

## A redispotion of some Fungi ascribed to the *Hyaloscyphaceae*

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In a series of papers I have described numerous species of *Hyaloscyphaceae* from Europe (Dennis, 1949), tropical America (Dennis, 1954, 1958b, 1960), Australia (Dennis, 1958a) and New Zealand (Dennis, 1961). In the following compilation will be found descriptions and figures of the remaining species of which authentic material has been deposited at Kew under the generic names *Dasyscyphus*, *Erinella*, *Lachnella*, *Lachnellula*, *Solenopezia* and *Trichopeziza*. An attempt has also been made to borrow and describe the type collections of as many as possible of the other species listed by Seaver (1951), after his treatment of *Lachnella*, as 'Doubtful and excluded Species', with the exception of those preserved at New York State Museum and not accessible to students. A number of other type collections of *Hyaloscyphaceae* borrowed from various European herbaria have also been included. For convenience of reference the species are arranged in alphabetical order of their specific epithets.

In recent years and especially in a recent summary of the *Hyaloscyphaceae*—*Lachneae* (Dennis, 1962), I have laid stress on the importance of lanceolate paraphyses in delimiting genera of *Helotiales*. This holds good for almost all species in which the paraphyses are well developed, i.e. those in which they are at least as long as or overtop the asci. There are, however, a few *Hyaloscyphaceae* in which these organs are very slender, feebly developed and scanty or even almost absent, but in which the other characters, especially those of the hairs, are those of *Dasyscyphus*. Because well developed paraphyses are a feature of the 'Discomycetous' hymenium throughout so many genera and families it seems likely that apothecia in which they are feebly developed are to be regarded as derivative rather than primitive forms. It also appears doubtful if any close relationship exists between these *Dasyscyphus*-like species with feebly developed paraphyses. On the contrary there sometimes appears to be a closer relationship between individual species with filiform paraphyses and others with lanceolate paraphyses on a similar substrate than there is between members of the first-named group. Such apparent pairs of species are, for example, *Dasyscyphus diminutus* and *D. fugiens*; *Dasyscyphus fuscescens* and *D. acerinus*; *Dasyscyphus dumorum* and *D. misellus*; where in each case the first named has normal lanceolate paraphyses and the second has them scanty and filiform. It is not claimed that the first species in each pair stands in a directly ancestral relationship to the second. Nevertheless an apparent relationship does exist and I therefore feel it premature to propose distinct genera such as *Clavidisculum* Kirschstein or *Discocistella* Svrček (1962) to accommodate these few *Dasyscyphi* with anomalous paraphyses.

The name *Dasyscyphus* dates from S. F. Gray 1821 but from the time of Fuckel 1870 until very recent years the spelling of the name was changed to *Dasyscypha*. In citations printed below the spelling originally adopted by S. F. Gray has been restored, without comment in most cases, where a name in *Dasyscyphus* is adopted for current use.

*Peziza (Lachnea) abnormis* Mont. in Ann. Sci. Nat., sér. 2, 3: 351 (1835).

*Trichopeziza abnormis* (Mont.) Sacc., Syll. Fung. 8: 429 (1889).

***Dasyscyphus abnormis*** (Mont.) Dennis, comb. nov.

Apothecia subsessile, excipulum and hairs white, hymenium largely destroyed but such as remains appears to have been yellowish, about 1 mm. diameter. Hairs cylindrical, thin-walled, obtuse but often slightly tapering above, septate, finely granulate, up to  $100 \times 4 \mu$ , mostly hyaline but a few with light brown walls; asci cylindrical-clavate, apex somewhat conical,  $95-100 \times 9-10 \mu$ , pore not deeply blued by Melzer's reagent, 8-spored; ascospores fasciculate, acicular, rounded above, tapering below, about  $50 \times 1-1.5 \mu$ , septa not demonstrated with either Cotton Blue or Melzer's reagent; paraphyses lanceolate,  $4 \mu$  broad, mostly 1-septate. (Fig. 1).

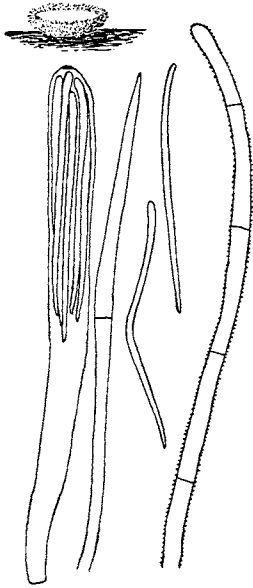


FIG. 1. *Peziza abnormis*. Apothecium  $\times 10$ ; details  $\times 660$ .

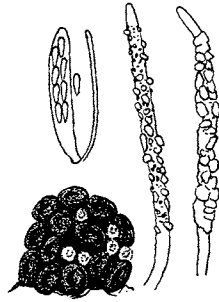


FIG. 2. *Dasyscyphus acanthonitschkeae*. Habit sketch  $\times 10$ ; details  $\times 660$ .

On dead bark in montane forests, May, Juan Fernandez, Chili, *Bertero* 1708.

It is somewhat odd that neither Montagne, nor Phillips who examined the Kew material and thought it a *Cyphella*, could find asci, hence no doubt the specific epithet. In fact this is a completely normal species of *Dasyscyphus* near *D. cassandrae* (Tranzschel) Dennis.

*Dasyscypha acanthonitschkeae* Cash & Davidson in Mycologia 32: 730 (1940).

***Cistella acanthonitschkeae*** (Cash & Davidson) Dennis, comb. nov.

On stromata of *Acanthonitschkea coloradensis* Cash & Davidson on *Abies lasiocarpa*, Mesa lakes, Grand Mesa, Colorado, U.S.A., 1.6.1938, *Davidson* F.P. 71992A (BPI).

The published description is adequate and need not be repeated. The distinctive characters appear to be the cylindrical obtusely filiform paraphyses and the very coarse incrustation of the hairs which amounts to a

sheath of crystals from which the top and base of the hairs often protrude naked. (Fig. 2, p. 320). On current circumscription of genera this is a *Cistella*, but one is at once reminded of *Peziza aspidii* Lib., (see Dennis, 1962: 176).

*Peziza (Dasyscypha) acerina* Cooke & Ellis in Grevillea 7: 40 (1878).

*Trichopeziza acerina* (Cooke & Ellis) Sacc., Syll. Fung. 8: 417 (1889).

***Dasyscyphus acerinus*** (Cooke & Ellis) Cash in Journ. Wash. Acad. Sci. 29: 49 (1939).

Apothecia scattered on the under surface of leaves, sessile, cupshaped, about 200 $\mu$  diameter, dark brown with a white-haired margin. Hairs cylindrical, obtuse, thin-walled, 0-1-septate, 10-35  $\times$  4 $\mu$ , finely granulate, brown except at the margin where they are hyaline; asci cylindric-clavate, 30-35  $\times$  6 $\mu$ , the minute pore blued by Melzer's reagent, 8-spored; ascospores narrowly clavate, nonseptate, 6-7  $\times$  1.5 $\mu$ ; paraphyses not seen. (Fig. 3).

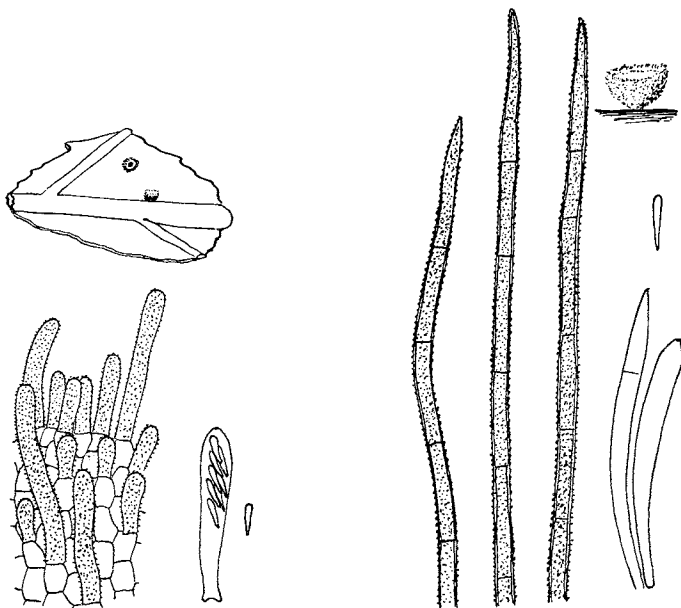


FIG. 3. *Peziza acerina*. Habit sketch  $\times$  10; details  $\times$  660.

FIG. 4. *Peziza albo-citrina*. Apothecium  $\times$  10; details  $\times$  660.

On leaves of 'Maple', New Jersey, U.S.A., *J. B. Ellis* 3045.

Miss Cash recorded the species on leaves of *Acer rubrum* from Georgia. She supplied no description but it may be inferred that she could not find lanceolate paraphyses as at that time she was using the name *Lachnum* for species so equipped.

*Peziza (Dasyscypha) albo-citrina* Cooke in Grevillea 7: 47 (1878).

***Dasyscyphus albo-citrinus*** (Cooke) Sacc., Syll. Fung. 8: 446 (1889).

Apothecia subsessile, cupulate, about 1 mm. diameter, with white hairs and excipulum and an orange disc. Hairs cylindrical below but tapered to a

sharp point, with thin but firm and non-collapsing walls, closely granulate throughout, up to about  $120 \times 3.5\mu$ , septate, hyaline; asci cylindrical-clavate, 8-spored,  $50 \times 4\mu$ , the small pore blued by Melzer's reagent; ascospores narrowly clavate,  $10-11 \times 1-1.5\mu$ , nonseptate; paraphyses lanceolate,  $60 \times 4\mu$ , longer than the asci, often septate. (Fig. 4, p. 321).

On leaves of *Vaccinium*, Darien, Georgia, U.S.A., No. 2476.

This seems to be a good species. Cooke compared it with *D. virginellus* (Cooke & Ellis), from which it differs in the almost sessile apothecia and pointed hairs.

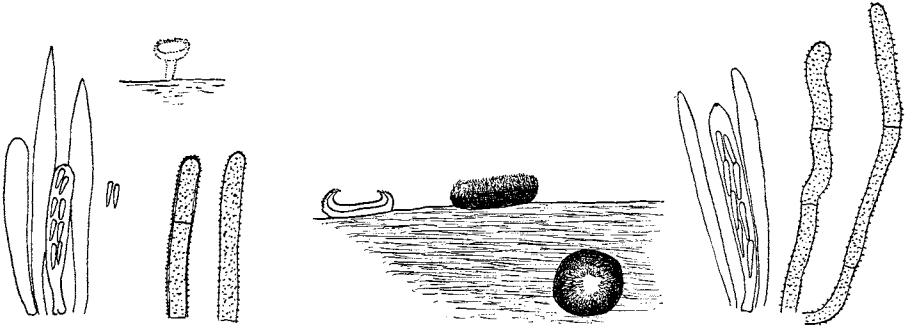


FIG. 5. *Peziza albopileata*. Apothecium  $\times 8$ ; details  $\times 660$ .

FIG. 6. *Lachnella albolabra*. Apothecia  $\times 10$ ; details  $\times 660$ .

*Lachnella albolabra* Ellis & Everh. in Bull. Torrey Bot. Club 24: 467 (1897).

**Dasyscyphus albolabra** (Ellis & Everh.) Dennis, comb. nov.

Apothecia scattered, superficial, sessile, patellate with a strongly incurved margin, 1 mm. diameter, externally dark olive brown with a marginal belt of light ferruginous hairs, marginal hairs white when fresh and disc then 'livid, light slate color', flesh white but liberating a yellow stain in ammonia. Hairs cylindrical, obtuse, undulating, septate,  $4\mu$  thick, very brittle but up to  $400\mu$  long according to the diagnosis, with olive-brown walls; asci cylindrical-clavate, 8-spored, about  $40 \times 5\mu$ , pore small but blued by Melzer's reagent; ascospores biseriolate, slender clavate,  $7-8 \times 1.25\mu$ ; paraphyses abundant, rather longer than the asci, fusoid, colourless,  $3\mu$  wide. (Fig. 6).

On dead twigs of ? *Ribes prostratum*, Empire, Colorado, U.S.A., 23.5.1897, Bethel 257b (NY).

*Peziza* (*Dasyscypha*) *albopileata* Cooke in Bull. Buffalo Soc. Nat. Sci. 2: 293 (1875).

**Dasyscyphus albopileatus** (Cooke) Sacc., Syll. Fung. 8: 445 (1889).

Apothecia scattered, stipitate, patellate, whitish, disc scarcely 1 mm. diameter, yellowish. Hairs cylindrical, obtuse, short,  $30-35 \times 4-4.5\mu$ , with thin but firm, hyaline, granulate walls, usually 1-septate; asci cylindrical, short-stalked,  $30-35 \times 4\mu$ , 8-spored, the minute pore blued by Melzer's reagent; ascospores biseriolate, cylindrical-fusoid,  $5 \times 1\mu$ ; paraphyses lanceolate,  $4-5\mu$  wide, far over-topping the asci. (Fig. 5).

On leaves of *Magnolia glauca*, New Jersey, U.S.A., J. B. Ellis 2149.

Seaver is evidently correct in suggesting an affinity with *D. virgineus* but the species can probably be distinguished by its short excipular hairs and small asci.

*Lachnella albopileata* (Cooke) Phillips var. *subaurata* Ellis apud Phillips in Grevillea 19: 107 (1891).

***Dasyscyphus subauratus*** (Ellis) Dennis, comb. et stat. nov.

Apothecia scattered, cupulate with a long slender stalk, about 0.5 mm. diameter, drying pale buff throughout. Hairs cylindrical or slightly tapering to a rounded and often slightly swollen tip,  $60-70 \times 2.5-4 \mu$ , walls thin, hyaline, minutely granulate, multiseptate, often crowned by lumps of yellow gum, asci clavate,  $40 \times 4 \mu$ , 8-spored, the small pore blued by Melzer's reagent; ascospores cylindric-clavate,  $6-8 \times 1 \mu$ , paraphyses lanceolate, up to  $70 \times 5 \mu$ . (Fig. 7).

On both sides of leaves of *Clethra alnifolia*, Newfield, New Jersey, U.S.A., Ellis.

If this cannot be maintained as a species I would rather regard it as a variety of *D. virginellus* than of *D. albopileatus*.

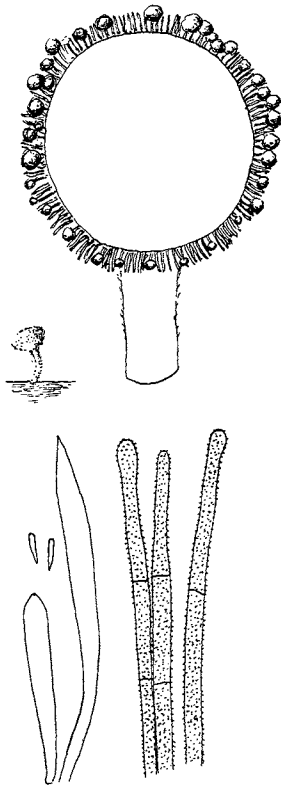


FIG. 7. *Lachnella albopileata* var. *subaurata*. Apothecia  $\times 10$  &  $100$ ; details  $\times 660$ .

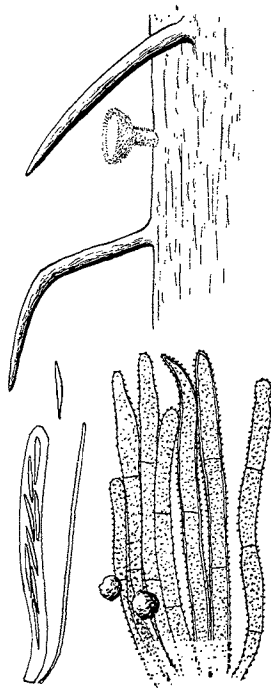


FIG. 8. *Dasyscyphus aleurodes*. Apothecia  $\times 10$ ; details  $\times 660$ .

*Peziza* (*Dasyscypha*) *alboviridis* Cooke in Grevillea 7: 47 (1878).

*Trichopeziza alboviridis* (Cooke) Sacc., Syll. Fung. 8: 415 (1889).

*Lachnella tricolor* var. *microspora* Kanouse in Pap. Mich. Acad. Sci. 20: 73 (1935).

***Eriopezia microspora*** (Kanouse) Dennis, comb. nov.

Apothecia scattered or in small groups, sessile, cupulate, externally now dark gray-green, downy with a white margin, apparently appearing greenish

when fresh, hymenium cream, drying gray, up to 0.75 mm. diameter. Hairs cylindrical, obtusely rounded, thin-walled, rather coarsely granulate, up to  $30 \times 3 \mu$ , glaucous gray on the flanks of the receptacle, colourless at the margin; asci cylindric-clavate, stipitate,  $35-40 \times 4 \mu$ , 8-spored, pore very minute and with uncertain iodine reaction; ascospores biseriata, rod-shaped,  $4 \times 1 \mu$ ; paraphyses cylindrical, filiform, forked,  $1 \mu$  thick. (Fig. 9).

On decorticated *Myrica* or in fissures of the bark, Darien, Georgia, U.S.A., *H. W. Ravenel* 2447.

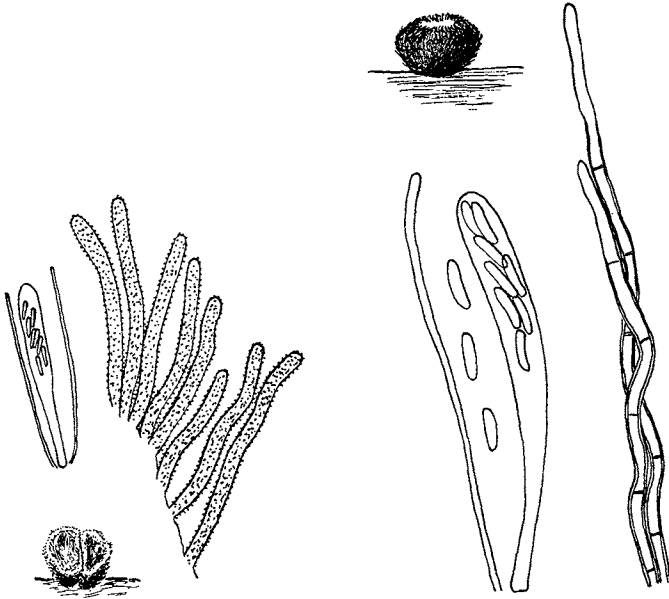


FIG. 9. *Peziza alboviridis*. Apothecia  $\times 10$ ; details  $\times 660$ .

FIG. 10. *Lachnella andina*. Apothecium  $\times 10$ ; details  $\times 660$ .

