoming pale flesh colour externally, with a light purplish-brown hymenium. Sporidia $\cdot 015\text{-}\cdot 016 \times \cdot 009$ mm. at first binucleate. Figured from original specimens communicated by Mr. W. R. Gerard.

Peziza (Cupulares) decolorans. B. & C.

PLATE 66.—Fig. 253.

Sessilis. Cupula parva, obconica, demum expansa, ex albo fuliginea. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis. Paraphysibus filiformibus, vix incrassatis.

Peziza decolorans, Berk. & Curt. in Grevillea, North Amer. Fungi, No. 709.

On the ground.

N. America (Alabama).

Cups $\frac{1}{4}\text{-}\frac{3}{4}$ in. broad. Sporidia $\cdot 018\text{-}\cdot 02 \times \cdot 0085$ mm. asci long, and attenuated below.

Figured from original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) irrorata. B. & C.

PLATE 66.—Fig. 254.

Sessilis, cupulæformis, demum applanata, fuliginea; subtus late affixa. Ascis cylindræcis. Sporidiis late ellipticis, demum granulis exasperatis. Paraphysibus linearibus, supra clavatis, granulis hyalinis repletis.

Peziza irrorata, Berk. & Curt. in Grevillea, N. Amer. Fungi, No. 706.

On soil.

N. America (Texas).

Cups about one inch across, or less. Sporidia $\cdot 018\text{-}02 \times \cdot 012$ mm., at first with a single globose nucleus, surface studded with little obtuse granules.

Figured from original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) fuliginea. Schum.

PLATE 66.—Fig. 255.

Subgregaria, subsessilis, suborbicularis, explanata, repanda, subflexuosa, superne subtuberculosa, nigro-fuliginea, margine acuto integro, subtus purpureo-cinerea. Ascis cylindræcis. Sporidiis globosis, lævibus. Paraphysibus inconspicuis.

Peziza fuliginea, Schum. Saell. p. 427; Fries. Sys. Myc. ii. 64; Flor. Dan. t. 1854, f. 1; Weinm. Hym. p. 425.

Amongst moss in pine woods. Autumn.

Scandinavia, Denmark, Russia, N. America (*Schw.*).

Cups $\frac{1}{2}$ -1 in. broad. Sporidia $\cdot 006\text{-}\cdot 0065$ mm.

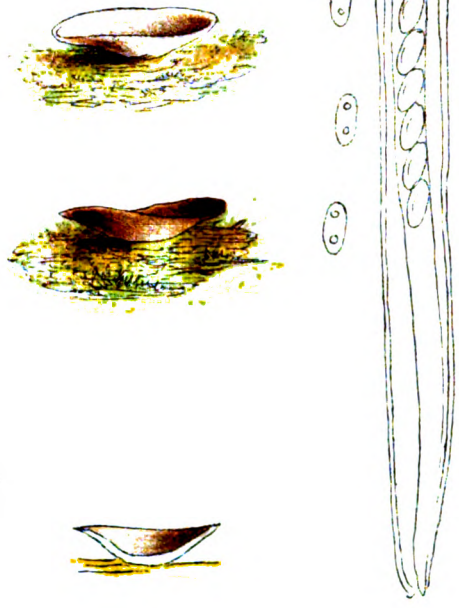
Figured from specimen in the Royal Herbarium, Kew Gardens.

252



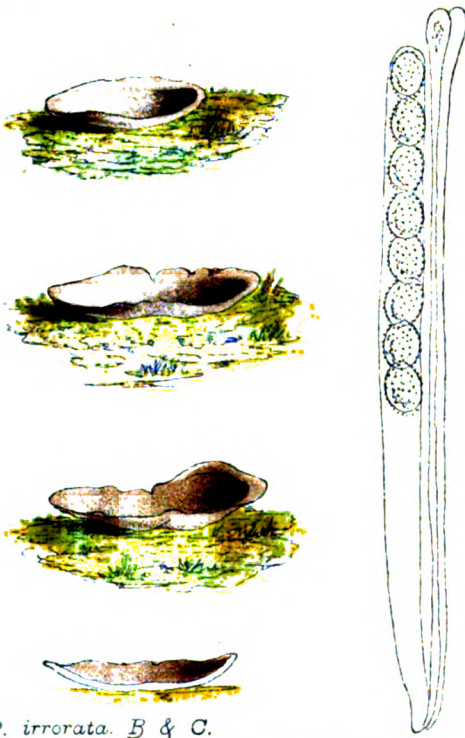
P. caligans. C.

253



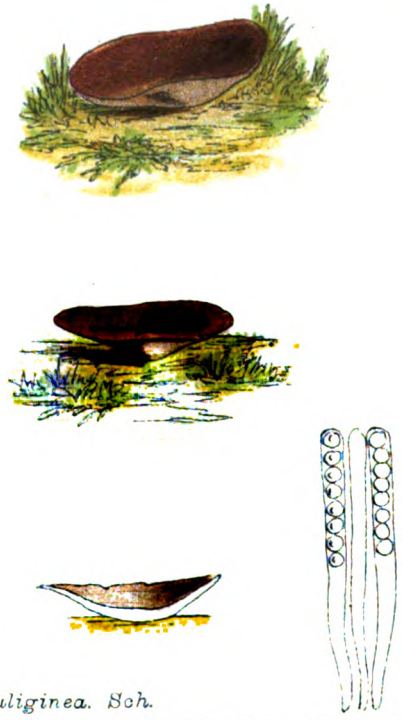
P. decolorans. B & C.

254



P. irrorata. B & C.

255



P. fuliginea. Sch.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) leiocarpa. Curr.

PLATE 67.—Fig. 256.

Cupula prima ætate connivens et subglobosa, extrinsecus, et præsertim versus marginem aspera, fusco-vinosa, tenuis et semipellucida, basin versus sæpe pallida, sessilis, demum expansa et fere plana, irregularis, varie lobata et undulata. Discus olivaceo-fuscus, primum pallide, demum obscure. Ascis cylindræis. Sporidiis globosis, lævibus. Paraphysibus filiformibus, apicem versus aliquanto clavatis.

Peziza leiocarpa, Currey, Linn. Trans. xxiv. p. 493, t. 51, figs. 4 and 6; Cooke Hdbk. No. 1985.

Plicaria foveata, Fekl. Sym. Myc. p. 326 (?)

On the ground.

Britain.

Cups $1\frac{1}{2}$ -3 inches broad. Sporidia .009-.01 mm. diam.

Figured from specimens communicated by Mr. C. E. Broome.

EXSICCATI.—Rabh. Fung. Eur., 622.

Peziza (Cupulares) trachycarpa. Curr.

PLATE 67.—Fig. 257.

Prima ætate orbicularis, fere plana, sæpissime umbilicata; demum irregularis, recurva et undulata; discus nigro-fuscus, asper et tuberculatus. Cupula solo adpressa, extrinsecus minute granulata, substipitata, vel obconica. Ascis cylindræis. Sporidiis globosis, muricatis, fuscis. Paraphysibus aliis filiformibus, apicem versus clavatis, aliis latis, pallide fuscis, ascis vacuis simillimis.

Peziza trachycarpa, Currey, Linn. Trans. xxiv. p. 493, t. 51, figs. 3 and 5; Cooke Hdbk. No. 1984; Karst. Myc. Fenn. p. 61.

Peziza furva, Nyl. Obs. p. 15.

On burnt ground.

Britain, Finland.

Cups $\frac{1}{2}$ - $1\frac{1}{2}$ inch broad. Sporidia .012-.015 mm. diam.

Figured from specimens communicated by Mr. C. E. Broome.

EXSICCATI.—Rabh. Fung. Eur. 620; Karst. Fung. Fenn. 457; Phil. Elv. Brit. No. 57.

Peziza (Cupulares) *umbilicata*. *Karst.*

PLATE 67.—Fig. 258.

Gregaria, sessilis. Cupula planiuscula, umbilicata, nuda, subfusca; hymenio ruguloso, nitido, margine integro. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis, rugulosis. Paraphysibus filiformibus, sursum incrassatis.

Peziza umbilicata, Karst. Symb. p. 226; Myc. Fenn. p. 55.

On the ground. Aug.

Finland.

Cups about 1 inch broad. Sporidia $\cdot 012\text{-}\cdot 016 \times \cdot 008\text{-}\cdot 0085$ mm.
Figured from specimens published by Karsten.

EXSICCATI.—Karsten Fung. Fenn. No. 729.

Peziza (Cupulares) *adnata*. *B. & C.*

PLATE 67.—Fig. 259.

Sparsa, subcarnosa. Cupula arcte adnata, applanata, margine Augusto, erecto; hymenio atro-fusco. Ascis cylindraceutis, amplis. Sporidiis ellipticis, irroratis. Paraphysibus supra clavatis, intus granulatis.

Peziza adnata, Berk. & Curt. Linn. Journ. Cuban Fungi, No. 658.

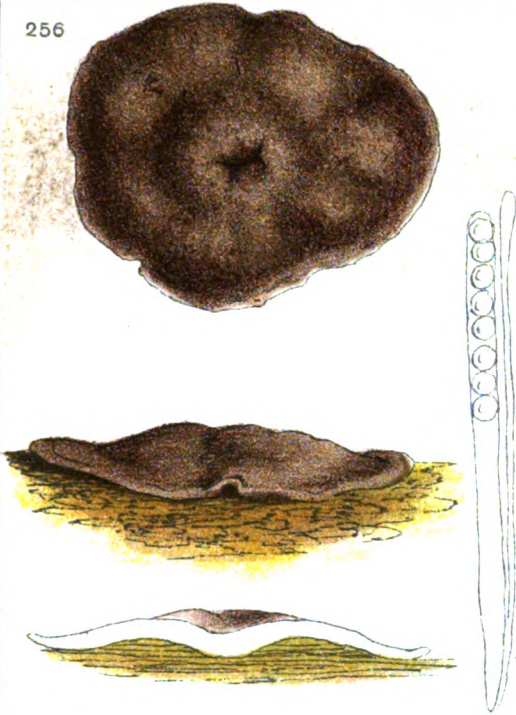
On rotten logs in dense palm woods.

Cuba.

Cups about 1 inch broad. Sporidia $\cdot 022\text{-}\cdot 024 \times \cdot 011$ mm.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

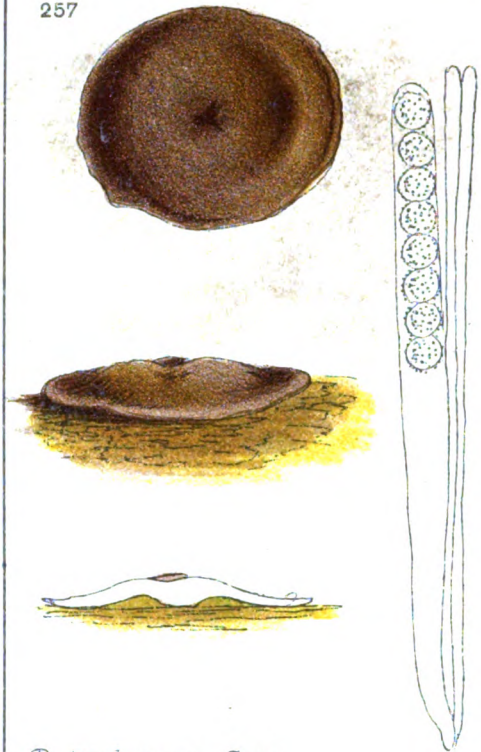
EXSICCATI.—Fungi Cubensis Wrightiani, No. 658.

256



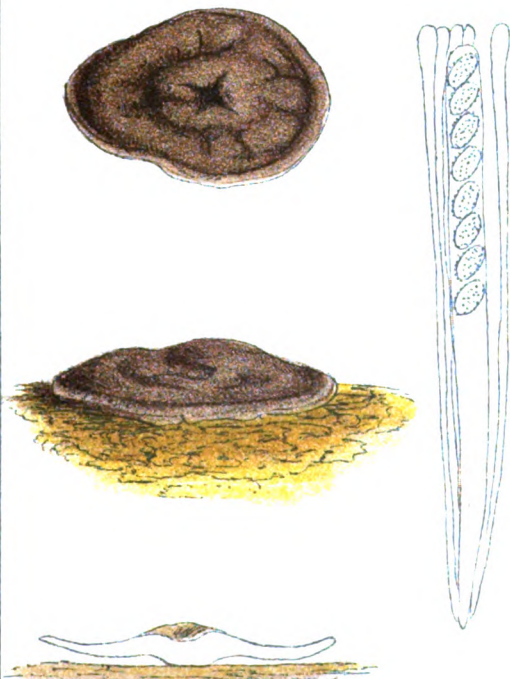
P. leiocarpa. Curr.

257



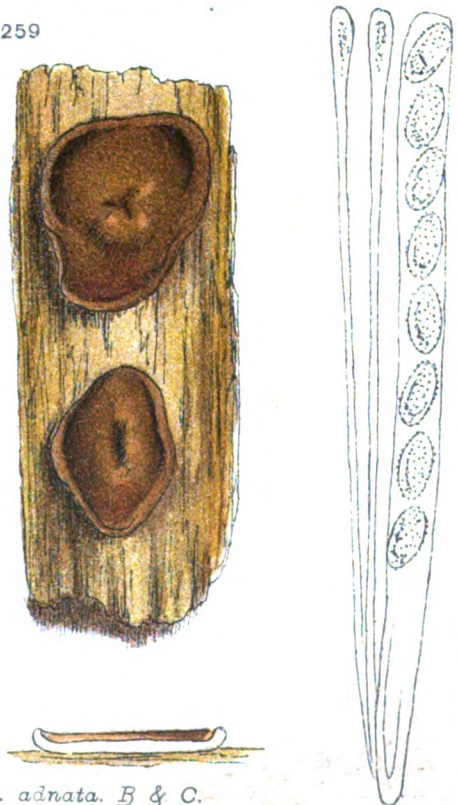
P. trachycarpa. Curr.

258



P. umbilicata. K.

259



P. adnata. B & C.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) *subrepanda*. *C. & Ph.*

PLATE 68.—Fig. 260.

Sparsa, vel subgregaria. Cupula patellæformis, carnosâ, pallide alutacea, extus farinacea, margine dentata. Ascis cylindræcis. Sporidiis ellipticis, lævibus. Paraphysibus filiformibus, vix incrassatis.

Peziza subrepanda, Cooke & Phillips, in Herb.

On the ground.

Britain.

Cups scarcely half an inch broad, very neat and delicate, pale fleshy tan colour, with a regular dentate margin. Sporidia $\cdot 02 \times \cdot 009$ mm.

The specimens from which the figures are drawn were collected by Mr. W. Phillips, near Shrewsbury. One of the teeth from the margin of a cup is figured, showing the arrangement of the cells.

Peziza (Cupulares) *sepiatra*. *Cooke*.

PLATE 68.—Fig. 261.

Sessilis, vel substipitata, subgregaria. Cupula hemispherica, mox expansa, applanata, umbrino-brunnea, subfurfuracea, margine vix elevato, hymenio plano, umbilicato, atro-brunneo. Ascis cylindræcis. Sporidiis ellipticis. Paraphysibus clavatis.

Peziza sepiatra, Cooke in Grevillea, iii. 119, fig. 135.

On the ground and on charcoal.

Britain.

Cups $\frac{1}{2}$ inch broad, often less, rather brittle. Sporidia $\cdot 02\text{--}022 \times \cdot 011$ mm. The external cells of the cup about $\cdot 03$ mm. diam.

Figured from specimens published in *Fungi Britannici*.

EXSICCATI.—Cooke *Fungi Britt.* ii. 184; *Phil. Elv. Britt.* 105.

Peziza (Cupulares) *viridaria*. *B. & Br.*

PLATE 68.—Fig. 262.

Sessilis. Cupula globosa, demum hemispherica, sero expansa, aquose cinerea; mycelio expanso, lanoso, albo. Ascis cylindraceis. Sporidiis late ellipticis. Paraphysibus clavatis, granulis brunneolis repletis.

Peziza viridaria, Berk. & Br. Ann. Nat. Hist. No. 555; Cooke Hdbk. No. 1988.

On damp walls, waterbutts, &c.

Britain.

Cups $\frac{1}{4}$ – $\frac{1}{2}$ inch broad, pale, watery, brown, or cinereous. Sporidia $\cdot 012 \times \cdot 0065$ mm.

Figured from specimens communicated by Mr. C. E. Broome.

EXSICCATI.—Cooke Fungi Britt. i. 654; Phil. Elv. Britt. 104.

Peziza (Cupulares) *tectoria*. *Cooke.*

PLATE 68.—Fig. 263.

Sessilis vel substipitata. Cupula globosa, demum expansa, applanata, albida, furfuracea, dein nuda. Hymenio plano, subumbilicato, pallide ochraceo; margine lævi. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus filiformibus.

Peziza tectoria, Cooke in Grevillea, iii. p. 119.

On plaster walls.

Britain.

At first appearing as a small white furfuraceous ball, seated on a white mycelium, $\frac{1}{4}$ inch across, when old becoming irregular, as much as $1\frac{3}{4}$ inch diam., with margin split and jagged. Sporidia $\cdot 018\text{--}\cdot 02 \times \cdot 009\text{--}\cdot 01$ mm.

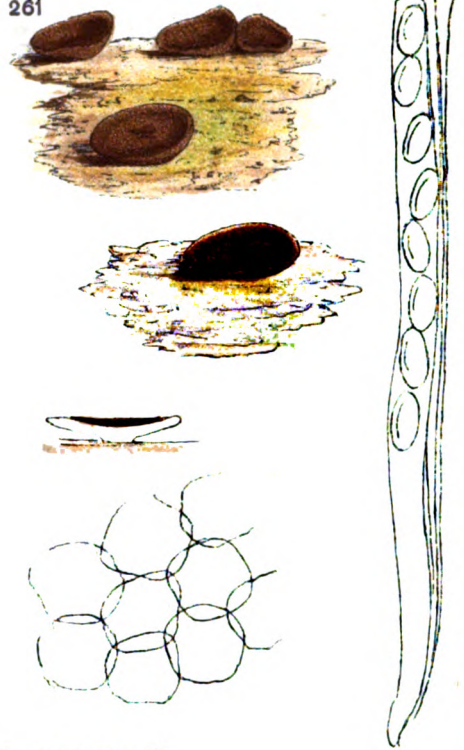
Figured from the original specimens collected and drawn by Mr. W. Phillips at Shrewsbury.

260



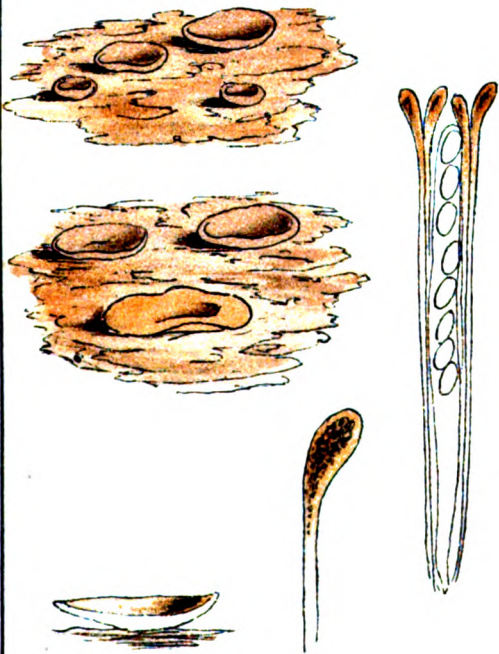
P. subrepanda. C & Ph.

261



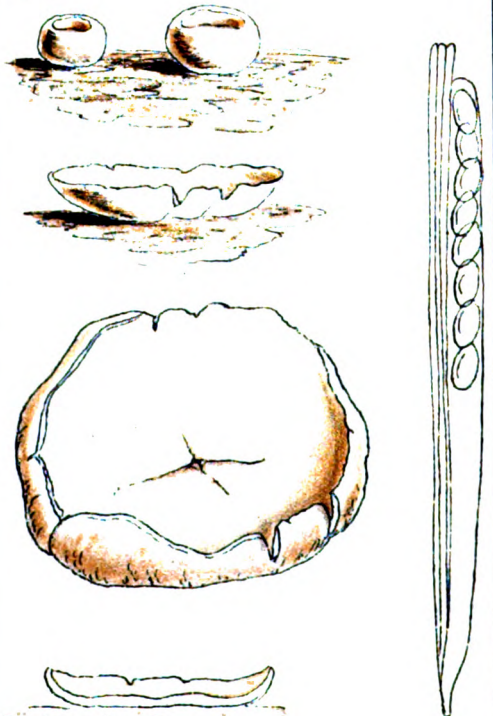
P. sepiatra. C.

262



P. viridaria. B & Br.

263



P. tectoria. C.

PEZIZA. (CUPULARES.)

***Peziza* (Cupulares) *Cordovensis*. Cooke.**

PLATE 69.—Fig. 264.

Sessilis, solitaria. Cupula expansa, appanata, orbicularis, subadnata, umbilicata, aurantio-rubra. Margine distincta. Ascis cylindraceutis. Sporidiis elongato-ellipticis, lævibus. Paraphysibus filiformibus, leniter incrassatis.

Peziza Cordovensis, Cooke in Grevillea, iii. p. 31, fig. 48. Hedwigia (1875), p. 83.

On wood.

Cordova.

Cups $\frac{1}{2}$ - $\frac{3}{4}$ inch broad. Sporidia $\cdot 022$ - $\cdot 025 \times \cdot 008$ mm.

Figured from specimens collected by Sallè (Cordova, No. 132.)

***Peziza* (Cupulares) *lobata*. B. & C.**

PLATE 69.—Fig. 265.

Sparsa, sessilis. Cupula plana, undulato lobata, hymenio rufo hic, illic cribroso, subtus pallidioribus. Ascis cylindraceutis. Sporidiis globosis, irroratis. Paraphysibus supra incrassatis.

Peziza lobata, Berk. & Curt. Journ. Linn. Soc. Cuban Fungi, No. 663 ; Grevillea iii. fig. 49.

Peziza sarmentorum var. *geophila*, B. & Br. Cuban Fungi, No. 921.

On the ground.

Cuba.

Cups $\frac{1}{3}$ - $\frac{1}{2}$ inch across. Sporidia $\cdot 012 \times \cdot 044$ mm. diam.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) *chrysopela*. *Cooke*.

PLATE 69.—Fig. 266.

Sessilis. Cupula tenuis, fragilis, concava, subflexuosa, extus pallida, intus aurantio-flava. Ascis cylindraccis. Sporidiis ellipticis, lævibus. Paraphysibus filiformibus.

Peziza chrysopela, Cooke, in Herb.

On the ground.

N. America (S. Carolina.)

Cups about $\frac{1}{2}$ inch. Sporidia $\cdot 012 \times \cdot 006$ mm.

Figured from specimens communicated by H. W. Ravenel (1493.)

Peziza (Cupulares) *sarmentorum*. *B. & Br.*

PLATE 69.—Fig. 267.

Minor, subgelatinosa. Cupula demum expansa, applanata, extus pulverulenta; hymenio quandoque venoso. Ascis cylindraccis. Sporidiis oblongo-ellipticis, lævibus. Paraphysibus linearibus, leniter incrassatis.

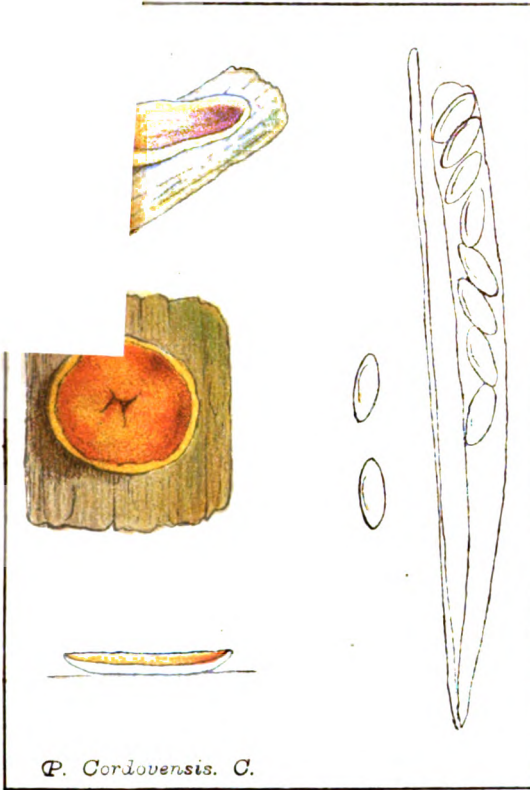
Peziza sarmentorum, Berk. & Br. Linn. Journ. Ceylon Fungi, No. 921 (excl. var. *geophila*).

On twigs and petioles.

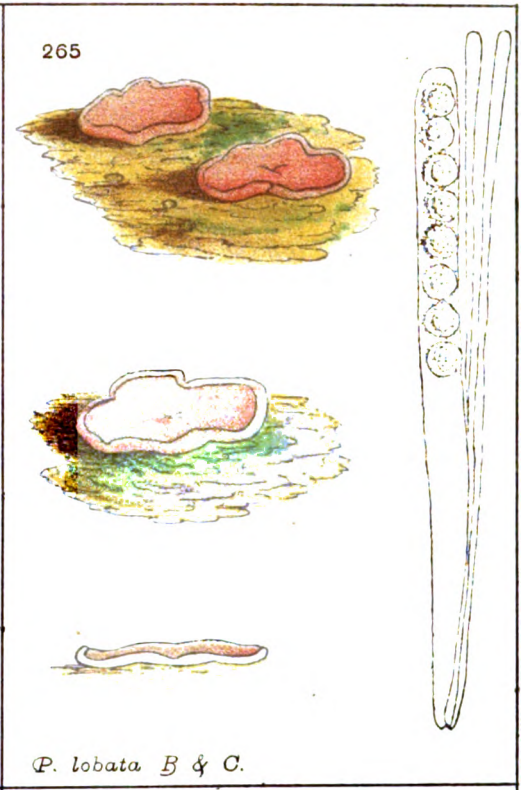
Ceylon.

Cups $\frac{1}{4}$ - $\frac{2}{3}$ inch. Sporidia $\cdot 02$ - $\cdot 022 \times \cdot 008$ - $\cdot 009$ mm. In the absence of any notes as to its colour when fresh, we could only give the colour apparent from the dried specimens.

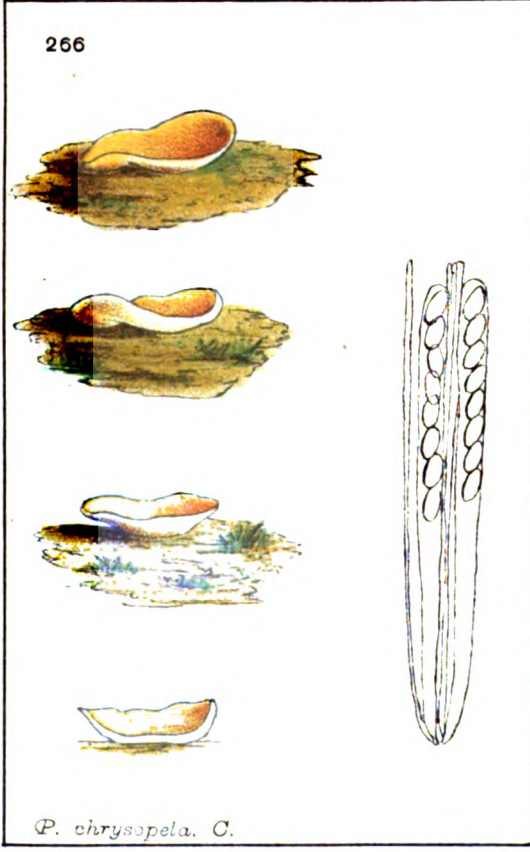
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.



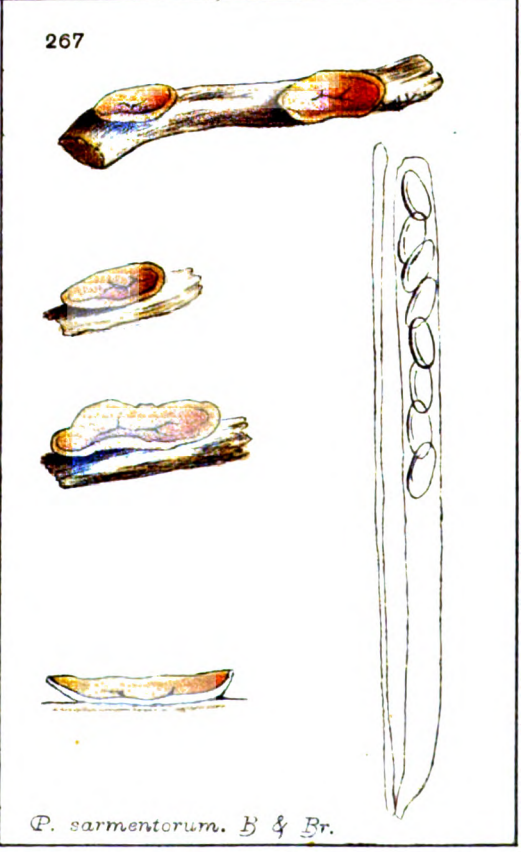
P. Cordouensis. C.



P. lobata B & C.



P. chrysopela. C.



P. sarmentorum. B & Br.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) *tapeina*. *Cooke*.

PLATE 70.—Fig. 268.

Sessilis, sparsa. Cupula hemispherica, carnosae, pallidae, intus obscurior. Ascis cylindraceis. Sporidiis ellipticis, irroratis. Paraphysibus linearibus, hic illic furcatis.

Peziza pertenuis, Cooke in Herb. ; Myc. pl. 70, fig. 268 (not Saccardo).

On sandy soil.

N. America (S. Carolina.)

Cups about $\frac{1}{3}$ inch. Sporidia $.02 \times .01$ mm.

Figured from specimens communicated by H. W. Ravenel (2185).

Peziza (Cupulares) *perforata*. *Karst.*

PLATE 70.—Fig. 269.

Stipitata. Cupula hemispherica, subcompressa, margine involuto, fundo perforata, flocculose granulosa, sordide albida vel albida, hymenio lutescente. Stipes brevissimus, crassus, transverse perforatus. Ascis cylindraceis. Sporidiis ellipticis, vel sphaeroido-ellipticis, biguttulatis. Paraphysibus numerosis, linearibus.

Peziza perforata, Karst. Mon. p. 112 ; Karst. Myc. Fenn. p. 56.

On sandy soil. Aug.

Finland.

Cups $\frac{1}{3}$ inch broad. Sporidia $.02 \times .01$ mm.

Figured from specimens published by Karsten.

EXSICCATI.—Karst. Fung. Fenn. 529.

***Peziza* (Cupulares) *crenulata*. B. & Br.**

PLATE 70.—Fig. 270.

Aurantiaca, sessilis vel substipitata. Cupula demum expansa, basi plicata, margine crenulato. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus filiformibus, leniter incrassatis.

Peziza crenulata, Berk. & Br. Journ. Linn. Soc. Ceylon Fungi No. 929.

On sticks. Dec.

Ceylon.

Cups $\frac{1}{4}$ – $\frac{1}{2}$ inch across. Sporidia $\cdot 02 \times \cdot 0075$ – $\cdot 008$ mm.

Figured from the original specimens in the Herbarium of the Rev. M. J. Berkeley.

***Peziza* (Cupulares) *microspora*. B. & C.**

PLATE 70.—Fig. 271.

Parva, gregaria. Cupula stipitata, irregularis, carnosae, fragilis; extus pallida pruinosa, intus aurantio-flava; stipite brevissimo vel obsoleto. Ascis cylindraceutis. Sporidiis minoribus ellipticis lævibus, binucleatis. Paraphysibus vix conspicuis.

Peziza microspora, Berk. & Curt. in Grevillea N. Amer. Fungi. No. 708; Cooke Bullet. Buff. Acad. Sci. 1876, p. 289; Grevillea iii. fig. 46.

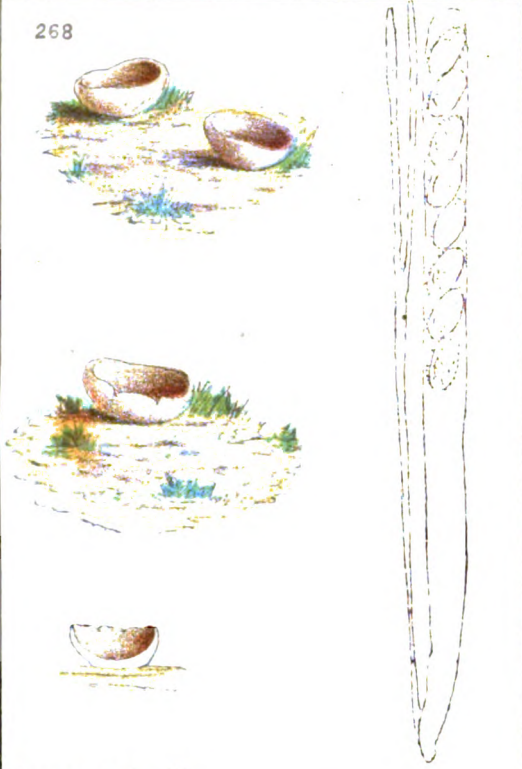
On damp rotten wood near the ground.

N. America (Carolina).

Cups $\frac{1}{4}$ inch broad. Sporidia $\cdot 008 \times \cdot 004$ mm.

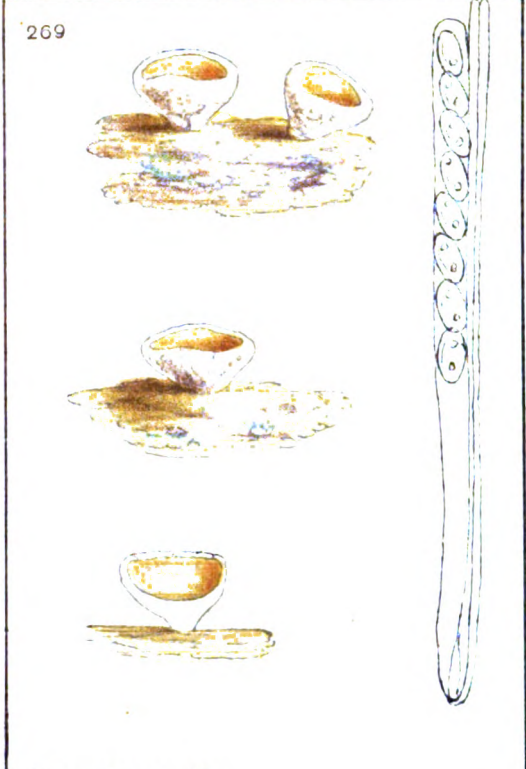
Figured from specimens communicated by H. W. Ravenel (1031), and also in the Herbarium of the Rev. M. J. Berkeley.