Examination of the type of *Lachnella tricolor* var. *microspora* Kanouse shows it to be a more copious collection of the same fungus and indicates clearly that there is a basal weft of white mycelium to the apothecia and that the latter developed in clusters on a common weft. This being so there seems nothing to separate the species from *Eriopezia*. There is already an *Eriopezia alboviridis* (Gill.) Sacc. from Europe, cited by Korf (1951) as a doubtful synonym of *E. caesia* (Pers. ex Fr.) Rehm. Until the identity of Gillet's fungus has been cleared up it may appear premature to propose a new name in *Eriopezia* for that of Cooke but reference to the short diagnosis of the former makes it unlikely the two fungi can be the same. In that of Gillet it was the hymenium that was 'd'un beau vert-clair' and the receptacle was 'tomenteuse blanche', characters which both point rather to *E. caesia*. A more likely European equivalent is *Trichopeziza viridula* Grelet 1953, which its author placed next in his system to *E. caesia*, as *Trichopeziza*. Because it lacks an obvious subiculum I have elsewhere transferred Grelet's fungus to *Cistella* and it may prove distinct from *P. alboviridis* also in its broader ascospores with small polar guttules. Seaver has raised Miss Kanouse's variety to specific rank and to provide at least an interim name for the fungus in an appropriate genus I therefore transfer *Lachnella microspora* (Kanouse) Seaver (see below, p. 353) to *Eriopezia*.

*Dasyscyphus aleurodes* Cooke in Grevillea 21: 73 (1893).

Apothecia scattered, superficial, stipitate, cupulate, white excipled and haired, disc yellow, up to 1 mm. diameter. Hairs cylindrical but often tapered to the apex which may be obtusely rounded or nearly pointed, up to  $70 \times 3-4\mu$ , hyaline, with rather thick walls, coarsely granulate and interspersed with numerous lumps of colourless crystalline matter, septate; asci cylindric-clavate,  $50 \times 4\mu$ , 8-spored; ascospores biseriata, narrow fusoid,  $8-11 \times 1\mu$ ; paraphyses filiform,  $1\mu$  thick. (Fig. 8, p. 323).

On palm petiole, Nilgiri Hills, India.

In spite of the filiform paraphyses the habit seems scarcely that of a *Lachnellula* (= *Trichoscyphella*) and I would like to see further material before proposing a transfer to that genus.

*Dasyscypha allantospora* Earle apud Greene, Pl. Baker. 2 (1): 5 (1901).

The Kew example of Baker 25, on *Crataegus rivularis*, is *Perrotea flammea*, as already indicated for the species by Seaver (1928). According to Earle his species occurred also on twigs of *Rhus trilobata* and *Fendlera rupicola*.

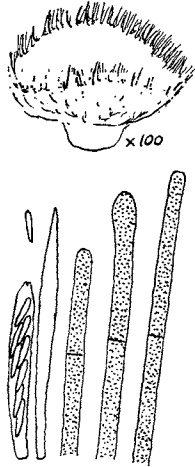


FIG. 11. *Lachnum arundinariae*. Apothecium  $\times 100$ ; details  $\times 660$ .

*Lachnella andina* Speg. in An. Mus. Nac. Buenos Aires 19: 449 (1909).

***Perrotea andina*** (Speg.) Dennis, comb. nov.

Apothecia gregarious, sessile on a broad base, cupulate, up to 1 mm. diameter, sooty brown with reddish brown marginal hairs and almost black base, disc concave and concealed by the incurved margin, yellowish when fresh ('disco ochroleuca', Spegazzini). Hairs cylindrical, long, undulating, obtuse, septate, with rather thick, smooth, dark brown walls, paler or even hyaline at the tip,  $3\mu$  wide; asci cylindric-clavate, rounded above, 8-spored,  $75-80 \times 9\mu$ , pore not blued by Melzer's reagent; ascospores biseriata, elliptic-cylindric, rounded at each end, often slightly curved, nonseptate,  $9-11 \times 2.5\mu$ ; paraphyses cylindrical or slightly enlarged upwards to the rounded tip, only slightly longer than the asci. (Fig. 10, p. 324).

On decorticated twigs of *Patagonium pinifolium* (*Leguminosae*), Puente del Inca, Mendoza, Argentina, Feb. 1908 (type in LP).

*Lachnum arundinariae* Cash in Journ. Wash. Acad. Sci. 30: 301 (1940),  
non *Dasyscyphus arundinariae* (Berk.) Sacc., Syll. Fung. 8: 448 (1889).

***Dasyscyphus milleri* Dennis, nom. nov.**

On dead leaves of *Arundinaria tecta*, Bobbin Mill, Athens, Georgia, U.S.A.,  
12.5.1939, *G. E. Thompson & J. H. Miller* (BPI).

This seems to be a good species, adequately described by its author, though one should note that the thin-walled, cylindrical, hyaline, finely granulate hairs are occasionally swollen at the tip, in spite of her statement to the contrary. The minute ascus pore is blued by Melzer's reagent. (Fig. 11, p. 325).

*Peziza arundinis* Fr., Syst. Myc. 2: 105 (1822).

*Trichopeziza arundinis* (Fr.) Sacc., Syll. Fung. 8: 431 (1889).

*Lachnum arundinis* (Fr.) Rehm in Rabenh., Krypt. Fl. 1 (3): 896 (1893).

As represented by Jaap. Fungi selecti exsiccati 85, on *Calamagrostis lanceolata* this scarcely differs from *Dasyscyphus albotestaceus* (Desm.) Masee. Fries's diagnosis suggests a darker haired species, more like *D. phragmiticola* P. Henn. & Ploettner. Professor Nannfeldt informs me that no specimen of *P. arundinis* has survived in Fries's herbarium at Uppsala and the name would seem best abandoned.

*Lachnella asema* Phill. in Grevillea 19: 73 (1891).

*Trichopeziza asema* (Phill.) Sacc., Syll. Fung. 10: 20 (1892).

*Dasyscyphus asemus* (Phill.) Masee, Brit. Fung. Fl. 4: 336 (1895) [as *Dasyscypha ascuna*].

***Psilachnum asemum* (Phill.) Dennis, comb. nov.**

Apothecia scattered, superficial, sessile to short stalked, very minute, whitish when fresh, drying dark brown with a white hairy margin. Excipulum composed of short prismatic cells in vertical series, about 8–10 × 5–6 $\mu$ , their walls turning light brown with age, basal cells in stipitate specimens darker brown and globose, up to 20 $\mu$  diameter; hairs only feebly developed on the flanks of the receptacle, well developed and up to 50 $\mu$  long at the margin, subcylindrical, slightly tapering upwards to a rounded tip, with 1–2 septa, rarely 3, near the base, smooth, 3–4  $\mu$  wide; asci cylindrical, sessile, pore not blued by Melzer's reagent, 8-spored, 50–55 × 8 $\mu$ ; ascospores biseriate, elliptic-cylindric, 10–12(–15) × 3–4 $\mu$ ; paraphyses broadly lanceolate, longer than the asci, about 60 × 4–5 $\mu$ . (Fig. 12, p. 327).

On dead leaves of a *Carex*, Berrington, Shropshire, July 1880.

Phillips seems to have been mistaken in stating the paraphyses to be 'slenderly filiform' and there is no doubt this is a synonym of *D. helotioïdes* (Rehm) Dennis and a slightly earlier name for it. Its affinity will be with *Psilachnum* von Höhnel.

*Peziza (Dasyscyphae) atrocitrina* Berk. & Br. in Journ. Linn. Soc. Bot. 14: 106 (1873).

*Velutaria atrocitrina* (Berk. & Br.) Sacc., Syll. Fung. 8: 488 (1889).

***Perrotia atrocitrina* (Berk. & Br.) Dennis, comb. nov.**

Apothecia sessile, cupulate, about 1 mm. diameter, clothed with long reddish-brown hairs, disc yellowish drab; according to Berkeley the fresh



colours were different, 'extus floccis citrinus villosa: hymenio atro'. Hairs cylindrical or slightly tapering to a rounded tip, about  $90 \times 4 \mu$ , closely septate, wall thin, brown, now almost smooth but Berkeley's sketch shows the coarse scattered granules typical of a *Perrotia*, possibly these gave the yellow tint to the fresh hairs; asci clavate, long stalked, up to  $175 \times 14 \mu$ , apex rounded nowhere blued by Melzer's reagent, 8-spored; ascospores 2-3-seriate, cylindric-elliptic to vermiform, rounded at each end, up to 11-septate, hyaline  $20-40 \times 4-5 \mu$  ( $.0018-.002$  inches long =  $46-51 \mu$ , according to Berkeley); paraphyses slender, cylindrical, about  $1 \mu$  thick, apex rounded. (Fig. 13).

On bare wood, Ceylon, *G. H. K. Thwaites* 274.

Obviously this is a typical *Perrotia*.

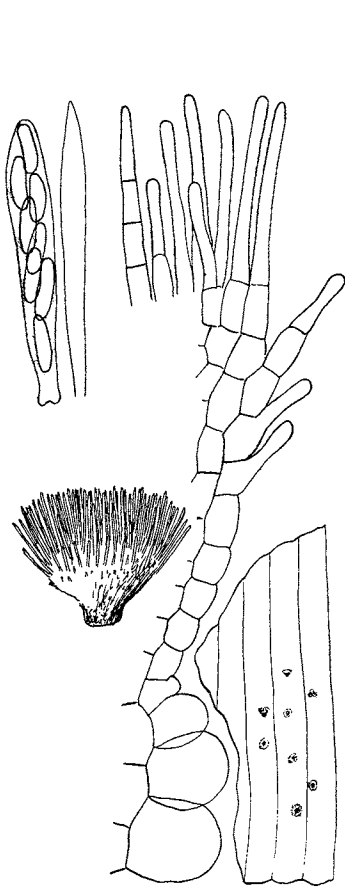


FIG. 12. *Lachnella asema*. Habit sketch  $\times 10$ ; apothecium  $\times 100$ ; details  $\times 660$ .

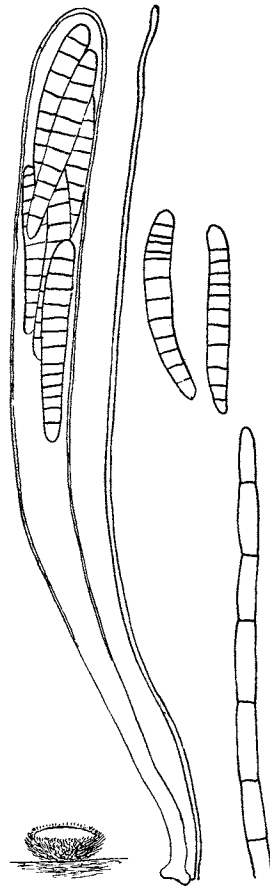


FIG. 13. *Peziza atrocitrina*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Peziza atrofuscata* Schwein. in Trans. Amer. Phil. Soc. Philad., n.s. 4: 174 (1832).

*Lachnella atrofuscata* (Schwein.) Sacc., Syll. Fung. 8: 399 (1889).

Apothecia sessile, blackish brown and almost naked below, margin deeply incurved and fringed with dark brown hairs, about 1 mm. diameter. Flesh

composed of interwoven hyaline hyphae, excipulum of short prismatic cells, about  $10 \times 5-7\mu$ , in rows at a high angle to the surface, their walls thin and colourless or yellowish except for the surface layer in which they are thickened and reddish brown; hairs cylindrical or tapered above to a rounded tip, septate, with rather thick brown granulate walls, about  $100 \times 4-5\mu$ ; asci cylindrical-clavate, 8-spored, about  $55 \times 5\mu$ ; ascospores cylindrical-clavate,  $10-12 \times 2\mu$ ; paraphyses lanceolate, longer than the asci, about  $5\mu$  broad. (Fig. 14).

On decorticated wood, Bethlehem, Pennsylvania, ex herb. Schweinitz in herb. Berkeley.

In Seaver (1951) this keys to *Lachnella populicola* Seaver but it is not that species. *Peziza incarnescens* Schwein. and *P. fuscobarbata* Schwein. appear to be synonyms. The fungus is perhaps a *Cenangiosis* rather than a *Dasyscyphus*.

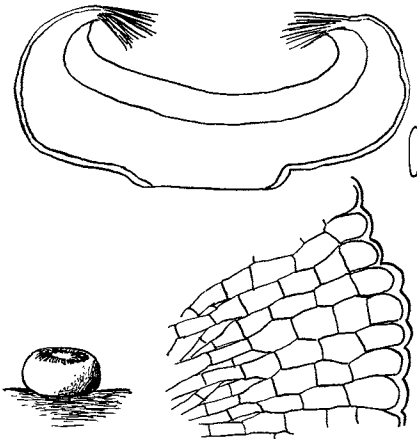


FIG. 14. *Peziza atrofusca*. Apothecium  $\times 10$ ; diagrammatic section  $\times 60$ ; details  $\times 660$ .

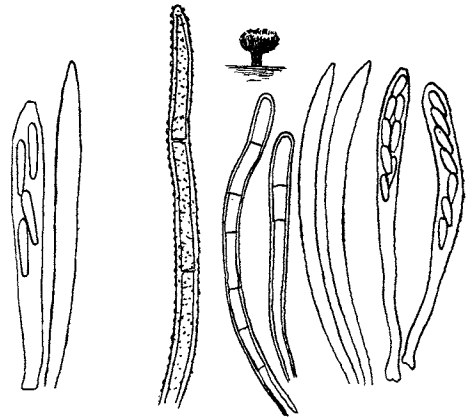


FIG. 15. *Lachnum atropurpureum*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Lachnum atropurpureum* Dur. in Journ. Mycol. 10: 100 (1904).

*Lachnella atropurpurea* (Dur.) Seaver, N. Amer. Cup-fungi (Inoperculates): 266 (1951).

***Dasyscyphus atropurpureus* (Dur.) Dennis, comb. nov.**

On the inner surface of loose *Eucalyptus* bark, Stanford University, California, U.S.A., 9.1.1903, *E. B. Copeland*, ex Baker, Plants of the Pacific Slope 2724 (NY).

There is nothing to add to Durand's full and accurate description. As he says, the fungus has no relationship with *D. eucalypti* (Berk.) Sacc., which I have transferred to *Zoellneria*, but is a good *Dasyscyphus* near *D. elegantulus* (Karst.) Rehm. One may guess the substrate to be accidental but *D. atropurpureus* seems sufficiently distinguished from *D. elegantulus* by its stipitate, not sessile, apothecia and its iodine-negative asci. (Fig. 15).

*Peziza badiella* Karst. in Not. Sällsk. Fauna Flora Fennica 10: 201 (1869).

*Lachnum badiellum* (Karst.) Karst. in Bidr. Finlands Natur och Folk 19: 182 (1871).

Apothecia scattered, sessile on a small base,  $250\mu$  diameter, cupulate, brown and fringed with brown hairs. Hairs cylindrical, obtuse, septate, up

to  $130 \times 6 \mu$ , with thick, smooth, brown walls, the apical cell often thin-walled and colourless; asci  $40-50 \times 5 \mu$ , the pore blued by Melzer's reagent; ascospores biseriata, cylindric-clavate,  $8-10 \times 2 \mu$ ; paraphyses narrowly lanceolate,  $2 \mu$  wide. (Fig. 16).

On rotting culms of *Scirpus maritimus* near Wasa, Finland, 13.8.1867, (H).

Karsten had labelled the packet 'Peziza nidulus' and added 'badiella' above. I see, indeed, little but the host to distinguish it from *Dasyscyphus nidulus* (Schmidt & Kunze) Masec.

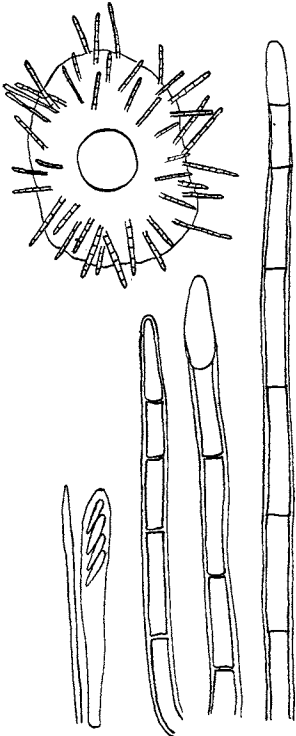


FIG. 16. *Peziza badiella*. Apothecium from below  $\times 100$ ; details  $\times 660$ .

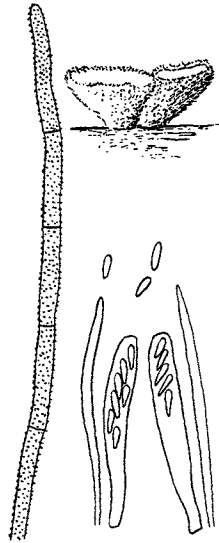


FIG. 17. *Dasyscyphus bicolor* var. *rhododendri*. Apothecia  $\times 10$ ; details  $\times 660$ .

*Dasyscypha bicolor* (Bull. ex St. Amans) Fuck. var. *rhododendri* Rehm in 26th Ber. Nat. Ver. Augsburg: 30 (1881).

*Lachnum bicolor* (Bull. ex St. Amans) Karst. var. *rhododendri* (Rehm) Rehm apud Rabenhorst, Krypt. Fl. 1(3): 871 (1893).

***Dasyscyphus rhododendri* (Rehm) Dennis, comb. nov.**

Apothecia solitary or in clusters, sessile, cupulate, up to 1 mm. diameter, receptacle yellowish, clothed with dense white hairs, 'disco rubicundo'. Hairs cylindrical, undulating, multiseptate, up to  $110 \times 3.5-5 \mu$ , with thin, hyaline, granulate walls, apex obtusely rounded; asci cylindric-clavate,  $40-50 \times 5-6 \mu$ , apex rounded, not blued by Melzer's reagent, 8-spored; ascospores irregularly biseriata, elliptic-fusoid,  $5-6 \times 1-1.5 \mu$ ; paraphyses cylindrical,  $2 \mu$  wide but tapered at the tip and distinctly longer than the asci. (Fig. 17).