268



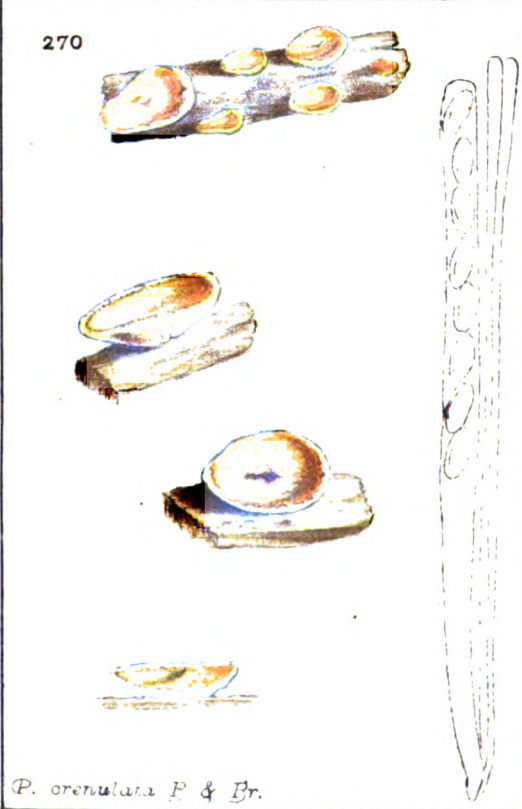
P. pertenuis. C.

269



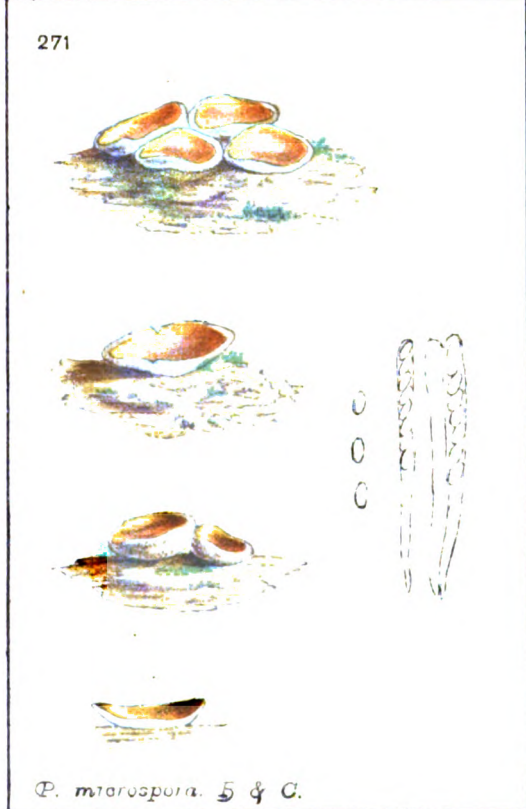
P. perforata. K

270



P. orenularia F & Br.

271



P. microspora. S & G.

PEZIZA. (CUPULARES.)

***Peziza* (Cupulares) *applanata*. Fr.**

PLATE 71.—Fig. 272.

Subgregaria vel solitaria. Cupula sessilis, depressa, rufa, disco demum subrugosa, subtus pruinosa, carnea. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus filiformibus.

Octospora applanata, Hedw. Musc. t. 5, f. c.

Peziza applanata, Fries. Sys. Myc. ii. 64.

Peziza depressa, Pers. Obs. i. p. 40, t. 6, fig. 7.

On the ground in moist places.

France, Germany, Austria, Guiana, N. America.

Cups $\frac{1}{2}$ inch, and more, broad. Sporidia $\cdot 0125 \times \cdot 005$ mm.

Figured from specimens in the Herbarium of the Jardin des Plantes, Paris.

***Peziza* (Cupulares) *Valenzueliana*. Bert.**

PLATE 71.—Fig. 273.

Cupula late campanulata, pallide fulva, glaberrima, margine demum planiusculo, subdepresso, undulato, integro (ciliato?) subtus pallidiori, in stipitis rudimentum producta. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus linearibus.

Peziza Valenzueliana, Bertero in Mont. Syll. p. 185.

On the ground after rain.

Chili. Venezuela.

Cups about $\frac{1}{4}$ inch broad. Sporidia $\cdot 013\text{--}\cdot 014 \times \cdot 006$ mm. No marginal hairs are to be seen on the dried specimens.

Figured from the original specimens in Montagne's Herbarium in Paris.

Peziza (Cupulares) *elachroa*. *B. & C.*

PLATE 71.—Fig. 274.

Parva. Cupula concava, demum applanata, pallide olivacea. Ascis clavato-stipitatis. Sporidiis ellipticis, lævibus.

Peziza elachroa, B. & C. emend.

Peziza olivascens, Berk. & Curt. in Herb. Berk. (not Cooke in Myc. fig. 142).

On earth amongst leaves.

Cuba.

Cups $\frac{1}{4}$ inch broad. Sporidia $\cdot 018 \times \cdot 008$ mm. but evidently not mature. The figure (274) is named in error *P. olivascens*, as we had overlooked the name being pre-occupied at fig. 142.

Figured from drawing and specimens communicated by the Rev. M. J. Berkeley.

Peziza (Cupulares) *Gonnermanni*. *Rabh.*

PLATE 71.—Fig. 275.

Parva, aggregata, subcæspitosa, brevissime stipitata, subinfundibuliformis, amæne violacea, extus paulo dilutior, basique albido-villoso-radiculosa, margine integerrimo planiuscula, subreflexa. Ascis lineari-clavatis. Sporidiis ellipticis.

Peziza Gonnermanni, Rabh. in Myc. Eur. p. 5, t. 3, fig. 1.

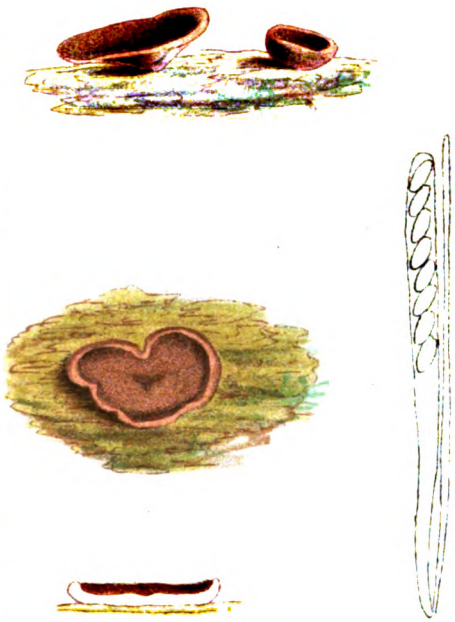
On the ground.

Germany.

Cups 2 lines broad. Sporidia $\cdot 012 \times \cdot 005\text{--}\cdot 006$ mm.

Figures from those given by Rabenhorst in the *Mycologia Europæa*, of which we have seen no authentic specimens.

272



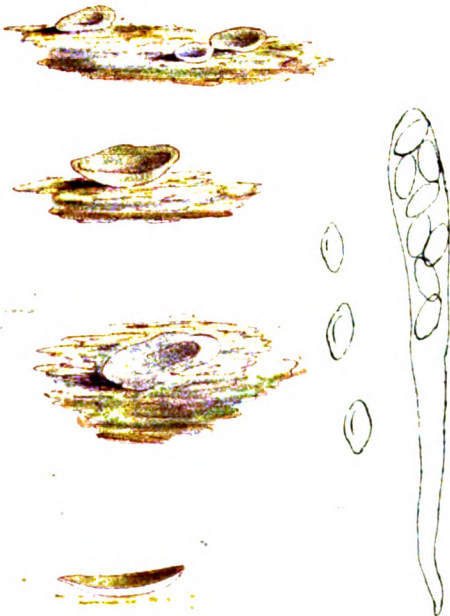
P. applanata. Fr.

273



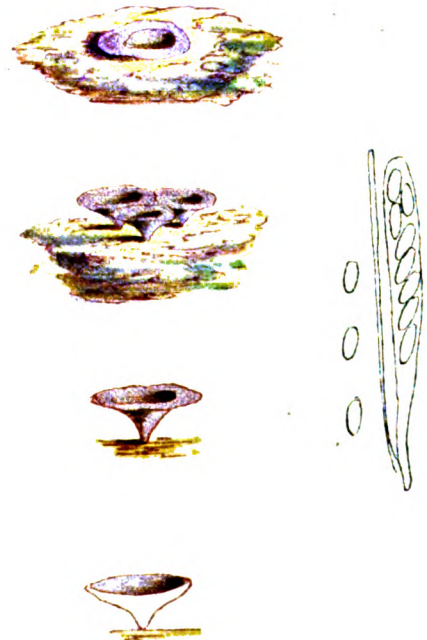
P. Valenzueliana. Bert.

274



P. olivascens. B & C

275



P. Gonnermanni Rabh.

Peziza (Cupulares) *purpurascens*. *P.*

PLATE 72.—Fig. 276.

Sessilis, livido-purpurascens. Cupula campanulata, demum expansa, ad basin conico-attenuata. Ascis cylindraceutis. Sporidiis elongato-ellipticis, binucleatis. Paraphysibus filiformibus, supra incrassatis.

Peziza purpurascens, Pers. Myc. Eur. p. 242, t. 12, f. 10; Fries. Sys. Myc. ii. 65; Gonn. & Rabh. Myc. Eur. t. 3, f. 3; Cooke in Grevillea v. p. 60.

On the ground.

Britain, Germany.

Cups $\frac{1}{2}$ inch broad, or somewhat larger. Sporidia $\cdot 02\text{--}\cdot 22 \times \cdot 0075$ mm. almost fusiform, obtuse at each end.

Figured from specimens published in Fungi Britannici.

EXSICCATI.—Cooke Fungi Britt. ii. 543.

Peziza (Cupulares) *lividula*. *Ph.*

PLATE 72.—Fig. 277.

Cupula obconica, livido-purpurea, vel fuliginea, carnosa, applanata, demum repanda, ad basin attenuata. Ascis cylindraceutis. Sporidiis ellipticis, asperatis. Paraphysibus septatis, supra clavatis.

Peziza lividula, Phillips in litt.

On the ground.

Britain.

Cups $\frac{1}{2}$ – $\frac{3}{4}$ inch broad. Sporidia $\cdot 018\text{--}\cdot 02 \times \cdot 01$ mm.

Figured from original specimens, collected by Mr. W. Phillips in the neighbourhood of Shrewsbury.

Peziza (Cupulares) *violacea*. *P.*

PLATE 72.—Fig. 278.

*Gregaria carnos*a, utrinque lævis. Cupula primo globosa, mox campanulata, orbicularis, regularis, basi crassa stipitifor*m*i, margine patente integerimo, demum magis explanata, subrepanda, vel compressa, purpurea-cærulea, extus pallidiore, ad basin albida. Ascis cylindr*ac*eis. Sporidiis olliptici*s*, lævibus.

Peziza violacea, Pers. Syn. p. 639; Fries. Sys Kyc. ii. 65; Karst. Mon. p. 116; Karst. Myc. Fenn. p. 57; Nyl. Obs. p. 14; Gonn. & Rabh. Myc. Eur. iii. t. 3, f. 2; Grevillea iii. fig. 34.

On the ground. May—Oct.

Germany, Finland, N. America.

Cups $\frac{1}{4}$ inch broad. Sporidia $\cdot 012\text{--}\cdot 014 \times \cdot 007\text{--}\cdot 009$ mm.
Figured from specimens published by Karsten.

EXSICCATI.—Karst. Fung. Fenn. 455.

Peziza (Cupulares) *undata*. *Sm.*

PLATE 72.—Fig. 279.

Media, carnos*a*. Cupula concaviuscula, demum expansa, dein reflexa, luteola, grisea, purpurea, vel pallida, ad basin radicata, hymenio corrugato-venoso. Ascis cylindr*ac*eis. Sporidiis elliptici*s*.

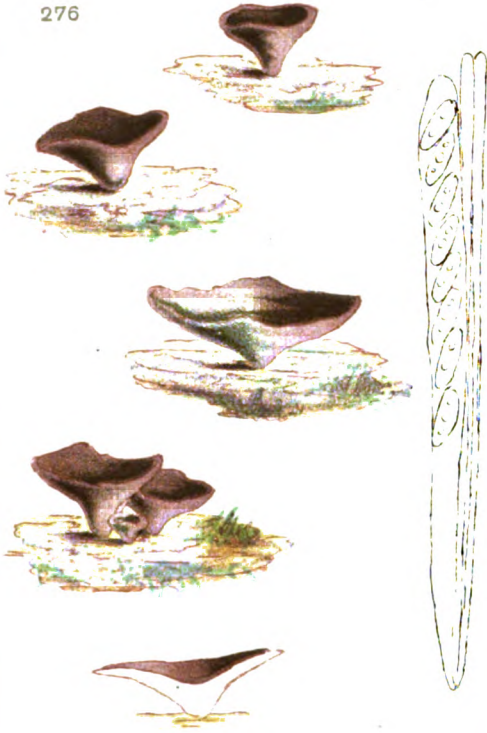
Peziza undata, Smith in Grevillea i. (1873), p. 136, t. 10, figs. 1, 2; Grevillea iii. fig. 44.

On stems of tree ferns. May.

Britain.

Cups $\frac{1}{2}\text{--}\frac{3}{4}$ inch across. Sporidia $\cdot 01 \times \cdot 005$ mm.
Figured from original drawings by W. G. Smith.

276



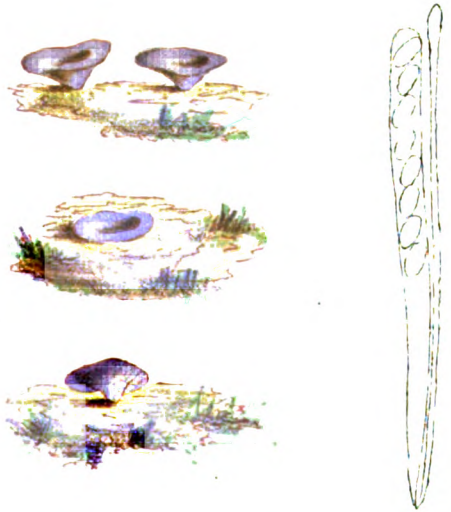
P. purpurascens. P.

277



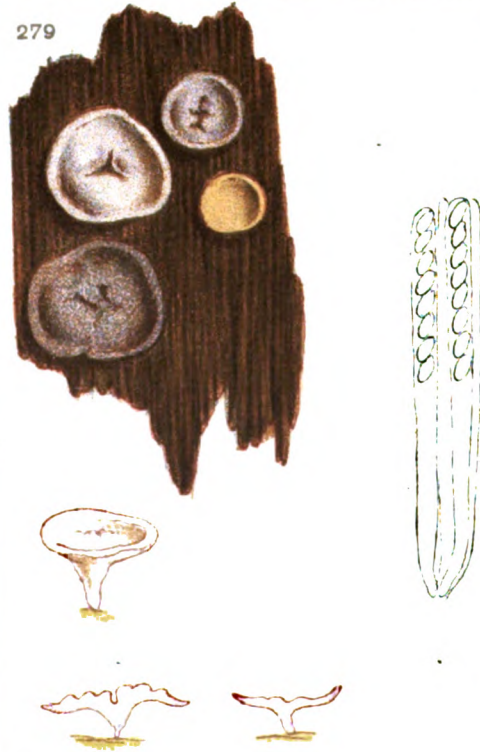
P. lividula. Ph.

278



P. violacea. P.

279



P. undata Sm.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) *majalis*. *Fr.*

PLATE 73.—Fig. 280.

Ceracea, urceolato-campanulata, regularis, extus nudiuscula, subconcolor, stipite brevi albo; margine prominulo, flocculoso-crenato; disco aurantiaco. Ascis cylindraceis. Sporidiis arcte ellipticis, levibus, hyalinis.

Peziza majalis, Fries Nova Symb. p. 104.

On the ground. Spring.

Sweden.

Cups 3-4 lines high and broad. Sporidia $\cdot 015 \times \cdot 006$ mm.
Figured from specimens communicated by Professor E. Fries.

Peziza (Cupulares) *nebulosa*. *Cooke.*

PLATE 73.—Fig. 281.

Stipitata. Cupula cyathiformis, griseo-pallida, deorsum in stipitem crassem attenuata; margine leniter incurvo. Ascis cylindraceis. Sporidiis fusiformibus, rectis, vel arcuatis, asperulis. Paraphysibus filiformibus.

Peziza nebulosa, Cooke in Herb.

On stumps. July.

North America (S. Carolina).

Cups scarce $\frac{1}{4}$ inch broad. Stem not quite so long. Sporidia $\cdot 035 \times \cdot 008$ mm.
Figured from the specimens communicated by H. W. Ravenel (No. 812), and collected by him in South Carolina.

***Peziza* (Cupulares) *harmoge*. B. & Br.**

PLATE 73.—Fig. 282.

Stipitata. Cupula cyathiformis, demum expansa; stipite elongata, gracile, viridiroseo; hymenio plano, moricolori, carne alba. Ascis cylindraceutis. Sporidiis arcte ellipticis, laevibus. Paraphysibus superne clavatis.

Peziza harmoge, Berk. & Br. Linn. Journ. Ceylon Fungi, No. 931.

On very rotten twigs. Jan.

Ceylon.

Cup $\frac{1}{4}$ inch diam. Sporidia $.03 \times .01$ mm. This is a small but neat and graceful species.

Figured from the original specimens in the Herbarium of the Rev. M. J. Berkeley.

***Peziza* (Cupulares) *verruculosa*. B. & C.**

PLATE 73.—Fig. 283.

Atropurpurea, rigescens, sessilis, vel breviter pedicellatis, cupulaeformis, vel explanata, extus verruculis pyramidalis pulverulentis aspera. Ascis cylindraceutis. Sporidiis subglobosis, uniguttulatis.

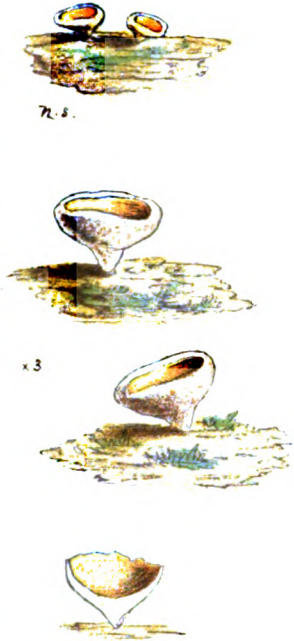
Peziza verruculosa, Berk. & Curt. in Proceed. Amer. Acad. Arts & Sci. vol. iv. p. 127 (non Weinm. Syll. Pl. ii. p. 111).

On stony hills.

Behrings Straits.

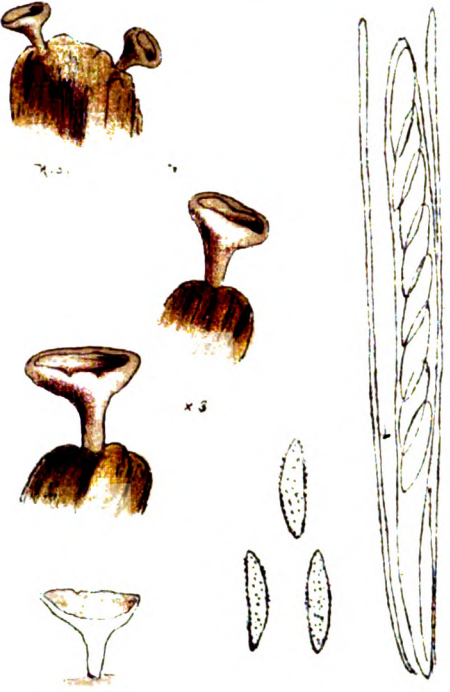
Cups not more than 1-2 lines broad. Sporidia $.012 \times .01$ mm. with a single nucleus. Figured from drawings communicated by the Rev. M. J. Berkeley.

280



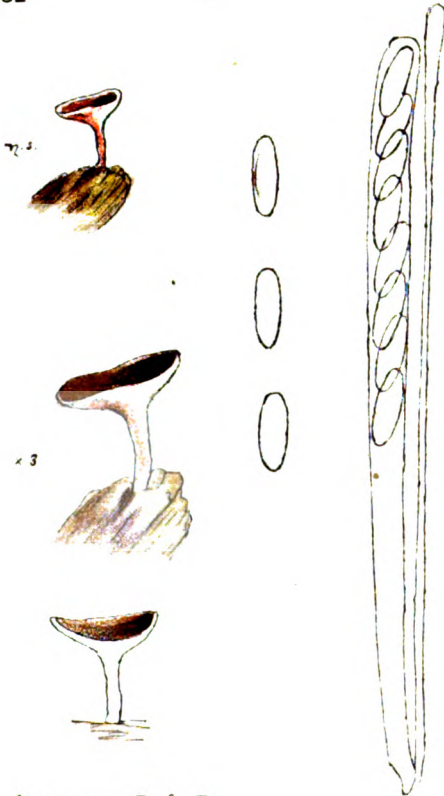
P. majalis. Fr.

281



P. nebulosa. C.

282



P. harmoge. B & Br.

283



P. verruculosa. B & C.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) carbonaria. A. & S.

PLATE 74.—Fig. 284.

Gregaria, tenuis, fragilis. Cupula globoso-campanulata, lævis, ochreo-rufescens, extus subpruinosa; margine farinoso-crenata. Ascis cylindræis Sporidiis ellipticis, lævibus. Paraphysibus sursum incrassatis.

Peziza carbonaria, A. & S. Consp. p. 314, t. 4, fig 2; Fries Sys. Myc. ii. 64; Cooke Handbk. No. 1989; Berk. & Br. Ann. N. Hist. No. 1063, t. 15, f. 15; Nyl. Obs. p. 10; Karst. Myc. Fenn. p. 42; Goun. & Rabh. Myc. Eur. iii. t. 4, f. 4 (non *Plicaria carbonaria*, Fekl.)

Peziza cupularis var. *carbonaria*, Weinm. Hym. 424.

On burnt soil. Spring & Aut.

Britain, Germany, Scandinavia, Russia, Austria, Hungary, France.

Cups $\frac{1}{2}$ inch broad. Sporidia $\cdot 018 \times \cdot 008$ mm.

Figured from specimens published by Kalchbrenner in Rabenhorst's *Fungi Europæa*.

EXSICCATI.—Rabh. Fung. Eur. 722; Rabh. Myc. ii. 622; Karst. Fung. Fenn. 456.

Peziza (Cupulares) pulchra. Ger.

PLATE 74.—Fig. 285.

Stipitata. Cupula subhemispherica, regularis, læve, pallide cremoricolor, hymenio aurantio-flava; stipite deorsum attenuatis. Ascis cylindræis. Sporidiis ellipticis, lævibus.

Peziza pulchra, Gerard in *Bullet. Torr. Club*, iv. p. 64; Cooke *Bull. Buff. Acad. Sci.* 1876, p. 288.

Amongst decaying leaves under pines. Aug.

N. America (New York).

Cup about $\frac{1}{3}$ inch broad. Sporidia $\cdot 013\text{--}\cdot 014 \times \cdot 006\text{--}\cdot 007$ mm.

Figured from drawing and specimen communicated by W. R. Gerard.

Peziza (Cupulares) cupularis. Linn.

PLATE 74.—Fig. 286.

Sparsa, subsessilis, tenuis. Cupula globoso-campanulata, cervina vel pallens, extus farinosa, margine crenato. Ascis cylindraceutis. Sporidiis ellipticis, 1-2 guttulatis, lævibus. Paraphysibus sursum incrassatis.

Peziza cupularis, Linn. Succ. No. 1273 ; Fries Sys. Myc. ii. 64 ; Cooke Hdbk. 1990 ; Pers. Obs. ii. t. 4, f. 6, 7 ; Vaill. Par. t. ii. f. 173 ; Karst. Myc. Fenn. p. 42 ; Weinm. Hym. p. 423.

Peziza crinata, Bull. t. 396, f. 3.

Peziza vulcanalis, Peck. in Haydn's Geological Report, 1872.

Pustularia cupularis, Rehm. Ascomyceten, 8 ; Fekl. Sym. Myc. p. 328.

On the ground, especially in burnt places.

Britain, Scandinavia, Germany, France, Hungary, Italy, Russia, Austria, N. America.

Cups $\frac{1}{2}$ - $\frac{3}{4}$ in. broad. Sporidia 0.18×0.01 mm.

Figured from specimens derived originally from Persoon, and compared with specimens collected by Bulliard.

EXSICCATI.—Rehm. Asc. 8 ; Fekl. Fung. Rhen. 1878.

Peziza (Cupulares) tarzetta. Cooke.

PLATE 74.—Fig. 287.

Stipitata vel subsessilis. Cupula cyathiformis, regularis, pallens, subfarinosa, deorsum in stipitem gracile attenuata ; margine leniter incurvo, lævi ; hymenio rubescente. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus sursum incrassatis.

Pustularia vesiculosa, Rehm. Ascomyceten, No. 53 ; Winter in Flora.

Peziza tarzetta, Cooke in Grevillea ii. 176.

Pustularia tarzetta, Rehm. in Sched.

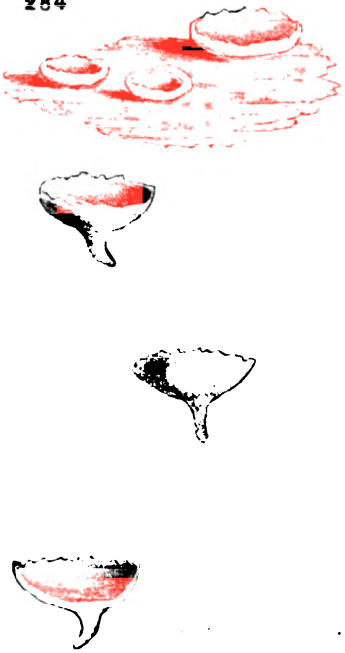
On the ground.

Hungary.

Cups $\frac{1}{2}$ inch broad. Sporidia 0.015×0.007 mm.

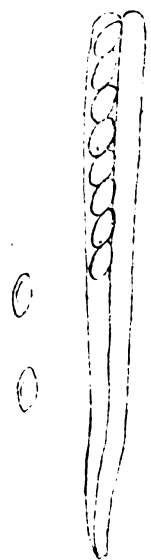
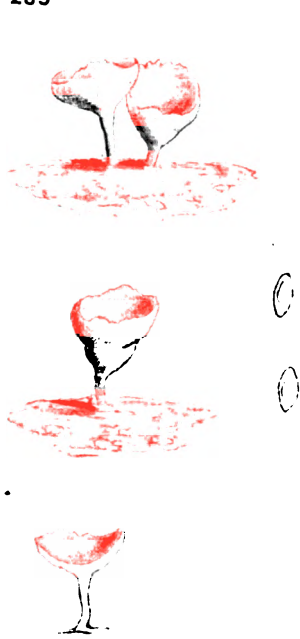
EXSICCATI.—Rehm. Asc. 53.

284



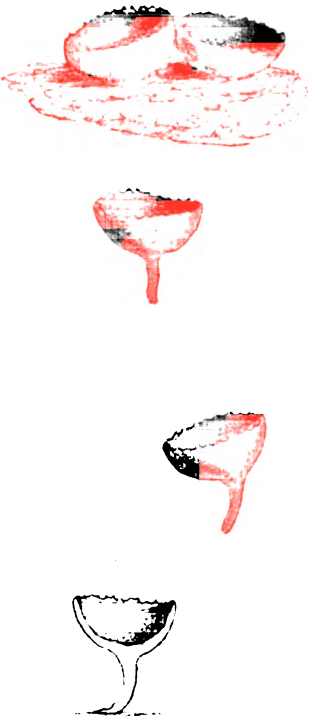
P. carbonaria. A & S.

285



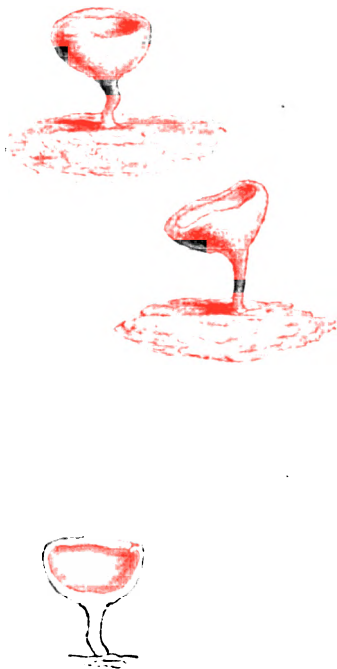
P. pulchra. Ger.

286



P. supularis. P.

287



P. tarzetta. C.

PEZIZA. (CUPULARES.)

***Peziza (Cupulares) amplispora.* C. & P.**

PLATE 75.—Fig. 288.

Stipitata. Cupula infundibuliformis, carnosae, ochraceae, deorsum attenuata; hymenio obscuriore, margine leniter crispato, stipite brevi, ruguloso. Ascis cylindraceutis. Sporidiis late ellipticis, laevissimis. Paraphysibus linearibus, hyalinis.

Peziza repanda, var. *amplispora*, Cooke & Peck. in *Bullet. Buff. Acad. Sci.* 1876, p. 288.

On the ground.

N. America (New York).

Cups $1\frac{1}{2}$ inches broad. Sporidia $.018 \times .014$ mm. The stem is very short, expanding into the cup, which is rather rugose at the base. Externally pale ochre, but within darker, fawn-coloured.

Figured from the original specimens communicated by C. H. Peck (302).

***Peziza (Cupulares) pallidula.* Cooke & Peck.**

PLATE 75.—Fig. 289.

Substipitata. Cupula pallida, ceracea, tenuis, infundibuliformis, demum explanata, subfarinosa, dein nuda; stipite primo distincto, demum abbreviata; margine leniter incurvo. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis, laevibus. Paraphysibus sursum clavatis.

Peziza pallidula, Cooke & Peck. in *Bullet. Buff. Acad. Sci.* 1876, p. 288.

On old beech wood.

N. America (New York).

Cups scarcely 1 inch broad. Sporidia $.012-.014 \times .006$ mm. sometimes binucleate. This is similar to a small form of *P. amplispora*, but with quite different fruit.

Figured from the original specimens communicated by C. H. Peck (No. 339).

Peziza (Cupulares) *catinus*. *Holms.*

PLATE 75.—Fig. 290.

Ochraceo-fuscescens. Cupula primo globosa, mox hemispherico-campanulata, expansa, margine crenata, extus subfurfurosa; stipite brevi, sublacunosa. Ascis cylindraccis. Sporidiis elongato-ellipticis. Paraphysibus leniter incrassatis.

Peziza catinus, Holms. Ot. ii. t. 5; Fries Sys. Myc. ii. 61; Weinm. Hym. p. 423.

Peziza sphacelata, Schum. Saell. p. 419.

Pustularia catinus, Fekl. Sym. Myc. p. 328.

On trunks, or on the ground in their vicinity. Spring & Aut.

Denmark, Scandinavia, Germany, Russia.

Cups 1-2 in. broad. Sporidia $.018-.02 \times .009$ mm.

Figured from specimens in the Herbarium of the Jardin des Plantes, Paris.

Peziza (Cupulares) *catinoides*. *Fekl.*

PLATE 75.—Fig. 291.

Stipitata. Cupula primo concava, demum explanata, orbicularis, margine obsoleto, extus pallide fuscis, pruinosis; disco perparum obscuriore. Ascis longissimis, stipitatis, cylindraccis. Sporidiis oblongo-ovatis, hyalinis, monoguttulatis. Paraphysibus filiformibus.

Peziza catinoides, Fekl. Fun. Rhen. 1879.

Pustularia catinoides, Fekl. Sym. Myc. p. 328.

On the ground amongst moss.

Germany.

Cups $\frac{1}{2}$ -1 inch broad. Sporidia $.012 \times .006$ mm.

Figured from specimens published by Fockel.

EXSICCATI.—Fekl. Fung. Rhen. No. 1879.

288



P. amplispora. C. & P.



289



P. pallidula C. & Pk.



290



P. catinus. Holms.



291



P. catinoides. Fekl.



PEZIZA. (CUPULARES.)

Peziza (Cupulares) *bufonia*. *Pers.*

PLATE 76.—Fig. 292.

Spadicea. Cupula hemispherica, externe verrucosa; stipite brevi, pallescente, radicato. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis. Paraphysibus superne clavatis.

Peziza bufonia, *Pers. Myc. Eur.* 225; *Fries Sys. Myc.* ii. 54; *Cooke Hdbk.* No. 1982; *Berk. & Br. Ann. N. Hist.* No. 1154, t. 3, fig. 12; *Berk. Gard. Chron.* Jan. 13, 1866.

In moist woods, and on rubbish. *Aut.*

Britain, Germany.

Cups $\frac{1}{2}$ - $1\frac{1}{2}$ inches broad. Sporidia $\cdot 02$ - $\cdot 024 \times \cdot 01$ - $\cdot 012$ mm.
Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) *radula*. *B. & Br.*

PLATE 76.—Fig. 293.

Magna, sessilis. Cupula hemispherica, demum depressa, extus verrucosa, atra, intus atro-vinoso. Ascis cylindraceutis. Sporidiis globosis, episorio tuberculatis, brunneis. Paraphysibus septatis, sursum clavatis.

Peziza radula, *Berk. & Br. Ann. Nat. Hist.* vol. xviii. p. 77; *Cooke Hdbk.* No. 1987.

On the ground in woods.

Britain.

Cup 1 inch diam. Sporidia $\cdot 022$ - $\cdot 025$ mm. diam. The exterior of the cup is dark-brown, nearly black, and broken into nearly equal distinct sub-conical warts.

Figured from specimens communicated by the Rev. M. J. Berkeley.

***Peziza* (Cupulares) *atrospora*. Fekl.**

PLATE 76.—Fig. 294.

Sessilis. Cupula primo globosa, clausa, dein hemispherica; margine involuto, sub-applanatis, extus verrucosis, ferrugineas; disco lævi, obscuriori. Ascis cylindraceis. Sporidiis globosis, verruculosus, brunneis. Paraphysibus filiformibus, rectis.

Peziza atrospora, Fekl. Fung. Rhen. 1224.

Plicaria ferruginea, Fekl. Sym. Myc. 326.

On the ground.

Germany.

Cups 1 inch broad. Sporidia .018-.02 mm. diameter. Altogether this species is very closely allied to *P. radula*, and is just intermediate between that and *P. scabrosa*. Figured from specimens published by Fuckel.

EXSICCATI.—Fekl. Fung. Rhen. No. 1224.

***Peziza* (Cupulares) *scabrosa*. Cooke.**

PLATE 76.—Fig. 295.

Sessilis. Cupula concava, demum expansa, atro-brunnea, extus verrucosa; margine primo subincurvo, regulari. Ascis cylindraceis. Sporidiis globosis, episporio tuberculatis, brunneis. Paraphysibus supra clavatis.

Peziza scabrosa, Cooke in Herb.

On the ground.

North America (Maine).

Cups $\frac{1}{2}$ - $\frac{3}{4}$ inch broad. Sporidia .015 mm. diam.

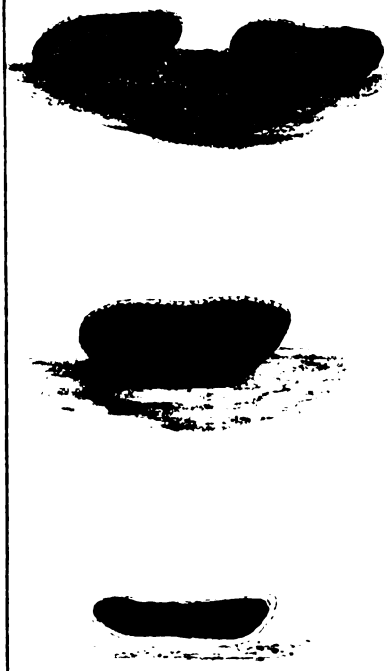
Figured from the original specimens collected in the neighbourhood of Portland, Maine, by the Rev. E. C. Bolles (71).

292



P. bufonaria Pers.

293



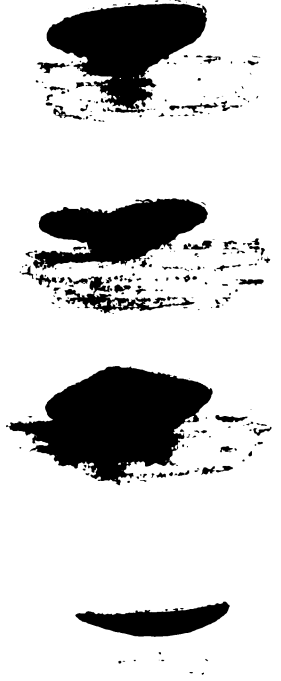
P. radula B & Fr.

294



P. atropura Fekl.

295



P. muricosa C.

PEZIZA. (CUPULARES.)

***Peziza* (Cupulares) *epispartica*. B. & Br.**

PLATE 77.—Fig. 296.

Minor, sessilis. Cupula expansa, lobata, extus tomentoso-pulveracea; hymenio lævi. Ascis cylindraceis. Sporidiis ellipticis, lævibus.

Peziza epispartica, Berk. & Br. Journ. Linn. Soc., Ceylon Fungi, No. 922.

On very rotten wood.

Ceylon.

Cups about 1 inch across. Mycelium consisting of rather thick cylindrical threads. Sporidia $\cdot 0075\text{-}\cdot 008 \times \cdot 0035$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

***Peziza* (Cupulares) *arenaria*. Osb.**

PLATE 77.—Fig. 297.

Gregaria, polymorpha, tenuis, sessilis, radicata, fusca. Cupula primo globoso-campaulata, dein dilatata, lacerata, extus verruculosa. Ascis cylindraceis. Sporidiis globosis, lævibus. Paraphysibus numerosis, filiformibus, brunneis.

Peziza arenaria, Osbeck in Vet. Handb. 1762, p. 283, t. 7, f. 1-4; Fries Sys. My. ii. 65; Pers. Syn. p. 641.

In sandy places. Aut.

Scandinavia, Germany, France.

Cups $\frac{1}{4}$ -1 inch broad. Sporidia $\cdot 0075$ mm. diam.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

***Peziza* (Cupulares) *pustulata*. Pers.**

PLATE 77.—Fig. 298.

Sessilis. Cupula subglobosa, demum magis expansa, pallida, subfuliginea, extus albido-furfuracea, margine inflexo, obtuso, integro; discus sæpe obscurior. Ascis cylindraceutis. Sporidiis ellipticis, exasperatis. Paraphysibus septatis, supra clavatis.

Peziza pustulata, Pers. Syn. p. 646; Fries Sys. Myc. ii. 55; Cooke Hdbk. No. 1986; Phil. in Grevillea ii. pl. 24, fig. 2; Weinm. Hym. 419.

Octospora pustulata, Hedw. Musc. ii. t. 6, f. A.

Plicaria pustulata, Fekl. Sym. Myc. p. 327.

Peziza cochleata, var. β . Batsch. El. fig. 157.

Peziza spurcata, Pers. Myc. Eur. i. 226.

Peziza plicata, Pers. Myc. Eur. i. 226.

On the ground. Sum.—Aut.

Britain, Germany, France, Scandinavia, Russia, North America.

Cups $\frac{1}{2}$ -1 in. broad. Sporidia $.02 \times .01$ mm.

Figured from specimens published in *Elvellacei Britannici*, and drawings by W. Phillips.

EXSICCATI.—Fekl. Fungi Rhen. No. 1227; Phil. *Elv. Britt.* 14.

***Peziza* (Cupulares) *saniosa*. Sch.**

PLATE 77.—Fig. 299.

Sessilis. Cupula crassa, carnosa, campanulata, orbicularis, regularis, lactescens, intus fusco-purpurea, vel fuscidula, extus pulverulenta, umbrina; vulnerata succum fundit violaceum. Ascis cylindraceutis. Sporidiis ellipticis, biguttulatis.

Peziza saniosa, Schrad. Journ. Bot. 1799, ii. p. 64; Fries. Sys. Myc. ii. 65; Cooke Hdbk. No. 1991; Berk. Mag. Zool. & Bot. No. 87, t. 7, fig. 2; Phil. in Grevillea ii. pl. 24, fig. 3.

On the ground and trunks.

Britain, Germany, France.

Cups about $\frac{1}{3}$ inch broad. Sporidia $.015 \times .0075$ mm.

Figured from drawings and specimens communicated by Mr. W. Phillips.

296



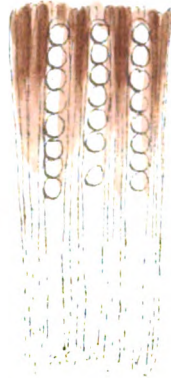
P. epispartica . B.



297



n. s.



P. arenaria. Osb.

298



P. pustulata. Fr.



299



P. saniosa. Sch.



PEZIZA. (CUPULARES.)

Peziza (Cupulares) micropus. Pers.

PLATE 78.—Fig. 300.

Substipitata, media. Cupula obliqua, fuligineo-pallescent, extus squamuloso-furfuracea. Stipes brevis, deorsum attenuatus, subinde autem oblitteratur, sursum in cupulam conico-hemisphaericum, passim flexuosam dilatatur. Margo integer. Ascis cylindraceutis. Sporidiis ellipticis, laevibus. Paraphysibus supra clavatis.

Peziza micropus, Pers. Syn. 642; Pers. Ic. et. Descr. t. 8, fig. 3; Fries Sys. Myc. ii. 54; Cooke Hdbk. No. 1983; Berk. Outl. t. 22, fig. 5; Weinm. Hym. 418.
Pustularia micropus, Fckl. Sym. Myc. p. 328.

On trunks.

Britain, Scandinavia, Germany, Russia, North America.

Cups $\frac{1}{2}$ -1 inch broad. Stem 2-5 lines long, or less, or obliterated. Sporidia $\cdot 015$ - $\times \cdot 009$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Cupulares) mussiva. Fr.

PLATE 78.—Fig. 301.

Sessilis. Cupula carnosu, hemisphaerica, lutea, extus pulvere aureo conspersa, margine leniter incurvo. Ascis cylindraceutis. Sporidiis minimis, globosis, laevibus.

Peziza mussiva, Fries Summa Veg. Scan. p. 350.

On putrid trunks, and on the ground in pine forests.

Sweden, Lapland.

Cups $\frac{1}{4}$ inch broad. Sporidia $\cdot 004$ mm. diameter. The cups are mealy externally, with a golden-yellow powder, which is very characteristic.

Figured from specimens kindly communicated by Professor Elias Fries.

Peziza (Cupulares) Saccardiana. Cooke.

PLATE 78.—Fig. 302.

Sessilis. Cupula carnosā, fragilis, concava, demum repanda, convexa, umbilicata, carneo-rubra; margine sæpe lacerato. Ascis cylindrāceis. Sporidiis ellipticis, exasperatis. Paraphysibus supra clavatis, brunneis.

Peziza Saccardiana, Cooke in litt.

Peziza lycoperdioides, DCand. Fl. Fr. (partly) in Herb. Limminghe.

On the ground.

Italy, France.

Cups nearly an inch broad. Sporidia $\cdot 02 \cdot 022 \times \cdot 012$ mm.
Figured from specimens communicated by Professor Saccardo.

Peziza (Cupulares) tincturella. Cooke & Sacc.

PLATE 78.—Fig. 303.

Sessilis. Cupula concava, demum applanata, vel convexa et umbilicata, tota pallida, roseo-tincta, orbicularis. Ascis cylindrāceis. Sporidiis elongato-ellipticis, lævibus. Paraphysibus linearibus, septatis, superne vix incrassatis, roseo-violaceis dilute tinctis.

Peziza tincturella, Cooke in litt.

On the ground.

Italy.

Cups $\frac{1}{2}$ an inch broad, pale ochre or cream colour, with tints of rose or violet especially at the centre. Sporidia $\cdot 025 \times \cdot 008$ mm. Paraphyses tinged with rosy-violet at the tips.

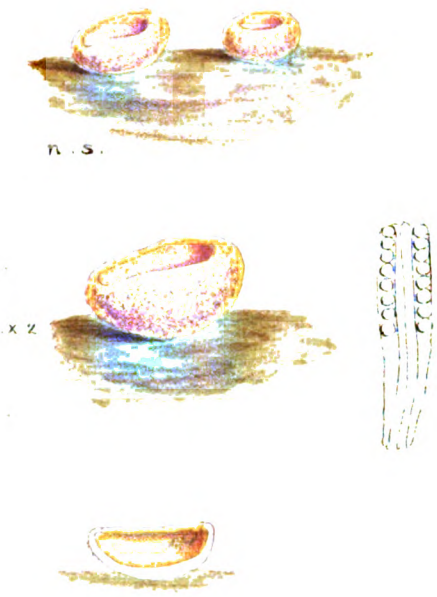
Figured from specimens communicated by Professor Saccardo, and collected in the Botanic Gardens, Padua.

300



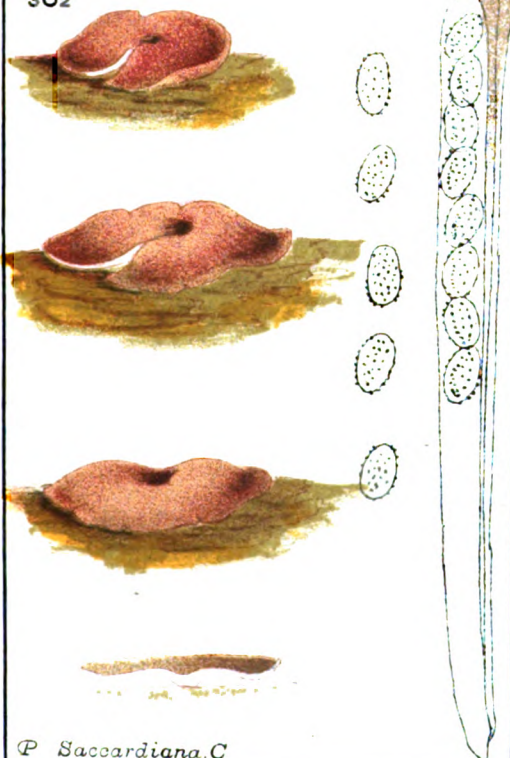
P. micropus. P.

301



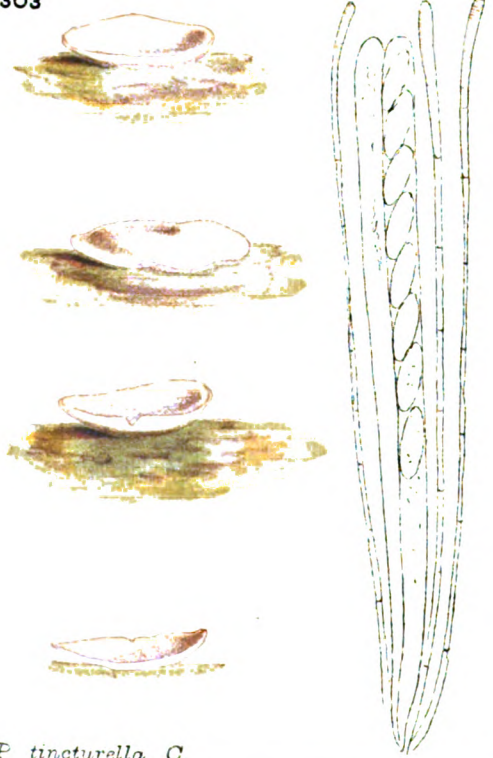
P. mussiva. Fr.

302



P. Saccardiana. C.

303



P. tincturella. C.

PEZIZA. (CUPULARES.)

Peziza (Cupulares) sterigmatizans. Ph.

PLATE 79.—Fig. 304.

Sessilis. Cupula concava, demum explanata, repanda, et varie contorta, atro-badia; margine crenulato. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus amplis, septatis, supra clavatis, furcatis, breviter ramulosisve, hyalinis.

Peziza sterigmatizans, Phillips in litt.

On the ground.

Britain.

Cups scarcely an inch broad. Sporidia $\cdot 018 \times \cdot 009$ mm. Paraphyses thick, septate, clavate at the tips, either furcate above, or with short lateral branches, or bud-like processes.

Figured from drawings and specimens communicated by Mr. W. Phillips.

Peziza (Cupulares) apiculata. Cooke.

PLATE 79.—Fig. 305.

Sessilis, badia. Cupula concava, mox applanata, carnosula, orbicularis, margine integro, elevato. Ascis cylindraceutis. Sporidiis late fusiformibus, brunneis, asperulis, hyalino-apiculatis. Paraphysibus linearibus, brunneo-tinctis.

Peziza apiculata, Cooke in Herb.

On the ground.

Italy.

Cup not exceeding $\frac{1}{3}$ of an inch in diameter. Sporidia broadly fusiform, rough, brown, with a hyaline apiculus at each extremity; at first nucleate, colourless and smooth, $0.25\text{--}0.3 \times 0.1\text{--}0.12$ mm.

Figured from specimens collected at the Baths of Lucca, and communicated by C. E. Broome, in which the fruit was not fully matured (fig. *a*), and also specimens from Professor Saccardo, in which the sporidia were fully matured (fig. *b*); unfortunately, by error of the printer, the hyaline tips of the sporidia have been coloured in our plate.

Peziza (Cupulares) retiderma. Cooke.

PLATE 79.—Fig. 306.

Sessilis, badia. Cupula hemispherica, interdum contorta, integra, carnosae, extus reticulato-venosa, circa marginem pallidiore. Ascis cylindraceutis. Sporidiis ellipticis, brunneis, verrucosis. Paraphysibus numerosis, septatis, linearibus, sursum brunneis.

Peziza retiderma, Cooke in Herb.

On the ground.

North America (Maine).

Cups 1-2 inches diameter, deep bay-brown, externally with delicate reticulate veins proceeding upwards from the base, obliterated at the paler margin of the cup. Sporidia $\cdot 014 \times \cdot 007$ mm. coarsely warted as in *Peziza aurantia*.

Figured from specimens collected near Portland, Maine, by Mr. Fuller (64).

Peziza (Cupulares) pseudobadia. Cooke.

PLATE 79.—Fig. 307.

Stipitata, badia. Cupula hemispherica, demum pollubrifor-mis, carnosae, extus farinosa, dein nuda, margine irregulari, pallescente, hymenio atro-badio. Stipite crasso, obconico, rugoso, radicato. Ascis cylindraceutis. Sporidiis arcte ellipticis, uniguttulatis. Paraphysibus linearibus, supra curvatis.

Peziza badia, in Herb. Limminghe (not Persoon).

On the ground.

France.

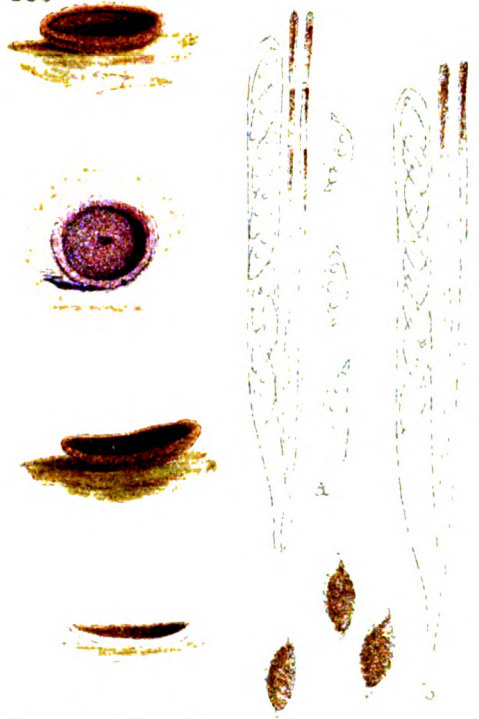
Cups 1-2 inches broad. Sporidia $\cdot 016\text{--}\cdot 018 \times \cdot 007$ mm. Paraphyses curved at the tips. Figured from the specimens in Herb. Limminghe, collected at Merignac, and named *P. badia*, from which species they are quite distinct, in habit and size much resembling *Peziza Bauerana* (fig. 224 ante).

304



P. stigmatizans. Ph.

305



P. apiculata. C.

306



P. reticulata. C.

307



P. polifida. C.

PEZIZA. CUPULARES;

Peziza (Sarcoscypha) Spraguei. B. & C.

PLATE 80.—Fig. 308.

Sessilis. Cupula applanata, margine incurvo, extus tomentosa, pallida; hymenio rufo. Ascis cylindraccis, obtusis. Sporidiis ellipticis, lævibus. Paraphysibus vix incrassatis, supra coloratis.

Peziza Spraguei, Berk. & Curt. in Herb. ; Cooke, in Bull. Buff. Acad. Sci. (1876), p. 289.

On decayed wood.

North America.

Cups $\frac{3}{4}$ inch across. Sporidia $\cdot 02 \times \cdot 01$ mm. This species has been found in the United States of America, in Maine, New England, and North Carolina.

Figured from the original specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) cornubiensis. B. & Br.

PLATE 80.—Fig. 309.

Sessilis. Cupula carnosae, primo concava, villosa affixa, margine tantum libero, subapplanata, extus subtiliter villosa. Hymenio aurantio. Ascis cylindraccis. Sporidiis oblongis, asperulis. Paraphysibus linearibus.

Peziza cornubiensis, Berk. & Br. Ann. Nat. Hist. No. 767 ; Cooke Hdbk. No. 1993.
Peziza campestris, Crouan. Fl. Finis, p. 53 (?).

On manured ground.

Britain.

Cups $\frac{3}{4}$ inch broad, depressed, attached to the soil by villous down, margin free, clothed with delicate, obtuse, articulate hairs. Sporidia $\cdot 018\text{--}022 \times \cdot 013$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

***Peziza (Sarcoscypha) lanuginosa.* Bull.**

PLATE 80.—Fig. 310.

Sessilis, sparsa. Cupula cerca, fragilis, subtus ferrugineo-fuscescens, lanata, intus albo-glauescens, vel pallidula. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus supra clavatis.

Peziza lanuginosa, Bull. Champ. p. 261, t. 396, fig. 2 (non Cooke *Mycographia*, plate 29, fig. 111).

On the ground. Spring.

France.

Cups 1-1½ inch broad. Sporidia .02-.022 × .013 mm. Hairs brown, septate, attenuated, .25-.3 mm. long.

Figured from specimens collected and determined by Bulliard, in Herb. Linnæi, which are undoubtedly authentic. The creamy appearance of the disc may be due to desiccation and age.

The species, named by Messrs. Berkeley & Broome, *Peziza lanuginosa*, var. *Sumneri*, and figured on plate 29, fig. 111 of this work, is clearly quite a distinct species, which hereafter should bear the name of

***Peziza Sumneriana.* C.**

***Peziza (Sarcoscypha) radiculata.* Sow.**

var. *Percevali.* Ph.

PLATE 80.—Fig. 311.

Cæspitosa, subclausa, difforma vel subcochleata. Stipite communi crasso, radicato. Ascis et sporidiis ut in typis.

Peziza radiculata, Sow. Fung. t. 114, var. *Percevali*, Phillips in litt.

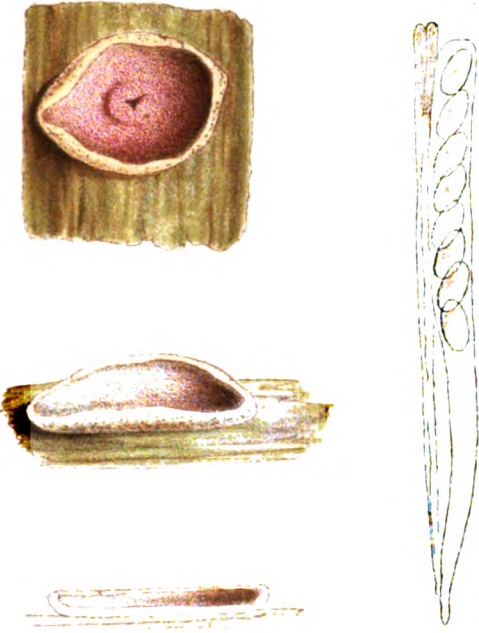
On the ground.

Britain.

Cups more irregular, and scarcely so large as in the typical form, and commonly cæspitose. Asci and sporidia as in the typical form (vide fig. 99), .016 × .008 mm.

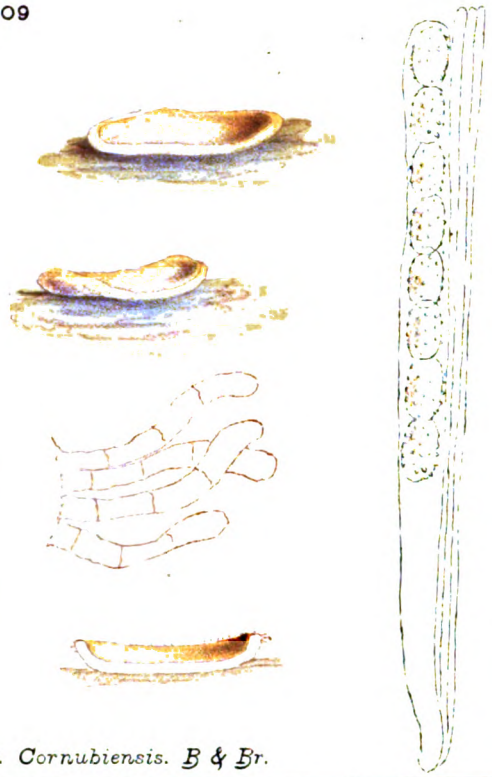
Figured from specimens collected by H. Spencer Perceval, and by him communicated to Mr. W. Phillips.

308



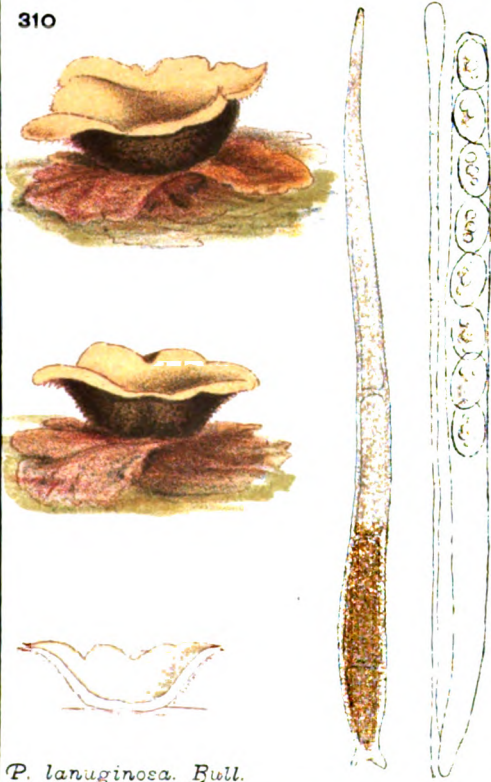
P. Spraguei. B & C.

309



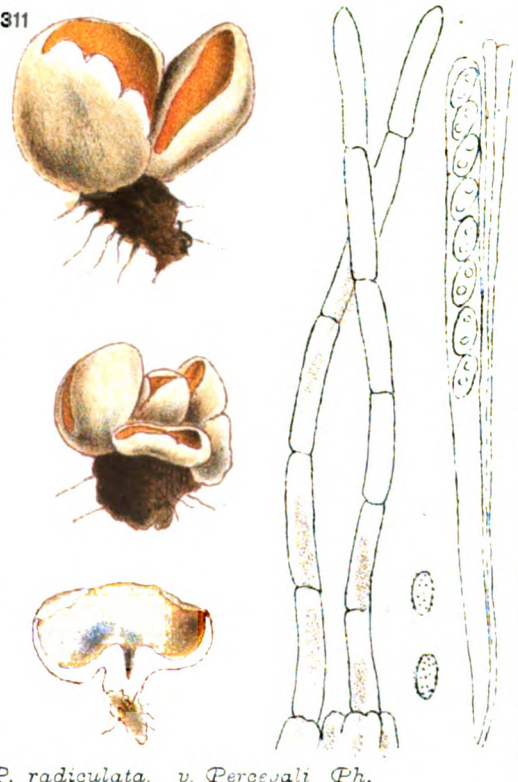
P. Cornubiensis. B & Br.

310



P. lanuginosa. Bull.

311



P. radiculata. v. Percevali Ph.

PEZIZA. (SARCOSCYPHA.)

Part 5.]

JANUARY, 1878.

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MORCHELLA. *Dill.*

Receptaculum clavatum vel pileatum, rotundatum; centro impervium, suffultum; supra hymenio tectum. Hymenium costis elevatis cellulosum vel lacunosum persistens. Stipes constanter præsens, subcavus. Substantia ceraceo-carnosa. Ascis cylindracei.—*Fries Syst. Myc.* ii. pp. 5.

- A. Clavatæ.** Pileo basi adnato.
- B. Pileatæ.** Pileo basi soluto.

Morchella esculenta. Pers.

PLATE 81.—Fig. 312.

Pileo ovato, basi adnato, costis firmis, in areolas anastomosantibus. Stipite lævi. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus leniter incrassatis.

Morchella esculenta, Pers. Syn. p. 618; Fries Sys. Myc. ii. 6; Cooke Hdbk. No. 1938; Tratt. Esb. Schw. p. 268, f. E.E.; Harzer. t. 50; Favre-Guill. 47; Vitt. Mang. t. xiv. f. 5, xiii. f. 1-3; Lenz. fig. 64, 65; Badham t. 12, f. 6; Barla t. 42, f. 1-7; Fries Sver. Svam. t. 54; Hussey i. t. 13.

Phallus esculentus, Linn. Suec. 1262; Schæff. Icon t. 199; Bull. Champ. 273, t. 218; Bolt. Fung. t. 91.

Helvella esculenta, Sow. t. 51 (partly).

Boletus esculentus, Batt. t. 2, f. F.

On the ground. Esculent.

Britain, France, Scandinavia, Germany, Switzerland, Austria, Bohemia, Russia, Belgium, Netherlands. Italy, Siberia, Kamtschatka, India (Cashmir), Australia, Tasmania, Cuba, United States, Mexico.

Sporidia $\cdot 02\text{--}\cdot 022 \times \cdot 01$ mm.

Figured from specimens collected at King's Lynn, by C. B. Plowright.

EXSICCATI.—Cooke F. Britt. i. 649, ii. 181; Fekl. F. R. 1243; Karst. F. F. 189; Phil. Elv. Br. 1; Rav. F. Car. i. 36.

Morchella esculenta var. rotunda. P.

PLATE 81.—Fig. 313.

Pileo areolisque rotundis. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus superne leniter incrassatis.

Morchella esculenta, a *rotunda*, Pers. Syn. p. 618; Kromb. t. xvi. f. 4; Mich. t. 85, f. 1.

On the ground. Esculent.

France, Italy, Austria, Germany, India (Cashmir).

Sporidia $\cdot 022 \times \cdot 01$ mm.

Figured from specimens from Cashmir.

EXSICCATI.—Thumen F. Austr. 13.

Morchella esculenta var. fulva.

PLATE 81.—Fig. 314.

Pileo areolisque oblongo-rhombeis. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus linearibus, vix incrassatis.

Morchella esculenta, var. *fulva*, Krombh. t. xvii. f. 3, 4; Batt. t. ii. f. F.

On the ground. Esculent.

France, Scandinavia, Germany.

Sporidia $\cdot 022\text{--}\cdot 024 \times \cdot 012$ mm.

Figured from specimens selected from those on sale in the Markets of Paris in 1876.

Morchella conica Pers.

PLATE 81.—Fig. 315.

Pileo conico, tereti, oblongo, basi adnato; costis primariis longitudinalibus, obtusis, secundariis pliciformibus, transversis, areolis elongatis angustis, plicato-lacunosis. Stipite subtereti, cylindrico, albido. Ascis cylindraceutis. Sporidiis late ellipticis, ovalibusve. Paraphysibus superne incrassatis.

Morchella esculenta, δ *conica*, Fries Sys. Myc. ii. 6.

Morchella conica, Pers. Comest. 257; Barla t. 42, f. 8-10; Favre-Guill 49; Krombh. t. 16, f. 7-10; Sv. Bot. t. 258.

Morchella ceracea, Krombh. t. 16, f. 11, 12.

Morchella continua, Tratt. Austr. t. 6, f. 11.

Morchella rigida, Krombh. t. 16, f. 13, t. 17, t. 1-2.

On the ground. Esculent.

Britain, France, Scandinavia, Germany, Austria, Italy, Switzerland, Tasmania, Australia, United States, Mexico.

Sporidia $\cdot 02 \times \cdot 012$ mm.

Figured from the specimens collected in the United States by Harland Coultas.

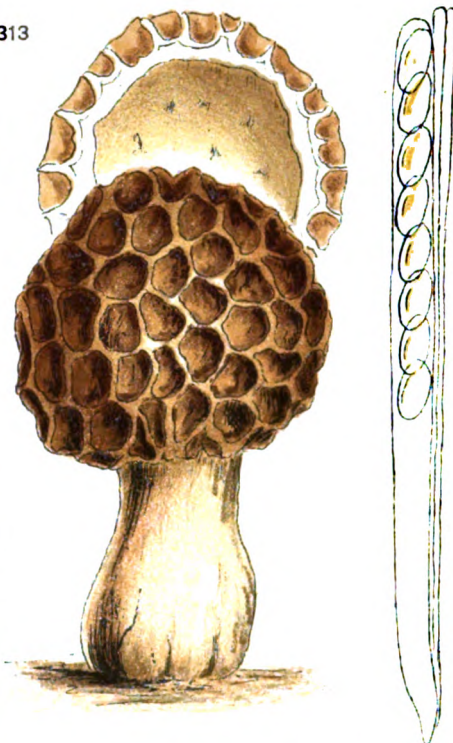
EXSICCATI.—Thumen F. Aust. 14; Desm. Cr. Fr. ii. 265; Fekl. F. R. 1244.

312



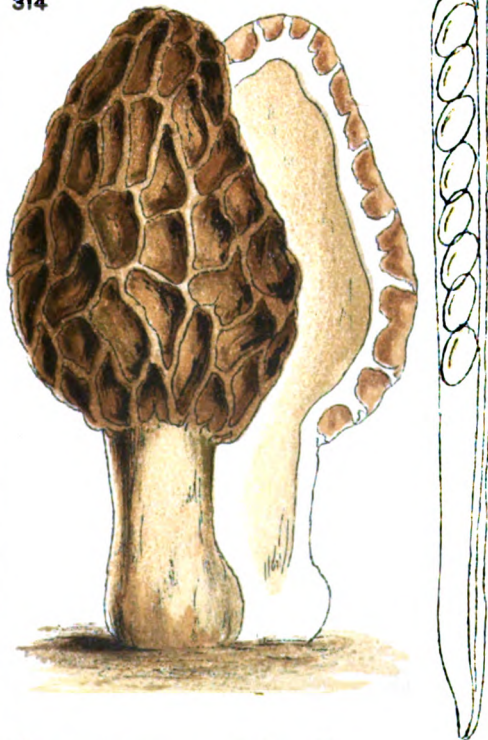
M. esculenta. var. vulgaris.

313



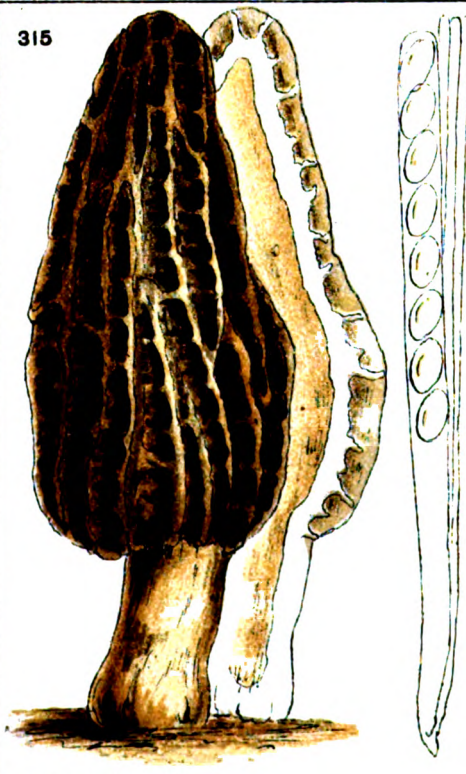
M. esculenta. var rotunda. Fr.

314



M. esculenta. var. fulva. Fr.

315



M. conica. P.

Scale 1/4 m.m.

MORCHELLA

Morchella prærosa. *Krombh.*

PLATE 82.—Fig. 316.

Pileo subovato, subacuto, basi contracto, horizontaliter inflexo, intus cavo, albo-verrucoso granulato, costis tenuibus ceraceis, fragillimis, brevibus, subflexuosis, irregularibus, inæqualiter altis, albido-marginatis, in margine quasi erosis, pubescentibus, areolis profundis subcellulosis, basi contractis; stipite supra contracto, subsulcato vel lævi, subtereti vel compresso-albo, dein lutescenti; basi dilatato glabro. Ascis cylindraceis. Sporidiis ellipticis. Paraphysibus gracilibus.

Morchella prærosa, Krombh. Schw. t. 19, f. 8-10.

On the ground. Esculent.

Bohemia, Germany.

Sporidia $\cdot 016\text{--}018 \times \cdot 008\text{--}01$ mm.

Figured from specimens published by Fuckel.

EXSICCATI.—Fekl. F. R. 2091

Morchella elata. *Fries.*

PLATE 82.—Fig. 317.

Pileo conico, obtusiusculo, basi adnato, costis longitudinalibus membranaceis, transversalibus junctis. Stipite furfuraceo. Ascis cylindraceis. Sporidiis ellipticis, lævibus. Paraphysibus supra incrassatis.

Morchella elata, Fries Sys. Myc. ii. 8; Krombh. Schw. t. 16, f. 20, 21; Weber. t. vi, f. 3.

Morchella cellaris, Sauter in Flora, 1845, p. 134 (?)

In fir woods. Spring. Esculent.

France, Italy, Germany, Austria, Scandinavia.

Sporidia $\cdot 03\text{--}032 \times \cdot 014$ mm.

Figured from the specimens determined by Professor Fries in the Herbarium of the Rev. M. J. Berkeley.

Morchella Smithiana. Cooke.

PLATE 83.—Fig. 318.