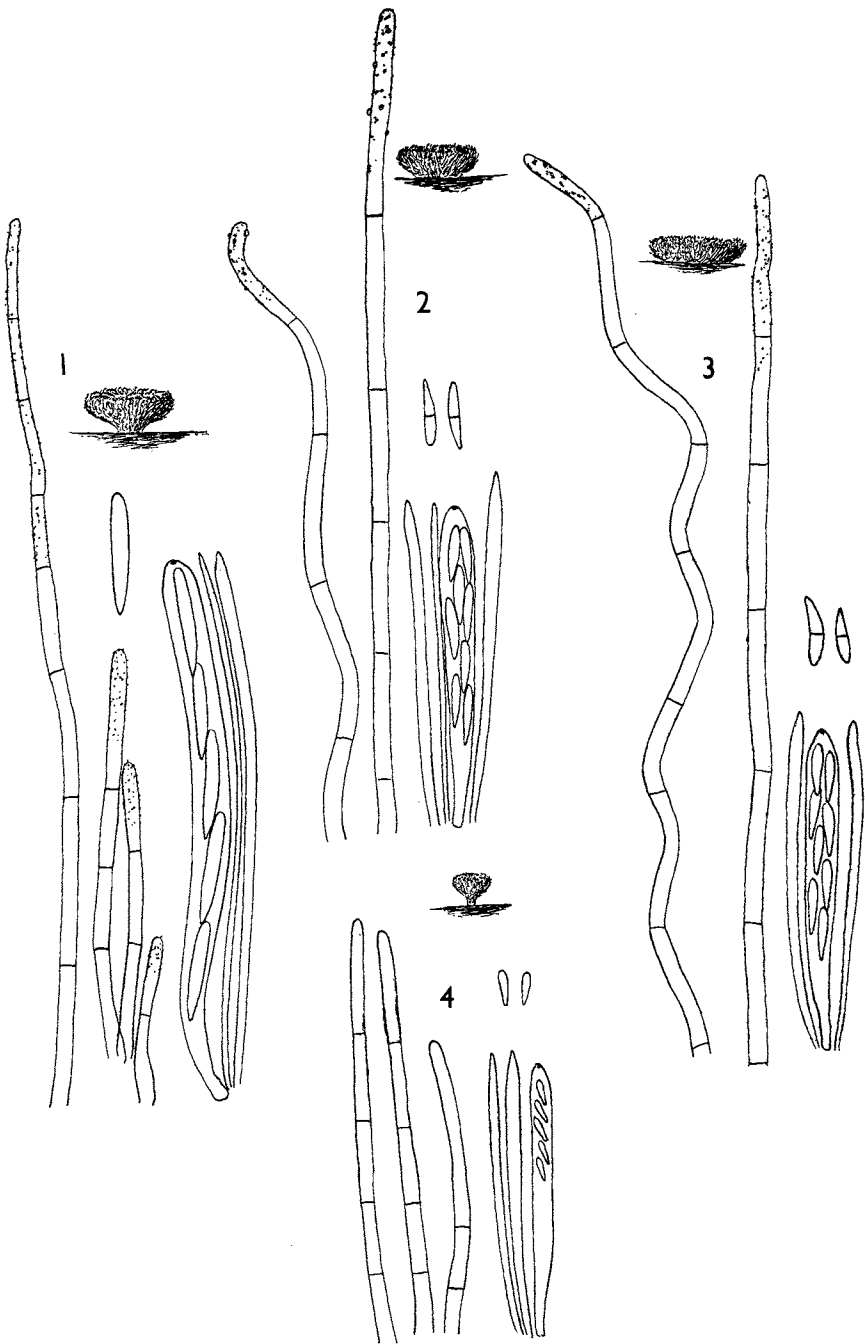


FIG. 18. Some members of the *Dasyscypha corticalis* complex. 1, *Peziza borealis*; 2, *Dasyscypha canescens*; 3, *D. variegatus*; 4, *Peziza soleniaeformis*. Apothecia  $\times 10$ ; details  $\times 660$ .

On fallen twigs of *Rhododendron ferrugineum*, Tyrol, Austria, Aug. 1872, *Rehm*, Ascomyceten 110.

*D. bicolor* is not confined to *Quercus*, there is European material at Kew on *Lonicera* and *Salix*, but it retains its characteristic thick-walled very long hairs and broad lanceolate paraphyses on all substrata. *Rehm* 110 does not appear to me to be referable to a variety of *D. bicolor*, from which it differs in both these characters. It probably represents a good species.

*Peziza (Dasyscypha) borealis* Ellis & Holw. apud Arthur et al in Bull. Minnesota Geol. & Nat. Hist. Survey 3: 36 (1887).

*Dasyscyphus borealis* (Ellis & Holw.) Sacc., Syll. Fung. 8: 457 (1889).

*Atractobolus borealis* (Ellis & Holw.) Kuntze, Rev. Gen. Pl. 3(2): 445 (1898).

Apothecia superficial, cupulate and sessile on a small base, about 1 mm. diameter, clothed with long light brown hairs, disc concave, pallid. Hairs cylindrical straight, tapered above to a rounded tip, up to  $175 \times 3.5 \mu$ , septate, wall thin, brown and smooth below, hyaline and irregularly finely encrusted towards the apex, no loose crystal balls seen. Asci cylindrical-clavate,  $105 \times 8 \mu$ , 8-spored, pore blued by Melzer's reagent; ascospores irregularly biseriate, cylindrical-clavate, tapered below,  $18-24 \times 2.5-3.5 \mu$ , septum not observed; paraphyses cylindrical with pointed tips,  $2-2.5 \mu$  thick, as long as the asci. (Fig. 18, p. 330).

On rotten wood, Vermilion Lake, Minnesota, 25.7.1886, *Holway* 264 (type in NY).

Certainly this belongs to the *D. corticalis* complex, as indicated by Seaver. The hairs are not spirally twisted as in the type of *D. canescens* or in Boudier's figure of *D. corticalis*. The spores and asci are also a little large and it is surprising that no septa were seen in the former, by the writer or, apparently, by Ellis.

*Lachnella brachytricha* Cooke & Phill. in Grevillea 19: 73 (1891).

*Dasyscypha brachytricha* (Cooke & Phill.) Sacc., Syll. Fung. 10: 22 (1892).

The type collection is quite typical material of *Helotium parile* (Karst.) Karst. and, as it is mounted on one of the characteristic tabs of paper used by Carmichael for his herbarium, it presumably came from the same place as the type of *Hymenoscypha emergens* Cooke & Phill., viz. Appin, Argyll, Scotland. *H. emergens* is also a synonym of *H. parile*.

*Peziza caesio-lutea* Berk. & Br. in Journ. Linn. Soc. Bot. 14: 106 (1873).

*Trichopeziza caesio-lutea* (Berk. & Br.) Sacc., Syll. Fung. 8: 412 (1889).

**Chlorosplenium caesio-luteum** (Berk. & Br.) Dennis, comb. nov.

Apothecia gregarious, subsessile with a small base, at first cupulate with an even margin, then with the receptacle much lobed and convoluted, disc yellow, less than 1 mm. diameter, receptacle blackish olive, downy. Excipulum composed of parallel hyphae with short prismatic cells  $5-8 \times 4 \mu$ , in rows at a high angle to the surface and terminating in cylindrical, undulating, obtuse, thin-walled, coarsely granulate hairs up to  $40 \times 3 \mu$ , with interspersed lumps of crystalline matter; asci cylindrical, apex conical with a small pore blued by Melzer's reagent, 8-spored,  $25 \times 3 \mu$ ; ascospores biseriate, rod-shaped, often slightly curved and tapered below,  $3-4 \times$  scarcely  $1 \mu$ ; paraphyses filiform,  $1 \mu$  thick, with rounded tips, as long as or often much shorter than the asci. (Fig. 19, p. 330).

On bark, Central Province, Ceylon, Dec. 1868, *Thwaites* 1063.

In spite of the hairs, which might suggest *Cistella*, the structure has much in common with *Chlorosplenium*. Compare also *Lachnum viridulum*, below.

*Lachnea callimorpha* Karst. in Not. Sallsk. Fauna Flora Fennica 11: 250 (1870).

*Lachnum callimorphum* (Karst.) Karst. in Bidr. Finlands Natur och Folk 19: 173 (1871).

*Lachnella callimorpha* (Karst.) Phill. in Grevillea 16: 94 (1888).

*Dasyscypha callimorpha* (Karst.) Sacc., Syll. Fung. 8: 451 (1889).

*Erinella callimorpha* (Karst.) Rehm in Rabenh., Krypt. Fl. 1(3): 1241 (1896).

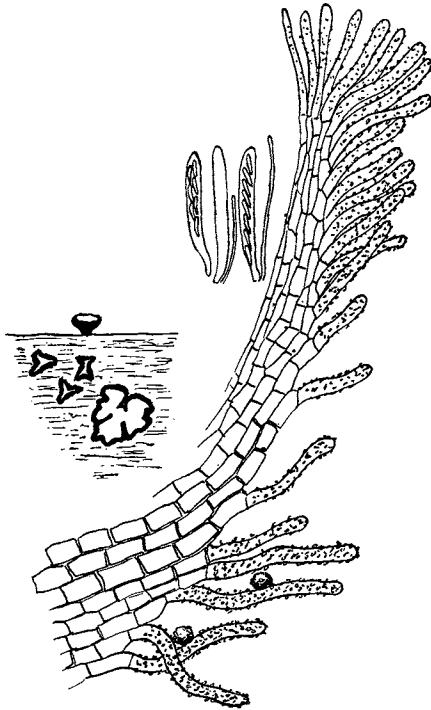


FIG. 19. *Peziza caesiolutea*. Apothecia  $\times 10$ ; details  $\times 660$ .

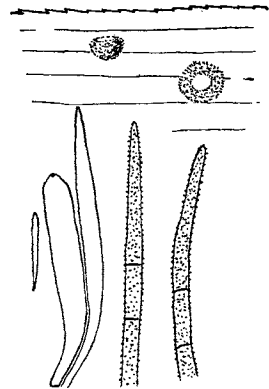


FIG. 20. *Lachnea callimorpha*. Apothecia  $\times 10$ ; details  $\times 660$ .

Dennis (1949) had seen no material of this species and merely quoted Karsten's diagnosis. Since then I have had an opportunity of examining the type, preserved at Helsinki, collected on *Carex ericetorum*, Mustiala, 31.5.1869, from which Fig. 20 has been prepared. (Fig. 20).

Karsten's diagnosis is, as usual, perfectly accurate. One may add that the hairs are thin-walled, finely granulate, often 2-septate, about  $50 \times 3-4\mu$  and taper evenly to a point. The minute ascus pore is blued by iodine. Rehm was evidently mistaken in citing the hairs as  $300\mu$  long. The species of *Dasyscyphus* on sedges and grasses are difficult to define but this one seems distinct in its almost sessile apothecia, pointed hairs and long slender ascospores,  $16-20 \times 1-2\mu$ .

*Peziza (Dasyscypha) callochaetes* Ellis & Everh. in Journ. of Mycol. 4: 99 (1888).

*Dasyscypha callochaetes* (Ellis & Everh.) Sacc., Syll. Fung. 8: 462 (1889).

*Lachnella callochaetes* (Ellis & Everh.) Sacc., *op. cit.*, in synonymy only.

*Atractobolus callochaetes* (Ellis & Everh.) Kuntze, Rev. Gen. Pl. 3(2): 445 (1898).

**Zoellneria callochaetes** (Ellis & Everh.) Dennis, comb. nov.

Apothecia scattered, superficial, stipitate, dark brown to black, disc flat, about 0.5 mm. diameter, receptacle bearing rather sparse, spreading, black bristles, stalk slender, cylindrical, smooth. Excipular hyphae parallel, with prismatic cells  $4\mu$  wide; hairs tapered evenly from a slightly swollen base to a narrowly rounded tip, multiseptate, with thick, smooth, brown walls, up to  $250 \times 7\mu$ ; asci clavate, 8-spored,  $70-80 \times 9\mu$ , pore not blued by Melzer's reagent; ascospores irregularly biseriata, cylindric-clavate or slightly inequilateral, tapered below,  $12-13 \times 3\mu$ ; paraphyses filiform, slightly enlarged to the rounded tip. (Fig. 21, p. 334).

On fallen leaves of *Myrica cerifera*, Newfield, New Jersey, July & August 1875.

Though both Saccardo and Seaver give the basionym as *Lachnella callochaetes* Ellis & Everh. this name appears not to have been effectively published.

*Dasyscypha calyculiformis* (Schum. ex Fr.) Rehm var. *latebricola* Rehm in 26th Ber. Nat. Hist. Vereins in Augsburg: 30 (1881).

*Lachnella calyculiformis* (Schum. ex Fr.) Phill. var. *latebricola* (Rehm) Phill., Man. Brit. Discom.: 237 (1887).

*Trichopeziza latebricola* (Rehm) Lambotte, Fl. Mycol. Belg., Suppl. 1: 294 (1887) [as 'labbricola Rehm'].

*Lachnum calyculiforme* (Schum. ex Fr.) Karst. var. *latebricola* (Rehm) Rehm in Rabenh., Krypt. Fl. 1(3): 898 (1893).

Apothecia cupulate, short stalked, clothed with light brown hairs, disc about 1 mm. diameter, whitish. Hairs cylindrical, undulating, with thin, reddish brown, finely granulate walls, multiseptate, up to  $175 \times 3-4\mu$ , the apical cell usually hyaline, not yielding a purple stain in KOH, the colour is in the wall, not in the sap; there are also short brown, granulate-walled, downy hairs interspersed, about  $10 \times 3\mu$ ; asci cylindric-clavate,  $45-50 \times 6\mu$ , 8-spored, the pore blued by Melzer's reagent; ascospores biseriata,  $6-7 \times 2\mu$ ; paraphyses lanceolate,  $3\mu$  wide, about  $15\mu$  longer than the asci. (Fig. 22, p. 334).

On dead twigs of *Rhododendron ferrugineum* and *Erica*, Kuhtei (Oetz), Tyrol, Austria, Aug. 1872, Rehm Ascomyceten 111. Also on *Rhododendron*, Ceitzpfadsee, Bintal, Wallis, Switzerland, 1.9.1955, *J. Grenmen* 1190.

This fungus appears to be somewhat intermediate in character between *Dasyscyphus calyculiformis* and *D. clandestinus* (Bull. ex Fr.) Fuck. If it proves to be confined to *Ericaceae* it will be worth raising to the specific rank.

*Peziza (Dasyscyphae) campanula* Ellis in Bull. Torr. Bot. Club 8: 73 (July 1881); non *Peziza campanula* Nees ex Fr., Syst. Myc. 2: 123 (1822).

*Lachnella campanula* Ellis apud Sacc., Syll. Fung. 8: 396 (1889).

On 'Quaking Asp', Pleasant Valley, Utah, U.S.A., March 1881, S. J. Harkness 6 (NY).

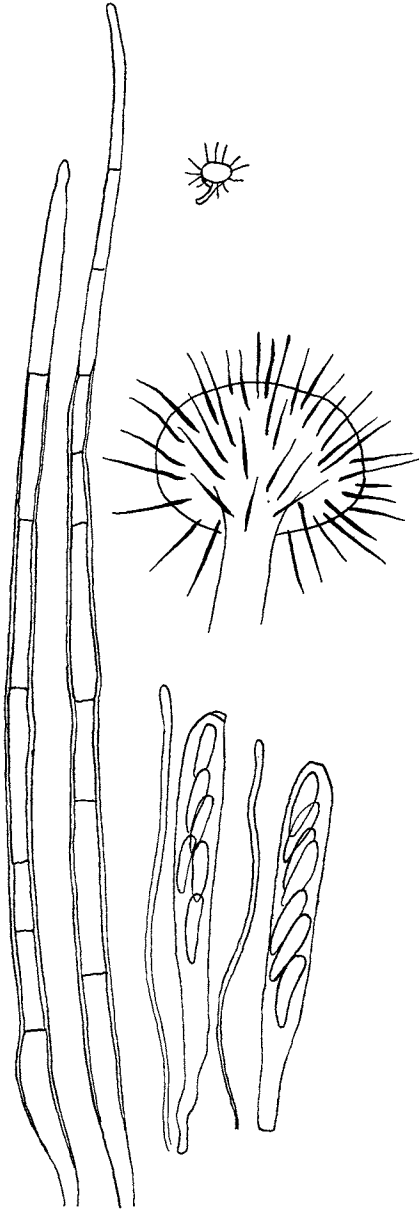


FIG. 21. *Peziza callochaetes*. Apothecia  $\times 8$  &  $60$ ; details  $\times 660$ .

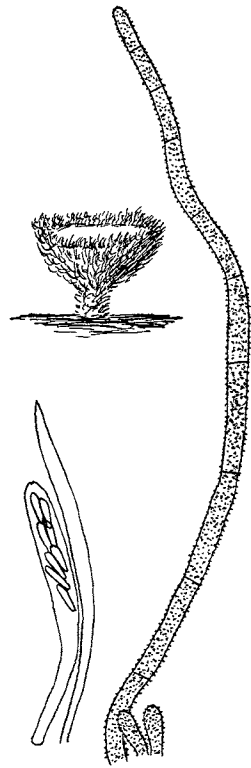


FIG. 22. *Dasyscypha calyculiformis* var. *latebricola*. Apothecium  $\times 20$ ; details  $\times 660$ .

As already indicated by Seaver, this is a 'Cyphella', apparently identical with *Lachnella eruciformis* (Fr.) W. B. Cooke and *C. albocarnea* Quel. (1878). It is a *Lachnella* with finely granulate pseudoamyloid hairs distorted by KOH and small cylindrical to subballantoid spores  $9-10 \times 2.5\mu$ . The host is presumably 'Quaking Aspen', *Populus tremuloides*. Wood of *Populus* is the normal substrate for the species according to W. B. Cooke.



*Pseudohelotium canadense* Ellis & Dearn. in Proc. Canad. Inst. 14: 89 (1897) [not seen].

*Lachnella canadense* (Ellis & Dearn.) Seaver, N. Amer. Cup-fungi (Inoperculates): 265 (1951).

On dead stems of *Arctium lappa*, London, Ontario, Canada, Aug. 1895, Dearness 2340 (NY). (Fig. 23).

This has nothing to do with the *Hyaloscyphaceae* but is that common large-spored *Phialea* of Composite stems which Rehm called *P. cyathoidea* var. *albidula* (Hedw. ex Karst.) Rehm.

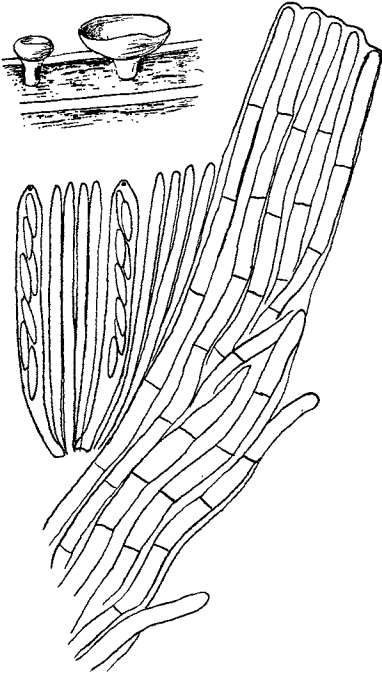


FIG. 23. *Pseudohelotium canadense*. Apothecia  $\times 10$ ; section  $\times 660$ .

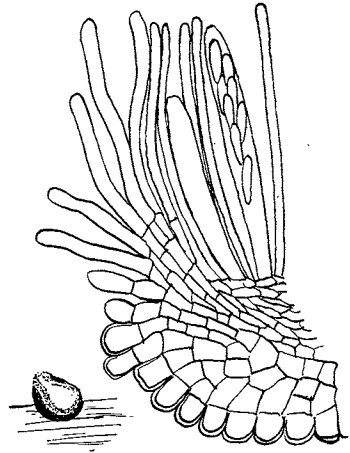


FIG. 24. *Peziza carneorubra*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Peziza carestiana* Rab., Fungi Europaei II: 913 and in Hedwigia 5: 189 (1866).