Pileo subgloboso, fusco, basi adnato, costis irregularibus, undulatis, crassis; areolis polymorphis, profundis, imo fundo celluloso-plicatis; stipite magno, elato, basi incrassato, cavo, supra attenuato glabro, incarnato. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus leniter incrassatis.

Morchella crassipes, Smith in Journ. Bot. (1868), t. 73 (nec Persoon); Cooke Handbook, No. 1939 (partly).

In a hedgerow. Spring. Esculent.

Britain.

Reaching 12 inches in height and 7 inches diameter. Sporidia $\cdot 0175\text{--}\cdot 02 \times \cdot 008\text{--}\cdot 011$ mm.

Figured from drawings by W. G. Smith, of which we have seen no specimen. It is clearly distinct from *Morchella crassipes*, both in the form of the pileus and the size of the sporidia. Figure two-thirds the natural size.

316



M. praeorsa. Kr.

317



M. elata. Fr.

Scale 4 m m.

MORCHELLA



M. Smithiana. C.

Scale $\frac{1}{8}$ m. m.

MORCHELLA

Morchella crassipes. *Pers.*

PLATE 84.—Fig. 319.

Pileo conico, celluloso, acuminato, brunneo, stipite inferne inflato, lacunososo, glabro, subincarnato, areolis polymorphis, amplis, profundis, celluloso plicatis, costis irregularibus undulatis, crassis. Ascis cylindraceutis. Sporidiis ovalibus, luteolis. Paraphysibus vix incrassatis.

Morchella crassipes, Pers. Syn. p. 621; Fries Sys. Myc. ii. 9; Cooke Handbk. No. 1989; Krombh. Schw. t. 16, f. 1; Harzer t. 78; Barla t. 42, f. 11.

Phallus crassipes, Ventenat p. 509, f. 2.

On the ground. Spring. Esculent.

Britain, France, Switzerland, Germany, Austria.

Sporidia $\cdot 024 \times \cdot 012$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Morchella deliciosa. *Fries.*

PLATE 84.—Fig. 320.

Pileo subcylindrico, acuto, basi adnato, costis longitudinalibus firmis, rugis transversalibus connexis. Stipite lævi, brevi. Ascis cylindraceutis, Sporidiis late ellipticis. Paraphysibus gracilis, linearibus.

Morchella deliciosa, Fries Sys. Myc. ii. 8; Cooke in Trans. Bot. Edin. x. pp. 440; Krombh. t. xvi. f. 17-19.

Fungus cavernosus, Weinm. Herb. t. 553, f. i.

Morchella crispa, Krombh. Schw. t. 5, f. 25, 26.

Morchella costata, Kze. & Schm. Exs. No. 193; Vitt. Mang. t. xiv. fig. 6.

In grassy places. Spring. Esculent.

France, Italy, Switzerland, Scandinavia, Germany, Austria, Russia, Java, India (Cashmir).

Sporidia $\cdot 02 \times \cdot 011$ mm.

Figured from specimens obtained from Lahore, and derived from Cashmir.

Morchella semilibera. DC.

PLATE 85.—Fig. 321.

Pileo conico, ad medium libero, costis longitudinalibus in areolis oblongis, intus venosis junctis. Stipite lævi. Ascis cylindraceis. Sporidiis ovalibus lævibus. Paraphysibus supra vix incrassatis.

Morchella semilibera, DCand. Fl. Fr. ii. 212; Fries Sys. Myc. ii. p. 11; Cooke Handbk. No. 1941; Vitt. Mang. t. xiv. f. 1-4.

Morchella rete, Pers. Myc. Eur. i. 205.

Morchella hybrida, Pers. Syn. p. 620; Grev. Sc. Crypt. Fl. t. 89.

Phallus rete, Batsch. El. p. 131.

Phalloboletus esculentus, Mich. Gen. t. 84, f. 2.

Helvella hybrida, Sow. Fung. t. 238.

Phallus patulus, Gled. Meth. 59.

Mitrophora semilibera, Lev. Ann. Sci. Nat. 1846, v. 250.

In grassy places. Spring. Esculent.

Britain, France, Netherlands, Germany, Scandinavia, Italy.

Sporidia $\cdot 022 \times \cdot 014$ mm. Fuckel finds them $\cdot 024 \times \cdot 02$ mm., but the nearest we have found to this has been, in one specimen, $\cdot 023 \times \cdot 016$ mm.

Figured from specimens published in Fungi Britannici.

EXSICCATI.—Cooke F. B. ii. 361; Erb. Critt. Ital. i. 270, ii. 239; Rabh. F. Eur. 1417; Desm. Crypt. Fr. i. 424; Fekl. F. R. 2088; Phil. Elv. Br. 51.

Morchella rimosipes. DCand.

PLATE 85.—Fig. 322.

Pileo conico, obtuso, olivaceo-fuscescente, basi subsoluto, areolis rhomboidalibus. Stipite irregulariter rimosa, albo, granulis furfuraceis candidis consperso. Ascis cylindraceis. Sporidiis late ellipticis. Paraphysibus supra clavatis.

Morchella rimosipes, DCand. Fl. Fr. ii. 214; Fries Sys. Myc. ii. 11; Krombh. Schw. t. 19, f. 1-5.

Morchella mitra, Lenz. t. 16, f. 67.

Phallus gigas, Gmelin. Sys. ii. 1448.

Mitrophora rimosipes, Lev. Ann. Sci. Nat. v. 250.

On the ground. Esculent.

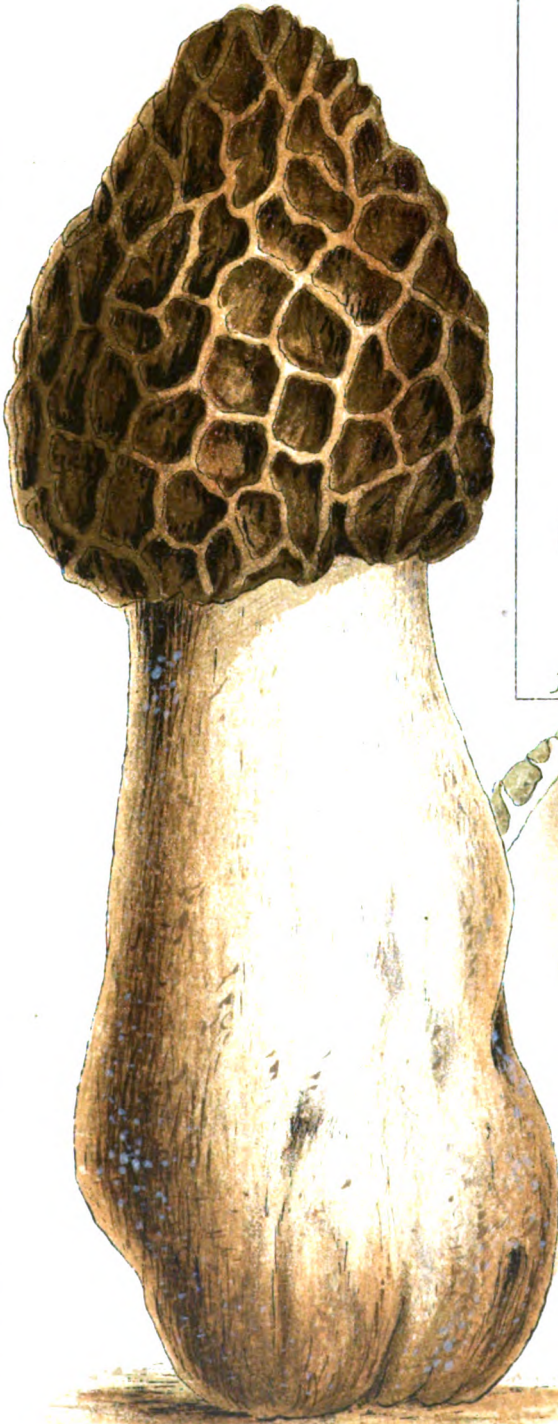
France, Germany, Switzerland, Austria.

Sporidia $\cdot 025\text{-}\cdot 028 \times \cdot 016$ mm.

Figured from specimens published by Fuckel.

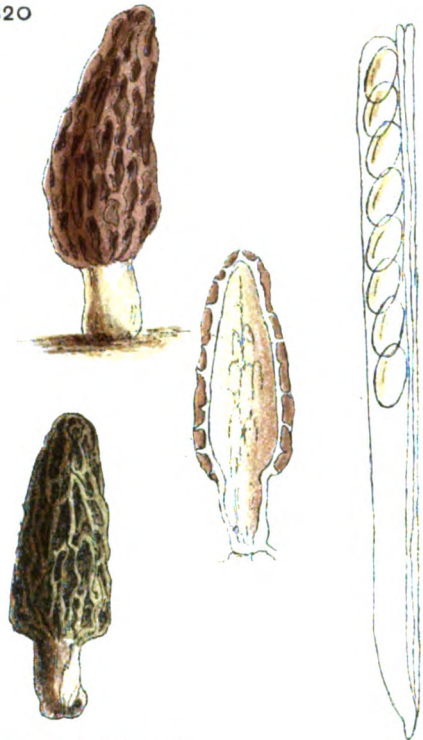
EXSICCATI.—Rabh. F. Eur. 1114; Fekl. F. R. 2090.

319



M. crassipes Ⓛ C

320



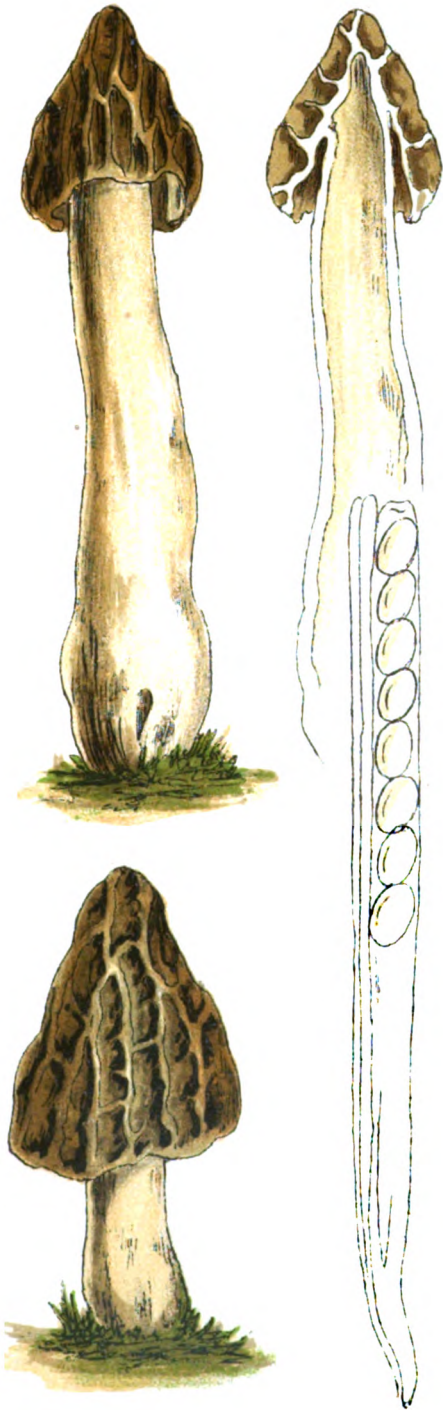
M. deliciosa. Fr



Scale $\frac{1}{8}$ m.m.

MORCHELLA

321



M. semi-libera. Ⓐ C.

322



M. rimosipes. Ⓐ C.

Scale 1/8 in.

MORCHELLA.

Morchella gigas. Pers.

PLATE 86.—Fig. 323.

Pileo conico, margine soluto, subundulato, costis in cellulas elongatos anastomosantibus. Stipite squamuloso. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus superne leniter incrassatis.

Morchella gigas, Pers. Syn. p. 619 ; Fries Sys. Myc. ii. 11.

Phallus squamosus, Ventenat, p. 511.

Phallus gigas, Batsch. El. 131.

Phalloboletus esculentus, Mich. Gen. t. 84, f. 1.

Verpa speciosa, Vitt. Fung. Mang. t. 15, f. 6, 7.

Morchella patula, Tratt. Essb. Schw. 173, t. F. F.

Mitrophora gigas, Lev. Ann. Sci. Nat. 1846, v. 250.

In sandy places. Spring. Esculent.

Italy, France, Austria, Germany.

Sporidia $\cdot 022\text{--}\cdot 024 \times \cdot 012$ mm.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F. R. 2089.

Morchella gigaspora. Cooke.

PLATE 86.—Fig. 324.

Pileo subcylindrico, vel subconico, obtusiusculo, ad supra medium libera, costis irregularibus, longitudinalibusve, in cellulas elongatos angustis anastomosantibus. Stipite brevi, lævi. Ascis cylindraceutis. Sporidiis magnis, subcylindraceutis, elongatis, utrinque obtusis. Paraphysibus superne incrassatis.

Morchella gigaspora, Cooke Trans. Bot. Soc. Edin (1870), x. pp. 440, cum icon.

Morchella semilibera, Stewart, Punjab Plants.

On the ground. Esculent.

India (Cashmir).

Dried on strings and sent down into India. Sporidia $\cdot 08 \times \cdot 02\text{--}\cdot 024$ mm.

Figured from the original specimens obtained from Cashmir.

Morchella Bohemica. Krombh.

PLATE 87.—Fig. 325.

Pileo campanulato, basi undato-plicato, albo-limbato, costis longitudinalibus, undulatis, dichotomis, raro anastomosantibus, basin versus parallelis, rectis, areolis oblongis, irregularibus, angustis. Stipite elongato, subcylindrico, apicem versus attenuato, albo sericeo, farcto. Ascis cylindraceutis, 4-8 sporis, Sporidiis elongato-ellipticis, subcurvatis. Paraphysibus paucis, hyalinis.

Morchella Bohemica, Krombh. Schw. t. 15, f. 1-13, t. 17, f. 5-8; Corda Sturm. iii. t. 56; Weberbauer, t. vi. f. 2.

Morchella dubia, Merat. Fl. Par. 493.

Verpa dubia, Lev. Ann. Sci. Nat. (1846), v. 250.

Verpa speciosa, Vitt. Mang. t. xv. f. 5-8.

On the ground. Esculent.

France, Bohemia, Germany, Italy, Russia, Cashmir.

Sporidia $\cdot 06\text{-}\cdot 065 \times \cdot 018\text{-}\cdot 02$ mm., usually not more than four are developed in an ascus, sometimes less.

Figured from specimens published by Rabenhorst, and compared with specimens in the Herbarium of the Rev. M. J. Berkeley.

EXSICCATI.—Rabh. F. E. 1007.

Morchella Bohemica var. bispora.

PLATE 87.—Fig. 326.

Pileo campanulato, basi undato-plicato, albo-limbato; costis longitudinalibus undulatis, anastomosantibus, basin versus parallelis, rectis; areolis oblongis, irregularibus, angustis. Stipite elongato, subcylindrico, apicem versus attenuato, albo-sericeo, farcto, in magnitudine sæpe variat; ascis oblongo-clavatis, longissimis, bisporis; sporis ovalibus, subcurvatis, in asci superiore parte inordinatis, nucleo oleoso, hyalinis; paraphysibus crassis (hinc illic) dichotomis.

Morchella bispora, Sorokin in Thum. Myc. Univ. No. 609.

On the ground. Esculent.

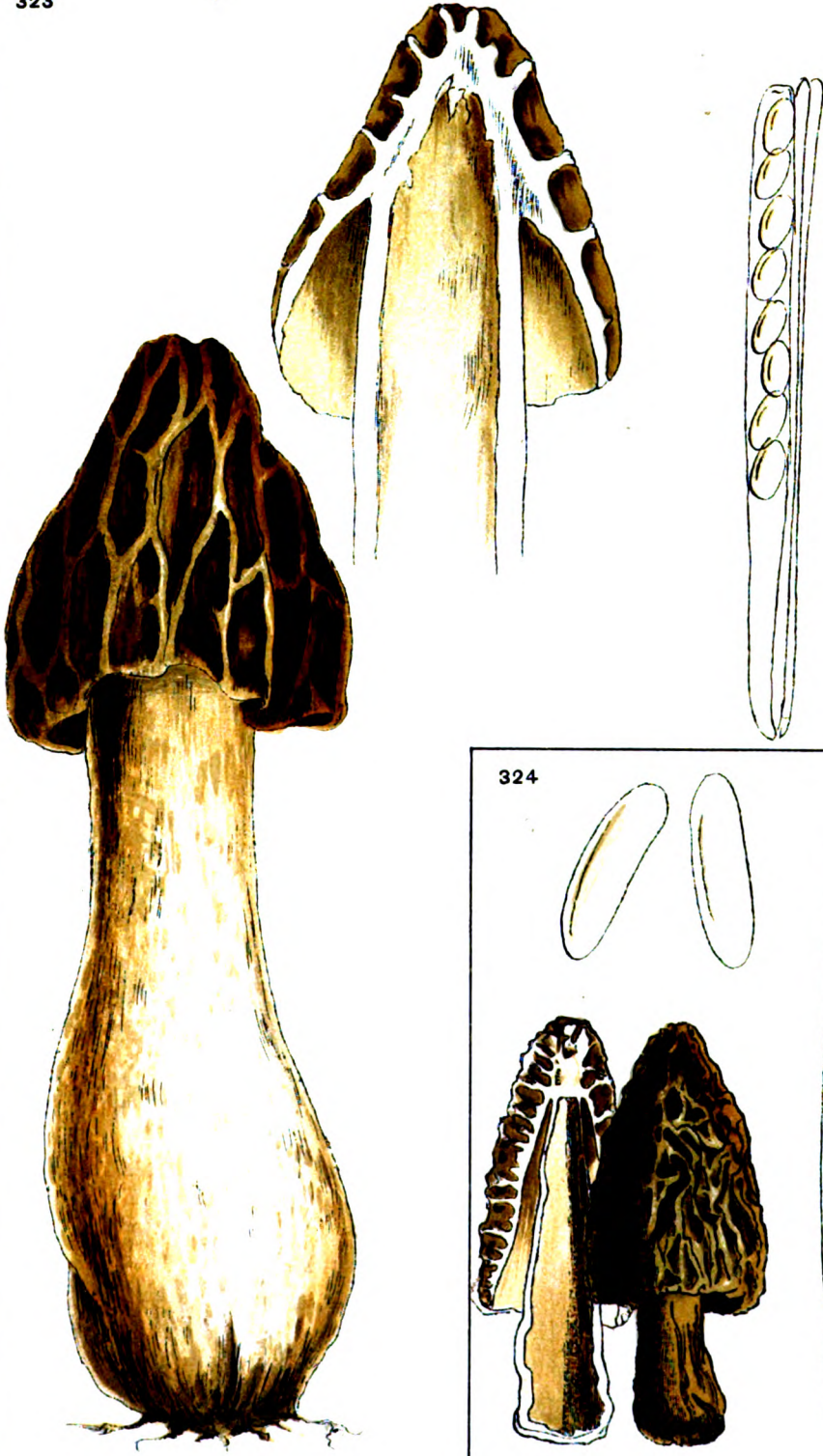
Russia.

Sporidia $\cdot 06 \times \cdot 019$ mm. It is not unusual to find *M. Bohemica* with two or four spordia in some asci, mixed with others containing more. Some specimens are entirely tetrasporous, and some, as above, usually containing but two spordia. There is no ground for supposing that this is any other than a bisporous form of *M. Bohemica*.

Figured from specimens published by Sorokin in Thumen's Exsiccati.

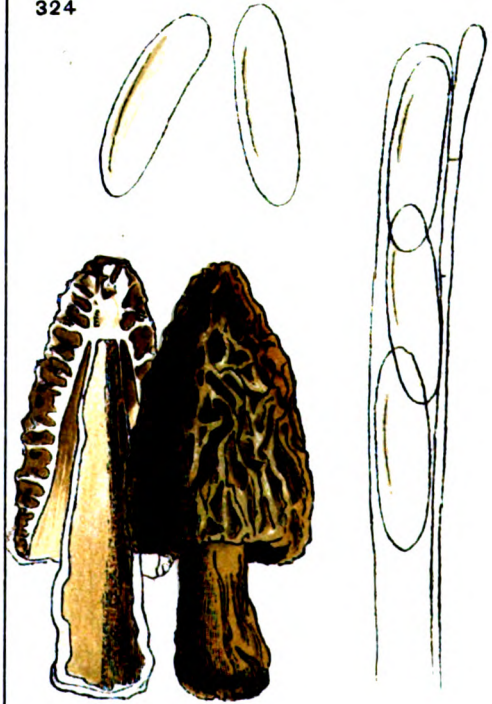
EXSICCATI.—Thum. M. U. 609.

323



M. gigas. Bat.

324

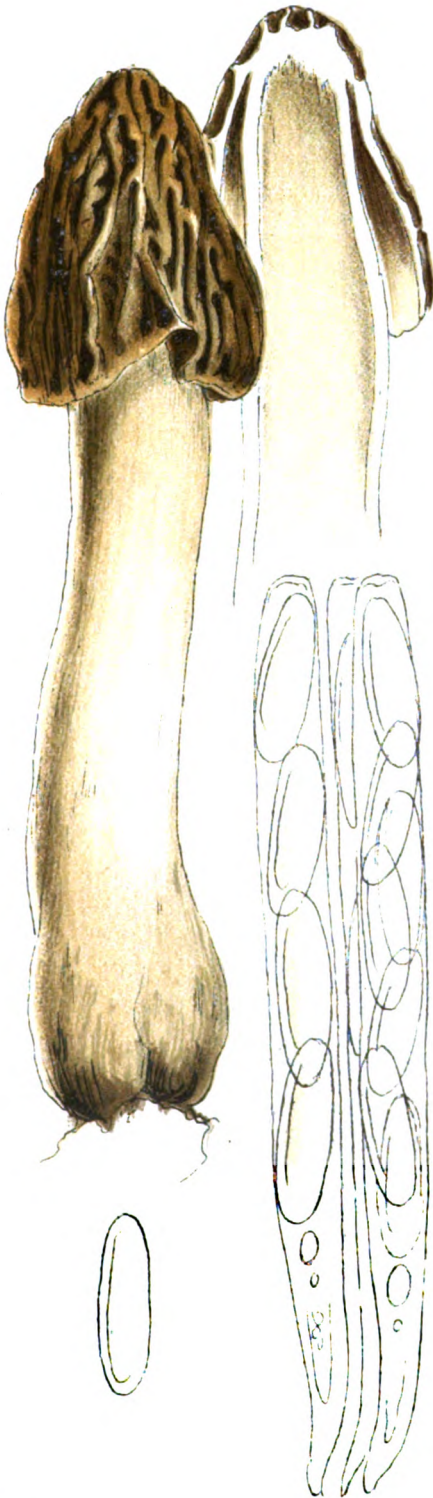


M. gigaspora. C.

Scale 1/2 m.m.

MORCHELLA.

325



M. Bohemica. Ca.

326



M. Bohemica, v. bispora. Sor.

Scale 1/2 m.m.

MORCHELLA.

GYROMITRA, Fries.

Receptaculum pileatum deflexum bullato-inflatum, supra hymenio tectum. Hymenium costis elevatis gyrosum, persistens. Substantia carnosæ. Asci cylindræci, fixi.—*Fries Summa Veg.* p. 346.

A. Cerebriformæ. Pileo plicato-gyroso.

B. Venosæ. Pileo costato-venoso.

N.B.—The species in section B, of which *Gyromitra costata* may be taken as the type, are just intermediate between *Gyromitra* and *Helvella*.

Gyromitra gigas. *Fries.*

PLATE 88.—Fig. 327.

Pileo magno, lobato, undulato-plicato vel crispato, pallido, albido vel ochraceo; lobis stipiti subadnatis, adpressis, subundulatis; stipite crasso, celluloso, ceraceo, albido, extus lacunoso, subglabro. Ascis cylindraceis. Sporidiis fusoides, hyalinis. Paraphysibus leniter incrassatis.

Helvella gigas, Krombh. Schw. iii. 28, t. 20, f. 1-5; Curr. Linn. Trans. xxiv. t. 25, f. 25; Cooke Hdbk. No. 1943.

Mitrophora gigas, Lev. Ann. Sci. Nat. (1846) v. p. 250.

On the ground. Esculent.

Britain, Germany, Austria, Switzerland.

Sporidia $\cdot 032 \times \cdot 01\text{--}\cdot 012$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Gyromitra esculenta. Fries.

PLATE 89.—Fig. 328.

Pileo inflato, difformi undulato, gyroso-rugoso, brunneo; margine stipiti levi villosa adnexo. Ascis cylindraccis. Sporidiis uniserialibus, oblongo-ellipticis, biguttulatus. Paraphysibus supra incrassatis, fulvescentibus.

Gyromitra esculenta, Fries S. V. S.; Cooke Hdbk. No. 1842.

Helvella esculenta, Pers. Comm. p. 64; Fries Sys. Myc. ii. 16; Karst. Myc. Fenn. 33; Badh. Fung. ii. t. 12, f. 3-5; Harzer t. 47; Barla t. 43, f. 12, 13; Lenz. fig. 59, 60.

Elvela mitra, Schæff. Icon. t. 160, 161.

Helvella phalloides, Afz. Act. Holm. 1783, p. 303.

On the ground. Esculent.

Britain, Scandinavia, Austria, Russia (Finland), Germany, France, United States (N. America).

Sporidia $\cdot 02 \times \cdot 01$ mm.

Figured from specimens communicated by Worthington G. Smith, collected in Britain.

EXSICCATI.—Desm. Cr. Fr. ii. 264; Rabh. F. Eur. 1416; Fekl. F. Rhen. 2087; Klotsch. H. M. 138; Karst. F. Fenn. 526.

Gyromitra curtipes. Fries.

PLATE 89.—Fig. 329.

Pileo inflato, gyroso-undulato, oblongo-rotundo, primum pallido, dein fuscidulo; margine stipite arcte adnexo. Stipes difformis, brevissimis, vel fere nullus. Ascis cylindraccis. Sporidiis fusiformibus, uninucleatis. Paraphysibus clavatis.

Gyromitra curtipes, Fries Sv. At. Sv. t. 56; Karsten Myc. Fenn. p. 33.

On the ground. Spring. Esculent.

Scandinavia, Finland.

Sporidia $\cdot 03 \times \cdot 009$ mm. Fries says that it is equally good eating with the *Gyromitra esculenta*.

Figured from drawings by Prof. Fries, and the fruit from specimens published by Karsten.

EXSICCATI.—Karst. F. Fenn. 721.



Scale $\frac{1}{16}$ m. m.

Gyromitra gigas. Fr.

GYROMITRA.

328



G. esculenta, Fr.

329



Scale 1/10 mm.

G. curtipes, Fr.

GYROMITRA.

Gyromitra Caroliniana. *Fries.*

PLATE 90.—Fig. 330.

Pileo rotundato, basi soluto, costis profundis irregularibus plicatis undulatisque. Stipite conico, sulcato. Ascis cylindraceutis. Sporidiis fusoides. Paraphysibus supra incrassatis.

Gyromitra Caroliniana, Fries Overs. V. Acad. 1871, 173.

Morchella Caroliniana, Bosc. Berl. Mag. 1811, t. 5, f. 6; Fries Sys. Myc. ii. 12.

Mitrophora Caroliniana, Lev. Ann. Sci. Nat. 1846, v. 250.

Helvella Caroliniana, Nees Sys. p. 176.

In woods. Esculent.

United States (N. America).

Sporidia $\cdot 03\text{--}\cdot 032 \times \cdot 001$ mm.

Figured from specimens collected by C. J. Sprague in Massachusetts.

Gyromitra Tasmanica. *Berk. & Cooke.*

PLATE 90.—Fig. 331.

Pileo lobato, libero, deflexo, reticulato-venoso, badio, subtus pallidior. Stipes elongato, deorsum incrassato, cavo, albido. Ascis cylindraceutis. Sporidiis arcte ellipticis. Paraphysibus supra incrassatis, brunneis.

Helvella Tasmanica, Berk. in Herb.

On the ground.

Tasmania.

Sporidia $\cdot 03 \times \cdot 009\text{--}\cdot 01$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Gyromitra costata. Cooke.

PLATE 91.—Fig. 332.

Pileo libero, subrevoluto, costato-venoso, luteo-fusco. Stipite lacunoso, subpulverulento albo. Ascis cylindraceutis. Sporidiis obtuse fusoideis, asperulis. Paraphysibus clavatis, septatis.

Helvella costata, Schweinitz Syn. Car. 1127 ; Fries Sys. Myc. ii. 19.

On the ground. Spring. Esculent.

North America.

Sporidia $\cdot 032\text{--}\cdot 035 \times \cdot 012$ mm.

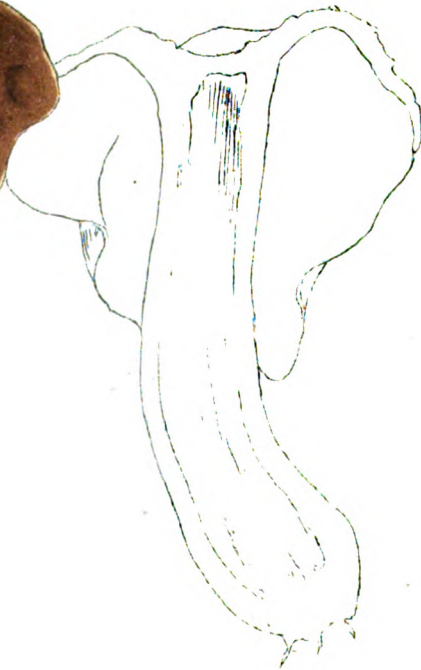
Figured from specimens derived from Schweinitz in the Herbarium of the Rev. M. J. Berkeley.

330



G. Caroliniana. Fr.

331



Scale 1/8 m. m.

G. Tasmanica. B.



G. costata. Schw.

Helvella Friesiana. Cooke.

PLATE 92.—Fig. 333.

Pileo deflexo, lobato, adnato, castaneo. Stipite sublævi, villosa concolore. Ascis cylindræis. Sporidiis ellipticis, binucleatis. Paraphysibus pyriformi-clavatis, brunneis.

Helvella infula, Fries Sys. Myc. ii. 17; Fries Sv. At. Sv. t. 83.

Phallus triceps, Flor. Dan. t. 835.

Helvella mitra, Willd. Sv. Bot. t. 264, f. 3.

On the ground, in moist places. Autumn. Esculent.

Scandinavia.

Sporidia $\cdot 02\text{--}\cdot 023 \times \cdot 008\text{--}\cdot 01$ mm., usually $\cdot 02 \times \cdot 009$ mm. We are convinced from the drawings and specimens of Fries that his species is different from the *Helvella infula* of other mycologists.

Figured from drawings by Professor Fries, and specimens derived from him in the Herbarium of the Rev. M. J. Berkeley.

***Helvella infula*. Schff.**

PLATE 92.—Fig. 334.

Pileo lobato, deflexo, læve; margine stipite arctissime adhærens, demum undulato, subcinnamomeo. Stipite sursum incrassato, farcto, dein cavo, læve, sæpe hinc inde irregulariter lacunoso, pallido, villosulo. Ascis cylindraceis. Sporidiis ellipsoideis. Paraphysibus clavatis, brunneo-tinctis.

Helvella infula, Schæff. t. 159; Pers. Syn. f. 617; Alb. & Schw. p. 300; Karst. Myc. Fenn. p. 34; Fries Sys. Myc. ii. p. 17 (parte); Barla t. 43, f. 14-16; Lenz. fig. 61.

On the ground. Autumn. Esulent.

Italy, Germany, Austria, Finland, Russia, United States (N. America).

Sporidia $\cdot 023\text{-}\cdot 025 \times \cdot 012$ mm. Karsten's var. b. must be something different from this.

Figured from specimens published in the Italian Cryptogamic Exsiccati.

EXSICCATI.—Karst. F. Fenn. 445; Erb. Critt. Ital. i. 330.

333



H. Friesiana. C.

334



H. infula. Schff.

Scale $\frac{1}{16}$ in. m.

Helvella monachella. Fr.

PLATE 93.—Fig. 335.

Pileo deflexo, lobato, adnato, lævi, subspadiceo. Stipite cavo, lævi, glabro, albo. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus supra incrassatis, brunneis.

Helvella monachella, Fries Sys. Myc. ii. 18; Krombh. Schw. t. f. 22-26; Lenz. fig. 62.

Boletus albus, Batt. Fung. p. 24, t. 2, f. H. var. β spadicea.

Helvella spadicea, Schæff. Icon. t. 283.

Helvella grandis, Cum. Act. Tur. t. 2.

In mountain woods. Spring.

Italy, Austria, Germany, Bavaria, France, Tasmania, United States (N. America).

Sporidia $\cdot 018 \times \cdot 01$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

EXSICCATI.—Thumen. F. Aust. 11.

***Helvella albipes.* Fckl.**

PLATE 93.—Fig. 336.

Pileo lobato, deflexo, lobis subreniformibus, emarginatis, atro-fuscis, subtus præcipue margine pallidis, stipitibus teretibus, candidis, subpuberulis, basin vix lacunosus. Ascis cylindraceutis. Sporidiis ovatis, hyalinis, uniguttulatis. Paraphysibus linearibus, apice distincte clavatis, brunneolis.

Helvella albipes, Fckl. Sym. Myc. p. 334, t. 5, f. 2.

On sandy soil. Spring.

Germany.

Sporidia $\cdot 022 \times \cdot 012\text{--}\cdot 014$ mm.

When examining a specimen, believed to belong to this species, without locality, we encountered curious bodies resembling conidia on the hymenium, but whether evolved or parasitic there was no evidence to determine.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F. R. 1240.

***Helvella guepinioides.* Berk. & Cooke.**

PLATE 93.—Fig. 337.

Pileo integro, deflexo, libero, ochraceo. Stipite elongato, æquali, lævi, cavo, albido. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus clavatis.

Helvella guepinioides, Berk. & Cooke in Herb. Berk.

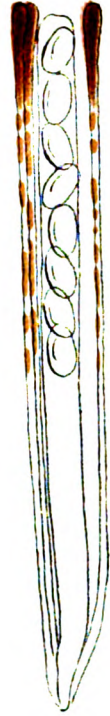
On the ground.

Britain.

Sporidia $\cdot 02 \cdot 011$ mm. A very singular species, resembling a *Guepinia*, hence the name.

Figured from specimens collected at Coed Coch, in the Herbarium of the Rev. M. J. Berkeley.

335



H. monachella. Fr.

336



H. albipes. Fock.

337



H. guepinoides. B. & C.

Scale 1/16 in.

HELVELLA.

Helvella pulla. *Holms.*

PLATE 94.—Fig. 338.

Pileo deflexo, libero, lobato, undulato, fuligineo, subtus stipiteque medio attenuato, subnudo. Ascis cylindraceis. Sporidiis late ellipticis. Paraphysibus superne incrassatis.

Helvella pulla, Holms. Ot. ii. t. 26; Fries Sys. Myc. ii. 20.

Fungoides pullum, Mich. t. 86, f. 9.

Helvella cinerea, Vill. Delph. p. 1045.

On the ground, in woods. Summer—Autumn.

Denmark, Italy.

Sporidia $\cdot 016\text{-}\cdot 018 \times \cdot 013$ mm.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Helvella panormitana. *Inzenga.*

PLATE 94.—Fig. 339.

Pileo deflexo, libero, lobato, undulato, limbo cordato vel reniformi, fuliginoso-castaneo, subtus albo pulverulento, farinoso. Stipite rigido, albo, leniter sursum attenuato. Ascis cylindraceis. Sporidiis ollipticis, lævibus. Paraphysibus superne incrassatis.

Helvella panormitana, Inzenga Funghi Siciliani, Cent. i. pp. 41, t. 4, f. 1.

Amongst mosses.

Italy.

Sporidia $\cdot 02 \times \cdot 012$ mm. Distinguished chiefly by the pulverulent under surface of the pileus. It is doubtful whether all the closely-allied forms of *Helvella* can be maintained as distinct species.

Figured from specimens in the Herbarium of the Jardin des Plantes at Paris.

Helvella tabacina. Mont.

PLATE 94.—Fig. 340.

Pileo deflexo, undulato, rufo-tabacino. Stipite basi incrassato, lævi, concolori. Ascis et sporidiis ignotis.

Helvella tabacina, Mont. in Flor. Chil. vii. p. 396, t. 8, f. 2 ; Mont. Syll. p. 183.

On the ground. August.

Chili.

Sporidia unknown.

Figures copied from those of Montagne in the Flora of Chili. It appears to be a distinct, but small species, of which no specimen is to be found in Montagne's Herbarium.

Helvella pallescens. Schff. (?)

PLATE 94.—Fig. 341.

Ochracco-pallida. Pileo repando, flexuoso. Stipite longitudinaliter sulcato, cavo. Ascis cylindraccis. Sporidiis ovalibus, vel subglobosis, hyalinis. Paraphysibus sursum incrassatis.

Helvella pallescens, Schff. iv. t. 322 ; Fries. Sys. Myc. ii. p. 16 (sub. *H. sulcata*).

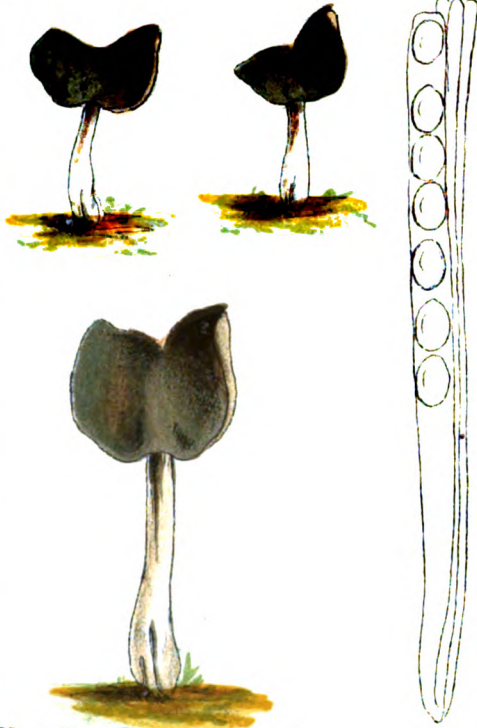
On the ground.

Bavaria, France.

Sporidia $\cdot 014 \times \cdot 01$ mm.

The figure is given of a specimen collected at Pau, in the Herbarium of the Rev. M. J. Berkeley, referred with some hesitation to the above species, of which so little is really known.

338



H. fulla. Holm.

339



H. panormitana. Inz.

340



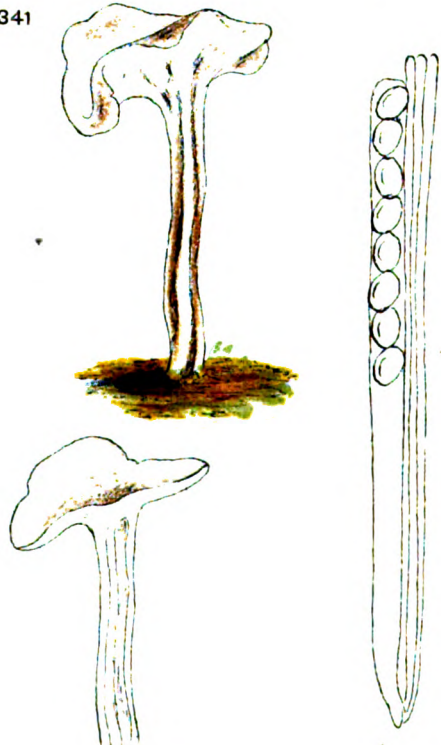
n. 5



H. tabacina. Mont.

Sporidii ignotis.

341



H. pallescens. Sch. ?

Scale 1/2 m. m.

SPATHULARIA. *Pers.*

Clavula verticalis compressa, utrinque in stipitem discretum decurrens, superne ascis tectum. Carnoso-membranacea, simplex, distincte stipitata. Sporidia tenuissima.—*Pers. Comm. p. 34*; *Fries Sys. Myc. i.*, 490; *Spathulea, Fries S. V. S. pp. 347.*

Spathularia flavida. Pers.

PLATE 95.—Fig. 342.

Gregaria. Clavula spathulata, compressa, sub-lævi, lutea; margine crispata vel undulata. Stipite albidis. Ascis clavatis. Sporidiis linearibus, curvulis, multiguttulatis, hyalinis. Paraphysibus filiformibus.

Spathularia flavida, Pers. Comm. p. 34; Fries Sys. Myc. i. 491; Grev. Sc. Crypt. Fl. t. 165; DCand. Fl. Fr. ii. 95; Cooke Handbk. No. 1953, fig. 326; Berk. Outl. t. 21, f. 7; Kromb. t. v. f. 22.

Elvela clavata, Schæff. t. 149.

Clavaria Spathulata, Flor. Dan. t. 658; Schmid. Ic. t. 50.

Helvella spathularia, Sow. Fung. t. 35; Fries Sys. Myc. i. 490.

Helvella feritoria, Bolt. t. 97.

Spathularia flava, Swartz. V. A. Hand. 1812, p. 10.

Spathulea crispa, Corda. Ic. ii. 36, f. 125.

Amongst dead leaves.

Britain, Scandinavia, France, Denmark, Austria, Bavaria, Germany, Belgium, Italy, United States (N. America).

Sporidia filiform, .06 mm. long.

Figured from specimens published in Fungi Britannici.

EXSICCATI.—Rabh. Hb. Myc. 28; Desm. Crypt. Fr. ii. 455; Rabh. F. Eur. ii. 126; Wartm. & Sch. 215; West. & Wall. H. B. 1085; Schm. & Kze. 194; Berk. B. Fungi 257; Fekl. F. Rhen. 1143; Cooke F. Britt. i. 470; Klotsch. H. M. 815; Rehm. Asc. 426; Phil. Elv. Britt. 3; Thum. F. Austr. 425.

Spathularia rufa. *Rabh.*

PLATE 95.—Fig. 343.

Clavula subspathulata, compressa, lævi (margine nec undulato, nec crispato) longe decurrente, fusco-rufa, lilacino-subpruinosa. Ascis clavatis. Sporidiis filiformibus.

Spathularia rufa, Swartz. Vet. Ac. Hand. 1812, p. 11.
Spathulea rufa, Rabh. Fung. Eur. 235.

Germany.

Sporidia filiform, .07 mm. long.

The *Spathulea rufa*, figured by Nees (Syst. f. 156 A. B., is clearly only a rufescent form of *Spathularia flavida*.

Figured from specimens published by Rabenhorst, and distinct from *S. flavida* in its smaller size, smooth margin, and some other features.

EXSICCATI.—Rabh. F. Eur. ii. 235.

Spathularia inflata. *Schwz.*

PLATE 95.—Fig. 344.

Albida. Capitulo subgloboso, inflato. Stipite filiformi elongato.

Mitrula inflata, Fries El. i. 234 ; Fr. Epic. 584.
Leotia inflata, Schwz. Syn. Car. 1120.

On bark.

United States (N. America).

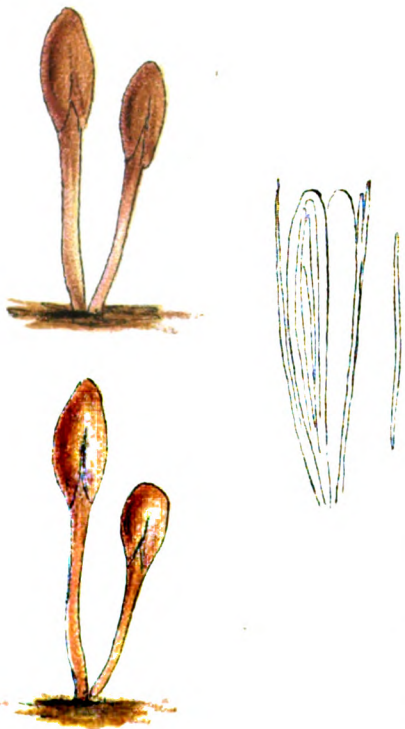
Figured from specimens derived from Schweinitz in the Herbarium of the Jardin des Plantes at Paris, which were without fruit, as were also specimens collected in New York by C. H. Peck.

342



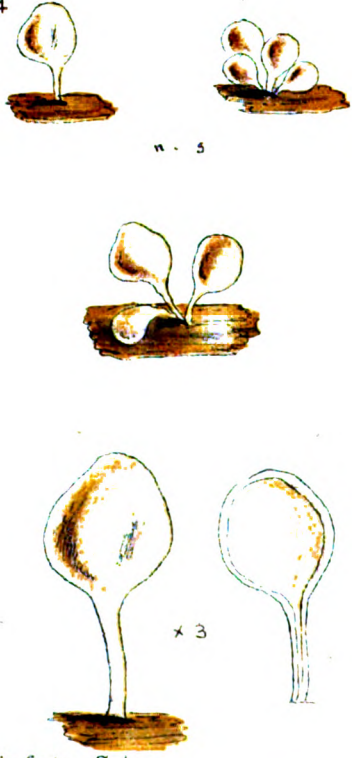
S. flavida. Fr.

343



S. rufa. Fabb.

344



S. inflata. Schw.

sporidius ignotus.

Scale 1/2 m.m.

SPATHULARIA.

Geoglossum nigrum. Pers.

PLATE 96.—Fig. 345.

Fasciculatum, fistulosum, fragilis, nigrum. Clavula subcompressa. Stipite gracile. Ascis clavatis. Sporidiis linearibus, rectis vel curvulis, 7-septatis, brunneis. Paraphysibus septatis, supra clavatis, brunneolis.

Clavaria nigrita, Pers. Syn. p. 604; Fries Epicr. i. p. 578.

In grassy places.

Germany.

Sporidia $\cdot 07 \times \cdot 005$ mm.

Figured from specimens communicated by Professor Fries in the Herbarium of the Rev. M. J. Berkeley.

Geoglossum rufum. Schw.

PLATE 96.—Fig. 346.

Glabrum, subragosum, rufum. Stipite tenuiori clavula multo crassior, et color clavulæ rufior, apice obtuso inæquali (1 unc. et ultra long). Ascis clavatis. Sporidiis biserialibus, fusiformibus, hyalinis. Paraphysibus linearibus.

Geoglossum rufum, Schweinitz Fung. Amer. Bor. No. 1011.

On the ground.

North America (U. S.).

Sporidia $\cdot 04\text{--}\cdot 05 \times \cdot 005$ mm.

Figured from specimens collected by J. B. Ellis, in New Jersey, which appear to be the species intended by Schweinitz. They were found growing amongst *Sphagnum*.

Geoglossum tremellosum. Cooke.

PLATE 96.—Fig. 347.

Glabrum, tremellosum, atrum, contiguum, clavula subcompressa, cava. Stipite lævi, glutinoso, concolore. Ascis clavatis. Sporidiis fusiformibus, rectis vel curvulis, hyalinis. Paraphysibus linearibus.

Geoglossum microsporum, var. *tremellosum*, Cooke in *Grevillea* iv. p. 109.

On the ground.

Scotland.

Sporidia $\cdot 03\text{--}\cdot 032 \times \cdot 005$ mm., at length very faintly 5-7 septate, or perhaps only with the endochrome so divided.

Figured from the original specimens collected by Dr. Buchanan White.

Geoglossum pistillaris. Berk. & Cooke.

PLATE 96.—Fig. 348.

Glabrum, rufescens, contiguum, siccum; clavula compressa. Stipite lævi, concolore. Ascis clavatis. Sporidiis arcte fusiformibus, sub-curvatis, hyalinis. Paraphysibus linearibus.

Mitruia pistillaris, Berk. in herb.

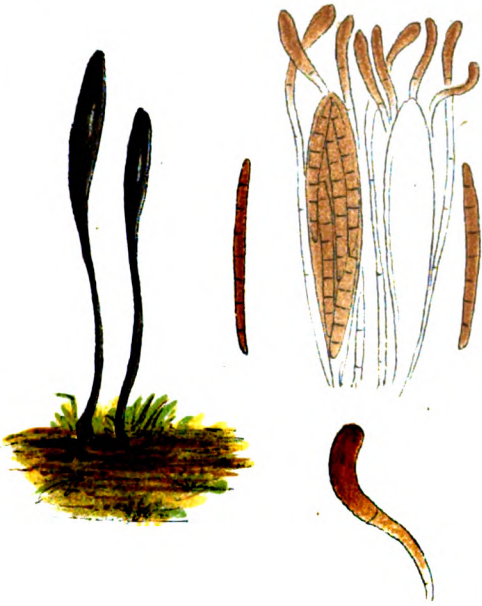
On the ground.

United States (N. America).

Sporidia $\cdot 035 \times \cdot 004$ mm.

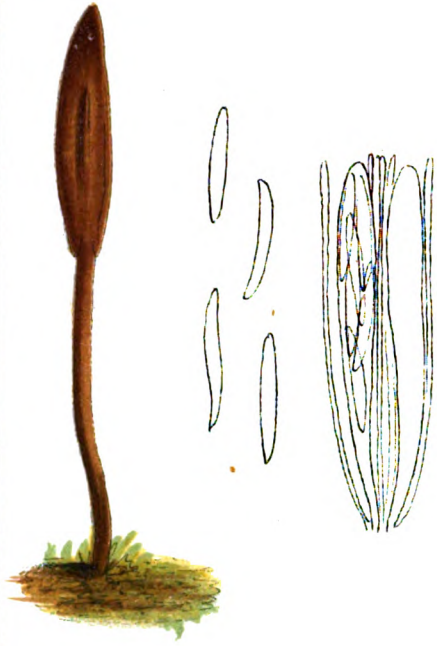
Figured from specimen collected in Louisiana by Dr. Hale, in the Herbarium of the Rev. M. J. Berkeley. Probably the cleft at the apex is accidental.

345



G. nigrum. P.

346



G. rufum. Schw.

347



G. tremellosum. C.

348



G. pistillarum. B. & C.

Scale 1/10 mm.

GEOGLOSSUM.

Peziza (Cochleata) Adæ. Sadler.

PLATE 97.—Fig. 349.

Sessilis, subcæspitosa. Cupula cochleata, irregularis, demum expansa; margine integro, vel lobato, reflexo; hymenio albo, roseo albo, violaceo, vel ochraceo. Ascis cylindraccis. Sporidiis ellipticis, binucleatis. Paraphysibus linearibus.

Peziza Adæ, Sadler, Cooke Trans. Bot. Soc. Edin. 1857, p. 45 (cum icon); *Grevillea* (1877) vi. t. 97, fig. 1-3.

Peziza domiciliana, Cooke in Gard. Chron. 1877.

On damp walls, &c.

Britain.

Cups $\frac{1}{2}$ to 2 inches diam. Sporidia $\cdot 0125 \times \cdot 007$ mm. Disc variable in form and colour, but always thin and delicate.

Having discovered that Mr. Sadler had applied to this species the MSS. name of *Peziza Adæ*, in honour of the daughter of Professor Balfour, who was the first to discover it, we have at once withdrawn the name under which it was announced, and described in the "Gardener's Chronicle," in his favour.

Figured from specimens communicated by Mr. J. Sadler.

EXSICCATI.—Fungi Britt. ii. (ined.); Phil. Elv. Britt. (ined.).

***Peziza (Cochleata) apophysata.* Cooke & Phil.**

PLATE 97.—Fig. 350.

Sessilis, brunnea. Cupula inæqualis, lobata, subcontorta, ad latere elongata; hymenio atro-brunneo, lævi. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis. Paraphysibus gracilibus, furcatis, ramulis brevis, subclavatis.

Peziza apophysata, C. & Ph. in *Grevillea* (1876) v. p. 60.

In a damp ditch.

Britain.

Cups $\frac{1}{2}$ -1 inch broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 012$ mm. Paraphyses branched in a peculiar manner.

Figured from drawings and specimens communicated by W. Phillips.

***Peziza (Cochleata) pleurota.* Phil.**

PLATE 97.—Fig. 351.

Cupula expansa, subcochleata, umbrina, extus pallidior, uno latere elongata. Ascis cylindraceutis. Sporidiis ellipticis, utrinque subattenuatis, scabris. Paraphysibus septatis, supra clavatis, brunneo-tinctis.

Peziza pleurota, Phillips in litt.

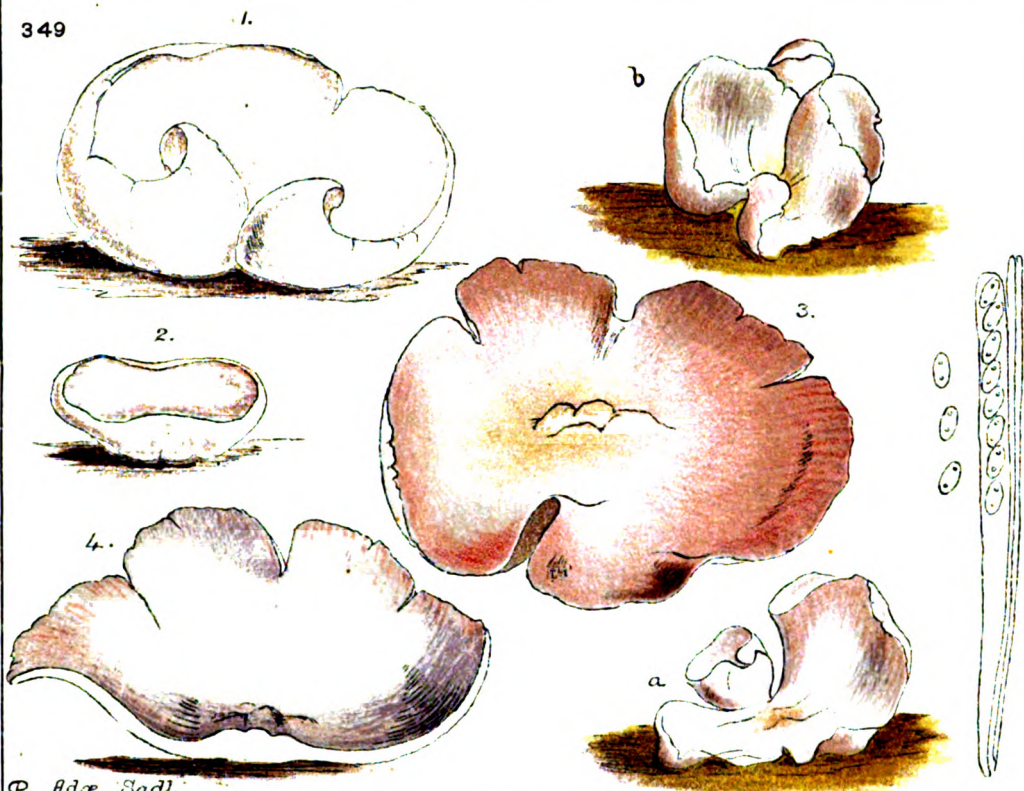
On cow dung.

Britain.

Cups 1 inch or more in diameter. Sporidia $\cdot 015 \times \cdot 008$ mm. Coarsely warted on the surface, usually with one central nucleus.

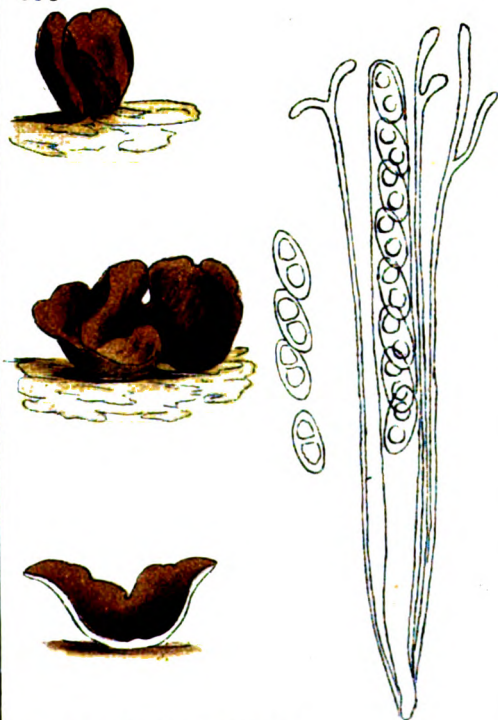
Figured from drawings and specimens communicated by W. Phillips.

349



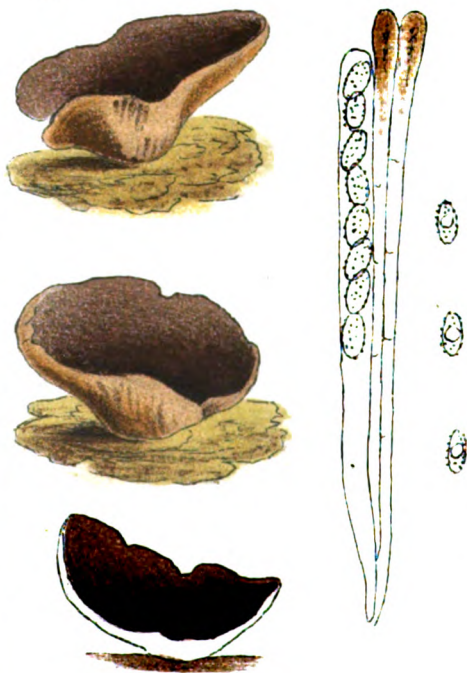
P. adæ. Sadl.

350



P. apophysata C. & Ph.

351



P. pleurota. Ph.

Scale 1/2 m. m.

Peziza (Humaria) ascoboloides. Bert.

PLATE 98.—Fig. 352.

Cupula concava, aurantio-flava, disco concolori, papilloso-granulato; margine ciliis albis deciduis instructa. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus linearibus.

Peziza ascoboloides, Bert. in Mont. Syll. p. 185; Fl. Chil. vii. p. 402.

Peziza eclecta, Berk. & Cooke in Grevillea (1876) v. p. 60.

On the ground.

Chili, Britain.

Cups about 2-3 inches diam. Sporidia $\cdot 018 \times \cdot 01$ mm. On comparison of *Peziza eclecta*, B. & C., with this species we are convinced that they cannot be separated. The few scattered hairs on the surface of the cups are evanescent.

Figured from specimens from Dr. C. Montague, and compared with those in the Herbarium of the Jardin des Plantes at Paris.

Peziza (Humaria) fusispora, Berk. var. permunda, C.

PLATE 98.—Fig. 353.

Carneo-albida, vel candida. Cupula expansa, carnosissima. Ascis cylindraceutis. Sporidiis fusiformibus, binucleatis. Paraphysibus linearibus.

Peziza permunda, plate 98, fig. 353.

Peziza fusispora, Berk.; Cooke *Mycographia* figs. 31, 32.

On the ground.

United States (N. America).

Cups 1-2 mm. broad. Sporidia $\cdot 03 \times \cdot 01$ mm. Since the plates were printed we have come to the conclusion that this is but a pale form of *Peziza fusispora*, which appears to be a rather variable species.

Figured from specimens communicated by H. W. Ravenel (No. 2184).

Peziza (Humaria) læticolor. B. & Br.

PLATE 98.—Fig. 354.

Ruberrima. Cupulis planis, inmarginatis, udo convexis. Ascis cylindraceis, 4-8 sporis. Sporidiis late ellipticis, hyalinis, nucleatis. Paraphysibus supra leniter incrassatis.

Peziza læticolor, Berk. & Br. Ceylon Fungi in Journ. Linn. Soc. No. 930, t. 5, fig. 22.

On sticks.

Ceylon.

Cups 1-2 mm. broad, resembling the apothecia of a species of *Lecidea*. Sporidia $\cdot 025 \times \cdot 012$ mm. Apparently the asci are usually tetrasporous.

Figured from specimens in the Herbarium of the Rev. M. J. Berkeley.

Peziza (Humaria) orthotricha. C. & Ellis.

PLATE 98.—Fig. 355.

Miniata, sessilis, sparsa. Cupula hemispherica, glabra, demum applanata; margine subtumido. Ascis cylindraceo-clavatis. Sporidiis ellipticis, asperulis, uninucleatis. Paraphysibus superne clavatis, aurantio-tinctis.

Peziza orthotricha, Cooke & Ellis in Grevillea, vi. (1877) p. 7, t. 96, fig. 33.

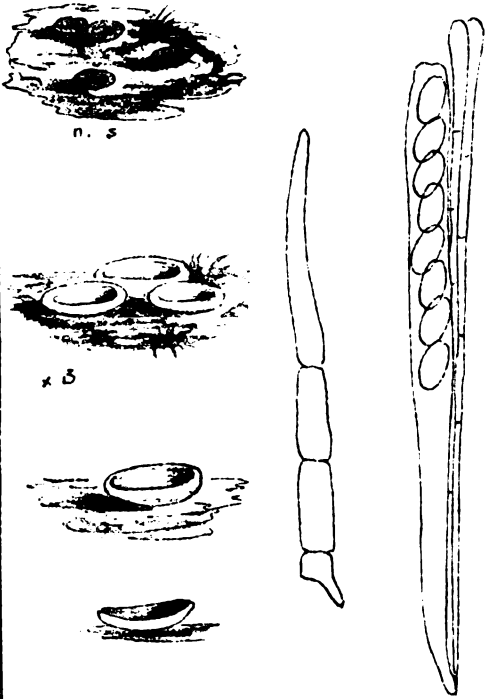
Amongst *Orthotrichum*, on bark.

United States (N. America).

Cups 1 mm. broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 01\text{-}\cdot 011$ mm.

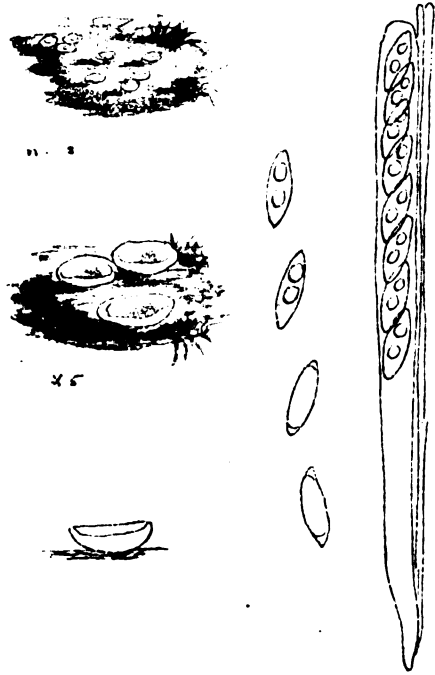
Figured from the specimens communicated by J. B. Ellis from New Jersey, U.S.

352



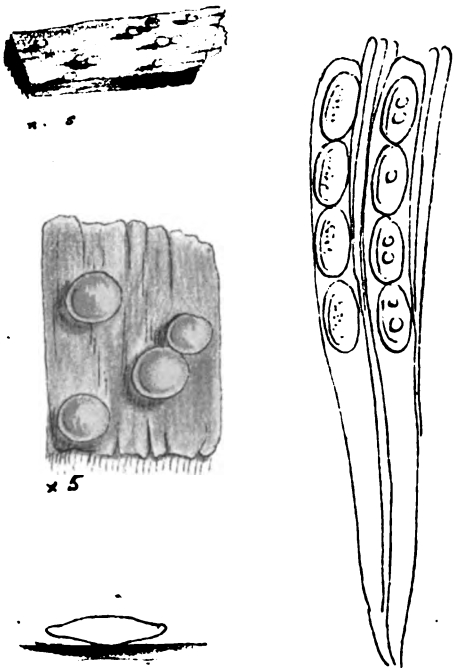
P. ascoboloides. Mont.

353



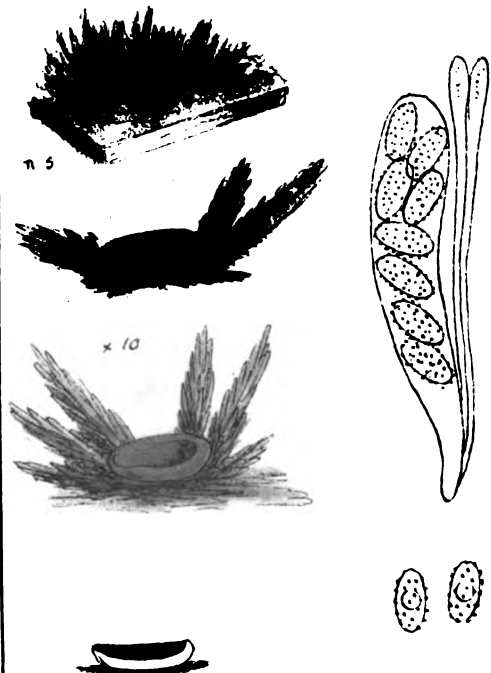
P. permunda C.

354



P. lateoclor. B & Br.

355



P. orthotricha. C & E.

Scale 1/10 m. m.

***Peziza (Sarcoscypha) cocotina.* Cooke.**

PLATE 99.—Fig. 356.

Radicata, carnosa. Cupula hemisphaerica, demum applanata, margine integro, hymenio pallide aurantio, extus stipitique albotomentoso. Ascis cylindraceis, sporidiis ellipticis, laevibus, hyalinis. Paraphysibus clavatis.

Peziza cocotina, Cooke, in Grevillea, v. (1876), p. 61.

On cocoa-nut fibre. Oct.

Britain.

Cups 1 in. diam. Sporidia $\cdot 018 \times \cdot 01$ mm. In some points resembling *Peziza radiculata*, Sow.; in others *Peziza cerea*, Sow., but differing from both.

Figured from specimens collected by J. English, of Epping, on cocoa-nut fibre on a breeding cage.

***Peziza (Sarcoscypha) lepida.* B. & C.**

PLATE 99.—Fig. 357.

Media. Cupula infundibuliforme, e stipite sursum attenuato gradatim oriundo, margine inflexo, furfuraceo. Disco coccineo. Ascis cylindraceis. Sporidiis ellipticis, laevibus, hyalinis.

Peziza lepida, Berk. & Curt. in Proceed. Amer. Acad. Arts & Sci. Vol. iv. p. 127.

On burnt earth.

Japan.

Cups about 7 mm. broad, 1 cm. high. Sporidia $\cdot 012 \times \cdot 006$ mm.

Figured from drawings communicated by the Rev. M. J. Berkeley.

Peziza (Sarcoscypha) maculosa. Ph.

PLATE 99.—Fig. 358.

Sessilis, vel semi-immersa. Cupula carnosâ, ochraceo-brunnea, demum expansa; hymenio concavo, extus atro maculatâ; maculas pilis flexuosis, brunneis obsita. Ascis cylindraceutis. Sporidiis ellipticis, lævibus. Paraphysibus septatis, filiformibus.

Peziza maculosa, Phillips, in *Grevillea* (1876), v. p. 116, t. 89, fig. 11.

On cow dung.

California (N. America).

Cups 1 centm. diam. Hairs of the cup minutely rough. Sporidia $\cdot 014 \times \cdot 007$ mm. Figured from drawings and specimens communicated by W. Phillips.

Peziza (Sarcoscypha) fossulæ. Limm.

PLATE 99.—Fig. 359.

Semi-immersa, albida. Cupulis hemisphæricis, margine connivente. Extus pilis flexuosis tenuis septatis obsita. Ascis cylindraceutis. Sporidiis late fusoides, binucleatis, lævibus. Paraphysibus supra leniter incrassatis.

Peziza fossulæ, in *Herb. Limminghe*.

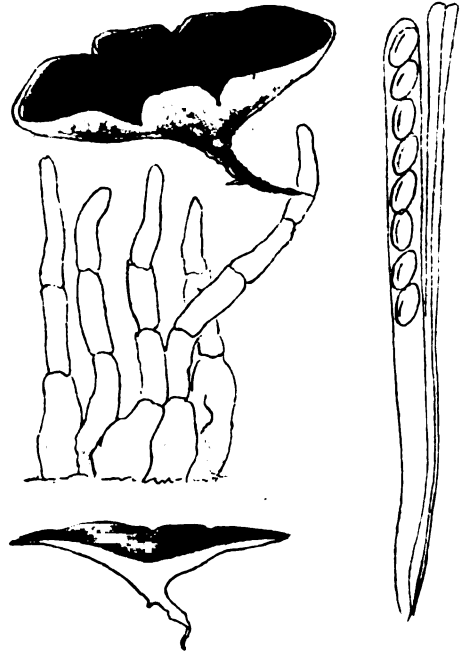
On the ground.

France.

Cups 1 cm. broad. Sporidia $\cdot 025 \times \cdot 011$ - $\cdot 012$. Hairs delicate, hyaline, $\cdot 15$ - $\cdot 2$ mm. long.

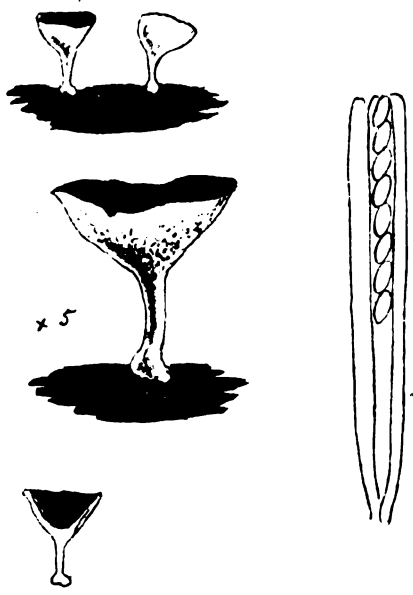
Figured from specimens in the Herbarium of the late Count de Limminghe.

356



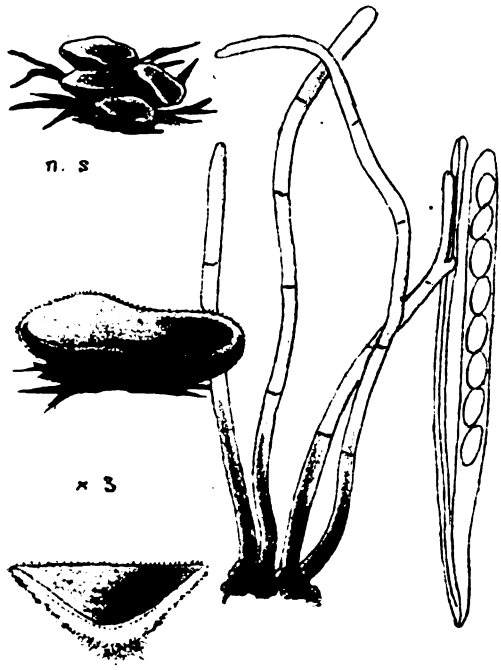
P. cocotina. C.