*Helotium carestianum* (Rab.) Karst. in Bidr. Finlands Natur och Folk 19: 161 (1871).

*Lachnella carestiana* (Rab.) Karst. in Acta Soc. Fauna Fl. Fenn. 2 (6): 132 (1885).

*Dasyscypha carestiana* (Rab.) Sacc., Syll. Fung. 8: 452 (1889).

*Micropodia carestiana* (Rab.) Boud., Hist. Classif. Discom. Europe: 128 (1907).

*Unguicularia carestiana* (Rab.) v. Höhn. in Sitzb. K. Akad. Wiss. Wien, Math.-nat. Kl. 118, Abt. 1: 391 (1909).

***Urceolella carestiana* (Rab.) Dennis, comb. nov.**

This species has not been figured or described by either von Höhnel or Dennis (1949). To the excellent description by Rehm (1893) I would only

add that the hairs are up to  $65 \times 3\mu$ , solid above the base, and remain unstained by Melzer's reagent. The fungus is evidently a typical species of *Urceolella* if *U. crispula* (Karst.) Boud. be accepted as the type species. This seems the most acceptable selection and has already been proposed by Nannfeldt but its adoption automatically invalidates the genus *Hyalotricha* Dennis (1949). (Fig. 25).

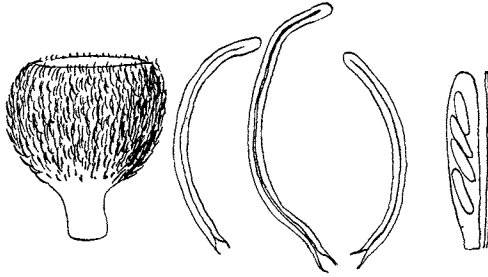


FIG. 25. *Peziza carestiana*. Apothecium  $\times 100$ ; details  $\times 660$ .

*Peziza carneorubra* Ellis apud Cooke in Bull. Buffalo Soc. Nat. Sci. 3: 22 (1875).

*Trichopeziza carneorubra* (Ellis) Sacc., Syll. Fung. 8: 405 (1889).

I am not aware that anything has been published about this beyond the original description: 'On stems of *Erigeron*. Sessile, rosy flesh colour; 1 mm. broad; sporidia linear binucleate. N.J. [Ellis]'. Unfortunately this is enough to validate the name. The material at Kew bears sessile cupulate apothecia with the receptacle now reddish brown and smooth apart from a downy white margin. The excipulum is composed of thin-walled, short, prismatic cells with yellowish walls, the surface layer thick-walled and reddish brown much as in *P. atrofuscata* Schwein. Here, however, the marginal hairs are hyaline, cylindrical, mostly non-septate, up to  $50 \times 3\mu$ . Asci measure  $45 \times 6\mu$ , cylindrical-clavate, 8-spored with biseriate ascospores  $9-10 \times 2\mu$  and cylindrical obtuse paraphyses  $2\mu$  thick. (Fig. 24, p. 335).

Clearly this is no *Dasyscyphus*, if it were referred to *Hyaloscyphaceae* at all it would have to be in *Cistella*, but the structure is reminiscent of *Dermateaceae* and hyaline marginal hairs are not uncommon in *Pyrenopeziza*. Fortunately no redistribution of the name is required for it is clearly a synonym of *Pyrenopeziza fuscorubra* Rehm apud Winter in Flora (1872), as represented by Rehm Ascomyceten 69, on dead stems of *Artemisia campestris* in Germany. A note by Ellis on a specimen at Kew—evidently part of the same collection as was distributed under the name '*Peziza fuscorubra* Rehm' in North American Fungi 60, on stems of *Bidens*, Feb. 1877—shows that he had come to the same conclusion. Hence, no doubt, the absence of any amplified description of his *P. carneorubra*. *Pyrenopeziza fuscorubra* was transferred to *Niptera* by Rehm in 1881 and to *Mollisia* by Saccardo in 1889 but is plausibly regarded as itself a synonym of *Peziza absinthii* Lasch (1850), the type of which I have not seen. Rehm (1892) finally called this *Pyrenopeziza absinthii* (Lasch) Rehm, citing at the same time his Ascomyceten 69. I am content to accept that name but it is odd that, in spite of Rehm's published synonymy, Boudier (1907) referred *P. fuscorubra* to *Mollisia* and *P. absinthii* to *Urceolella*.

*Peziza cedrina* Cooke in Bull. Buffalo Soc. Nat. Sci. 2: 294 (1875).

*Lachnella cedrina* (Cooke) Sacc., Syll. Fung. 8: 39 (1889).

*Chloroscypha cedrina* (Cooke) Seaver in Mycologia 30: 594 (1938).

*Kriegeria cedrina* (Cooke) Seaver in Mycologia 35: 493 (1941).

The type at Kew shows Seaver's interpretation and disposition of the species to be correct.

*Peziza (Dasyscypha) cenangioides* Ellis in Bull. Torr. Bot. Club 8: 123 (1881).

*Lachnella cenangioides* (Ellis) Sacc., Syll. Fung. 8: 396 (1889).

The type is scanty and in poor condition but a good second collection annotated by Ellis: 'this does not seem to be just the same as the Utah spec. but it may be only a var. of that' seems, indeed to be conspecific.

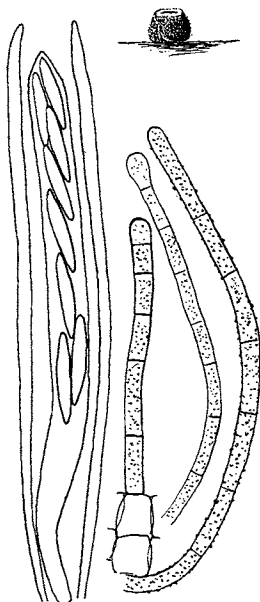


FIG. 26. *Peziza cenangioides*. Apothecium  $\times 10$ ; details  $\times 660$ , all from Suksdorf 229.

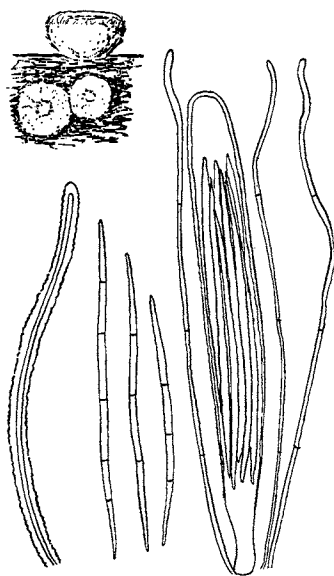


FIG. 27. *Erinella cervina*. Apothecia  $\times 12$ ; details  $\times 660$ .

Apothecia superficial, urceolate, then cupulate, sessile on a broad base, about 0.33–0.5 mm. diameter, clothed with short dark brown hairs, marginal fringe white or pale brown, disc concave, whitish. Hairs cylindrical, septate, 3–4 $\mu$  wide, 40 $\mu$  long in the type and up to 110 $\mu$  in the Washington collection, walls thin, brown, rather coarsely granulate, the short apical cell slightly enlarged and hyaline; excipular cells cuboid with thin brown walls, 7–8 $\mu$  diameter. Asci cylindrical-clavate, 8-spored, the small pore blued by Melzer's reagent, 70–80  $\times$  6 $\mu$  in the type (immature), up to 108  $\times$  8 $\mu$  (Washington); ascospores irregularly uniseriate, fusoid, 18–19  $\times$  3 $\mu$  (15–18 $\mu$ , Ellis); paraphyses cylindrical with pointed tips, 3–4 $\mu$  wide, slightly longer than the asci. (Fig. 26).

On dead herbaceous stems, 6000 ft. [1800 m.] Pleasant Valley, Utah, U.S.A., June 1881, S. J. Harkness 66 (type in NY); on decaying stems of *Mertensia paniculata*, 6000–7000 ft. [1800–2100 m.] Mt. Paddo, Washington, U.S.A., 19.9.1885, W. N. Suksdorf 229 (NY).

In neither collection can I see any resemblance to *Dasyscypha sulphurea*, as claimed by Seaver (1951). There is, on the contrary, a marked resemblance to *Peziza solenia* Peck (see p. 364), though the paraphyses tend to be more lanceolate than in the type of that species.

*Peziza cephaloïdea* Fuck., Fungi Rhenani No. 1872 (1866).

*Dasyscypha cephaloïdea* (Fuck.) Fuck. in Jahrb. Nass. Ver. f. Naturk, 23/24: 306 (1870).

This is *Dasyscyphus palearum* (Desm.) Sacc. on *Agropyron repens*. The brown-walled, finely granulate hairs, up to  $90 \times 5 \mu$ , show the characteristic short, pale, apical cell.

*Erinella cervina* Ellis & Everh. in Bull. Torr. Bot. Club 24: 468 (1897).

*Erinellina cervina* (Ellis & Everh.) Seaver, N. Amer. Cup-fungi (Inoperculates): 292 (1951).

***Lachnellula cervina*** (Ellis & Everh.) Dennis, comb. nov.

Apothecia gregarious, sessile, urceolate, less than 1 mm. diameter, completely clothed with brown hairs ('stag color' Ellis & Everh.), blackish towards the base, margin strongly incurved, disc whitish. Hairs cylindrical, undulating,  $40-70 \times 3-3.5 \mu$ , with thick, brown, heavily encrusted walls; asci cylindric-clavate,  $85 \times 9 \mu$ , 8-spored; ascospores fasciculate, acicular, pointed at each end,  $48-65 \times 1.5 \mu$ , 3-septate; paraphyses slender, cylindrical, septate, with rounded tips. (Fig. 27, p. 337).

On decaying birch branches, Dillon, Colorado, U.S.A., June 1897, *Bethel* 288.

The asci scarcely seem those of a *Perrotia* so the species is presumably best disposed in *Lachnellula* (= *Trichoscyphella*).

*Trichopeziza coarctata* Ellis & Everh. in The American Naturalist 31: 427 (1897).

***Cistella coarctata*** (Ellis & Everh.) Dennis, comb. nov.

Apothecia solitary or in small clusters, superficial, cupulate, sessile,  $400 \mu$  diameter, 'smoky white', drying buff, minutely downy. Hairs abundant on flanks and margin, subcylindric, tapered slightly to the rounded tip, walls thin, light brown, smooth, about 3-septate,  $40-45 \times 3-4 \mu$ . Asci cylindric-clavate, subsessile, 8-spored, pore blued by Melzer's reagent,  $40-45 \times 7 \mu$ ; ascospores biseriata, elliptical,  $6-8 \times 3 \mu$ ; paraphyses filiform, obtuse,  $1 \mu$  thick, no longer than the asci. Excipular cells prismatic, hyaline,  $8 \times 3-4 \mu$ . (Fig. 28, p. 339).

On decorticated branches of *Vaccinium myrtilloides*, mountains of Skamania county, Washington, U.S.A., 19.7.1894, *W. N. Suksdorf* 507 (NY).

Both asci and spores are a little larger than stated by Ellis and Everhart but there seems no reason to doubt the above is the fungus they saw on this type number. The material, though scanty, is in good condition.

*Peziza* (*Dasyscypha*) *columbina* Kalchbr. & Cooke in Grevillea 10: 144 (1882).

*Solenopezia columbina* (Kalchbr. & Cooke) Sacc., Syll. Fung. 8: 478 (1889).

Apothecia (?) scattered, sessile, cupulate, scarcely 0.5 mm. diameter, receptacle brownish, clothed with downy white hairs, disc concave, pallid.

Hairs cylindrical or tapering slightly to the rounded tip, with thin, hyaline, finely granulate walls, up to  $70 \times 4 \mu$ , mostly 2-septate. In the two fructifications examined no trace of spores or asci could be found. The position of the hymenium was occupied by slender, parallel, brown, obtuse hyphae.

On bark, Cape of Good Hope, South Africa.

Kalchbrenner and Cooke described 1-septate 'lanceolate' ascospores,  $14 \times 3.5 \mu$  and filiform paraphyses. If this was correct the fungus is perhaps a *Lachnellula* but narrowly lanceolate paraphyses have often been described as 'filiform'. The material surviving at Kew is too scanty to afford further information.

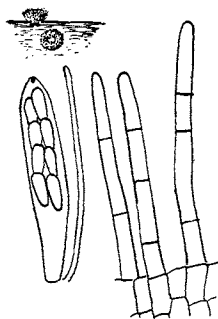


FIG. 28. *Trichopeziza coarctata*. Apothecia  $\times 7$ ; details  $\times 660$ .

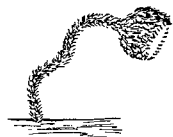


FIG. 29. *Lachnum concinnum*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Lachnum concinnum* Kirschst. in Ann. Mycol. 36: 384 (1939).

***Dasyscyphus concinns*** (Kirschst.) Dennis, comb. nov.

The type, in the Berlin herbarium, on decaying coniferous wood, indicates that this is probably a good species, differing from *D. clandestinus* not only in the substrate but also in the characters of the hairs. These are rather variable in shape but thin-walled, usually brown below, with a colourless apex which in some instances is still smooth though the remainder of the hair is coated with rather coarse granules. (Fig. 29).

*Peziza cookei* Pass. in Nuovo Giorn. Bot. Ital. 3: 258 (1875).

*Trichopeziza cookei* (Pass.) Sacc., Syll. Fung. 8: 412 (1889).

*Hyaloscypha cookei* (Pass.) Boud., Hist. Classif. Discom. Europe: 217 (1907).

***Urceolella cookei*** (Pass.) Dennis, comb. nov.

Apothecia gregarious, sessile on a small base, cupulate, whitish ('pallide rosea'), 0.5 mm. diameter, margin dentate, surface minutely downy, disc concave, pallid. Hairs cylindrical or slightly tapered to the rounded tip, often curved, up to  $30 \times 4 \mu$ , solid above the base, hyaline and remaining unstained in Melzer's reagent; asci cylindric-clavate, stipitate,  $30-45 \times 5 \mu$ , iodine negative; ascospores rodshaped,  $6 \times 1 \mu$ , paraphyses cylindrical, rounded above, no longer than the asci. (Fig. 30, p. 340).

On the inner side of *Pyrus malus* bark, in autumn, Vigheffio, Parma, Italy.

This seems to be distinguishable from *Peziza scrupulosa* Karst., *P. elaphines* Berk. & Br. and *Lachnella grisella* Cooke & Phill. (all three synonyms of *Urceolella cirrata* (Crouan) Boud. according to Le Gal (1953)) by its hairs remaining unstained in Melzer's reagent; probably also by the dentate margin, large asci and lack of brown pigment.

*Lachnum corni* Cash in Journ. Wash. Acad. Sci. 29: 47 (1939).

On dead leaves of *Cornus amomum*, Epps Bridge, Clarke Co., Georgia, U.S.A., 24.4.1938, J. H. Miller (BPI).

This seems to be doubtfully distinct from *D. fuscescens* (Pers. ex Fr.) S. F. Gray. Admittedly the apothecia look distinctive under a lens and would be taken for completely naked specimens of a *Phialea* sp. but this must surely be an artifact due to the hairs having become adherent to the receptacle.

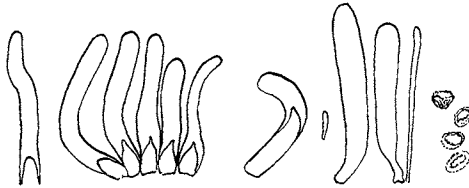


FIG. 30. *Peziza cookei*. Apothecia  $\times 7$ ; details  $\times 660$ .

*Hyalotricha corticicola* Dennis in Comm. Mycol. Inst. Mycol. Pap. 32: 75 (1949).

***Urceolella corticicola*** (Dennis) Dennis, comb. nov.

As already indicated under *Peziza caestiana*, adoption of *P. crispula* as type species of *Urceolella* automatically invalidates the generic name *Hyalotricha* and renders necessary the above recombination. Admittedly the hairs of *U. corticicola* differ from those of other species in that the lumen is not fully occluded but I doubt if a separate genus is justified on that account.

*Peziza crinella* Ellis & Everh. in Bull. Torr. Bot. Club 10: 76 (1883).

*Dasyscypha crinella* (Ellis & Everh.) Sacc., Syll. Fung. 8: 450 (1889).

*Atractobolus crinellus* (Ellis & Everh.) Kuntze, Rev. Gen. Pl. 3(2): 445 (1898).

***Psilachnum crinellum*** (Ellis & Everh.) Dennis, comb. nov.

Apothecia scattered, superficial, cupulate on a cylindrical slender stalk as long as the diameter of the cup, white, pruinose with a fimbriate margin, about  $200\mu$  diameter. Excipular cells rectangular, thin-walled, hyaline,  $10 \times 2.5-3\mu$ , their free tips forming minute downy hairs, marginal hyphae cylindrical,  $2.5-3\mu$  wide, sparingly septate, with thin smooth, hyaline walls and rounded tips, forming hairs up to  $50\mu$  long but tending to cohere and form  $\pm$  triangular teeth. Asci clavate with a short stalk and conical apex,  $45-47 \times 7\mu$ , 8-spored, the small pore blued by Melzer's reagent; ascospores biseriate, cylindric-clavate,  $7-8.5 \times 2\mu$  ( $9.5-11 \times 2\mu$  in Ellis's notes); paraphyses very soft and delicate, lanceolate,  $50-55 \times 4-5\mu$ , sometimes septate. (Fig. 31, p. 341).

On dead leaves of *Carex crinita*, lying partly in water, on the bank of a rivulet in shady woods, West Chester, Pennsylvania, U.S.A., June 1882, E.H.J. & G. No. 38.

Evidently this is closely allied to and probably an earlier name for *Helotium lateritio-album* Karst. (1887) = *Psilachnum lateritio-album* (Karst.) von Höhnel, on *Scirpus silvaticus* in Europe; akin also to *Dasyscyphus inquilinus* (Karst.) Winter on *Equisetum*. *Pezizella eburnea* (Rob.) Dennis on grasses differs mainly in its filiform paraphyses.

*Peziza (Dasyscypha) crossota* Ellis in Bull. Torr. Bot. Club 8: 124 (1881).

*Trichopeziza crossota* (Ellis) Sacc., Syll. Fung. 8: 413 (1889).

**Trichodiscus crossotus** (Ellis) Dennis, comb. nov.

As with *P. cenangioïdes* the type, from Utah, U.S.A., is in poor condition but there is a second much better and clearly conspecific collection from Washington State.

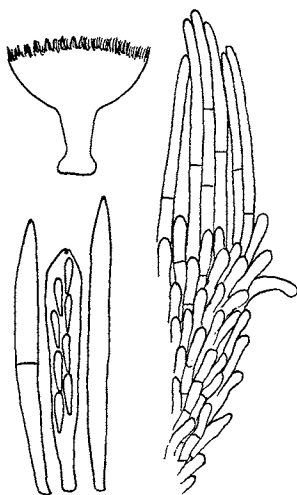


FIG. 31. *Peziza crinella*. Apothecium  $\times 100$ ; details  $\times 660$ .

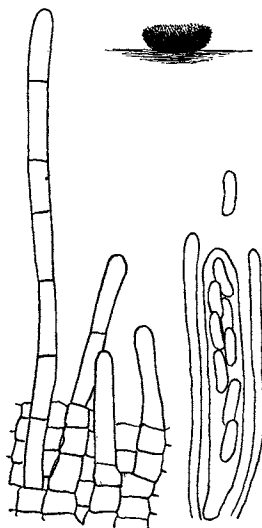


FIG. 32. *Peziza crossota*. Apothecium  $\times 20$ ; details  $\times 660$ .

Apothecia scattered, superficial, cupulate, sessile on a broad base, about 0.5 mm. diameter, clothed with blackish hairs; disc concave now brownish but apparently greenish when fresh, 'a dull bottle glass green throughout, disk and all'. Hairs cylindrical, obtuse, septate, up to  $130 \times 5 \mu$ , walls thin and dark olive-brown, smooth; excipular cells quadrate,  $5-7 \mu$  diameter, in vertical rows. Asci cylindrical-clavate,  $50-60 \times 6-7 \mu$ , 8-spored, pore blued by Melzer's reagent; ascospores biseriate, elliptic-cylindric, straight or slightly curved,  $6-9 \times 2.5 \mu$ ; paraphyses cylindrical,  $2-3 \mu$  wide, equal or longer than the asci, obtuse. (Fig. 32).

On weather beaten wood, 6000 ft. [1800 m.], Pleasant Valley, Utah, U.S.A. May 1881, S. J. Harkness (type in NY); on dead branches of *Arctostaphylos nevadensis*, 6000-7000 ft. [1800-2100 m.], Mt. Paddo, Washington, U.S.A., W. N. Saksdorf 344 (NY).

This is no *Dasyscyphus* because of the well-developed obtuse paraphyses, not a *Perrotia* because of the iodine positive asci and the hairs are not those of a *Lachnellula*.

*Peziza (Dasyscyphæ) dorcas* Berk. & Br. in Journ. Linn. Soc. Bot. 14: 106 (1873).

*Dialonectria dorcas* (Berk. & Br.) Cooke in Grevillea 12: 82 (1884).

*Solenopezia dorcas* (Berk. & Br.) Sacc., Syll. Fung. 8: 478 (1889).

*Nectria dorcas* (Berk. & Br.) Sacc., l.c. 9: 970 (1891).

It is odd that Berkeley described this in *Peziza* for he noted after the diagnosis: 'Looking at first much like a villous *Sphaeria*', which is precisely what it is. The smooth dark apical disc is drawn down when the perithecia collapse and become cupulate on drying, so as to assume the position in which one would expect to find a hymenium. The ascospores are hyaline, longitudinally striate,  $11-13 \times 5-5.5 \mu$ .

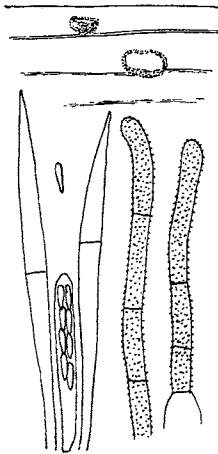


FIG. 33. *Lachnum eburneum*. Apothecia  $\times 10$ ; details  $\times 660$ .

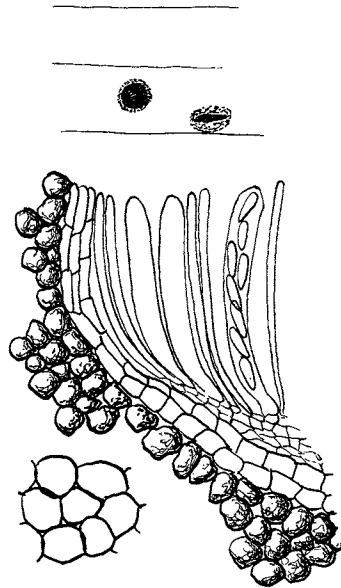


FIG. 34. *Peziza extricata*. Apothecia  $\times 10$ ; section and excipular cells in surface view  $\times 660$ .

*Lachnum eburneum* Kirschst. in Ann. Mycol. 36: 385 (1938).

***Dasyscyphus eburneus*** (Kirschst.) Dennis, comb. nov.

This seems to be a good species, characterized among the white-haired *Dasyscyphi* by its sessile apothecia, thin-walled, multiseptate, granulate hairs, small ascospores,  $6-8 \times 1-1.5 \mu$  and very long, septate, lanceolate paraphyses. (Fig. 33).

On dead stems of *Polygonatum verticillatum* in Bavaria, Germany, 3.7.1937, (type in B).

*Lachnea virginea* (Batsch. ex Fr.) Karst. \*\*\*\*\**L.* [subsp.] *elatiior* Karst. in Not. Sallsk. Fauna Flora Fennica 11: 249 (1870).

*Lachnea virgineum* (Batsch. ex Fr.) Karst. in Mycol. Fenn. 1: 169 (1871).  
\*\*\**L.* [subsp.] *elatius* (Karst.) Karst. in Bidr. Finlands Natur och Folk 19: 171 (1871).

*Dasyscypha elatiior* (Karst.) Sacc., Syll. Fung. 8: 446 (1889).



On grass roots, Mustiala, Finland, 19.7.1869 (type in H).

The type shows *D. elatior* to be yet another synonym of *D. pygmaeus* (Fr.) Sacc. as might, indeed, be guessed from Karsten's comments: '*L. virgineae similis, sed major . . . epithecio dilutissime luteo*'. The hairs measure  $45-50 \times 3.5-4\mu$  ( $-6\mu$  at the apex), asci  $50 \times 5-6\mu$ , ascospores  $8-12 (-14) \times 2-2.5\mu$  and paraphyses  $60 \times 4\mu$ .

*Lachnum engelmanni* Earle apud Greene, Pl. Baker. 1: 5 (1901).

On dead bark of *Picea engelmanni*, 10,500 ft. [3150 m.], Bob Creek, La Plata Mts., Colorado, U.S.A., 3.7.1898, Baker 1058.

The paraphyses are truly filiform with rounded tips and Seaver has correctly treated this name as a synonym of *Lachnellula arida* (Phill.) Dennis.

*Dasyscypha eryngiicola* Ellis & Everh. in Bull. Torr. Bot. Club 25: 506 (1898).

Apothecia scattered, sessile on a small base, shallow cupulate, clothed with white hairs, disc flat, yellow, 1-1.5 mm. diameter. Hairs cylindrical, obtuse, up to  $75 \times 2.5-3\mu$ , wall thin and now appearing smooth ('septate, minutely roughened' according to the diagnosis), excipulum soft, cream coloured and small-celled. Asci cylindrical-clavate,  $60-67 \times 6\mu$ , 8-spored; ascospores elliptic-cylindric or slightly clavate,  $12-16 \times 2-2.5\mu$ , nonseptate; paraphyses lanceolate,  $3.5\mu$  wide, slightly longer than the asci.

On dead stems of *Eryngium*, Ottawa, Canada, 25.10.1897, Macoun 581 (type in NY).

The type is in poor condition with only one fragmentary apothecium remaining, though there are numerous scars from which others have fallen. The affinity is probably with *D. mollissimus* (Lasch) Dennis though if so the hairs are very much shorter and more delicate than usual. Paraphyses were not mentioned in the published diagnosis, presumably by an oversight as in the notes on the type packet they are described as 'Stout, lance pointed > asci'. There is no resemblance to *Peziza labiata* Rob. (see p. 350), with which the species was compared by Ellis & Everhart.

*Peziza eupatorii* Schwein. in Trans. Amer. Phil. Soc. Philad. n.s. 4: 174 (1832).

*Trichopeziza eupatorii* (Schwein.) Sacc., Syll. Fung. 8: 426 (1889).

*Dasyscyphus eupatorii* (Schwein.) Masee in Journ. Bot. 34: 146 (1896).

*Lachnella eupatorii* (Schwein.) Seaver, N. Amer. Cup-fungi (Inoperculates): 272 (1951).

The fragment from Schweinitz now at Kew no longer shows the hymenial characters but Berkeley has drawn asci on the mount so there is no occasion to doubt the detailed description given of them by Masee, especially as the surviving excipular hairs agree precisely with his account. From this it is evident that the species is a true *Dasyscyphus* in the subgenus *Belonidium* (= *Trichopeziza*). It is somewhat intermediate in character between *Erinella nylanderii* Rehm and *Lachnum sulfureum* sensu Rehm in that, though the hair sap turns violet with alkalis, the ascospores are only 1-septate,  $12-20 \times 3\mu$ . It differs from all members of the *D. sulphureum* complex in that the hairs are brown instead of yellow or white when fresh. Compare also *D. meleagris* (p. 352).

*Peziza (Encoelia) extricata* Berk. & Curt. in Grevillea 3: 152 (1875).

*Lachnella extricata* (Berk. & Curt.) Sacc. Syll. Fung. 8: 401 (1889).

***Pyrenopeziza extricata*** (Berk. & Curt.) Dennis, comb. nov.

Apothecia subepidermal, erumpent, patellate, sessile on a broad base, disc dark brown, 0.5 mm. diameter, flat; receptacle dark brown but concealed by a whitish pulverulence, margin even, thin, not prominent. Excipulum composed of isodiametric, thin-walled, dark brown cells, c. 8  $\mu$  diameter, becoming slender and elongated towards the margin, completely covered by a deposit of hyaline crystalline lumps of excreted matter; asci cylindrical-clavate, sessile, 45–50  $\times$  5–6  $\mu$ , 8-spored, apex conical but the pore not clearly blued by Melzer's reagent; ascospores ovoid, tapered below, nonseptate, 6–8  $\times$  2  $\mu$ ; paraphyses as long as the asci, cylindrical, obtuse, 2  $\mu$  thick. (Fig. 34, p. 342).

On dead stem of some Umbellifer, Alabama, U.S.A., Peters 4566.

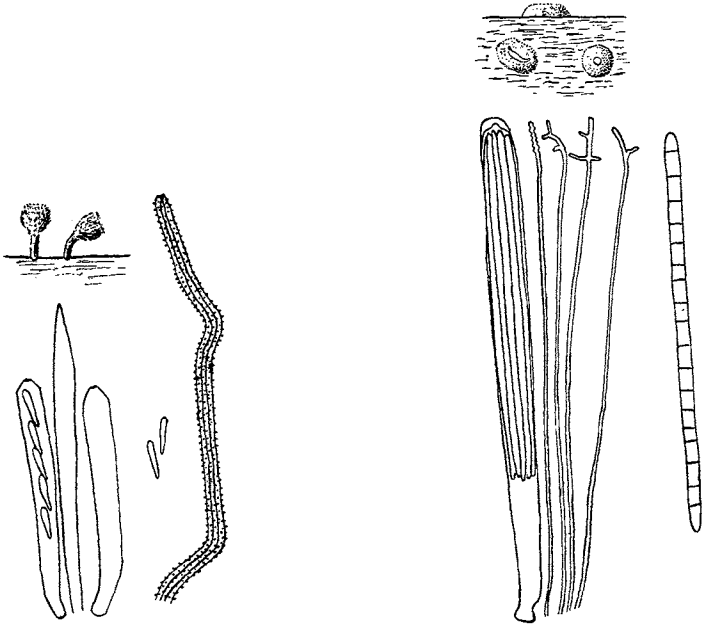


FIG. 35. *Lachnum foliicola*. Apothecia  $\times$  10; details  $\times$  660.

FIG. 36. *Peziza friabilis*. Apothecia  $\times$  10; details  $\times$  660. The ascospore on the right is from the Rhum collection.

Clearly *P. extricata* has nothing to do with *Lachnella* auct. non Fr. nor with any genus of *Hyaloscyphaceae*. The habit and structure suggest *Dermateaceae* and I propose to dispose of it for the time being in *Pyrenopeziza*. The dense coating of crystalline matter is, however, anomalous in that genus and an indication that its true position deserves further study by someone more familiar with the family.

*Lachnum foliicola* Keissler in Osterr. Bot. Zeitschr. 73: 123 (1924).

***Dasyscyphus foliicola*** (Keissler) Dennis, comb. nov.

Apothecia scattered over the lower surface of fallen leaves, superficial, cupulate, up to 0.5 mm. diameter, brown but clothed with snow white hairs,

seated on a slender, smooth, brown stalk. Hairs cylindrical, often undulating, with thick, hyaline, granulate walls and rounded tip, up to  $85 \times 3\mu$ ; asci cylindrical-clavate,  $40-47 \times 5\mu$ , apex conical with a small pore blued by Melzer's reagent, 8-spored; ascospores cylindrical-clavate,  $7-8 \times 1.5\mu$ ; paraphyses lanceolate,  $60-65 \times 5\mu$ . (Fig. 35, p. 344).

On *Rhododendron* sp., 4050 m., NW. Yunnan, China, July 1915, *Handel-Mazetti* 7129, distributed as Herb. Vindob. Krypt. Exs. 2928.

A very distinct species, with hairs of the *D. bicolor* type but not to be confused with *D. bicolor* var. *rhododendri* Rehm (see p. 329).

*Peziza (Dasyscyphae) friabilis* Phill. & Plowr. in Grevillea 4: 121 (1876).

**Schizoxylon friabilis** (Phill. & Plowr.) Dennis, comb. nov.

Apothecia superficial, sessile on a broad base, at first hemispherical, opening by an apical pore, finally with the disc fully exposed and a torn irregular margin, outer surface white-pulverulent, disc 'testaceous'. Excipular tissue composed of slender, much branched, hyaline hyphae  $1.5\mu$  wide, mingled with innumerable crystal balls as in a *Stictis*. Asci cylindrical, sessile, apex rounded with a thickened disc and central pore,  $80-95 \times 5\mu$ , unstained by Melzer's reagent, 8-spored; ascospores rod-shaped, rounded at each end,  $75-80 \times 3\mu$ , about 18-septate; paraphyses filiform, once or twice forked near the tip or with irregular short branches. (Fig. 36, p. 344).

On dead branches of *Quercus* sp., Dolgelly, Merionethshire, June 1875 (type); Kinloch, Isle of Rhum, Invernesshire, 30.9.1961, *Dennis*.

Phillips (1887: 408) rejected this species thus 'This turns out to be a very abnormal form of a *Schmitzomyia*, which quite misled me'. Certainly it has all the characters of a *Stictis* growing on the surface of the substrate instead of being embedded in it but I see no reason to regard *P. friabilis* as an abnormal growth. There are abundant apothecia on the type, seated not only on decorticated wood but also on the surface of bark. In the Rhum collection they grow on the surface of a *Stereum* adhering to the oak bark and there was no trace of a normal immersed *Stictis* on the same host. Both the localities cited are notorious for heavy and continuous rainfall but until it has been shown that the species of *Stictis* produce superficial fertile apothecia under such conditions it will be best to regard *P. friabilis* as a distinct species.

*Peziza (Dasysc.) frondicola* Ellis & Everh. in Journ. Mycol. 4: 99 (1888).

*Pirotaea frondicola* (Ellis & Everh.) Sacc., Syll. Fung. 8: 388 (1889).

Apothecia scattered, cupulate, sessile on a small base, black and clothed with short blackish hairs, gray at the margin, about  $250\mu$  diameter. Hairs cylindrical, obtuse, closely septate,  $40-45 \times 4-4.5\mu$ , with thin, brown, coarsely granulate walls. Asci sessile, cylindrical-clavate, 8-spored,  $27-33 \times 5-5.5\mu$ , the small pore blued by Melzer's reagent; ascospores biseriate, elliptic-clavate,  $8-9 \times 2\mu$ ; paraphyses not seen but filiform according to the diagnosis. (Fig. 37, p. 346).

On fallen pinnae of ? *Osmunda*, Newfield, New Jersey, U.S.A., June 1888 (type in NY).

There seems nothing to separate this specifically from *D. pteridis* (Alb. & Schw. ex Fr.) Masee.

*Peziza fuscidula* Cooke in Bull. Buffalo Soc. Nat. Sci. 3: 22 (1875).

*Dasyscyphus fuscidulus* (Cooke) Sacc., Syll. Fung. 8: 462 (1889).

*Peziza fuscidula* was characterized in 1875 merely by a list of five characters in which it differed from *P. marginata*, which had earlier been described as growing on *Andromeda* as well as *Quercus*. When he compiled the name in *Dasyscypha* in the Sylloge, Saccardo provided a short diagnosis, presumably supplied by Cooke or Ellis, followed by a latin translation of Cooke's differential characters of 1875.

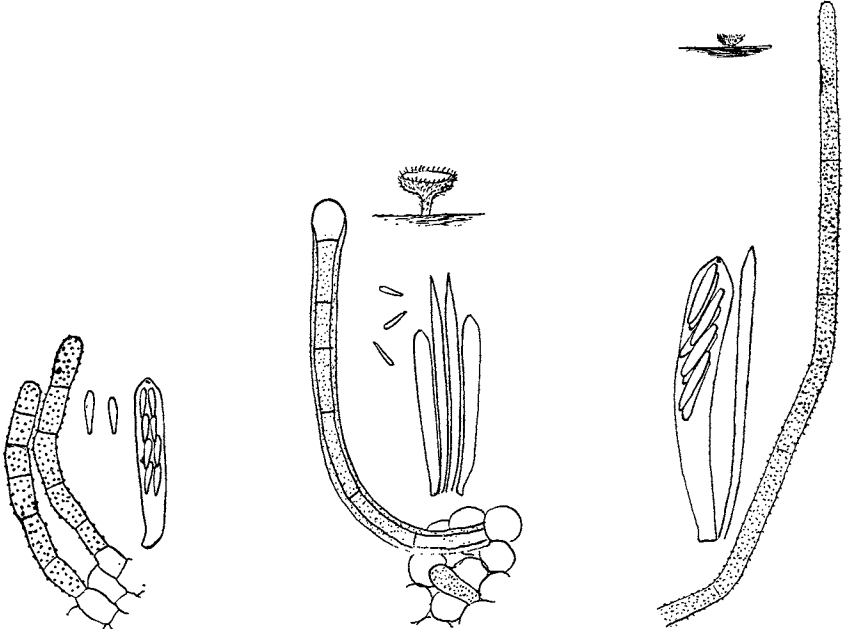


FIG. 37. *Peziza frondicola*.  
Apothecium  $\times 10$ ; details  
 $\times 660$ .

FIG. 38. *Peziza fuscidula*.  
Apothecium  $\times 10$ ; details  
 $\times 660$ .

FIG. 39. *Lachnum haleisiae*.  
Apothecium  $\times 7$ ; details  
 $\times 660$ .