357



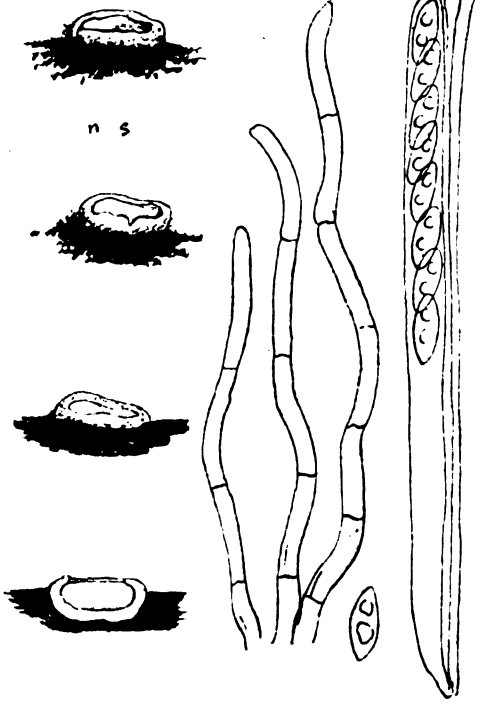
P. lepida. B & C.

358



P. maculosa. Ph

359



P. fossular. Lim.

Scale of 1 m.

***Peziza (Sarcoscypha) Pataviana.* Cooke & Sacc.**

PLATE 100.—Fig. 360.

Sessilis, miniata. Cupula scutellata, carnosae, demum applanata, extus pallidior pilosula. Ascis cylindraceutis. Sporidiis ellipsoideis, utrinque attenuatis, laevibus, uniguttatis, hyalinis. Paraphysibus leniter clavatis.

Peziza Patavina, Cooke & Sacc. in *Michelia*, i. p. 70.

On the ground. Dec.

Italy.

Cups about 4 mm. Sporidia $\cdot 026\text{--}\cdot 028 \times \cdot 011\text{--}\cdot 012$ mm. Hairs hyaline, flexuous, to $\frac{1}{8}$ mm. long.

Figured from specimens communicated by Professor Saccardo.

***Peziza (Sarcoscypha) crinita.* Bull.**

PLATE 100.—Fig. 361.

Exigua, hemispherica, ciliata, subtus cinerea, praecipue ad marginem pilis longis confertis brunneis hirta, disco rubropurpureo. Ascis cylindraceutis. Sporidiis ellipticis, asperulis, fulvo-tinctis. Paraphysibus septatis, supra clavatis, brunneolis.

Peziza crinita, Bull. *Champ.* t. 416, f. 2 ; *DCand.* *Fl. Fr.* ii. p. 78 ; *Fries. Sys. Myc.* ii. p. 86.

On rotten wood.

France.

Cups 4-5 mm. diam. Sporidia $\cdot 02 \times \cdot 012$ mm. Hairs of exterior thick, attenuated upwards, brown, septate, $\frac{3}{8}$ mm. long.

Figured from specimens included in the Herbarium of the Count de Limminghe.

Peziza (Sarcoscypha) cretea. Cooke.

PLATE 100.—Fig. 362.

Sub-gregaria, sessilis. Cupulis hemisphæricis, demum explanatis, extus margineque pilis erectis brunneis obsita; disco albido. Ascis cylindræis. Sporidiis ellipticis, hyalinis. Paraphysibus linearibus.

Peziza cretea, Cooke, Trans. Bot. Soc. Edin. (1877), p. 46, t. 3, fig. k—n.; Grevillea (1877), vi. p. 75, t. 97, figs. 4-7.

On plaster walls and ceiling of Inverleith House, exposed to the weather by the burning of the roof.

Great Britain.

Cups 2-5 mm. broad. Sporidia $\cdot 012\text{-}\cdot 018 \times \cdot 008$ mm. External hairs straight, attenuated upwards, $\cdot 15\text{-}\cdot 2$ mm. long.

Figured from specimens communicated by Professor Balfour, from the walls of Inverleith House, Edinburgh.

Peziza (Sarcoscypha) ampullacea. Limm.

PLATE 100.—Fig. 363.

Cupula hemispherica, demum applanata, carnosa, disco carneo-rubro, extus margineque brunneo-piloso. Ascis cylindræis. Sporidiis ellipticis, asperulis. Paraphysibus superne clavatis.

Peziza ampullacea, Limminghe, in Herb.

On the ground.

France.

Cups $\frac{1}{2}$ -1 in. broad. Hairs rigid, brown, exceeding $\frac{1}{2}$ mm. long. Sporidia $\cdot 022 \times \cdot 012$ mm. The clavate tips of the paraphyses almost pyriform.

Figured from specimens in the Herbarium of the late Count Limminghe.

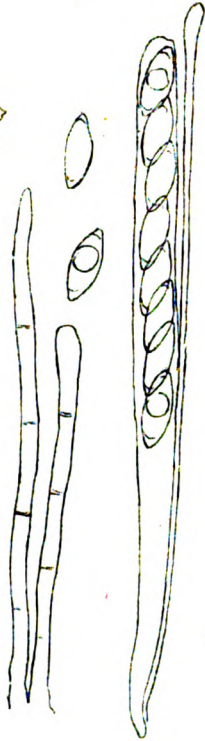
360



n. s.



x 3.



P. Pataviana. Sacc.

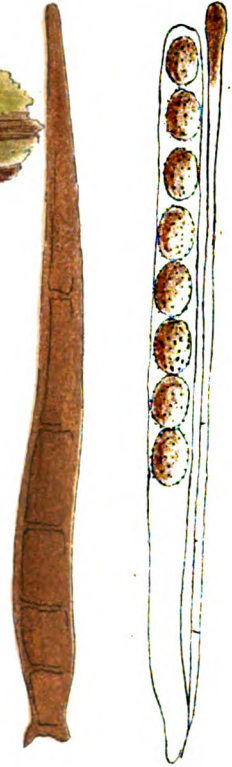
361



n. s.



x 2



P. crinita. Bull.

362



n. s.



x 3

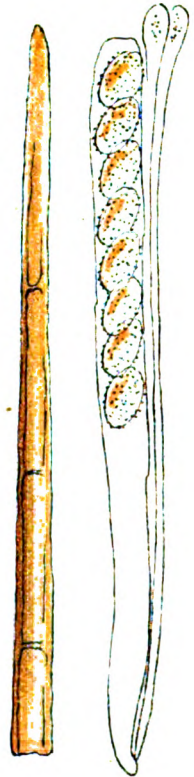


P. cretea C.

363



n. s.



P. ampullacea. Lim.

Scale 1/10 m. m.

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VERPA. *Swartz.*

Receptaculum clavato-pileatum, centro suffultum, æqualiter deflexum, conicum, subtus concavum, supra undique hymenio tectum. Hymenium læve vel rugulosum, non costatum, persistens. Asci tubulosi; paraphysibus continuis; sporis octonis, continuis; substantia carnosomembranacea.—*Swartz. V. A. H.*, 1815, p. 129. *Fries. Sys. Myc.* ii. 23.

The pileus in this genus is conical, neither inflated nor lobate, nearly even, with the margin pressed to the stem, but free. Asci and sporidia as in *Morchella* and *Helvella*.

Verpa digitaliformis. Pers.

PLATE 101.—Fig. 364.

Pileo campanulato, digitaliformi, ruguloso, umbrino. Stipite æquali, transversim squamuloso. Ascis cylindraccis. Sporidiis ellipticis, hyalinis. Paraphysibus supra clavatis, septatis, fusco-granulatis.

Verpa digitaliformis, Pers. Myc. Eur. 202, t. 7, f. 1-3 ; Fries Sys. Myc. ii. 24 ; Cooke Handbk. No. 1949 ; Berk. Outl. t. 21, f. 6 ; Corda Sturm, t. 7, f. 6 ; Payen, fig. 380 ; Vitt Mang. t. 15, f. 1-3 ; Barla, t. 44, f. 1-6.

In woods.

Britain, France, Switzerland, Germany, Italy.

Stems 2-3 inches or more high, $\frac{1}{4}$ - $\frac{1}{2}$ in. thick. Sporidia $\cdot 023$ - $\cdot 025 \times \cdot 02$ mm. Figured from specimens collected by C. B. Plowright at King's Lynn.

EXSICCATI.—Klotsch M. Eur. 1629 ; Rabh. F. Eur. 1113 ; Erb. Critt. Ital. ii. 340 ; Phil. Elv. Britt. 52.

***Verpa Krombholzii.* Corda.**

PLATE 101.—Fig. 365.

Pileo digitaliformi, pallide fusco, glabro. Stipite æquali, cylindranei, carneo, cavo, radice subfibrilloso, fusco. Ascis cylindraneis. Sporidiis late ellipticis, hyalinis. Paraphysibus supra clavatis, septatis.

Verpa Krombholzii, Corda Anl. 98, t. G. 67, f. 1-3; Corda in Sturm Fl. iii. t. 1; Weberbauer, t. iv. f. 1.

Verpa helvelloides, Krombh. Schw. t. v. f. 32, 33.

On the ground.

France, Bohemia, Germany.

Stem 2-3 inches high, $\frac{1}{2}$ inch thick. Sporidia $.025 \times .014$ mm. Figured from specimens in Herb. Limminghe.

***Verpa pusilla.* Quel.**

PLATE 101.—Fig. 366.

Pileo conico-campanulato, badio, subtus ochraceo. Stipite æquali, tenui, cylindranei, farcto, villosulo, incarnato, pallescente. Ascis cylindraneis. Sporidiis ellipticis, hyalinis. Paraphysibus clavatis, crassis, fuscis.

Verpa pusilla, Quelet, Champ. Jura, p. 384, t. v. f. 7.

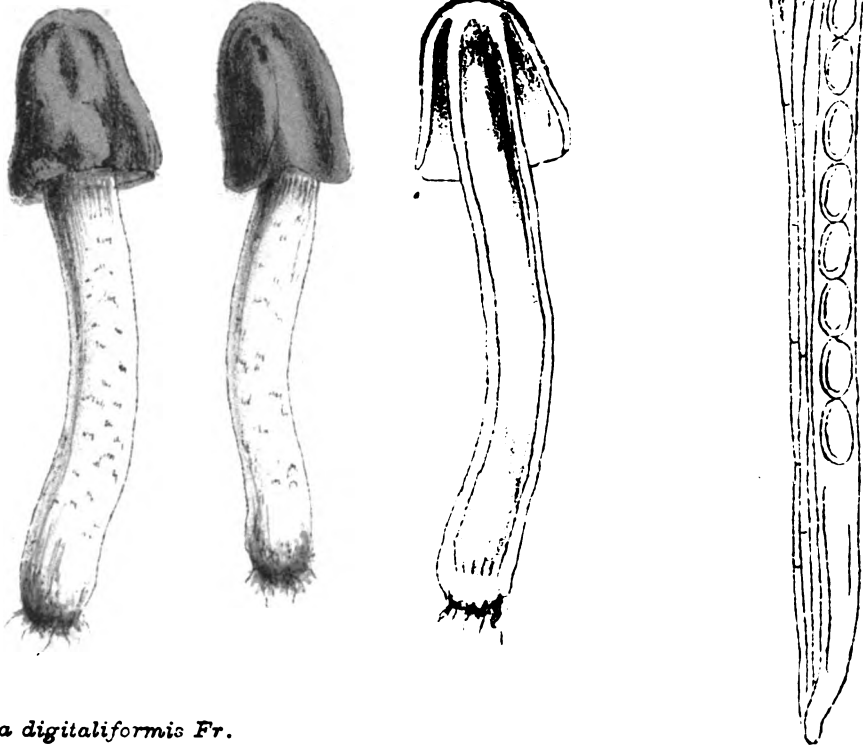
On the soil.

France.

Stem 1-1 $\frac{1}{2}$ inch high, very slender. Sporidia $.02 \times .009$ mm. A small delicate species, with a reddish-brown campanulate pileus.

Figured from drawing and specimen communicated by Dr. Quelet.

364



Verpa digitaliformis Fr.

365



V. Krombholzii Corda.

366



V. pusilla Quel.

Scale 1/2 m.m.

W. Griggs, Lith.

***Leotia marcida.* Pers.**

PLATE 102.—Fig. 367.

Gregaria, subtremellosa, lutea, tenuis. Pileo tenui, repando, lævi. Stipite longissimo, flexuoso, deorsum attenuato. Ascis subclavatis. Sporidiis fusiformibus, nucleatis vel pseudo-septatis. Paraphysibus filiformibus.

Leotia marcida, Pers. Syn. 613; Fr. Sys. Myc. ii. 28.

Phallus marcidus, Fl. Dan. t. 654, f. 1.

On the ground, in mossy places.

France, Scandinavia.

Stem 2-3 inches long. Pileus $\frac{1}{4}$ inch broad. Sporidia $\cdot 03 \times \cdot 005$ mm. This species is not at all widely distributed; its slender habit and fasciculate mode of growth will distinguish it from *Leotia lubrica*, P.

Figured from dried specimens in the Herbarium of the Count de Limminghe.

***Leotia atrovirens.* Pers.**

PLATE 102.—Fig. 368.

Gregaria, pusilla, subcarnosa, atrovirens. Pileo planiusculo, stipiteque sursum incrassato, lævibus. Ascis cylindracco-clavatis. Sporidiis lanceolatis, hyalinis, nucleatis. Paraphysibus linearibus, furcatis vel ramosis, æruginosis.

Leotia atrovirens, Pers. Myc. Eur. t. 9, f. 2-3; Fr. Sys. Myc. ii. 30; Fckl. Sym. Myc. 284.

On naked ground, in woods.

France, Germany.

Scarcely exceeding $\frac{1}{4}$ inch high. Sporidia $\cdot 022 \times \cdot 044$ mm.

Figured from drawing (No. 111) communicated by Mons. E. Boudier.

EXSICCATI.—Rabh. F. Eur. 522.

Leotia (Cudonia) Queletii. Fr.

PLATE 102.—Fig. 369.

Gregaria vel sparsa, minima, lactea. Pileo ceraceo, fragili, convexo-undulato, margine recto, subtus granuloso. Stipite simplici vel ramoso, demum torto, decolorante. Ascis clavatis. Sporidiis fusiformibus, binucleatis, demum endochromate uniseptatis. Paraphysibus filiformibus.

Cudonia Queletii, Fries in Quelet Jura, p. 380.

On oak stumps.

France.

Stem 1 inch high. Pileus 2-5 mm. or more. Sporidia $\cdot 025\text{-}\cdot 028 \times \cdot 004$ mm. When mature the endochrome is divided, and possibly uniseptate. We are not convinced that this is not a condition of *Helotium aciculare*, Fr. The one passes insensibly into the other.

Figured from specimens and drawings communicated by Dr. Quelet.

Mitrula sclerotipes. Boud.

PLATE 102.—Fig. 370.

Parva, lutea. Stipite gracili, simplici, vel furcato, ab sclerotio oblongo, obscuriori, enato. Capitulo clavato, distincto, subrugoso. Ascis clavatis. Sporidiis fusiformibus, hyalinis, continuis. Paraphysibus linearibus, flexilis.

Metrula sclerotipes, Boudier, Bullet. Soc. Bot. Fr. t. xxiv. pl. 4, fig. 5.

On swampy ground.

France.

Scarcely an inch high, of which the pileus is about one-fourth. Sporidia $\cdot 01\text{-}012 \times \cdot 003\text{-}\cdot 0035$ mm. A very pretty little species, always found springing from an oblong Sclerotium.

Figured from specimen and drawing communicated by Mons. E. Boudier.

367



Leotia marcida. P.

368



Leotia atrovirens. P.

369



Leotia (Cudonia) Queletii Fr.

370



Mitrula sclerotipes. Boud.

Scale 1/10 m. m.

LEOTIA & MITRULA.

Peziza (Macropodes) ancilis. Pers.

PLATE 103.—Fig. 371.

Griseo-brunnea, vel purpureo-brunnea, integra, valde fragilis, externe farinosa; stipite brevissimo, apice costato-diviso, ramulis crassiusculis, cum cupula coalitis. Ascis cylindraccis. Sporidiis fusiformibus, nucleatis, utrinque apiculatis, hyalinis. Paraphysibus linearibus, leniter incrassatis, fuscis, septatis.

Peziza ancilis, Pers. Myc. Eur. 219; Fr. Sys. Myc. ii. 42 (nec *Mycographia*, fig. 229, nec Rehm.)

Peziza venosa, Weberbauer, Pilze t. ii. f. 1. 1 f. (?).

On the ground, in woods. Spring.

France, Germany.

Cups 2 to 3 inches broad, 1 to 1½ inches high. Sporidia $\cdot 03\text{--}\cdot 032 \times \cdot 01\text{--}\cdot 012$ mm. This is quite distinct from our fig. 229, which cannot be the true species, and also from fig. 372, which is a form of *P. venosa*. It accords better with Persoon's description than anything we have seen, and is probably that species.

Figured from drawing (No. 160) communicated by Mons. E. Boudier.

Peziza (Macropodes) ancilis. Rehm.

PLATE 103.—Fig. 372.

Substipitata, badio-umbrina, inferne alba, venis costatis rugosa, in stipite brevissimo producta. Ascis cylindraccis. Sporidiis ellipticis, hyalinis. Paraphysibus superne clavatis, brunneo-tinctis.

Peziza ancilis, Rehm Ascomyceten, No. 402.

Peziza venosa, Pers., vide *Mycographia*, t. 58, fig. 228.

On the ground.

Great Britain, Bavaria, Scandinavia, Germany, Austria.

Cups 1-2 inches broad or more, nearly as high. Sporidia $\cdot 023 \times \cdot 01\text{-}02$ mm. It is clearly the same as *P. venosa* (see fig. 228), although we have retained Dr. Rehm's name.

Figured from living specimens collected by C. B. Plowright, in company with *P. acetabulum*, at King's Lynn, and specimens published by Dr. Rehm.

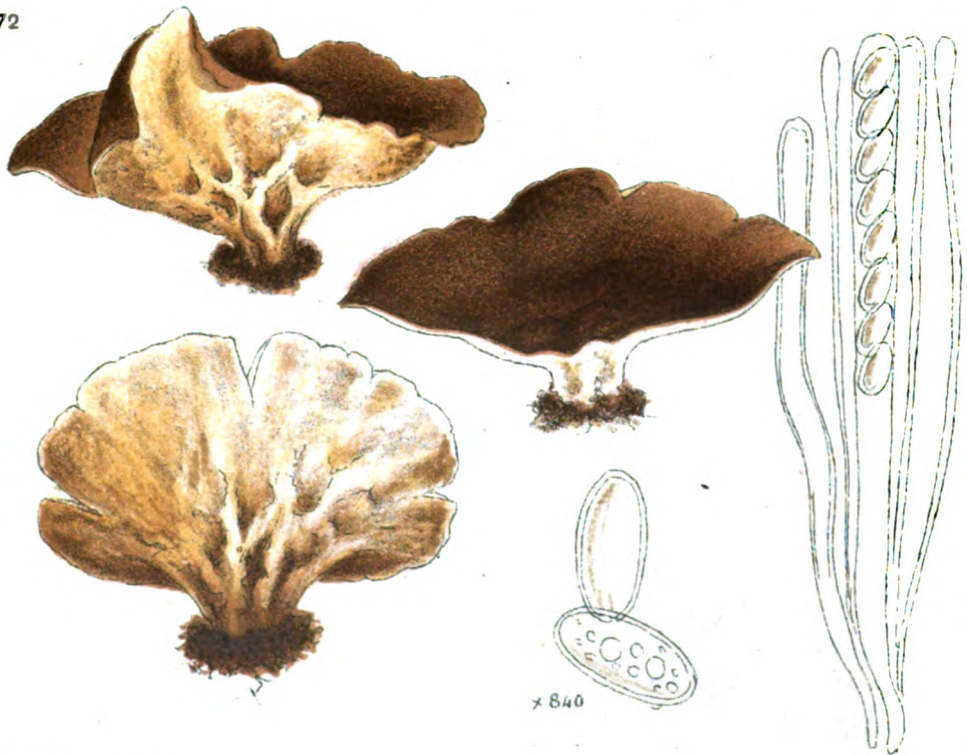
EXSICCATI.—Rehm Ascomy. No. 402.

371



P. ancilis. P.

372



P. ancilis. Rehm.

Scale 10 m. m.

***Peziza (Macropodes) ammophila.* DR. & M.**

PLATE 104.—Fig. 373.

Stipitata, turbinata, fragilis, radicata, ore lacerato, triangulari dentato; intus fusco, demum umbrino, extus pallido, arenoso; stipite elongato, radicato, fragilissimo. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis. Paraphysibus leniter incrassatis.

Peziza ammophila, DR. & M. Flore d'Algerie, t. 28, fig. 2. (Vide *Mycographia*, fig. 100.) Grevillea V. p. 59.

Britain, France, Algeria.

Immersed in sand at the roots of *Psamma*.

Cups 1 inch high and broad, rooting stem 2-3 inches long. Sporidia $\cdot 02 \times \cdot 009$ mm. The previous figure from Flore d'Algerie being imperfect, we have given one drawn from living specimens. The exterior is not tomentose, and hence not a species of *Sarcoscypha*.

Figured from specimens collected by Rev. Mark Anderson, at St. Andrew's, N. B. Compared also with drawings from Prof. de Seynes of specimens found in France.

EXSICCATI.—Cooke, Fungi Britt. ii. (Ined.)

Peziza (Macropodes) helvellula. DR. & M.

PLATE 104.—Fig. 374.

Stipitata, cyathiformis, demum revoluta, et helvelloidea, brunnea; stipite cylindrico, pallido. Ascis cylindraccis. Sporidiis ellipticis. Paraphysibus clavatis, brunneis.

Peziza helvellula, DR. & Mont. in Flore D'Algerie, t. 27, fig. 11.

On the ground.

Algeria.

Cups 1 in. high, stem half the height. Sporidia $.02-.023 \times .013$ mm. The figures being drawn from long dried specimens, cannot be regarded as wholly satisfactory.

Figured from specimens in Herb. Montagne, in the Jardin des Plantes, Paris.

Peziza (Macropodes) insolita. Cke.

PLATE 104.—Fig. 375.

Stipitata, carnosae, fragilis, albida, clavata, dein pyriformis, demum cyathiformis. Stipite crasse, infra attenuato. Hymenio ochraceo-albo. Ascis cylindraccis. Sporidiis ellipticis, hyalinis. Paraphysibus filiformibus, brevibus, septatis.

Peziza insolita, Cooke, in Herb.

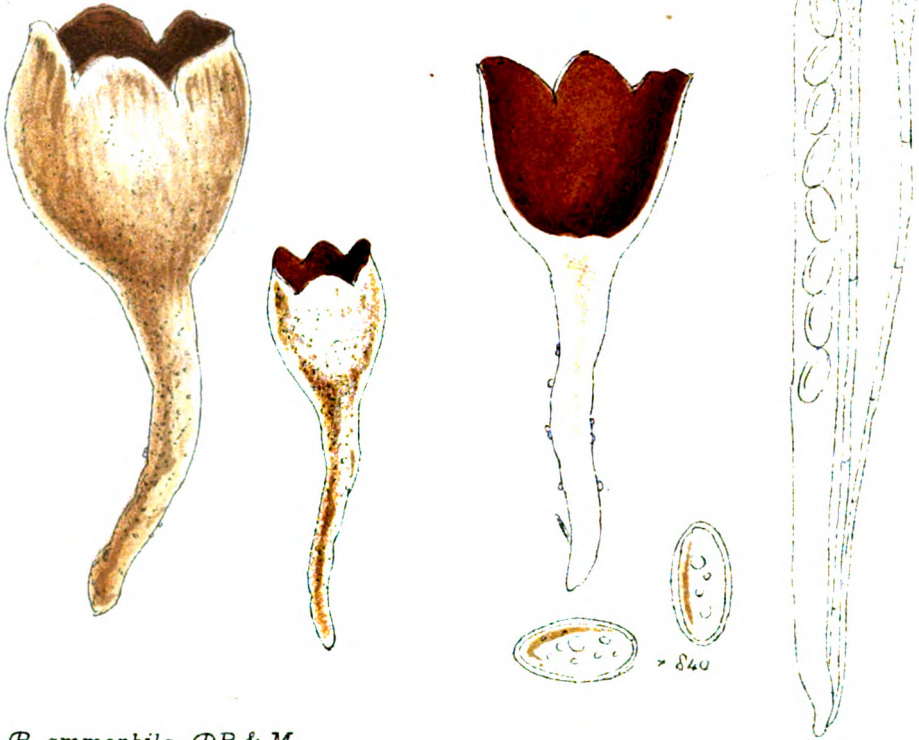
On the ground amongst leaves.

Great Britain (Scotland).

Cups 1 in. high, half-inch, or more, in diameter. Sporidia $.022-.025 \times .01-.012$ mm. Cells of cups $.012 \times .01$. The paraphyses shorter than the asci. A white mycelium runs amongst the leaves on which it grows.

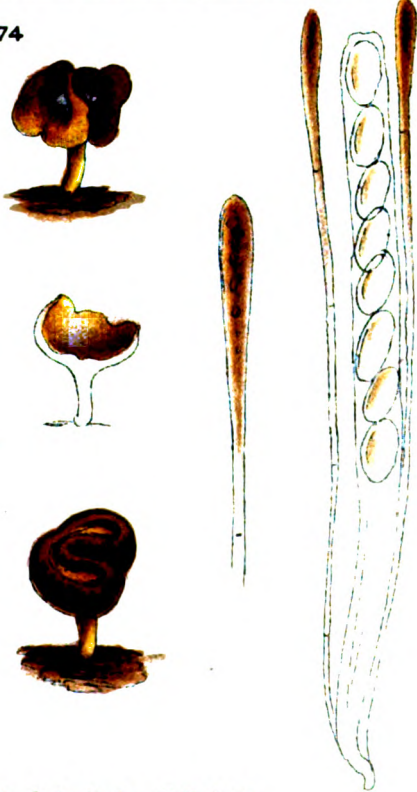
Figured from the original specimens collected by the Rev. John Stevenson, of Glamis.

373



P. ammophila, DR & M.

374



P. helvellula, DR & M.

375



P. insolita, C.

Scale 16 m. m.

***Peziza (Cochleatæ) grandis.* Pers.**

PLATE 105.—Fig. 376.

Olivaceo-umbrina, flexuosa, extus basi lacunosa alboque tomentosa, intus ochraceo-flava, mycelio luteo-ferruginascente abundante ad terram adfixa. Ascis cylindraceutis; sporidiis ellipticis, utrinque attenuatis, binucleatis. Paraphysibus linearibus, rectis, vel supra curvulis.

Peziza grandis, Pers. Obs. i. 27; Pers. Syn. p. 639.

Peziza abietina, var. C. Fr. Sys. Myc. ii. 47.

On the ground under firs.

France.

Cups 2-3 in. broad, $1\frac{1}{2}$ in. high. Sporidia 0.16×0.07 mm. The cups are attached to the ground by an abundant ferruginous yellow mycelium, which is not represented in the figure.

Figured from drawing (No. 134) communicated by Mons. E. Boudier.

***Peziza (Cochleatæ) ochracea.* Boud.**

PLATE 105.—Fig. 377.

Cæspitosa, integra, subflexuosa, læte ochracea, extus furfuracea. Ascis cylindraceutis. Sporidiis ellipticis, binucleatis, hyalinis. Paraphysibus linearibus, supra in processibus brevibus divisis.

Peziza ochracea, Boudier, Icon. No. 38.

On the ground in beech woods. Spring.

France, Great Britain.

Cups 1-2 inches broad. Sporidia $0.22-0.24 \times 0.12$. Tips of the paraphyses with very short branches.

If this is the *P. onotica* var. β . *ochracea* of Fries, it is certainly a species quite distinct from *Peziza onotica*.

Figured from specimens and drawing (No. 38), communicated by Mons. E. Boudier. Also found in Britain by W. Phillips.

Peziza (Cochleatæ) umbrina. Boud.

PLATE 106.—Fig. 378.

Caespitosa, sessilis, magna, umbrina, extus pruinosa, pallidior. Ascis cylindraccis. Sporidiis ellipticis, asperulis, hyalinis. Paraphysibus incrassatis.

Peziza umbrina, Boudier, Icon. 60.

Peziza cochleata a umbrina, Fr. Sys. Myc. ii. 50 ?

On charred wood.

France.

Cups 2-3 inches broad. Sporidia $\cdot 018\text{-}\cdot 02 \times \cdot 009$. It is doubtful whether this is the *P. umbrina* of Persoon and Fries.

Figured from drawing (No. 66), communicated by Mons. E. Boudier.

Peziza (Cochleatæ) Emileia. Cke.

PLATE 106.—Fig. 379.

Magna, inciso-repanda, laete-fusca, extus albida, farinosa, basi radicato-producta. Ascis cylindraccis. Sporidiis ellipticis, hyalinis, asperulis. Paraphysibus incrassato-clavatis.

Peziza repanda, Boudier, Icon. 41 (nec. Wahl.).

On the ground.

France.

Cups 2 to 4 inches broad. Sporidia $\cdot 016\text{-}\cdot 017 \times \cdot 008$. The species generally accepted as *P. repanda* is figured on plate 62, fig. 240. The above differs in its rough sporidia, and other points.

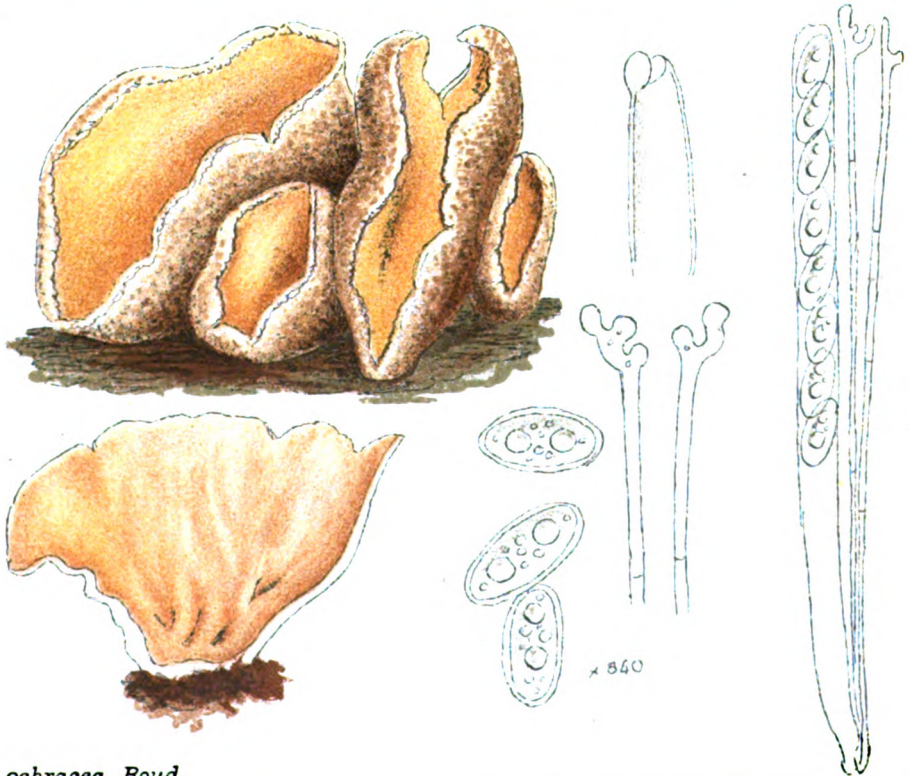
Figured from drawing (No. 41), communicated by Mons. Emile Boudier.

376



P. grandis P.

377



P. ochracea Boud.

Scale 1/2 m. m.

PEZIZA (COCHLEATÆ)

378



x 840



P. umbrina Boud.

379



x 1200



P. Emileia. C.

Scale 1/16 m. m.

PEZIZA (COCHLEATÆ.)

***Peziza* (Cupulares) *funerata*. Cke.**

PLATE 107.—Fig. 380.

Immersa, campanulæformis, tenuis, fragilis, fusca; margine reflexo, subcrenato, vel sublobato. Ascis cylindraccis. Sporidiis ellipticis, lævibus, hyalinis. Paraphysibus filiformibus.

Peziza funerata, Cooke, in *Grevillea* vi. 142.

Immersed in sandy ground.

Florida (U.S.).

Cups scarcely an inch broad. Sporidia $\cdot 015\text{--}\cdot 018 \times \cdot 008$ mm. Substance thin and fragile, with particles of sand firmly adhering to the surface, as in *P. ammophila*.

Figured from dried specimens, and outline figure, communicated by H. W. Ravenel.

***Peziza* (Cupulares) *cribrosa*. Grev.**

PLATE 107.—Fig. 381.

Solitaria, nigra, concava, deorsum attenuata, rugulosa. Hymenio cribroso, vel lacerato-poroso, margine integro. Ascis cylindraccis. Sporidiis ellipticis, hyalinis. Paraphysibus clavatis.

Peziza cribrosa, Greville, Fl. Edin. 423.

Helotium cribrosum, Berk. Cooke Hdbk. ii. 713.

On the ground.

Great Britain.

Cups $\frac{1}{2}$ –1 inch broad. Sporidia $\cdot 02 \times \cdot 008\text{--}009$ mm. Although referred by Berkeley to *Helotium*, we are strongly of opinion that it belongs to the genus *Peziza*, which is confirmed by the sporidia.

Figured from specimen derived from the late Dr. R. K. Greville.

Peziza (Cupulares) castanea. Quel.

PLATE 107.—Fig. 382.

Sessilis, carnosio-ceracea, globosa, demum expansa, purpureo-brunnea, mycelio floccoso candido insidens. Margine incurvo. Hymenio carneo-fusco. Ascis cylindraceutis. Sporidiis ellipticis, asperulis, hyalinis. Paraphysibus leniter incrassatis.

Peziza castanea, Quelet, Champ. de Jura, p. 394, t. v. fig. 1.

On the ground, in damp woods.

France.

Cups 2 cm. Sporidia $\cdot 02 \times \cdot 009$ mm. Seated on a white floccose mycelium. The margin of the cups strongly incurved.

Figured from drawings and specimens communicated by Dr. Quelet.

Peziza (Cupulares) mellea. Cke. & Plow.

PLATE 107.—Fig. 383.

Solitaria, sessilis, hemisphaerica, glabra, demum applanata, ochracea. Margine incurvo. Hymenio melleo. Ascis cylindraceutis. Sporidiis ellipticis. Paraphysibus leniter clavatis.

Peziza mellea, Cke. & Plow. *Grevillea* v. 119.

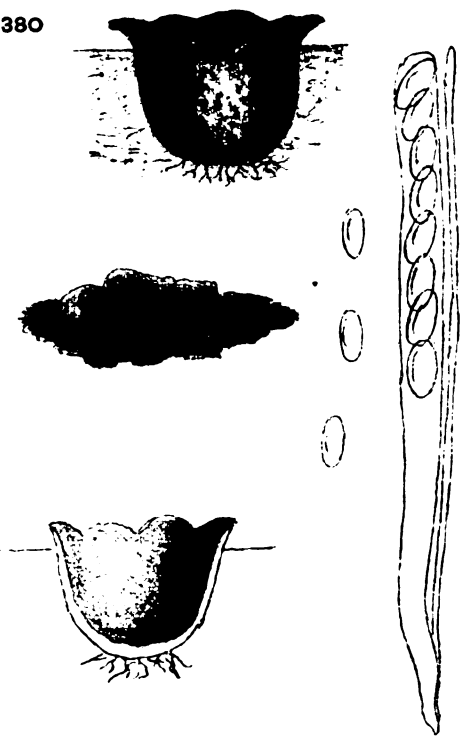
On rotting wood of *Fraxinus*.

Great Britain.

Cups 7 mm. diam. Sporidia $\cdot 02 \times \cdot 011$ mm. The margin of the cups slightly elevated and curved inwards, disc honey-colour or cream coloured, externally darker.

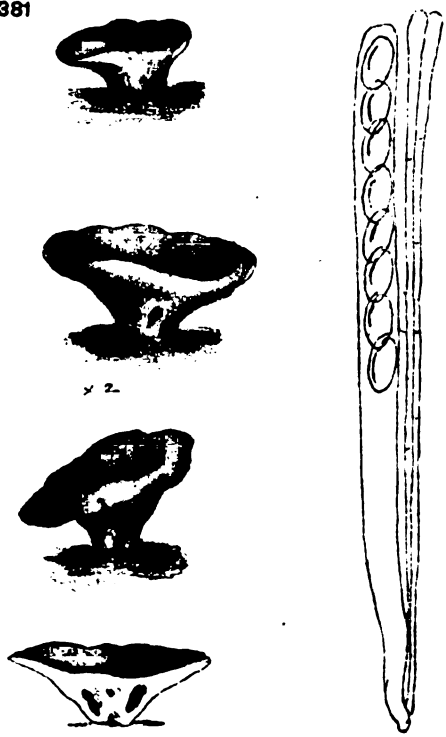
Figured from the specimens communicated by C. B. Plowright, of King's Lynn.

380



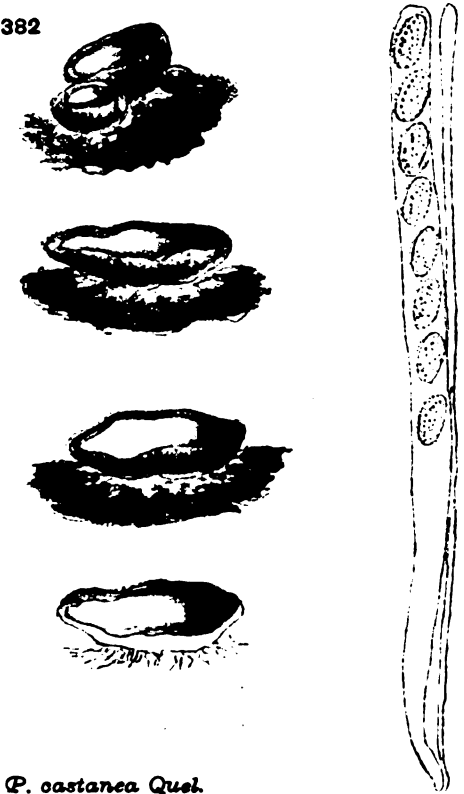
P. funerata C.

381



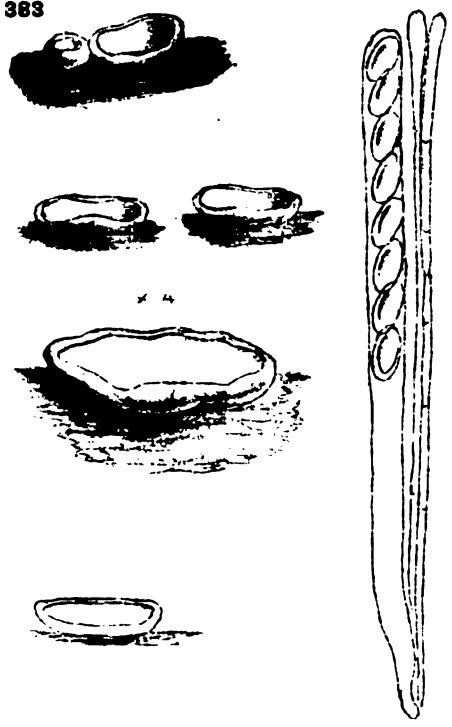
P. cribrosa Grev.

382



P. castanea Quel.

383



P. mellea, C & Plow.

Scale 10 m. m.

PEZIZA (CUPULARES.)

Peziza (Cupulares) ampliata. Pers.

PLATE 108.—Fig. 384.

Sessilis, carnosio-fragilis, tenuis, integerrima a basi mox ampliata, subcinnamomea, extus pallida, subnuda. Ascis cylindraceutis. Sporidiis ellipticis, hyalinis. Paraphysibus linearibus, vix incrassatis.

Peziza ampliata, Pers. Ic. et. Descr. p. 31, t. 3, f. 4; Fr. Sys. Myc. ii. 76.

On rotten bark of Poplar.

France.

Cups $\frac{1}{2}$ inch or more broad. Sporidia $.018 \times .019$ mm.
Figured from drawings (No. 150) communicated by Mons. E. Boudier.

Peziza (Cupulares) subumbrina. Boud.

PLATE 108.—Fig. 385.

Sessilis, hemispherica, demum applanata, plumbea, vel cinereo-umbrina, extus pallidior. Ascis cylindraceutis. Sporidiis ellipticis, nucleatis, verruculosis. Paraphysibus vix incrassatis, brunneo-tinctis.

Peziza subumbrina, Boudier MSS.

Peziza plumbea, Boud. Icon. 80 (not Fries).

On the ground, in argillaceous soil.

France.

Cups $\frac{1}{2}$ -1 inch. Sporidia $.02 \times .01$ mm. This can scarcely be the *P. plumbea*, Fr., a species which is very imperfectly known.
Figured from drawings communicated by Mons. E. Boudier (No. 80).

Peziza* (Cupulares) *recurva*. *Berk.

PLATE 108.—Fig. 386.

Subsessilis, undulata, convexa, recurva, badia. Ascis cylindraccis. Sporidiis globosis, asperulis, hyalinis. Paraphysibus linearibus.

Peziza recurva, Berkeley in Hooker's Flora Tasmanica, pp. 273.

On the ground.

Tasmania.

Cups $\frac{1}{2}$ – $\frac{3}{4}$ inch. Sporidia .016–.017 mm. diam.

Figured from drawing by Rev. M. J. Berkeley, in Flora Tasmanica.



Peziza* (Cupulares) *Quillotensis*. *Mont.

PLATE 108.—Fig. 387.

Sessilis, orbicularis, tenuis, applanata, rufo-fusca, subtus nuda, dilutior. Ascis cylindraccis. Sporidiis ellipticis, laevibus, hyalinis. Paraphysibus incrassatis, simplicibus, vel furcatis, brunneis.

Peziza Quillotensis, Mont. Fl. Chil. p. 402; Syll. p. 185 (Bertero, No. 1228).

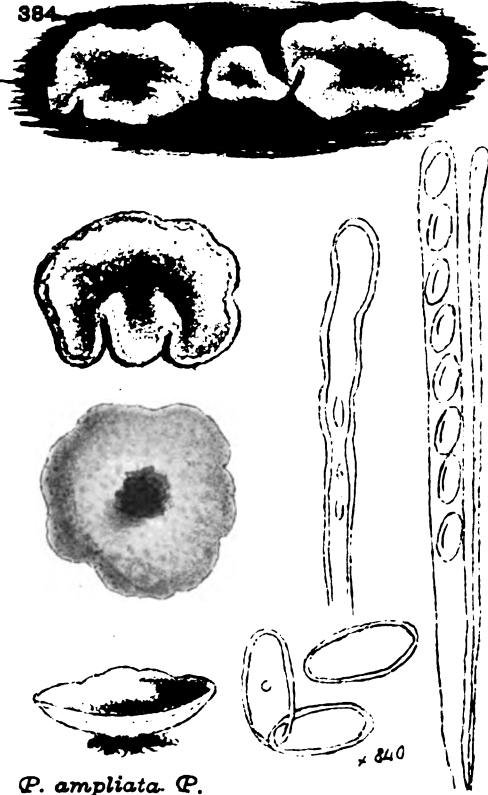
On the ground.

Chili.

Cups 1 cm. or more. Sporidia .016 × .008 mm. In this instance drawn entirely from the dried specimens, so that the colour is only approximate.

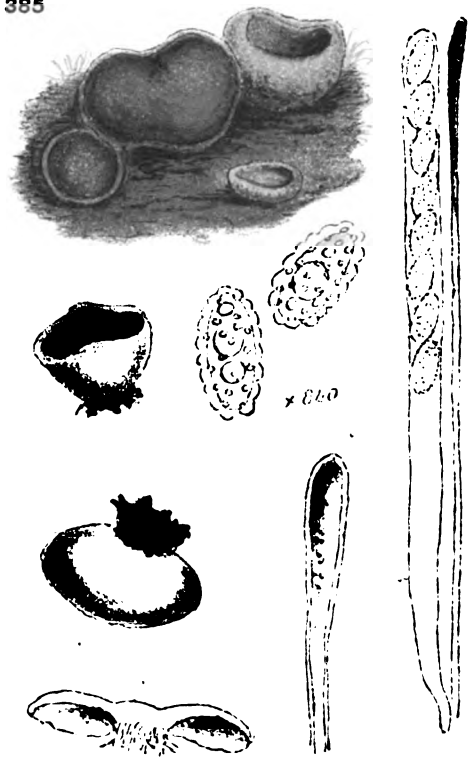
Figured from specimens in Herb. Montagne, at the Jardin des Plantes.

384



P. ampliata P.

385



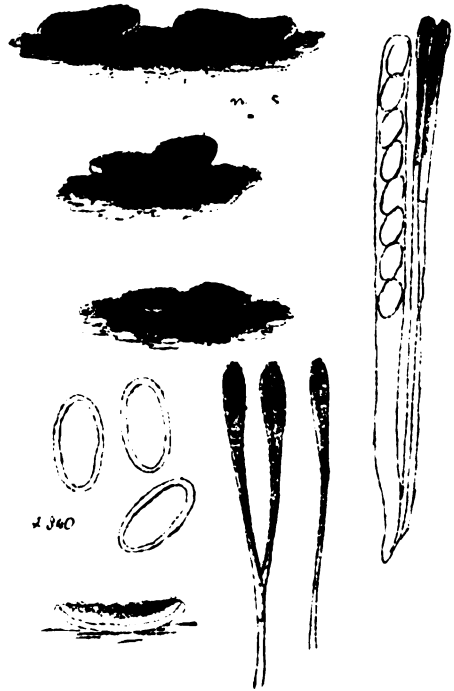
P. subumbrina B.

386



P. recurva B.

387



P. Quillotensis M.

Scale 1/10 m. m.

PEZIZA (CUPULARES.)

Peziza (Humaria) maurilabra. Cke.

PLATE 109.—Fig. 388.

Sessilis, carnosa. Cupulis concavis, demum margine crispatis, crenulatis, extus atro-brunneis, rivulosis; hymenio carneo-rubescente, vel sub-aurantiacis. Ascis cylindraceis. Sporidiis ellipticis, binucleatis. Paraphysibus clavatis, aurantiacis, hinc illic furcatis.

Peziza maurilabra, Cooke in Grevillea vi. 64.

Peziza rivulosa, Quelet, in litt.

On chips, and on the ground.

Great Britain, France.

Cups 3-5 mm. broad. Sporidia $\cdot 017\text{-}\cdot 02 \times \cdot 007\text{-}\cdot 009$ mm.

Figured from specimens collected in Scotland and at Villers Cotterets, in France.

Peziza (Humaria) olivacea. Quel.

PLATE 109.—Fig. 389.

Sessilis, applanata, orbicularis vel flexuosa, læte olivacea; margine leniter elevata. Ascis cylindraceis. Sporidiis ellipticis, utrinque subattenuatis, nucleatis, hyalinis, lævibus. Paraphysibus supra incrassatis, olivaceo-tinctis.

Peziza olivacea, Quelet in litt.

On the ground.

France.

Cups 8-10 mm. diam, Sporidia $\cdot 025 \times \cdot 01\text{-}\cdot 012$ mm. The whole substance has a greenish tinge. The fructification did not appear to be fully matured.

Figured from specimens communicated by Dr. Quelet.

Peziza (Humaria) granulosa. Schum.
var. Boudieri, Cke.

PLATE 109.—Fig. 390.

Virido-flava, applanata, margine crenulato. Ascis cylindraceis. Sporidiis ellipticis, laevibus, hyalinis. Paraphysibus incrassatis, granulis viridis repletis.

Peziza sp. Boudier Icon. No. 14.

On naked ground in gardens.

France.

Cups 1-2 cm. broad. Sporidia $\cdot 015\text{-}\cdot 02 \times \cdot 008$ mm. Probably only a variety of *P. granulosa* (fig. 391), with which it has many features in common.

Figured from drawing (No. 14) communicated by Mons. E. Boudier.

Peziza (Humaria) granulosa. Schum.

PLATE 109.—Fig. 391.

Solitaria, primo hemispherico-concava, demum explanata, subrugosa, sessilis, intus umbrina, extus dilutior; margine granuloso-crenata. Ascis cylindraceis. Sporidiis ellipticis, laevibus, hyalinis. Paraphysibus supra incrassatis, granulis virescentibus repletis.

Peziza granulosa, Schum. Saell. ii. p. 415.

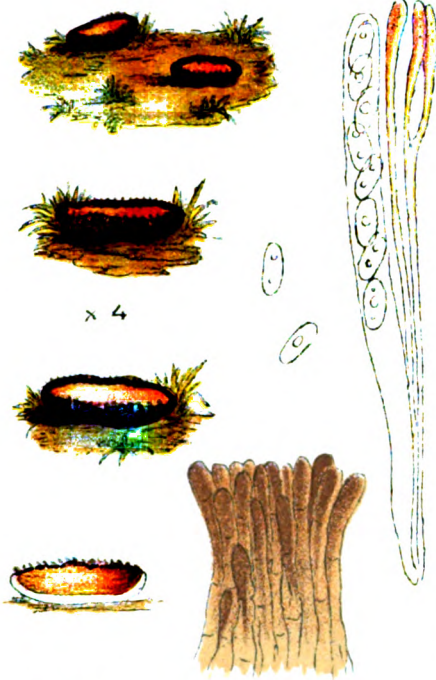
On the naked ground in woods.

France, Scandinavia.

Cups $\frac{1}{2}$ inch broad. Sporidia $\cdot 016\text{-}\cdot 02 \times \cdot 008\text{-}\cdot 01$ mm. Species such as the present, of which no authentic specimens are known, must necessarily be uncertain, when the original diagnosis contains no reference to the sporidia.

Figured from drawing (No. 34) communicated by Mons. E. Boudier.

388



P. maurilabra. C.

389



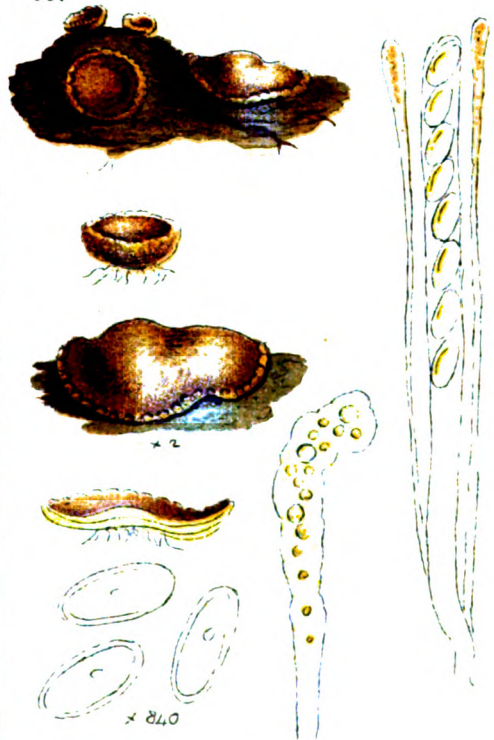
P. olivacea Quel.

390



P. granulosa Schum. var.

391



P. granulosa Schum.

Scale in m.m.

PEZIZA (HUMARIA.)

Peziza (Humaria) depressa. *Phil.*

PLATE 110.—Fig. 392.

Sessilis, orbicularis, appanata, convexa, umbrina, subtus dilutior, margine vix elevato. Ascis cylindraccis. Sporidiis ellipticis, lævibus, binucleatis, hyalinis. Paraphysibus crassulis, clavatis, septatis, superne fuscis.

Peziza depressa, Phillips, in litt.

On dead branches on the ground.

Great Britain.

Cups 2-3 mm. diam. Sporidia $\cdot 02 \times \cdot 013$ mm. Cells of the cup of medium size, regular, delineated in the figure $\times 500$.

Figured from drawing and specimens communicated by W. Phillips,

Peziza (Humaria) Schröteri. *Cke.*

PLATE 110.—Fig. 393.

Subgregaria, sessilis, mox expansa, fusca, rufescens, centro depressa, vel umbilicata, margine integro. Ascis cylindraccis. Sporidiis ellipticis, uninnucleatis, lævibus, hyalinis. Paraphysibus filiformibus, sæpe furcatis.

Peziza Schröteri, Cooke, *Grevillea* vi. 110.

Peziza rufescens, Schröter, in *Rabh. Fung. Eur.* 2311.

On stems of *Solanum tuberosum*.

Germany.

Cups 4 to 8 mm. diam. Sporidia $\cdot 012\text{--}\cdot 014 \times \cdot 008\text{--}009$ mm. This is one of the very few species in the section *Humaria* which grow upon herbaceous stems, or branches of trees and shrubs.

Figured from specimens issued by Schröter in *Rabenhorst's Exsiccati*.

EXSICCATI.—*Rabh. F. Eur.* 2311.

***Peziza (Humaria) chartarum.* Quel.**

PLATE 110.—Fig. 394.

Sessilis, orbicularis, applanata, carnosae, testaceae, hyphis albis radiantibus affixa. Ascis cylindratis. Sporidiis ellipticis, uninucleatis, laevibus, hyalinis. Paraphysibus fusiformibus, hinc illic furcatis.

Peziza chartarum, Quelet in litt.

On millboard.

France.

Cups 2-5 mm. diam. Sporidia $.012 \times .008$ mm. The cups are attached by delicate white radiating threads. Quite distinct from *Peziza domestica*, Sow.
Figured from specimens communicated by Dr. Quelet.

***Peziza (Humaria) congrex.* Karst.**

PLATE 110.—Fig. 395.

Sessilis, conferta, planiuscula, glabra, aurantio-lutea. Ascis cylindratis. Sporidiis ellipsoideis, utrinque attenuatis, granulato-asperulis, hyalinis.

Humaria congrex, Karst. in Thum. Myc. Univ. 717.

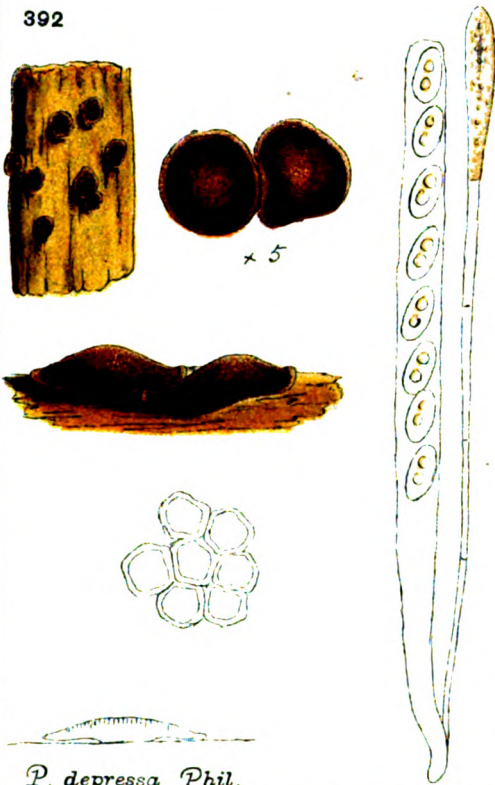
On sandy ground.

Finland.

Cups 3-5 mm. diam. Sporidia $.022 \times .01-.012$ mm. The granulations of the sporidia are coarse warts, after the manner of those in *Peziza aurantia*.
Figured from specimens published by Dr. P. A. Karsten.

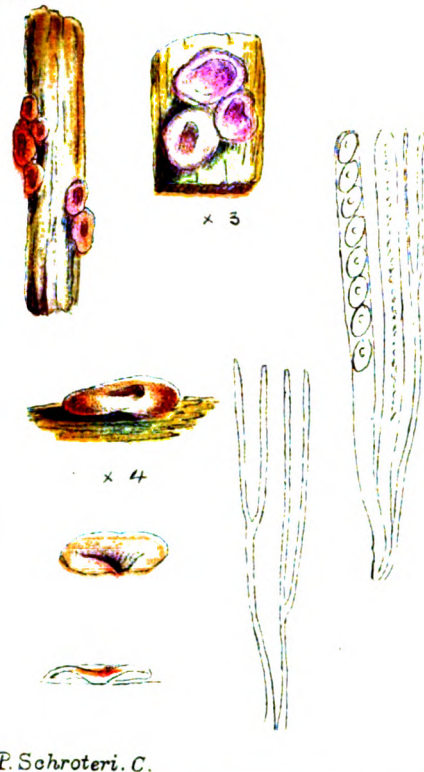
EXSICCATI.—Thum. Myc. Un. 717.

392



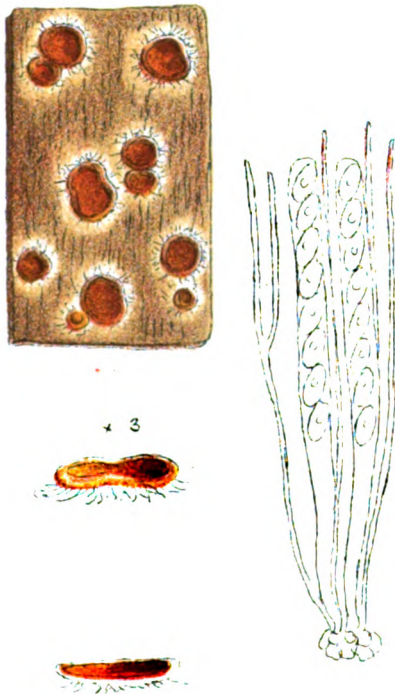
P. depressa Phil.

393



P. Schroteri. C.

394



P. chartarum Quel.

395



P. congrez. Karst.

Scale 1/10 m. m.

PEZIZA (HUMARIA.)

***Peziza (Humaria) anthracina.* Cke.**

PLATE 111.—Fig. 396.

Gregaria, late obconica vel turbinata, extus-pulveracea, fusca; disco plano, nitido, atro-fusco, gelatinoso-elastico, margine elevato. Ascis cylindraceis. Sporidiis globosis, hyalinis, granulatis. Paraphysibus filiformibus, fusco-tinctis.

Plicaria carbonaria, Fckl. Sym. Myc. 326, t. iv. f. 35.

Bulgaria carbonaria, Fckl, Fung. Rhen. 1137.

On charcoal.—Autumn.

Germany.

Cups 1-2 lines broad. Sporidia $\cdot 012$ mm. diam. This curious species has somewhat of the texture of *Ombrophila*. The hymenium is suffused with a brownish colour.

Figured from specimens published by Fuckel.

EXSICCATI.—Fckl. F. Rhen. 1137.

***Peziza (Humaria) orichalcea.* Cke.**

PLATE 111.—Fig. 397.

Sessilis, lutea, demum applanata, crispula, margine distincto, elevato. Ascis cylindraceis. Sporidiis globosis, lævibus, hyalinis. Paraphysibus leniter incrassatis, flavidis, septatis.

Peziza orichalcea, Cooke MSS.

Peziza sp., Leprieur, No. 899, in Herb. Paris.

On the ground.

Guiana.

Cups 4 mm. diam. Sporidia $\cdot 014$ mm. diam. This species does not appear to have been described by Montagne. The specimens still retain their yellow colour, although many years old.

Figured from specimens in Herb. Montagne.

Peziza (Humaria) gemmea. Phil.

PLATE 111.—Fig. 398.

Gregaria, minor, sessilis, carnosa, sub-turbinata, demum expansa; disco sanguineo, extus pallide rubro. Ascis cylindraceutis. Sporidiis sphaericis, laevibus, hyalinis. Paraphysibus filiformibus, 1-4 ramulosis.

Peziza gemmea, Phillips, in *Grevillea* vii. 21

On decaying foliage of *Sequoia sempervirens*.

California (U.S.).

Cups $\frac{1}{3}$ - $\frac{1}{2}$ mm. diam. Sporidia .008-.009 mm. Allied to *P. constellatio*. B. & Br. Figured from specimens communicated by W. Phillips.

Peziza (Humaria) globifera. Berk.

var. etiolata. Cke.

PLATE 111.—Fig. 399.

Alba, sessilis, carnosa, concava. Ascis cylindraceutis. Sporidiis globosis, laevibus, hyalinis. Paraphysibus filiformibus.

Peziza sp., Leprieur, No. 888, in *Herb. Paris*.

Peziza globifera, Berk. *Mycographia*, fig. 34.

On the ground.

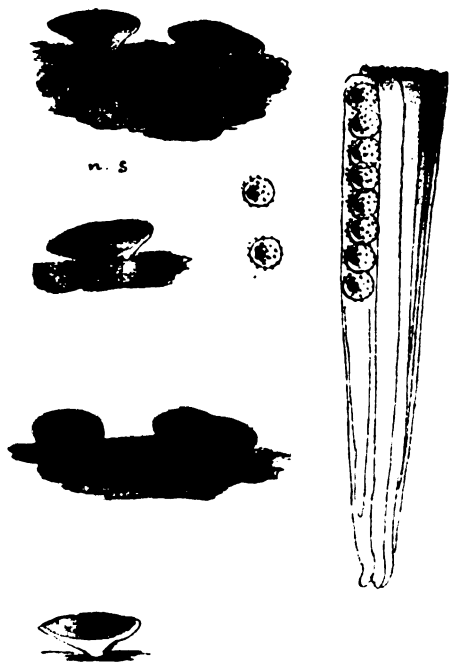
Guiana.

Cups 2-3 mm. Sporidia .01 mm.

A note attached to the specimens states that they were white when fresh. They do not appear to differ except in colour from *Peziza globifera*, Berk. of which we regard them as a white variety.

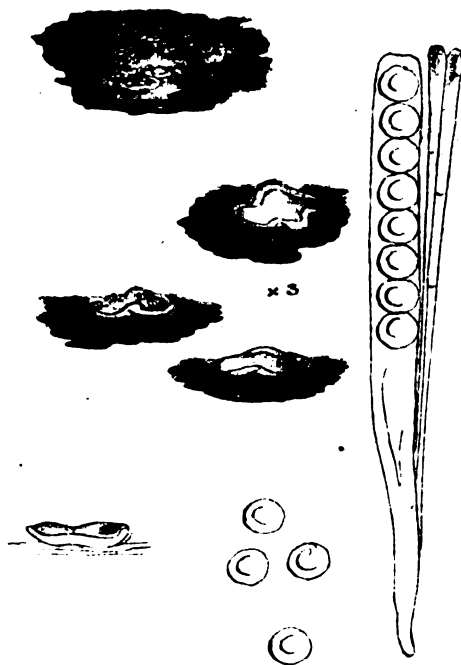
Figured from specimens (Leprieur, 888), in *Herb. Paris*.

396



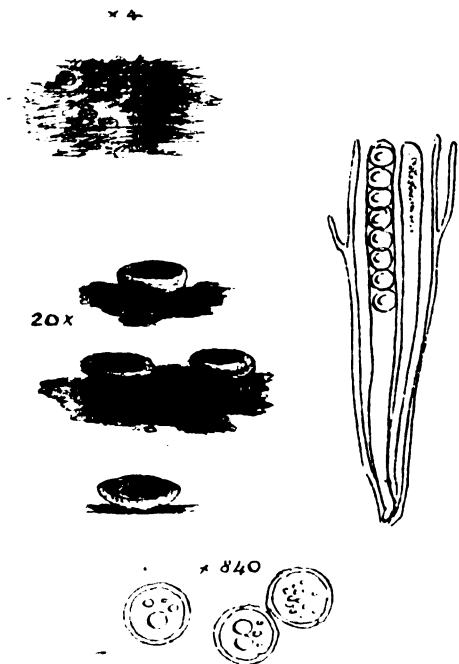
P. anthracina. C.

397



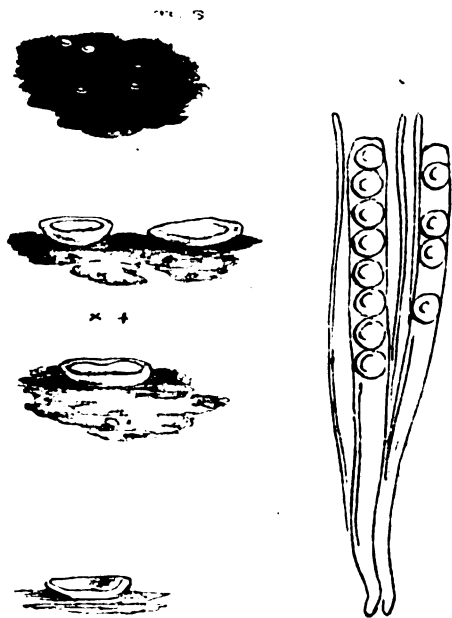
P. orichalcea. C.

398



P. gemma Phil.

399



P. globifera. var. etiolata.

Scale 1/10 m. m.

PEZIZA (HUMARIA.)

Peziza (Sarcoscypha) splendens. Quel.

PLATE 112.—Fig. 400.

Cæspitosa, stipitata, subglobosa, demum aperta, aurantiaca; extus dilutior, stipiteque albida, farinaceo-tomentosa. Ascis cylindræis. Sporidiis ellipticis, biguttulatis, reticulato-venosis, hyalinis. Paraphysibus supra curvulis, aurantiacis.

Peziza splendens, Quelet, Champ de Jura, 388, t. 5, fig. 4.

Aleuria Rhenana, Fckl. Sym. Myc. 325, t. 5, f. 1.

On the ground amongst fir leaves.

France, Germany.

Cups $\frac{1}{2}$ -1 inch diam. Stems about equal in length. Sporidia $.02-.022 \times .009-.01$ mm. Hairs of the cup and stem flexuous, uncoloured, slender, septate.

Figured from drawing by M. Boudier, and specimens communicated by Dr. Quelet.

***Peziza* (*Sarcoscypha*) *Hazslinszka*. Cke.**

PLATE 112.—Fig. 401.

Minor, sessilis, hemispherica, brunnea, extus pilis conglutinatis, adpressis, obsita, hymenio ochraceo. Ascis cylindraccis. Sporidiis ellipticis, binucleatis, hyalinis. Paraphysibus filiformibus.

Peziza brunnea, Hazslinszky, in Herb.

On the ground.

Hungary.

Cups 1 mm. diam. Sporidia $\cdot 02 \times \cdot 008$ mm.

Certainly not the true *Peziza brunnea*, A. & S. The closely compacted threads, or hairs, of the outer coat are very characteristic.

Figured from specimens communicated by Professor F. Hazslinszky.

***Peziza* (*Sarcoscypha*) *hispida*. Quel.**

PLATE 112.—Fig. 402.

Sessilis, sparsa, incarnato-pallida, demum explanata, extus marginique squamulis acutis obsita. Ascis cylindraccis. Sporidiis ellipticis, hyalinis Paraphysibus gracilibus.

Peziza hispida, Quelet, in litt.

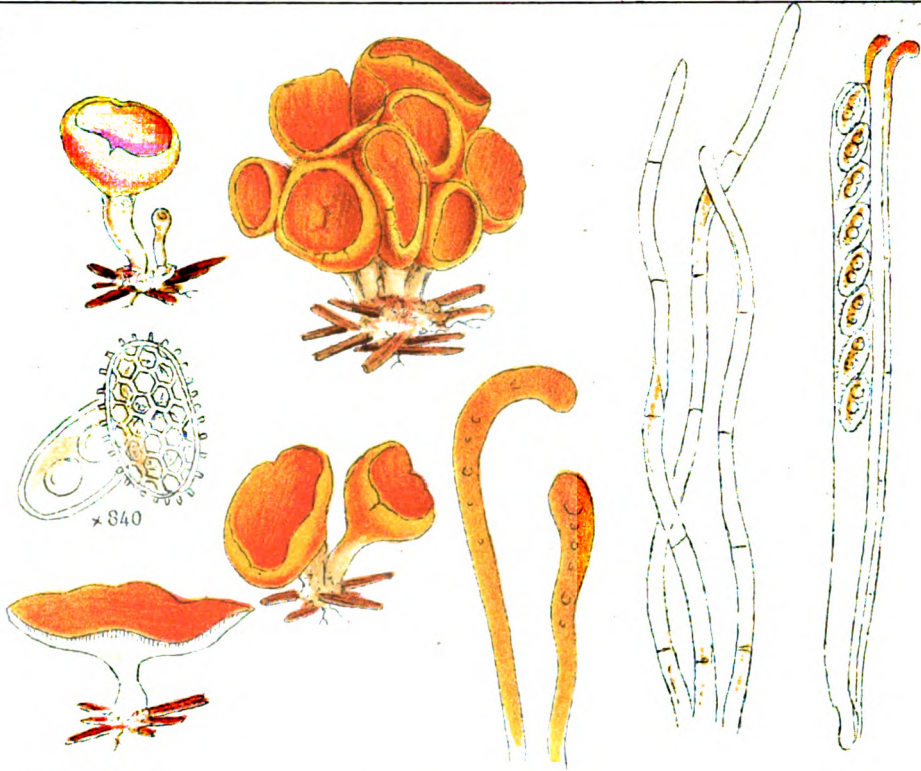
Attached to mosses.

France.

Cups 1 cm. diam. Sporidia $\cdot 015 \times \cdot 008$ mm. Scales triangular, composed of parallel hyaline connate hairs.

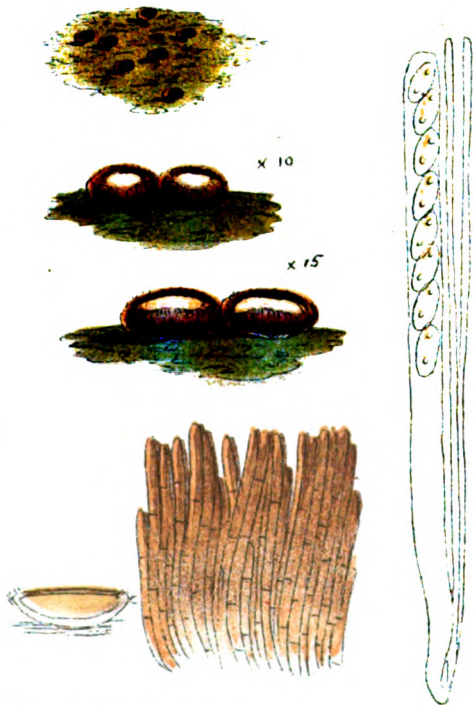
Figured from specimens communicated by Dr. Quelet.