The type at Kew is that part of *Ellis* 2151, type number of *P. marginata*, which is on *Andromeda* leaves. It shows short-stipitate brown apothecia with curved, cylindrical hairs,  $80-90 \times 5\mu$ , with rather thick brown walls, finely granulated surface and numerous septa. Each long hair ends in a short, broader, thin-walled, hyaline cell up to  $7\mu$  wide and between the long hairs are short unicellular brown ones about  $10 \times 4\mu$ , arising from the excipulum of rounded thin-walled cells. The asci are cylindrical-clavate about  $35 \times 3\mu$ , ascospores slender clavate,  $5-7 \times 1\mu$  and paraphyses lanceolate  $45 \times 2.5\mu$ . (Fig. 38).

On old leaves of *Andromeda*, Newfield, New Jersey, U.S.A., June 1874.

In spite of Cooke's confident assertion, I doubt if this be distinct from *P. marginata* or that from *Dasyscyphus fuscescens* (Pers. ex S. F. Gray) Rehm.

*Peziza fusco-barbata* Schwein. in Trans. Amer. Phil. Soc. Philad., n.s. 4: 173 (1832).

*Lachnella fuscobarbata* (Schwein.) Sacc., Syll. Fung. 8: 400 (1889).

The Kew fragment from the Schweinitz herbarium is very scanty and does not permit a full description but there is obviously a close resemblance to

*P. atrofusca* and *P. incarnescens*. The apothecia are cupulate, sessile, 0.5 mm. diameter, with a smooth reddish-brown receptacle and a dense marginal fringe of long reddish-brown hairs. A single layer of reddish-brown isodiametric cells covers a compact white flesh. The marginal hairs are cylindrical, about  $120 \times 4-5\mu$ , closely septate, their walls brown below, hyaline towards the rounded tip and not distinctly roughened. Immature asci measure  $70 \times 5\mu$  with ascospores  $10-12 \times 2\mu$ ; paraphyses lanceolate.

On decorticated stems of *Verbascum*.

There is also a structural resemblance to *P. carneorubra* but the marginal hairs are quite different and hence the aspect of the apothecium under a hand lens.

*Peziza (Dasyscyphus) galegae* Ces. in Klotzsch, Herb. Mycol. 1. 1614 & Flora 35: 395 (1852).

*Trichopeziza galegae* (Ces.) Sacc., Syll. Fung. 8: 426 (1889).

I have seen only the Kew example of Rabenhorst Fungi europaei 811 under this name, with a repetition of the diagnosis on the label. This appears to be authentic but bears only what seem to be immature apothecia of a *Pyrenopeziza*.

*Peziza (Dasyscypha) gaultheriae* Ellis & Everh. in Erythea 1: 199 (1893).

*Dasyscypha gaultheriae* (Ellis & Everh.) Sacc., Syll. Fung. 11: 413 (1895).

*Lachnum gaultheriae* (Ellis & Everh.) Zeller in Mycologia 26: 292 (1934).

*Lachnella gaultheriae* (Ellis & Everh.) Seaver, N. Amer. Cup-fungi (Inoperculates): 256 (1951).

This has the slender, tapering, thin-walled, hyaline hairs of *D. albocitrina*, from which it should be distinguished, according to the diagnosis, by the short ascospores,  $4-5 \times 1.25\mu$ . I have seen specimens so determined, however, on *Gaultheria sharron*, Oregon, May 1914, with ascospores up to  $8 \times 1.5\mu$  and regard the status of *D. gaultheriae* as extremely dubious.

*Lachnum gleicheniae* Cash in Mycologia 30: 105 (1938).

On stipes of *Gleichenia* sp., S. of Hanalioliio, Molokai, Hawaiian Is., 12.4.1928, *Degener* 2810 (type in BPI).

This appears to me the same as *D. varians* Rehm and *D. flavidulus* Rehm.

*Lachnum halesiae* Cash in Journ. Wash. Acad. Sci. 79: 48 (1939).

***Dasyscyphus halesiae*** (Cash) Dennis, comb. nov.

Apothecia scattered, superficial, sessile, receptacle cupulate, 0.5 mm. diameter, completely clothed with white, flexuous, cylindrical, obtuse, thin-walled, finely granulate, sparingly septate hairs up  $135 \times 4\mu$ . Asci cylindrical-clavate, sessile, 8-spored,  $55-60 \times 8\mu$ , pore blued by Melzer's reagent; ascospores elliptic-fusoid, continuous,  $13-14 \times 2-2.5\mu$ ; paraphyses narrowly lanceolate,  $3-4\mu$  wide, not much longer than the asci. (Fig. 39, p. 346).

On dead leaves of *Halesia carolina*, west side of Mitchell Bridge, Athens, Georgia, U.S.A., 20.3.1938, *J. H. Miller* (type in BPI). This seems to be a good species.

*Lachnella hispanica* Cooke & Phill. in Grevillea 19: 73 (1891).

*Peziza attenuans* Nyl. in Not. Sallsk. Fauna Flora Fennica 10: 24 (1869).

Apothecia scattered, superficial, short stalked, cupulate, clothed with long snow-white hairs, disc orange, scarcely 1 mm. across, concealed by the hairs when dry. Hairs cylindrical, thick-walled, septate, up to  $250 \times 4 \mu$ , surface granulate, tips either rounded or short pointed, often crowned by a ball of crystals. Asci  $55-65 \times 6 \mu$ , pore blued by Melzer's reagent, 8-spored; ascospores cylindric-clavate,  $9-13 \times 1.5-2 \mu$ ; paraphyses lanceolate, up to  $100 \times 6 \mu$ . (Fig. 40).

On dead stems of *Rumex suffruticosus*, Pico de Canellas or Pico de Arvas, Asturias, Spain, July-August 1835.

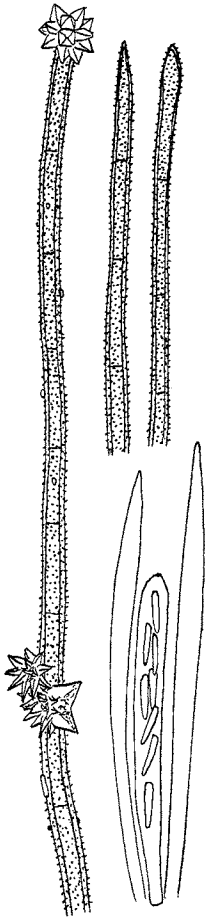


FIG. 40. *Lachnella hispanica*. Hairs, ascus and paraphyses  $\times 660$ .

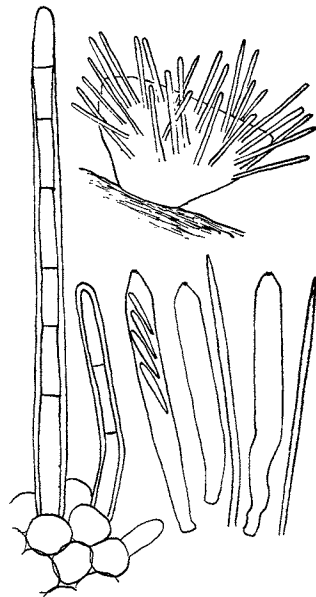


FIG. 41. *Lachnum hystriculum*. Apothecium  $\times 100$ ; details  $\times 660$ .

Though Cooke & Phillips did not say so in their diagnosis, the type of *L. hispanica* at Kew is *Durieu*, Plant. select. Hispano-lusit. Sect. 1, Asturicae, No. 46, i.e. exactly the same number as the type of *P. attenuans* Nyl., published thus: 'Etiam nomine "P. bicolor b. disco luteo" diversa datur in Durieu Pl. Astur. 46 (Sporis fusiformibus, longit, 0.009-0.011 millim., crassit 0.0015-0.0020 millim., ad ramos siccos Rumicis suffruticosi); dici possit haec hispanica *P. attenuans*'. Fortunately there seems no reason to adopt either of these names, the fungus is typical *Dasyscyphus bicolor* (Bull. ex St. Amans) Fuck.

*Lachnum hystriculum* Karst., Fungi Fennici Exs. 921 & in Bidr. Finlands Natur och Folk 19: 182 (1871).

*Trichopeziza hystricula* (Karst.) Sacc., Syll. Fung. 8: 422 (1889).

There is a short but adequate diagnosis on the exsiccatum label, greatly amplified in the book, where it is supplemented by a note on distinctions between this and *L. badiellum*. These distinctions are in my eyes illusory, for me *L. hystriculum* is also no more than a small state of *D. nidulus*. The name could not in any case be transferred to *Dasyscyphus* because of the existing *D. hystriculus* (Ellis & Everh.) Sacc. based on *Peziza hystricula* Ellis & Everh. (1888). (Fig. 41).

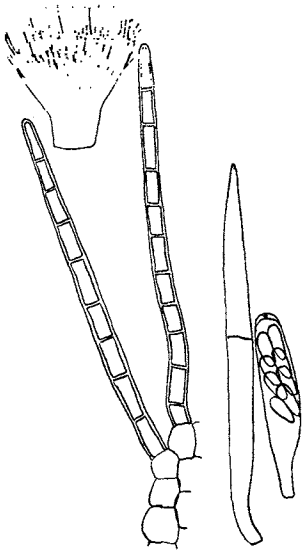


FIG. 42. *Peziza hystricula*. Apothecium  $\times 100$ ; details  $\times 660$ .

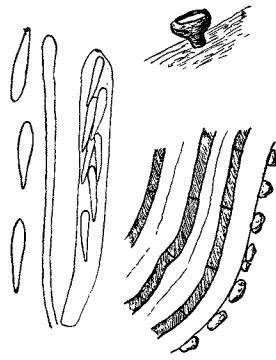


FIG. 43. *Peziza labiata*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Peziza (Dasysc.) hystricula* Ellis & Everh. in Journ. Mycol. 4: 99 (1888).

*Dasyscyphus hystriculus* (Ellis & Everh.) Sacc., Syll. Fung. 8: 445 (1889).

*Atractobolus hystriculus* (Ellis & Everh.) Kuntze, Rev. Gen. Pl. 3 (2): 446 (1898).

Apothecia scattered, superficial, cupulate with a short cylindrical base, minutely hairy, pure white,  $150-200\mu$  diameter. Hairs cylindrical or slightly tapered to the rounded tip, up to  $75 \times 5\mu$ , closely septate with thick, smooth, hyaline walls; excipular cells thin-walled, isodiametric,  $7-8\mu$  across; asci cylindrical, obtuse, sessile,  $30-35 \times 7\mu$ , 8-spored, the minute pore blued by Melzer's reagent; ascospores biseriate, clavate,  $8 \times 2-2.5\mu$ ; paraphyses (?) scanty, lanceolate,  $70-75 \times 5\mu$  occasionally septate. (Fig. 42).

Among the hairs on the lower surface of *Magnolia grandiflora* leaves, St. Martinsville, Louisiana, U.S.A., May 1888, *Langlois* 1317 (type in NY).

The paraphyses are suspiciously large and scanty and may possibly rather be modified hairs from the edge of the hymenium. Ellis & Everhart thought the spores septate but this appears to have been an optical illusion

due to the overlapping of the spores within the ascus, so that the end of an underlying spore shows through the one lying partially over it.

*Lachnum imbecille* Karst. in Bidr. Finlands Natur och Folk 19: 172 (1871).  
*Dasyscypha imbecillis* (Karst.) Sacc., Syll. Fung. 8: 446 (1889).

The diagnosis cites two hosts, *Aira* [*Deschampsia*] *caespitosa* and *Eriophorum vaginatum* and there are two corresponding packets in Karsten's herbarium at Helsinki, labelled by him *Lachnum imbecille* and bearing his characteristic careful notes and sketches. Unfortunately these contain what appear to be two different species. There is excellent material of the fungus on *Deschampsia caespitosa*, collected on 27.7.1861, with sessile apothecia and ascospores  $8-10 \times 1 \mu$ . In the packet with *Eriophorum vaginatum* I could find only the bases of stalks from which apothecia had fallen, now reddish brown, with cylindrical, thin-walled, septate, obtuse, finely granulate hairs about  $35 \times 4 \mu$ . This was collected in October and the notes on the packet indicate ascospores  $10-16 \times 1.5-2 \mu$ , both the collection date and ascospore size called for by the diagnosis. It would therefore appear that the lost fungus on *Eriophorum* was the type and further elucidation of *L. imbecille* must await rediscovery of a *Dasyscypha* on *Eriophorum* agreeing with Karsten's diagnosis. The fungus on *Deschampsia* should be compared with *L. imbecille* var. *minusculum* Karst. in Medd. Soc. Fauna Fl. Fennica 11: 148 (1884).

*Peziza incarnescens* Schwein. in Trans. Amer. Phil. Soc. Philad., n.s. 4: 173 (1832).

*Lachnella incarnescens* (Schwein.) Sacc., Syll. Fung. 8: 399 (1889).

The specimen at Kew received from Schweinitz under the above name appears to be indistinguishable from *P. atrofuscata* Schwein.

*Peziza inconspicua* Berk. & Curt. in Proc. Amer. Acad. Arts & Sci. 4: 128 (1860).

*Trichopeziza inconspicua* (Berk. & Curt.) Sacc., Syll. Fung. 8: 430 (1889).

*Cyphella inconspicua* (Berk. & Curt.) Cooke in Grevillea 20: 9 (1889).

Cooke was perfectly correct in transferring this species to *Cyphella*. It has pale brown, thin-walled, coarsely granulate, cylindrical, obtuse hairs,  $30-50 \times 3-4.5 \mu$ , basidia c.  $25 \times 5 \mu$  and elliptical brown spores  $7-8 \times 4.5-4.75 \mu$ .

*Peziza labiata* Rob. ex Desmaz., Crypt. France I, No. 1535 and in Ann. Sci. Nat., Bot. sér. 3, 8: 184 (1847).

*Dasyscypha labiata* (Desmaz.) Sacc., Syll. Fung. 8: 442 (1889).

***Phialea labiata*** (Desmaz.) Dennis, comb. nov.

Apothecia scattered, superficial, shallow-cupulate on a short stalk, grayish with a whitish stalk and pale yellow disc when fresh but drying dark brown throughout, scarcely 0.5 mm. diameter. The outer surface of the receptacle is powdered with small colourless crystals. Excipulum composed of agglutinated hyphae, lying parallel to the surface,  $8-10 \mu$  wide, with thick glassy colourless walls and slender closely septate lumen about  $2 \mu$  thick with dark brown contents. Asci cylindrical-clavate,  $55 \times 6 \mu$ , the minute pore blued by Melzer's reagent, 8-spored; ascospores biseriate, clavate,  $10-16 \times$



1.5–3 $\mu$ ; paraphyses cylindrical, slightly broadened at the rounded tip, 3 $\mu$  wide. (Fig. 43, p. 349).

On dead bracts, etc., of *Eryngium campestre*, dunes de Coleville, Calvados, France.

The species was ignored by Rehm and left in *Dasyscyphus* by Boudier (1907).

*Lachnella latebrosa* Phill. & Harkn. in Bull. Calif. Acad. Sci. 1: 21 (1884).

*Trichopeziza latebrosa* (Phill. & Harkn.) Sacc., Syll. Fung. 8: 419 (1889).

***Pyrenopeziza latebrosa*** (Phill. & Harkn.) Dennis, comb. nov.

Apothecia scattered, cupulate, sessile, margin incurved, dark brown drying black, up to 1 mm. diameter, disc concave, dingy yellowish. Excipulum composed of rows of quadrate to polygonal, thin-walled, dark brown cells, 10 $\mu$  diameter, bearing on the outer surface and especially towards the margin short, cylindrical or clavate, thin-walled, downy hairs, up to 30  $\times$  6 $\mu$ , often 1-septate, with smooth, light brown to subhyaline, walls. Asci cylindrical, sessile, 8-spored, 70  $\times$  8 $\mu$ , the broad pore blued by Melzer's reagent; ascospores uniseriate, ovate, hyaline, 9  $\times$  3 $\mu$  (10–14  $\times$  3–6 $\mu$  Phillips); paraphyses cylindrical, obtuse, 3 $\mu$  thick. (Fig. 44).

On both surfaces of dead leaves of *Arctostaphylos pungens*, California, U.S.A., Harkness 3226.

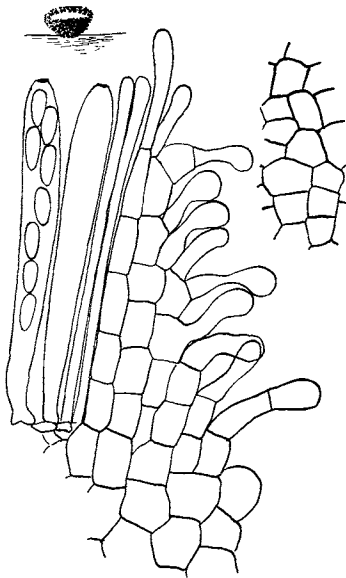


FIG. 44. *Lachnella latebrosa*, Apothecium  $\times$  7; section and excipular cells in surface view,  $\times$  660.

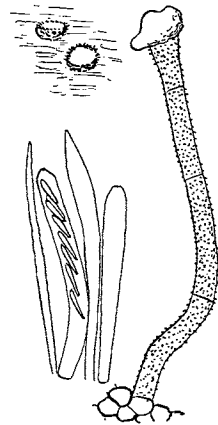


FIG. 45. *Peziza marginata*. Apothecia  $\times$  10; details  $\times$  660.

*Peziza leonina* Schwein. in Schrift. d. Naturw. Ges. zu Leipzig 1: 93 (1822).

*Trichopeziza leonina* (Schwein.) Sacc., Syll. Fung. 8: 430 (1889).

***Arachnopeziza leonina*** (Schwein.) Dennis, comb. nov.

Apothecia gregarious, sessile on a whitish subiculum, patellate, disc up to 1 mm. diameter, drying orange, margin denticulate. Hairs cylindrical,

obtuse, hyaline, thin-walled, septate, up to about  $100 \times 3\mu$ , walls smooth though a few lumps of resinous matter occur among the hairs. Asci cylindrical-clavate,  $75 \times 8\mu$ , 8-spored, the broad pore blued by Melzer's reagent; ascospores biseriate, elliptic-cylindric, 1-septate,  $12-16 \times 3\mu$ ; paraphyses filiform.

On rotten wood, *Ulmus* according to the diagnosis.

This is an earlier name for *Archnopeziza candido-fulva* (Schwein.) Korf, which dates from 1832. The Kew specimen is from the Hooker Herbarium, with a label in Schweinitz's hand, further annotated by Klotzsch when he revised the collection at Glasgow, before its removal to Mortlake in 1841.

*Peziza litorea* Fr., Syst. Myc. 2: 121 (1822).

*Helotium litoreum* (Fr.) Crouan, Fl. Finistere: 48 (1867).

*Phialea litorea* (Fr.) Sacc., Syll. Fung. 8: 264 (1889).

*Cyathicula litorea* (Fr.) Boud., Hist. Classif. Discom. Europe: 116 (1907).

The favoured tradition in Europe appears to be that this is a synonym of *Belonidium litoreum* Karst., described as a new species, not as a recombination of *P. litorea* Fr. But *B. litoreum* is commonly treated as a variety of *Belonioscypha vexata* (de Not.) Rehm and if this tradition be accepted the correct name of the latter will be a recombination of *P. litorea* Fr., the oldest name available in the specific rank. There has been, however, another old interpretation of Fries's species for in Kew Herbarium is an unlocalized collection on *Phragmites*, dated 10.5.1846 and labelled in a continental hand *Peziza litorea*; this is *Dasyscyphus controversus* (Cooke) Rehm. The latter is not an impossible identification for, in old apothecia, the hairs of the *Dasyscyphus* become matted and adhere to the receptacle, so that it no longer appears obviously hairy. Professor Nannfeldt informs me that no authentic material of *P. litorea* has survived in the Fries Herbarium.

*Peziza marginata* Cooke in Bull. Buffalo Soc. Nat. Sci. 2: 292 (1875).

*Trichopeziza marginata* (Cooke) Sacc., Syll. Fung. 8: 416 (1889).

Apothecia superficial, subsessile on a small base, cupulate, 0.5 mm. diameter, dark brown, disc paler. Hairs cylindrical, with thin, dark brown, granulate walls, septate, up to  $80 \times 6\mu$  the apical cell often paler and coated with a crystalline exudate; asci cylindrical-clavate,  $40 \times 4\mu$ , 8-spored, the small pore blued by Melzer's reagent; ascospores about  $7-8 \times 1\mu$ ; paraphyses lanceolate, about  $55 \times 4\mu$ . (Fig. 45, p. 351).

On fallen leaves of *Quercus*, Newfield, New Jersey, U.S.A., J. B. Ellis 2151 (partly).

There seems nothing to separate this from *Dasyscyphus fuscescens* (Pers.) S. F. Gray. Part of the same number, on *Andromeda* leaves, was subsequently separated as the type of *P. fuscidula* Cooke (see p. 346).

*Peziza (Dasyscypha) meleagris* Ellis in Bull. Torr. Bot. Club 8: 123 (1881).

*Lachnella meleagris* (Ellis) Sacc., Syll. Fung. 8: 397 (1889).

***Dasyscyphus meleagris* (Ellis) Dennis**, comb. nov.

Apothecia scattered, cupulate, sessile, clothed with entangled dark purplish-brown hairs; disc concave, whitish, 1 mm. diameter. Hairs cylindrical, flexuous, up to  $330 \times 3\mu$ , slightly tapered to the rounded tip, septate, walls colourless but bearing lumps of dark purple matter, sap dark

purple. Asci cylindrical-clavate,  $60 \times 6-7 \mu$ , 8-spored, the pore blued by Melzer's reagent; ascospores biseriate, elliptic-cylindric,  $6-7 \times 1.5-2 \mu$ , straight or slightly curved; paraphyses narrowly lanceolate,  $2.5-4 \mu$  thick, slightly longer than the asci. (Fig. 46).

On weather beaten wood, 6000 ft. [1800 m.], Pleasant Valley, Utah, U.S.A., May 1881, *S. J. Harkness* 71 (Type in NY).

Certainly this cannot be *Perrotia flammea*, as suggested by Seaver (1928). The asci and paraphyses are not those of a *Perrotia* but indicate a good species of *Dasyascyphus* akin to *D. elegantulus* (Karst.) Rehm but with much longer hairs and to *D. eupatorii* (Schwein.) Masee but with smaller spores. The purple sap and incrustation dissolve in ammonia, leaving hyaline hairs bearing small colourless granules near their tips.

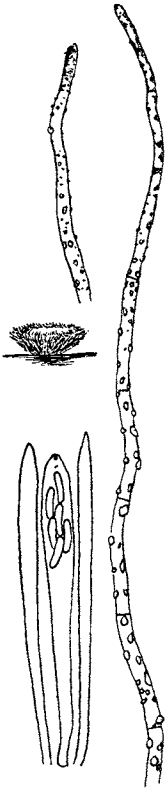


FIG. 46. *Peziza meleagris*. Apothecium  $\times 10$ ; details  $\times 660$ .

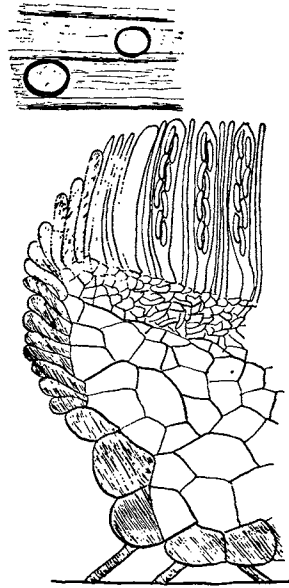


FIG. 47. *Peziza nigrocincta*. Apothecia  $\times 12$ ; section  $\times 660$ .

*Lachnella microspora* (Kanouse) Seaver, N. Amer. Cup-fungi (Inoperculates): 267 (1951).

*L. tricolor* (Sow. ex Fr.) Phill. var. *microspora* Kanouse in Pap. Mich. Acad. Sci. Arts & Lett. 20: 73 (1935).

On decorticated wood of *Quercus* sp., Cascade Glen, Ann Arbor, Michigan, U.S.A., 10.5.1933, *A. H. Smith* 33-15 (type in MICH).

This proves to be a synonym of *Peziza alboviridis* Cooke.

*Peziza (Dasyscyphae) nigrocincta* Berk. & Curt. in Grevillea 3: 155 (1875).

*Trichopeziza nigrocincta* (Berk. & Curt.) Sacc., Syll. Fung. 8: 421 (1889).

***Mollisia nigrocincta*** (Berk. & Curt.) Dennis, comb. nov.

Apothecia superficial, sessile on a broad base, patellate, disc flat, originally red ('coccinea'), now yellowish, about 0.5 mm. diameter, receptacle smooth, margin even, dark olive brown throughout, drying black. There is no subiculum, only a few dark anchoring hyphae occur at the base of each apothecium. Excipulum composed of large rounded cells, the outermost layer dark olive brown, thin-walled, 10–12  $\mu$  diameter near the base, becoming smaller, clavate and finally cylindrical towards the margin. Asci cylindrical-clavate, 8-spored, 35  $\times$  4  $\mu$ , pore very minute but probably blued by Melzer's reagent; ascospores biseriata, cylindrical and often allantoid, rounded at each end, 6–7  $\times$  1  $\mu$ ; paraphyses cylindrical, obtuse, 1  $\mu$  thick, no longer than the asci. (Fig. 47, p. 353).

On sheaths of grasses, South Carolina, U.S.A., *Ravenel* 3082.

The absence of any paler marginal tissue, the allantoid ascospores and red disc should make this a distinctive species. It does not appear to fit any of the species of *Mollisia* or *Pyrenopeziza* keyed by Seaver (1951).

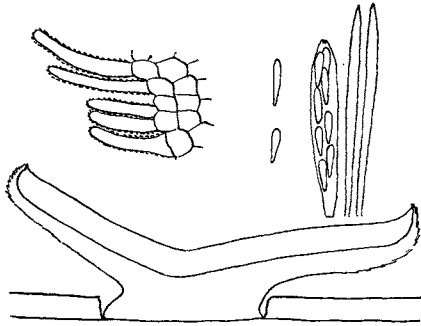


FIG. 48 *Peziza occulta*. Section  $\times$  100; details  $\times$  660.

*Peziza occulta* Ces. apud Klotzsch, Herb. Viv. No. 1922, 1854 and in Flora 38: 267 (1855).

*Trichopeziza occulta* (Ces.) Sacc., Syll. Fung. 8: 427 (1889).

***Dasyscyphus occulta*** (Ces.) Dennis, comb. nov.

Apothecia erumpent from the host epidermis, subsessile, shallow-cupulate, less than 1 mm. across, 'e viride luteola', drying brownish with a downy white margin. Hairs cylindrical, nonseptate, 20–25  $\times$  3–4  $\mu$ , rather coarsely granulate; ascic cylindrical, sessile, 35  $\times$  5–6  $\mu$ , apex conical with a small pore blued by Melzer's reagent, 8-spored; ascospores fusoid-clavate, 6–10  $\times$  1–1.5  $\mu$ ; paraphyses narrowly lanceolate, 40  $\times$  2.5  $\mu$ . (Fig. 48).

On dead stems of *Sambucus ebulus*, Vercelli, Italy, *Cesati*.

Obviously this is very close to *Dasyscyphus grevillei* (Berk.) Masee, typically on stems of *Umbelliferae*. It may possibly be distinguished, however, by its distinctly lanceolate paraphyses, longer than the asci. Paraphyses of *D. grevillei* are cylindrical with more or less pointed tips but are shorter than or equal to the asci. If *D. occulta* can be recognized in these terms then the following collection on dead *Urtica* stems belongs to it: Sproxton, Helmsley, Yorkshire, England, 20.6.1954, *W. G. Bramley*. (cf. *P. urticae*, p. 373)

*Peziza* (*Phialea Mollisia*) *oedema* Desmaz. in Ann. Sci. Nat., Bot., sér. 3, 14: 110 (1850).

*Mollisia oedema* (Desmaz.) Gillet, Les Discomycetes: 128 (1879).

*Lachnella oedema* (Desmaz.) Phill., Manual Brit. Discom.: 271 (1887).

*Trichopeziza oedema* (Desmaz.) Sacc., Syll. Fung. 8: 424 (1889).

*Micropodia oedema* (Desmaz.) Boud., Hist. Classif. Discom. Europe: 128 (1907).

*Calycella oedema* (Desmaz.) von Höhn. in Sitz. Akad. Wiss. Wien Mathem.-nat. Kl. Abt. 1, 127: 604 (1918).

***Mollisia oedema*** (*Desmaz.*) *Dennis*, comb. nov.

Apothecia gregarious, erumpent from a common stromatic base in blackened areas of leaf tissue, said to be abortive pustules of a *Phragmidium* sp., patellate on very short stalks, disc flat, c. 175  $\mu$  diameter, isabelline, with a minute white pubescence towards the margin. Excipulum composed of short-prismatic to polygonal thin-walled cells, 5–6  $\mu$  diameter, those towards the margin running out into slender thread-like hairs about 5  $\times$  0.5  $\mu$ . Asci clavate, sessile, 35–40  $\times$  7  $\mu$ , 8-spored, pore blued by Melzer's reagent; ascospores biseriata, narrowly clavate, 8–10  $\times$  1.5  $\mu$ ; paraphyses cylindrical, apex rounded, 1  $\mu$  thick. (Fig. 49).

On fallen leaves of *Rubus* sp.

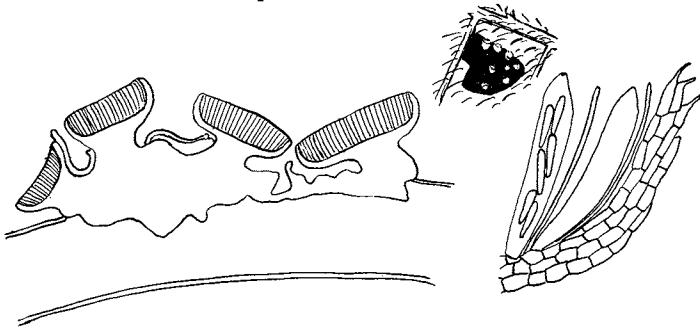


FIG. 49. *Peziza oedema*. Habit sketch  $\times$  10; diagrammatic section  $\times$  100; detailed section of margin  $\times$  660.

The Kew example of *Desmazières*, Crypt. France No. 2007 bears only immature apothecia of *Dasyscyphus misellus* and the above description is based on the material of Phillips's unpublished *Peziza epiphragmidium*, from Dolgelly, Merionethshire, Wales, June 1876. Because of the minute marginal hairs this is a typical *Mollisia*, differing from *M. acerina* in ascospore shape. I doubt, however, if *Mollisia* von Höhnel (1926) can permanently be separated from *Calycellina* von Höhnel (1918), indeed it seems likely that *Calycella oedema* cited above was a printer's error for *Calycellina*.

*Peziza oncospermatis* Berk. & Br. in Journ. Linn. Soc. Bot. 14: 105 (1875).

*Dasyscyphus oncospermatis* (Berk. & Br.) Sacc., Syll. Fung. 8: 465 (1889).

*Arenaea oncospermatis* (Berk. & Br.) Petch in Ann. Roy. Bot. Gard. Perad. 6: 168 (1916).

Petch has given a full description, but no figure, of this species, which he claims does not grow on the palm *Oncosperma* but on leaf bases of the fern *Hemitelia walkerae*, an odd mistake for Thwaites to have made if so. Apparently in luxuriant specimens the stalk may branch twice to bear four

apothecia on a common base and the margin becomes deeply lobed, hence the transfer to *Arenaea*. I see nothing about the type collection, Hakgalla, Ceylon, Dec. 1867, *Thwaites* 435, to call for separation from *Dasyscyphus*. (Fig. 50).

*Unguicularia oregonensis* Kanouse in *Mycologia* 33: 467 (1941).

***Unguiculella oregonensis*** (*Kanouse*) *Dennis*, comb. nov.

The original description is quite adequate and already indicates the recurved nature of the slender hair-tips, which refers the species to *Unguiculella*. Within this genus the large asci and broad ascospores  $7-9 \times 3.5-4\mu$  are rather distinctive.

On stroma of *Eutypha* sp., 1500 ft. [450 m.], Mt. Hood, Oregon, U.S.A., 1.10.1922, *L. E. Wehmeyer* (type in MICH).

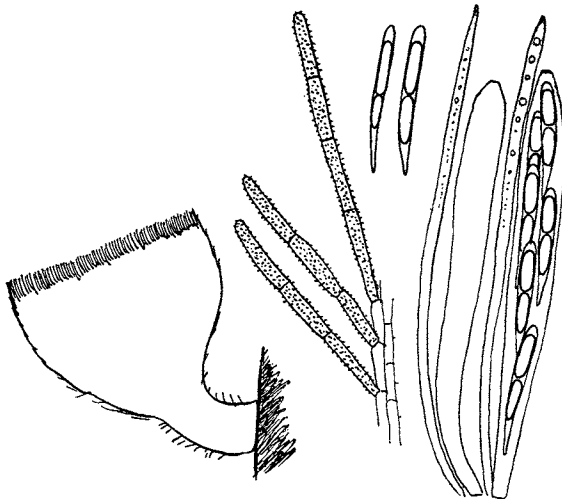


FIG. 50. *Peziza oncospermatis*. Apothecium  $\times 100$ ; details  $\times 660$ .

*Peziza* (*Dasyscypha*) *osmundae* Cooke & Ellis in *Grevillea* 6: 7 (1877).

*Trichopeziza osmundea* (Cooke & Ellis) Sacc., *Syll. Fung.* 8: 423 (1889).

***Calycellina osmundae*** (*Cooke & Ellis*) *Dennis*, comb. nov.

Apothecia scattered, superficial, cupulate, sessile on a small base, clay colour or isabelline, white when fresh, disc flat,  $200\mu$  diameter, margin originally denticulate. Excipulum composed of angular, isodiametric, thin-walled, yellowish cells,  $6-8\mu$  across, becoming more elongated near the margin, without hairs. Asci clavate, sessile,  $30 \times 10\mu$ , 8-spored, with minute pore blued by Melzer's reagent; ascospores cylindric-clavate,  $6.5-7.5 \times 1.5-2\mu$ ; paraphyses cylindrical, obtuse,  $1.5\mu$  thick, no longer than the asci. (Fig. 51, p. 357).

On underside of *Osmunda* fronds, Newfield, New Jersey, U.S.A., 1877, *J. B. Ellis* 2623.

Phillips annotated the specimen, prior to publication, 'The margin is jagged but I cannot see decided hairs'; nor do I, hence the proposal to transfer the name to *Calycellina* instead of *Mollisia* but the distinction may be hypercritical, see under *P. oedema* (p. 355).

*Dasyscypha phragmiticola* P. Henn. & Ploettn. in Verh. Bot. Ver. Brand. 41: 97 (1899).

*Lachnella phragmiticola* (P. Henn. & Ploettn.) Boud., Hist. Classif. Discom. Europe: 124 (1907).

***Perrotia phragmiticola*** (P. Henn. & Ploettn.) Dennis, comb. nov.

Apothecia scattered, superficial, shallow cupulate with margin inrolled when dry, disc scarcely 1 mm. diameter, cinnabar-red according to Kirschstein (1936), drying deep ochre, receptacle reddish brown, tomentose, darker at the base. Excipulum formed of interwoven hyphae 4–5  $\mu$  wide, with dark brown walls and having a deposit of brown matter between them. Hairs cylindrical, obtuse, septate, up to 90  $\times$  4–4.5  $\mu$ , walls rather thick and colourless but encrusted with small lumps of reddish brown matter. Asci cylindrical-clavate, 8-spored, 80  $\times$  8  $\mu$ , apex rounded and pore not blued by Melzer's reagent; ascospores irregularly biseriata, elliptic-cylindric, straight or curved, 1-septate; paraphyses cylindrical, slightly enlarged at the rounded tip, 3–4  $\mu$  thick. (Fig. 52).

On dead but standing culms of *Phragmites communis*, Puhlsee bei Rathenow, Germany, Nov. 1899, Ploettner (*Rehm Ascomyceten* 1309).

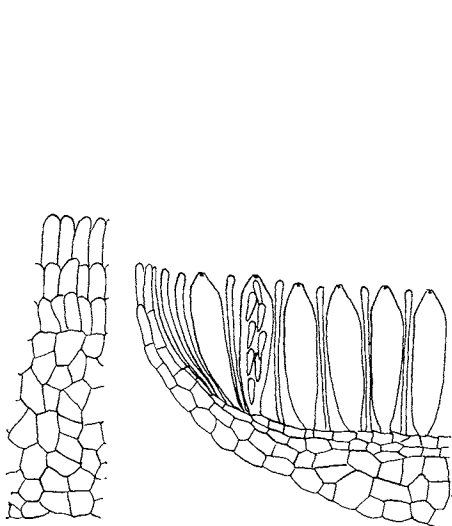


FIG. 51. *Peziza osmundae*. Section of margin and portion in surface view  $\times$  660.

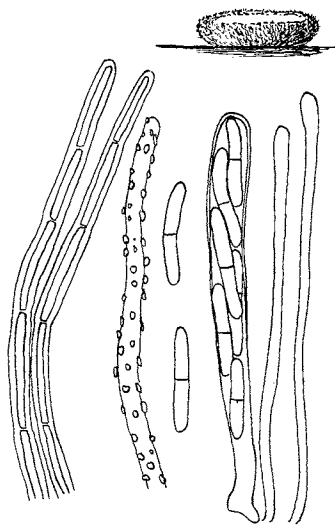


FIG. 52. *Dasyscypha phragmiticola*. Apothecium  $\times$  15; details  $\times$  660.

*Peziza pollinaria* Cooke in Bull. Buffalo Soc. Nat. Sci. 2: 292 (1875).

*Trichopeziza pollinaria* (Cooke) Sacc., Syll. Fung. 8: 416 (1889).