400



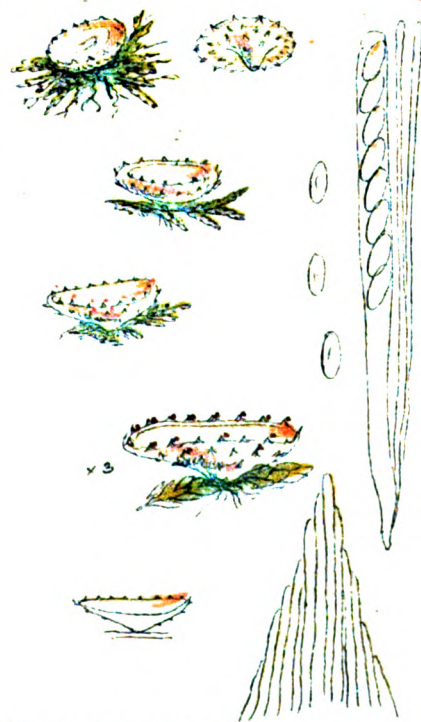
P. splendens Quel.

401



P. Hazslinszkia C.

402



P. hispida Quel.

Scale 16 m. m.

PEZIZA (SARCOSYPHA.)

Peziza (Sarcoscypha) Sequoiæ. Phil.

PLATE 113.—Fig. 403.

Gregaria, sessilis, concava, carnosâ; extus pilis brunneis septatis intertextis obsita, disco incarnato-rubro. Ascis cylindrâceis. Sporidiis ovatis, lævibus, hyalinis. Paraphysibus leniter incrassatis.

Peziza Sequoiæ, Phillips, in *Grevillea*, vii. p. 22.

On dead twigs and foliage of *Sequoia*.

California.

Cups 3-5 mm. broad. Sporidia $\cdot 017\text{-}\cdot 02 \times \cdot 012\text{-}\cdot 013$ mm. External hairs short and densely entangled at the base, elongated at the margin to nearly $\frac{1}{2}$ mm.

Figured from specimens and drawings communicated by W. Phillips.

Peziza (Sarcoscypha) Woolhopeia. Cke. & Ph.

PLATE 113.—Fig. 404.

Sessilis, aquoso-grisea. Cupulis hæmisphericis, demum subapplanatis, extus pilis erectis acutis subfasciculatis ornatis. Ascis cylindrâceis. Sporidiis late ellipticis, uninucleatis, lævibus. Paraphysibus clavatis.

Peziza Woolhopeia, Cooke & Phil. *Grevillea* vi. 75.

On burnt ground.

Great Britain.

Cups 1-2 mm. broad. Sporidia $\cdot 02\text{-}\cdot 022 \times \cdot 013\text{-}\cdot 015$ mm. Hairs fasciculate, $\frac{1}{2}$ mm. long, thick and brown at the base, pointed and hyaline above.

Figured from the original specimens collected by Cecil H. Spencer Perceval, Esq., at Downton, during the Foray of the Woolhope Club.

Peziza (Sarcoscypha) fimbriata. Quel.

PLATE 113.—Fig. 405.

Sessilis, pallida, hemispherica, demum concava, carnosae, circa marginem pilis erectis fasciculatis brunneis ornata. Ascis cylindraceutis. Sporidiis ellipticis, laevibus, hyalinis. Paraphysibus vix incrassatis.

Peziza fimbriata, Quelet, in litt.

On the ground.

France.

Cups 5 mm. broad. Sporidia $\cdot 017\text{--}\cdot 018 \times \cdot 008$ mm. Hairs septate, about $\frac{1}{5}$ to $\frac{1}{6}$ long. Allied to *Peziza gilva*, Boud., but the hairs are confined to the margin of the cups. The sporidia are rather larger, so that probably it may be maintained as a distinct species.

Figured from specimens communicated by Dr. Quelet.

Peziza (Sarcoscypha) gilva. Boud.

PLATE 113.—Fig. 406.

Sessilis, gilva, carnosae, hemispherica, demum concava, extus pilis fasciculatis fuliginosis dense obsita. Ascis cylindraceutis. Sporidiis ellipticis, laevibus, hyalinis. Paraphysibus linearibus.

Peziza gilva, Boudier, Icon. 37.

On moist ground.

France.

Cups about 4 to 7 mm. diam. Sporidia $\cdot 014\text{--}\cdot 016 \times \cdot 0075$ mm. Hairs fasciculate slender, septate, erect, about one-sixth of a millimetre in length.

Figured from drawings by Mons. E. Boudier (No. 37).

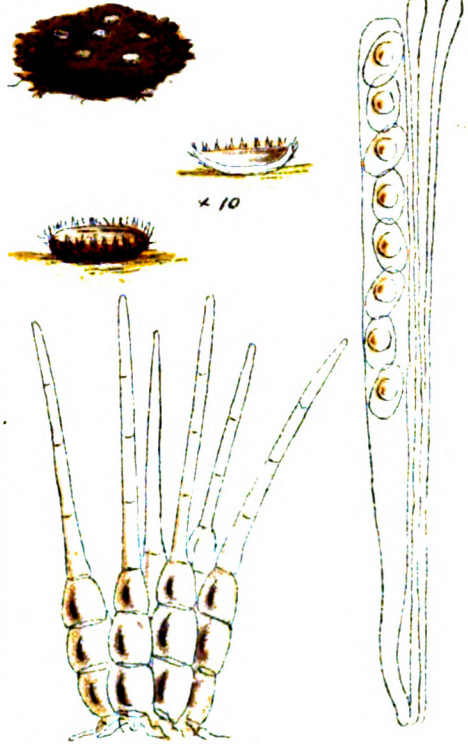
403



P. sequoiae. Phil.

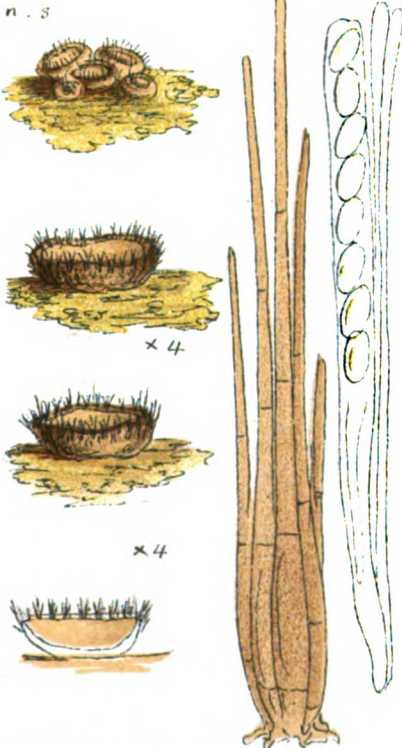
pilis
x
500

404



P. Woolhopeia. C & Ph.

405



P. fimbriata. Quel.

406



P. gilva. Boud.

Scale in m. m.

PEZIZA (SARCOSCYPHA.)

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Genus V.—**CIDARIS.** Fr.

1	[Caroliniana. Fr.]							
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Genus VI.—**LEOTIA.** Fr.

1	lubrica. Pers.	171
2	viscosa. Fr.	173
3	chlorocephala. S.	174
4	atrovirens. P.	...	...	...	...	...	...	368
	[amara. Fr.]							
	[atra. Weinm.]							

Sub-Gen. CUDONIA. Fr.

5	circinans. P.	...	...	...	...	...	...	172
6	marcida. P.	...	...	...	...	...	...	367
7	Queletii. Fr.	...	...	...	...	...	...	369

Genus VII.—**MITRULA.** Fr.

* *Pileo stipite distincto.*

† *Capitulum subgloboso vel ovato.*

1	cucullata. Fr.	...	...	...	...	...	...	176
2	paludosa. Fr.	...	...	...	...	...	...	175
3	alba. Smith.	...	...	...	...	...	...	177
	[globosa. Fr.]							
4	sclerotipes. Boud.	...	...	...	...	...	...	370
	[exigua. Fr.]							

†† *Capitulum cylindrico.*

5	Berteroi. Mont.	...	...	...	...	...	...	180
	„ var. vinosa. Berk.	...	...	...	...	...	...	181

* *Pileo stipite continuo.*

6	elegans. Berk.	...	...	...	...	...	...	182
7	lutea. M.	...	...	...	...	...	...	179
8	lutescens. Berk.	...	...	...	...	...	...	178

Genus VIII.—SPATHULARIA. Pers.

		Figs.
* <i>Stipite distincto.</i>		
1	<i>flavida. Fr.</i>	342
2	<i>rufa. Rabh.</i>	343
** <i>Stipite vix distincto.</i>		
3	<i>inflata. Schw.</i>	344

Genus IX.—GEOGLOSSUM. Pers.

A. Chromosporæ. Sporidiis brunneis.

* <i>Clavulis hirsutis.</i>		
1	<i>hirsutum. Pers.</i>	3
	<i>var. Americanum. Cooke....</i>	1
2	<i>Walteri. B.</i>	4
** <i>Clavulis glabris.</i>		
† <i>Sporidiis 15 septatis.</i>		
3	<i>Peckianum. Cooke.</i>	5
†† <i>Sporidiis 7 septatis.</i>		
4	<i>australe. Cooke.</i>	8
5	<i>difforme. Fr.</i>	7
6	<i>glabrum. Pers.</i>	9
7	<i>nigratum. Pers....</i>	345
††† <i>Sporidiis 3 septatis.</i>		
8	<i>viscosum. Pers.</i>	10
9	<i>glutinosum. Pers.</i>	6
10	<i>Mulleri. Berk.</i>	2

B. Hyalosporæ. Sporidiis hyalinis.

Sub-Genus. LEPTOGLOSSUM. Cke.

* <i>Clavulis atris.</i>		
11	<i>microsporum. Cooke.</i>	11
12	<i>tremellosum. Cke.</i>	347
13	<i>Hookeri. Berk....</i>	15
** <i>Clavulis late coloratis.</i>		
	[<i>luteum. Peck.=Mitrula lutescens. B.</i>]	12
14	<i>viride. Pers.</i>	14
15	<i>olivaceum. Pers.</i>	13
16	<i>atropurpureum. Pers.</i>	16
17	<i>pistillaris. Berk. & Cooke.</i>	348
18	<i>rufum. Schwz.</i>	346

Sect. II. CUPULATI.

Genus X.—WYNNEA. B & Br.

1	<i>W. gigantea. B. & Br.</i>	93
2	<i>W. macrotis. B.</i>	94

Genus XI.—PEZIZA. Dill.

Series 1. ALEUTICA. Fr.

Sub-Genus 1. ACETABULA. Fr.

Cupula integra, nuda, stipite crasso, distincto, sæpe sulcato.

									Figs.
	* <i>Sporidiis globosis.</i>								
1	melæna. Fr.	...	...	...	...	...	...	...	193
	** <i>Sporidiis ellipticis, lævibus.</i>								
2	acetabula. Fr.	...	...	...	...	...	...	...	183
	,, var. calyx. Sacc.	...	...	...	...	...	...	...	184
	[calyciformis. Fr.]								
3	leucomelas. Pers.	...	...	...	...	...	...	...	186
4	sordescens. B. & C.	...	...	...	...	...	...	...	191
	[fusco-cana. A. & S.]								
5	insolita. Cke.	...	...	...	...	...	...	...	375
	[azurea. Lev.]								
	*** <i>Sporidiis ellipticis, asperulis.</i>								
6	sulcata. Pers.	...	...	...	...	...	...	...	185
	** <i>Sporidiis fusiformibus.</i>								
7	ancilis. Pers.	...	...	...	...	...	...	...	371

Sub-Genus 2. TARZETTA. Cke.

Cupula subintegra, nuda, stipitata; stipite tenui, vel abbreviato, erecto vel radicato.

a. Stipite erecto.

	* <i>Sporidiis ellipticis.</i>								
1	hesperidea. Cke. & Pk.	...	...	...	...	...	...	...	195
2	ciborium. Vahl.	...	...	...	...	...	...	...	196
3	helvellula. DR. & M.	...	...	...	...	...	...	...	374
4	amplispora. C. & Pk.	...	...	...	...	...	...	...	288
5	pallidula. C. & Pk.	...	...	...	...	...	...	...	289
6	catinus. Holms.	...	...	...	...	...	...	...	290
7	catinoides. Fckl.	...	...	...	...	...	...	...	291
8	cupularis. Pers.	...	...	...	...	...	...	...	286
9	tarzetta. Cke.	...	...	...	...	...	...	...	287
10	pulchra. Ger.	...	...	...	...	...	...	...	285
11	verruculosa. B. & C.	...	...	...	...	...	...	...	283
12	harmoge. B. & Br.	...	...	...	...	...	...	...	282

b. Stipite abbreviato.

13	perforata. Karst.	...	...	...	...	...	...	...	269
14	majalis. Fr.	...	...	...	...	...	...	...	280
15	suburceolata. Phil.	...	...	...	...	...	...	...	ined.
16	sylvatica. Karst.	...	...	...	...	...	...	...	250
	** <i>Sporidiis fusiformibus.</i>								
17	aluticolor. Berk.	...	...	...	...	...	...	...	198
18	nebulosa. Cke.	...	...	...	...	...	...	...	281

Genus XI.—**PEZIZA.** Dill.—(Continued.)

Sub-Genus 2. **TARZETTA.** Cke.

β Stipite radicato.

									Figs.
	*	<i>Sporidiis ellipticis.</i>							
19		ammophila. <i>DR. & M.</i>	...	...	...	...	...	...	273
20		bufonia. <i>Pers.</i>	...	...	...	...	...	...	292
21		Percevalii. <i>B. & Cke.</i>	...	...	...	...	...	...	192
22		pseudobadia. <i>Cke.</i>	...	...	...	...	...	...	307
23		carbonaria. <i>A. & S....</i>	...	...	...	...	...	...	284
24		rapulum. <i>Bull.</i>	...	...	...	...	...	...	197

Sub-Genus 3. **TRICHOSCYPHA.** Cke.

Cupula cyathoidea, integra, stipitata; margine pilis rigidis ornato.

1		sulcipes. <i>Berk.</i>	...	...	...	...	...	...	199
2		Hindsii. <i>Berk.</i>	...	...	...	...	...	...	200
3		tricholoma. <i>Mont.</i>	...	...	...	...	...	...	202
4		institia. <i>B. & C.</i>	...	...	...	...	...	...	201

Sub-Genus 4. **OTIDEA.** Pers.

Cupula sessilis, extus pruinosa, dimidiato-elongata, vel oblique contorta, demum uno latere incisa.

	*	<i>Sporidiis ellipticis, asperulis.</i>							
1		Darjeelensis. <i>Berk.</i>	...	...	...	...	...	...	215
2		pleurota. <i>Phil.</i>	...	...	...	...	...	...	351
	**	<i>Sporidiis ellipticis, lævibus.</i>							
3		onotica. <i>Pers.</i>	...	...	...	...	...	...	210
4		leporina. <i>Batsch.</i>	...	...	...	...	...	...	211
5		auricula. <i>Cke.</i>	...	...	...	...	...	...	213
6		lechria. <i>Berk.</i>	...	...	...	...	...	...	222
7		euplecta. <i>Cke.</i>	...	...	...	...	...	...	216
8		apophysata. <i>Cke. & Phil.</i>	...	...	...	...	...	...	350
9		phlebophora. <i>B. & Br.</i>	...	...	...	...	...	...	217
	**	<i>Sporidiis subfusiformibus.</i>							
10		dochmia. <i>B. & C.</i>	...	...	...	...	...	...	221
11		hirneoloides. <i>Berk.</i>	...	...	...	...	...	...	220

Sub-Genus 5. **COCHLEARIA.** Cke.

Cupula sessilis, extus pruinosa, flexuosa, cæspitosa-contorta.

	*	<i>Sporidiis globosis.</i>							
1		fulgens. <i>Pers.</i>	...	...	...	...	...	...	209
	**	<i>Sporidiis ellipticis, asperulis.</i>							
2		aurantia. <i>Æd.</i>	...	...	...	...	...	...	203
3		luteo-nitens. <i>B. & Br.</i>	...	...	...	...	...	...	205
4		umbrina. <i>Boud....</i>	...	...	...	...	...	...	378
5		alutacea. <i>Pers.</i>	...	...	...	...	...	...	214
6		badia. <i>Pers.</i>	...	...	...	...	...	...	226
		„ var. atrovinosa. <i>Ger.</i>	...	...	...	...	...	...	225

Genus XI.—**PEZIZA.** Dill.—(Continued.)

Sub-Genus 5. **COCHLEARIA.** Cke.

		Figs.
*** <i>Sporidiis ellipticis, lævibus.</i>		
7	luculenta. Cke....	208
8	fibrillosa. Curr.	207
9	cochleata. Bull....	212
10	grandis. P.	376
11	ochracea. Boud....	377
12	Adæ. Sadl.	349
13	isabellina. Sm.	241
14	abietina. Pers.	223
15	Bauerana. Cke. [phellophila. DR. & M.]	224
16	micropus. Pers.	300
17	Drummondi. Berk.	219
*** <i>Sporidiis subfusiformibus.</i>		
18	inæqualis. B. & C.	204
19	Venezuelæ. Berk.	206

Sub-Genus 6. **DISCINA.** Fr. (pro parte.)

Cupula magna, sessilis, vel substipitata, ceraceo-carnosa, applanata, vel repanda, integra vel lobata, subundulata.

* <i>Sporidiis globosis.</i>		
1	trachycarpa. Curr.	257
2	leiocarpa. Curr.	256
** <i>Sporidiis ellipticis, asperulis.</i>		
3	echinospora. Karst.	274
4	Emileia. Cke.	379
*** <i>Sporidiis ellipticis, lævibus.</i>		
5	perlata. Fr.	239
6	repanda. Wahl.	240
7	reticulata. Grev. [scrobiculata. Fr.]	227
8	coronaria. Jacq....	238
	" v. macrocalyx. Reis....	238
9	palmicola. B. & C.	245
10	venosa. Pers.	228 229
11	costata. Fr.	218

Sub-Genus 7. **GALACTINIA.** Cke.

Cupula sessilis, integra, lactescens.

1	succosa. Berk.	243
2	saniosa. Schum.	299

Sub-Genus 8. **PUSTULARIA.** Cke. (vix Fckl.)

Cupula integra, sessilis, extus furfuracea vel verrucosa.

* <i>Sporidiis globosis, asperulis.</i>		
1	radula. B. & Br.	293

Genus XI.—**PEZIZA.** Dill.—(Continued.)

Sub-Genus 8. PUSTULARIA. Cke. (vix Fckl.)		Figs.
2	scabrosa. Cke.	295
3	atrospora. Fckl.	294
** <i>Sporidiis globosis, lævibus.</i>		
4	arenaria. Osb.	297
5	fuliginea. Schum.	255
6	mussiva. Fr.	301
*** <i>Sporidiis ellipticis, lævibus.</i>		
7	vesiculosa. Bull.	242
8	cerea. Sow.	244
9	granulosa. Schum.	390 391
10	funerata. Cke.	380
*** <i>Sporidiis ellipticis, asperulis.</i>		
11	pustulata. Pers.	298
12	umbilicata. Karst.	258
13	castanea. Quel.	382
*** <i>Sporidiis acuminatis.</i>		
14	retiderma. Cke.	306
Sub-Genus 9. GEOSCYPHA. Cke.		
Cupula integra, vel lobata, sessilis, extus lævi, sub-pruinosa vel farinosa.		
* <i>Sporidiis globosis, asperulis.</i>		
1	lobata. B. & C.	265
2	recurva. Berk.	386
** <i>Sporidiis ellipticis, lævibus.</i>		
3	tectoria. Cke.	263
4	Petersii. B. & C.	246
<i>Lignicolæ.</i>		
5	ampliata. Pers.	384
6	crenulata. B. & Br.	270
7	cordovensis. Cke.	264
8	sarmentorum. B. & Br.	267
9	mellea. C. & Plow.	383
10	truncicomes. Ger.	248
11	microspora. B. & C.	271
12	epispartica. B. & Br.	269
13	undata. Sow.	297
<i>Terricolæ.</i>		
14	sepiatra. Cke.	261
15	subrepanda. C. & Phil.	260
16	elachroa. B. & C.	274
17	sterigmatizans. Phil.	304
18	decolorans. B. & C.	253
19	cribrosa. Grev.	381

PEZIZA. *Dill.*—**GEOSCYPHA.**—(Continued.) Figs.

20	<i>chrysopela.</i>	<i>Cke.</i>	...	...	...	...	266
21	<i>Valenzueliana.</i>	<i>Bert.</i>	...	...	...	...	273
22	<i>Quillotensis.</i>	<i>Mont.</i>	...	...	...	...	387
23	<i>applanata.</i>	<i>Fr.</i>	...	...	...	...	272
24	<i>exidiiformis.</i>	<i>B. & Br.</i>	...	...	...	...	60
25	<i>spissa.</i>	<i>Berk.</i>	...	...	...	...	78
26	<i>violacea.</i>	<i>Pers.</i>	...	...	...	...	279
27	<i>Gonnermanni.</i>	<i>Rabh.</i>	...	...	...	...	275
28	<i>viridaria.</i>	<i>B. & Br.</i>	...	...	...	...	262

* * * *Sporidiis ellipticis, asperulis.*

29	<i>adnata.</i>	<i>B. & C.</i>	...	...	...	...	259
30	<i>griseorosea.</i>	<i>Ger.</i>	...	...	...	...	249
31	<i>caligans.</i>	<i>Cke.</i>	...	...	...	...	252
32	<i>subumbrina.</i>	<i>Boud.</i>	...	...	...	...	385
33	<i>irrorata.</i>	<i>B. & C.</i>	...	...	...	...	254
34	<i>Saccardiana.</i>	<i>Cke.</i>	...	...	...	...	302
35	<i>brunneo-atra.</i>	<i>Desm.</i>	...	...	...	...	78
36	<i>macrospora.</i>	<i>Wallr.</i>	...	...	...	...	77
37	<i>lividula.</i>	<i>Phil.</i>	...	...	...	...	277
38	<i>tapeina.</i>	<i>Cke.</i>	...	...	...	...	268
39	<i>phyllogena.</i>	<i>Cke.</i>	...	...	...	...	251

* * * *Sporidiis elongato-ellipticis, lævibus.*

40	<i>tincturella.</i>	<i>C. & Sacc.</i>	303
41	<i>purpurascens.</i>	<i>Pers.</i>	276

* * * * *Sporidiis acuminatis.*

42	<i>apiculata.</i>	<i>Cke.</i>	305
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Sub-Genus 10. **PYRONEMA** (*Carus*). *Fckl.*

Cupula plerumque dense gregaria, sessilis, carnosa, basi villa arachnoideo delicatulo radiato albo circumdata; disco demum plano convexulo umbilicato, vix marginato, discolori.

1	<i>omphalodes.</i>	<i>Bull.</i>	...	...	...	...	65
2	<i>melaloma.</i>	<i>A. & S.</i>	...	...	...	...	67
		[<i>aurantio-rubra.</i>					
		<i>Fckl.</i>]					
3	<i>subhirsuta.</i>	<i>Schum.</i>	...	...	...	...	66
4	<i>Franzoniana.</i>	<i>Not.</i>	...	...	...	...	68
5	<i>chartarum.</i>	<i>Quel.</i>	...	...	...	...	394
6	<i>domestica.</i>	<i>Sow.</i>	...	...	...	...	90
7	<i>Thumeni.</i>	<i>Karst.</i>	...	...	...	...	64
8	<i>hæmastigma.</i>	<i>Hedw.</i>	...	...	...	...	70

Sub-Genus 11. **HUMARIA.** *Fr.*

Cupula sessilis, integra, hemispherico-applanata, crassinscula, carnosa; color plerumque laetus.

A. *Sporidiis globosis.*

* *Episporio reticulato.*

1	<i>Crouani.</i>	<i>Cke.</i>	17
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PEZIZA.		<i>Dill.</i> — HUMARIA. —(Continued.)						<i>Figs.</i>
2	sanguinaria.	<i>Cke.</i>	19	
3	lætirubra.	<i>Cke.</i>	20	
* <i>Episporio spinuloso.</i>								
4	auriflava.	<i>Cke.</i>	...	...	...	...	23
5	asperior.	<i>Nyl.</i>	...	...	...	...	51
** <i>Episporio asperulo verrucoso.</i>								
6	modesta.	<i>Karst.</i>	...	...	...	...	33
7	echinosperma.	<i>Ph.</i>	...	...	...	...	22
8	exasperata.	<i>Berk.</i>	...	...	...	...	21
9	Wrightii.	<i>B. & C.</i>	...	...	...	...	18
<i>Episporio subfusco.</i>								
10	murina.	<i>Fckl.</i>	...	...	...	...	76
11	anthracina.	<i>Cke.</i>	...	...	...	...	396
*** <i>Episporio lævi.</i>								
a. <i>Hymenio rubro.</i>								
12	miltina.	<i>Berk.</i>	...	...	...	...	28
13	constellatio.	<i>B. & Br.</i>	...	...	...	...	84
	„	var. <i>Fuckelii.</i>	<i>Cke.</i>	...	...	...	82
14	gemmea.	<i>Phil.</i>	...	...	...	...	391
15	astroidea.	<i>Hazs.</i>	...	...	...	...	49
16	Polytrichi.	<i>Schum.</i>	...	...	...	...	50
β. <i>Hymenio flavido.</i>								
17	convexella.	<i>Karst.</i>	...	...	...	...	35
18	globifera.	<i>B. & C.</i>	...	...	...	...	34
	„	var. <i>etiolata.</i>	<i>Cke.</i>	...	...	...	399
19	orichaleca.	<i>Cke.</i>	...	...	...	...	397
γ. <i>Hymenio brunneo.</i>								
20	hinnulea.	<i>B. & Br.</i>	...	...	...	...	52
21	schizospora.	<i>Phil.</i>	...	...	...	...	80
22	endocarpoides.	<i>Berk.</i>	...	...	...	...	84
δ. <i>Hymenio violaceo.</i>								
23	violascens.	<i>Cke.</i>	...	...	...	...	83
B. <i>Sporidiis ellipticis</i>								
* <i>Episporio asperulo.</i>								
24	vivida.	<i>Nyl.</i>	...	...	...	...	53
25	rutilans.	<i>Fr.</i>	...	...	...	...	57
26	Chateri.	<i>Sm.</i>	...	...	...	...	62
27	orthotricha.	<i>C. & Ellis.</i>	...	...	...	...	355
28	Philipsii.	<i>Cke.</i>	...	...	...	...	88
** <i>Episporio lævi.</i>								
a. <i>Hymenio rubro.</i>								
29	arancosa.	<i>Bull.</i>	...	...	...	...	54

PEZIZA. *Dill.*—**HUMARIA.**—(Continued.)

Figs.

30	macrocystis.	<i>Cke.</i>	...	...	...	...	...	63
31	deformis.	<i>Karst.</i>	...	...	...	...	...	69
32	leucoloma.	<i>Hedw.</i>	...	...	...	...	...	28
33	humosa.	<i>Fr.</i>	...	...	...	...	...	25
34	Mulleri.	<i>Berk.</i>	...	...	...	...	...	26
35	euchroa.	<i>Karst.</i>	...	...	...	...	...	27
36	ustorum.	<i>Berk.</i>	...	...	...	...	...	61
37	Oocardii.	<i>Kalch.</i>	...	...	...	...	...	47
38	Sowerbei.	<i>Cke.</i>	...	...	...	...	...	55
39	bella.	<i>B. & C.</i>	...	...	...	...	...	58
40	rubricosa.	<i>Fr.</i>	...	...	...	...	...	71
41	axillaris.	<i>Nees.</i>	...	...	...	...	...	91
42	pilifera.	<i>Cke.</i>	...	...	...	...	...	92

β. Hymenio flavido.

43	convexula.	<i>Pers.</i>	...	...	...	...	...	36
44	limnicola.	<i>Hazs.</i>	...	...	...	...	...	40
45	semi immersa.	<i>Karst.</i>	...	...	...	...	...	46
46	ascoboloides.	<i>Bert.</i>	...	...	...	...	...	352
47	granulata.	<i>Bull.</i>	...	...	...	...	...	59
48	lechithina.	<i>Cke.</i>	...	...	...	...	...	89
49	flavotogens.	<i>Berk.</i>	...	...	...	...	...	84
	[sulfurata.	<i>Fr.</i>						
50	glumarum.	<i>Desm.</i>	...	...	...	...	...	39

Extus subnigro.

51	adusta.	<i>C. & P.</i>	...	...	...	...	...	42
52	xanthomela.	<i>Pers.</i>	...	...	...	...	...	41
53	maurilabra.	<i>Cke.</i>	...	...	...	...	...	388

γ. Hymenio sub-carneo.

54	cynocopa.	<i>Dun.</i>	...	...	...	...	...	233
55	lætecolor.	<i>B. & Br.</i>	...	...	...	...	...	354
56	salmonicolor.	<i>Berk.</i>	...	...	...	...	...	48
57	Keithii.	<i>Phil.</i>	...	...	...	...	...	ined.

δ. Hymenio rufo-brunneo.

58	hepatica.	<i>B.</i>	...	...	...	...	...	85
59	cervaria.	<i>Phil.</i>	...	...	...	...	...	ined.
60	merdaria.	<i>Fr.</i>	...	...	...	...	...	231
61	bovina.	<i>Phil.</i>	...	...	...	...	...	ined.
62	canina.	<i>Karst.</i>	...	...	...	...	...	73
	„	<i>v. nobilis. K.</i>	...	...	...	...	...	74
63	leporum.	<i>Fckl.</i>	...	...	...	...	...	75
64	depressa.	<i>Phil.</i>	...	...	...	...	...	392
65	Schroteri.	<i>Cke.</i>	...	...	...	...	...	393

ε. Hymenio virido.

66	Jungermannia.	<i>Nees.</i>	...	...	...	...	...	87
67	virido-brunnea.	<i>Ces.</i>	...	...	...	...	...	86
68	scatigena.	<i>B. & C.</i>	...	...	...	...	...	72

PEZIZA. Dill.—**HUMARIA.**—(Continued.)

		<i>i. Hymenio pallido.</i>					Figs.
69	cremoricolor. <i>B. & C.</i>	...	...	...	...	...	232
70	obnupta. <i>Karst.</i>	...	...	...	...	...	230
 <i>C. Sporidiis subfusoides.</i> 							
* <i>Episporio asperulo.</i>							
71	congrex. <i>Karst.</i>	...	...	...	...	...	395
** <i>Episporio lævi.</i>							
72	corallina. <i>Cke.</i>	...	...	...	...	...	30
73	tetraspora. <i>Fckl.</i>	...	...	...	...	...	45
74	ollaris. <i>Fr.</i>	...	...	...	...	...	56
75	carbonigena. <i>Berk.</i>	...	...	...	...	...	29
76	fusispora. <i>Berk.</i>	...	...	...	...	...	32
	" var. aggregata. <i>Berk.</i>	...	...	...	...	...	31
	" var. permunda. <i>Cke.</i>	...	...	...	...	...	353
77	Plowrightii. <i>Phil.</i>	...	...	...	...	...	ined.
78	Roumeguerii. <i>Karst.</i>	...	...	...	...	...	ined.
79	flaveola. <i>Quelet.</i>	...	...	...	...	...	ined.
80	olivacea. <i>Quel.</i>	...	...	...	...	...	389
81	Gerardi. <i>Cke.</i>	...	...	...	...	...	44
82	pinetorum. <i>Fckl.</i>	...	...	...	...	...	43
*** <i>Sporidiis septatis.</i>							
83	quisquiliarum. <i>B. & C.</i>	...	...	...	...	...	37

Series 2. **LACHNEA.** *Fr.*

Sub-Genus 12. **SARCOSCYPHA.** *Fr.*

Cupula carnosae, stipitata, extus tomentosa vel villosa, sæpe magna.

* <i>Sporidiis globosis.</i>							
1	stygia. <i>B. & C.</i>	...	...	...	...	...	105
** <i>Sporidiis ellipticis.</i>							
† <i>Episporio reticulato.</i>							
2	splendens. <i>Quelet.</i>	...	...	...	...	...	400
†† <i>Episporio verruculoso.</i>							
3	radiculata. <i>Sow.</i>	...	...	...	...	...	99
	" var. Percevali. <i>Phil.</i>	...	...	...	...	...	311
††† <i>Episporio lævi.</i>							
<i>Stipite erecto.</i>							
4	coccinea. <i>Jacq.</i>	...	...	...	...	...	95
5	floccosa. <i>Schw.</i>	...	...	...	...	...	97
6	occidentalis. <i>Schw.</i>	...	...	...	...	...	96
7	lepida. <i>B. & C.</i>	...	...	...	...	...	357
8	mirabilis. <i>Bosc.</i>	...	...	...	...	...	98

PEZIZA. <i>Dill.</i> — SARCOSYPHA. —(Continued.)		Figs.
9	corium. <i>Weber.</i>	187
10	bulbosa. <i>Hedw.</i>	189
11	helvelloides. <i>Fr.</i>	190
12	tomentosa. <i>Schw.</i>	102
13	alphitodes. <i>B. & C.</i>	101

Stipite radicato.

14	cocotina. <i>Cke.</i>	356
	" var. <i>linteicola.</i> <i>Phil.</i>	
15	pusio. <i>B. & C.</i>	106
16	radiculosa. <i>B. & Br.</i>	107

* * *Sporidiis fusiformibus.*

† *Episporio asperulo.*

17	macropus. <i>Pers.</i>	188
18	pubida. <i>B. & C.</i>	110
19	semitosta. <i>B. & C.</i>	109

†† *Episporio lævi.*

20	Colensoi. <i>Berk.</i>	108
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Sub-Genus 13. **SEPULTARIA.** *Cke.*

Cupula carnosa, sessilis, extus pilis coloratis vestita.

A. *Cupulis majoribus, plerumque sepultis.*

* *Sporidiis globosis.*

1	flavo-virens. <i>Fckl.</i>	122
2	nigrella. <i>Pers.</i>	120

* * *Sporidiis ellipticis.*

3	sepulta. <i>Fr.</i>	112
4	geaster. <i>B. & Br.</i>	114
5	pellita. <i>C. & Pk.</i>	119
6	tenuis. <i>Fckl.</i>	116
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Cupula carnosa, hemisphærica, extus adpresso-tomentosa, basi radicati nigro-strigosa.

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Sub-Genus 15. SCUTELLINIA. *Cke.*

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* *Sporidiis globosis.*

† *Episporio asperulo.*

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	[verruculosa. <i>B. & Br.</i>]						

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** *Sporidiis ellipticis.*

† *Episporio asperulo.*

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