*Lachnum pollinarium* (Cooke) Cash in Journ. Wash. Acad. Sci. 29: 48 (1939).

***Dasyscyphus pollinarius*** (Cooke) Dennis, comb. nov.

Apothecia scattered, superficial, cupulate, sessile on a small base, 0.5 mm. diameter, receptacle reddish-brown but concealed by a dense coating of short pure white hairs, disc concave, yellowish. Hairs cylindrical, obtuse, septate, up to 50  $\times$  3–4  $\mu$ , brown walled below, apical cell hyaline, walls thin, covered with a layer of minute granules and loosely attached rods, easily removed by pressure on the cover glass, which give the whitened aspect to the whole receptacle. Asci cylindrical, sessile, 30  $\times$  5–6  $\mu$ , 8-spored, pore

minute and iodine reaction doubtful; ascospores cylindrical-clavate,  $8-9 \times 1.5 \mu$ ; paraphyses lanceolate,  $40 \times 2.5-3 \mu$ . (Fig. 53).

On old oak leaves lying on the ground, Newfield, New Jersey, U.S.A., May 1874, *J. B. Ellis* 2158.

According to von Thümen, *Mycotheca universalis*: 414, contributed by Ellis, the substrate was *Quercus rubra* and Cash's record from Georgia was on *Q. montana*. The close relationship to *Dasyscyphus fuscescens* (Pers.) S. F. Gray is obvious but the external appearance is quite different because of the dense white incrustation of the hairs.

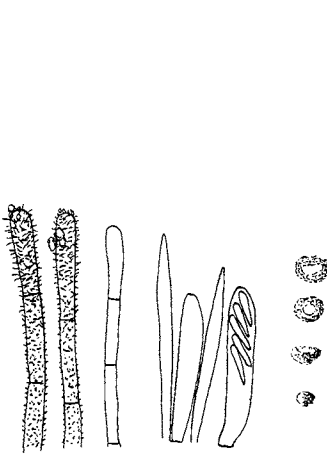


FIG. 53. *Peziza pollinaria*. Apothecia  $\times 10$ ; details  $\times 660$ .

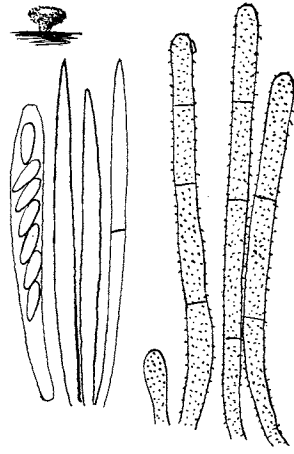


FIG. 54. *Lachnella populicola*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Lachnella populicola* Seaver, N. Amer. Cup-fungi (Inoperculates): 270 (1951).

The published description is both accurate and adequate but the fungus appears to me doubtfully distinct from *Dasyscyphus soleniformis* Sacc. The hairs are, however, rather broader and more distinctly granulate than in the type of that species and the ascospores a little larger. (Fig. 54).

*Lachnella populina* Seaver, N. Amer. Cup-fungi (Inoperculates): 270 (1951).

**Perrotia populina** (Seaver) Dennis, comb. nov.

On bark and wood of *Populus tremuloïdes*, University of Colorado Summer Camp, July-Sept. 1929, *Seaver & Shope* 140 (lectotype in NY).

Seaver's rather full English description is adequate but it is somewhat remarkable that the dimensions given in this and in the latin diagnosis do not agree viz. in the description: asci  $66-80 \times 9-10 \mu$ , spores  $13-15 \times 4 \mu$ , in the diagnosis: asci  $90-100 \times 7-10 \mu$  spores  $7-10 \times 3-4 \mu$ .\* No type was designated but of the 5 collections at New York one, *Seaver & Shope* 140, is stamped 'Type' and I accordingly designate it as lectotype even though it does not bear the published name of the species. In this I find hairs up to  $230 \times 4 \mu$ , coarsely granulate with thin brown walls, asci  $70-75 \times 9 \mu$ , and ascospores  $10-12 \times 3 \mu$ , elliptic-oblong and nonseptate. (Fig. 55, p. 359). Because of the broad obtusely rounded paraphyses and the round-

\* This appears to be the diagnosis of *Helotium rhizicola* Seaver and the true diagnosis of *L. populina* will be found under the former name!



topped thick-walled asci with negative iodine reaction the species seems best referred to *Perrotia*. *D. variegata* Fuck. has lanceolate paraphyses and iodine positive ascus pores.

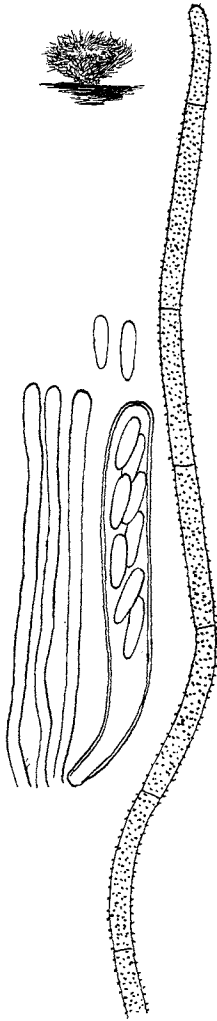


FIG. 55. *Lachnella populina*. Apothecium  $\times 10$ ; details  $\times 660$ .

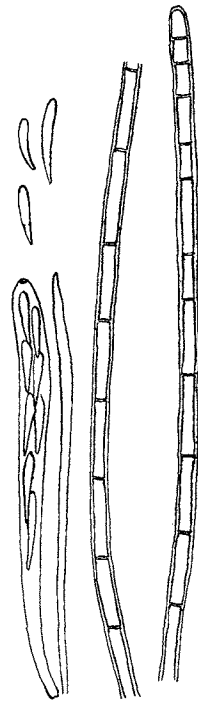


FIG. 56. *Peziza radians*. Ascus, paraphysis, spores and hair  $\times 660$ .

*Hyalopeziza pteridis* Kanouse in *Mycologia* 39: 660 (1947), non *Dasyscyphus pteridis* (Alb. & Schw. ex Fr.) Masee, *Brit. Fung. Fl.* 4: 368 (1895).  
*Lachnella pteridicola* Seaver, *N. Amer. Cup-fungi (Inoperculates)*: 261 (1951), non *Dasyscypha pteridicola* Dennis in *Kew Bull.* 15: 299 (1961).  
 See *Dasyscyphus washingtonensis* Dennis (p. 377).

*Peziza puberula* Berk. & Curt. in *Grevillea* 3: 155 (1875), non *P. puberula* Lasch in *Flora* 1851: 566 (1851).  
*Dasyscyphus puberulus* (Berk. & Curt.) Sacc., *Syll. Fung.* 8: 461 (1889).

Apothecia scattered, superficial, shallow-cupulate, 500–600 $\mu$  diameter, with a short cylindrical stalk, receptacle hairy, fawn coloured, disc concolorous. Hairs slender, cylindrical or tapered above to a slightly swollen tip, septate, up to 70  $\times$  4 $\mu$ , colourless to yellowish, thin-walled, finely granulate; asci cylindric-clavate, 35  $\times$  4 $\mu$ , ascospores not well seen, a few 5–6  $\times$  1 $\mu$ ; paraphyses lanceolate 50  $\times$  2.5–4 $\mu$ . (Fig. 57).

On fallen leaves of *Fraxinus*, South Carolina, April, *H. W. Ravenel* 688 (= *M. A. Curtis* 1959).

The double number is explained by the practice whereby all American collections were sent to Berkeley through Curtis's hands and received his serial number in addition to that supplied by the collector, if any. In morphology *P. puberula* has little to distinguish it from *D. subauratus* but the stalk is shorter and there is no gummy yellow exudate. Field experience will be required to determine how many of these foliicolous species in North America are distinct and how far they are host limited.

*Peziza radians* Karst., Fungi Fennici exsic. No. 533 & in Not. Sallsk. Fauna Flora Fennica 10: 200 (1869).

*Lachnea radians* (Karst.) Karst. in Not. Sallsk. Fauna Flora Fennica 11: 251 (1870).

*Lachnum radians* (Karst.) Karst. in Bidr. Finlands Natur och Folk 19: 177 (1871).

*Trichopeziza karstenii* Sacc., Syll. Fung. 8: 417 (1889).

*Lachnella karstenii* (Sacc.) Boud., Hist. Classif. Discom. Europe: 124 (1907).

The Kew example of Fungi Fennici No. 533 contains no apothecia but the following notes have been made from the type collection in Karsten's herbarium at Helsinki. Apothecia scattered, sessile, 1 mm. diameter, ochraceous. Hairs stiff, straight, cylindrical, closely septate, up to 270  $\times$  4 $\mu$ , with rather thick smooth walls and sap which turns mauve with alkalis and diffuses out. Asci cylindric-clavate, 80  $\times$  5 $\mu$ , the small pore blued by Melzer's reagent; ascospores cylindric-clavate, tapered below, 8–12(–17)  $\times$  1.5–2 $\mu$ , nonseptate; paraphyses narrowly lanceolate, 2–3 $\mu$  wide. (Fig. 56, p. 359).

On rotting and skeletonized leaves of *Populus tremula*, Mustiala, Finland, 22.10.1866.

Karsten thought this '*L. sulfureo* subsimile sed apotheciis tenuioribus, humidis convexulis, sporis minoribus pilisque longioribus diversum'. Karsten's interpretation of *Dasyscyphus sulfureus* was that of Nylander, viz. the large spored species with ascospores 12–24  $\times$  1.5–2.5 $\mu$  and three septate. He did not indicate how *L. radians* was to be distinguished from his *L. leucophaeum* (Pers.) Karst., with nonseptate ascospores 7–16  $\times$  1–1.5 $\mu$ . Certainly it is a member of the *D. mollissimus* (Lasch) Dennis complex, which includes a number of subspecies, varieties or forms differing in pigmentation and in the reaction of the pigment with alkalis. Within this complex *L. radians* apparently affords a name for *L. sulfureum* sensu Rehm non Nylander, with small ascospores and hair sap turned purple by alkalis.

*Peziza raphidospora* Ellis in Bull. Torr. Bot. Club 6: 107 (1876).

*Erinella raphidospora* (Ellis) Sacc., Syll. Fung. 8: 509 (1889).

*Arachnopeziza raphidospora* (Ellis) Rehm in Ann. Mycol. 2: 352 (1904), exclud. descr.

On an old pine stump, Newfield, New Jersey, U.S.A., Nov. 1875, *J. B. Ellis*.

This is *Gorgoniceps aridula* Karst., as already indicated by Korf in *Lloydia* 14: 174 (1951).

*Peziza (Dasyscypha) rhabdocarpa* Ellis in Bull. Torr. Bot. Club 9: 19 (1882).

*Erinella rhabdocarpa* (Ellis) Sacc., Syll. Fung. 8: 510 (1889).

*Echinella rhabdocarpa* (Ellis) Seaver, N. Amer. Cup-fungi (Inoperculates): 294 (1951).

***Trichobelonium rhabdocarpum*** (Ellis) Dennis, comb. nov.

Apothecia scattered, sessile, 0.5 mm. diameter, cupulate, receptacle black, smooth with a minutely downy margin, disc concave, dark gray. Excipulum composed of globose cells, 7–10 $\mu$  diameter, with thin dark olive gray walls, passing at the margin into short rows of barrel-shaped cells in which the apical one may be as much as 30  $\times$  10 $\mu$ . Asci clavate, subsessile, 8-spored, 65–75  $\times$  10 $\mu$ , apex conical but the pore is not blued by

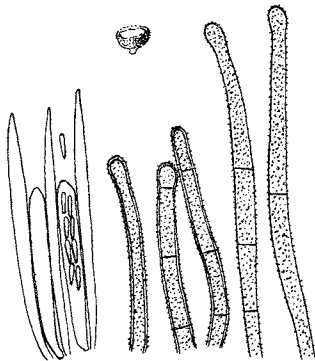


FIG. 57. *Peziza puberula* Berk. & Curt. non Lasch. Apothecium  $\times$  10; details  $\times$  660.

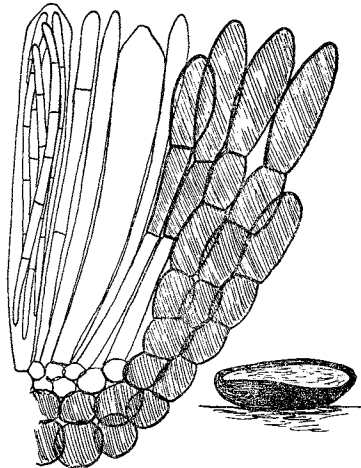


FIG. 58. *Peziza rhabdocarpa*. Apothecium  $\times$  34; section of margin  $\times$  660.

Melzer's reagent; ascospores fasciculate, rod-shaped, tapered below, 50–60  $\times$  1.5–2 $\mu$ , up to 5-septate; paraphyses stout, 3–4 $\mu$  thick, cylindrical with rounded tips, not appreciably longer than the asci. There are a few dark basal hyphae but scarcely a subiculum. Nevertheless the fungus would seem better referred to *Trichobelonium* than to *Echinella*, which is a synonym of *Pirottaea*. (Fig. 58).

On dead twigs of *Comptonia*, Newfield, New Jersey, U.S.A., Sept. 1881.

*Lachnella rhizophila* Ellis & Everh. in Proc. Acad. Philad. 1894: 348 (1894).

On decaying roots of *Rhus diversifolia*, Columbia River, W. Klilitat Co., Washington, U.S.A., Jan. 1894, *W. N. Suksdorf* 306.

The type is in poor condition but I think Seaver (1951) is correct in placing the name in synonymy under *D. corticalis* (Pers. ex Fr.) Masee.

*Lachnella rhoina* Earle apud Greene, Pl. Baker. 2: 6 (1901).

On *Rhus trilobata*, Hermosa, Colorado, U.S.A., April 1899, C. F. Baker 31.  
The Kew example of this number is *Perrotia flammea*.

*Niptera riparia* Sacc. in Michelia 2: 81 (1880).

*Mollisia riparia* (Sacc.) Sacc., Syll. Fung. 8: 345 (1889).

On culms of *Phragmites communis*, Saintes, France, Brunaud (PAD).

This is old discoloured material of *Dasyscyphus controversus* (Cooke) Rehm on the typical substrate. Saccardo's sketch on the packet, reproduced in Fungi Italici Autographici Delineati No. 1380, actually includes a crude representation of the granulate hairs, but is completely misleading in regard to the paraphyses, which are lanceolate,  $55 \times 5 \mu$ , with oily contents.

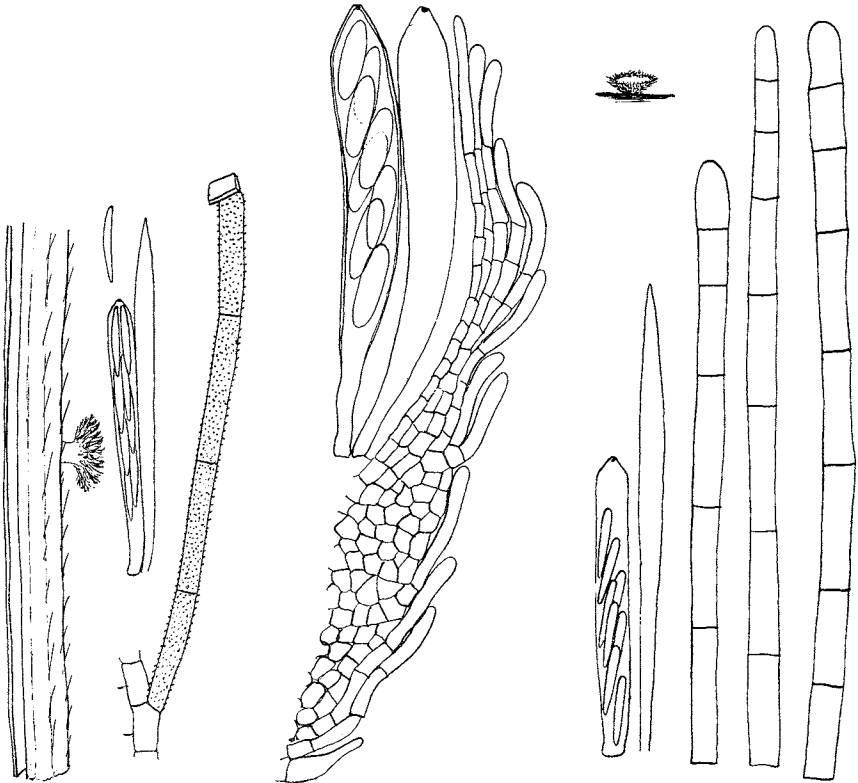


FIG. 59. *Peziza rosea*.  
Apothecium  $\times 10$ ;  
details  $\times 660$ .

FIG. 60. *Dasyscypha sadleriae*.  
Section of margin  $\times 660$ .

FIG. 61. *Peziza setigera*.  
Apothecium  $\times 12$ ;  
details  $\times 660$ .

*Peziza rosea* Rehm apud Cooke in Grevillea 3: 128, fig. 192 (1875).

*Dasyscyphus roseus* Rehm in 26th Ber. Nat. Hist. Ver. Augsburg: 41 (1881).

*Lachnum roseum* (Rehm) Rehm in Rabenhorst, Crypt. Flora 1 (3): 882 (1893).

Apothecia scattered, receptacle shallow-cupulate on a short cylindrical stalk, pink, clothed with long whitish hairs, disc concave, less than 1 mm. across. Hairs cylindrical, up to  $140 \times 6 \mu$ , apex obtusely rounded, slightly enlarged or slightly tapered and often capped by large tabular crystals,

septate, with thin, hyaline to yellowish, finely granulate walls. Asci cylindrical-clavate,  $45-55 \times 5\mu$ , 8-spored, pore blued by Melzer's reagent; ascospores biseriolate, fusoid,  $14-15 \times 2\mu$  (up to  $24\mu$ , Rehm); paraphyses lanceolate,  $70 \times 4\mu$ . (Fig. 59, p. 362).

On dead *Nardus stricta*, 7000 ft. [2100 m.], Tyrol, Austria, Aug. 1872, *Rehm* Ascomyceten No. 157.

Apparently a good species. Cooke's figure 192 is ludicrously inadequate but probably sufficient at that date to validate the name for purposes of priority.

*Dasyscypha sadleriae* Stev. & Young in Bull. B.P. Bishop Mus. 19: 11 (1925).

**Calycellina sadleriae** (*Stev. & Young*) *Dennis*, comb. nov.

Apothecia gregarious on the under side of discoloured patches of living pinnules, superficial on a sparse mycelium, cupulate, sessile, disc flat to slightly convex, up to  $260\mu$  diameter. Excipulum composed of small, thin-walled, hyaline, irregular cells, becoming prismatic and arranged in rows towards the margin and running out at the surface into unicellular, cylindrical, hyaline, downy hairs, up to  $20 \times 3\mu$ . Asci cylindrical-clavate, substipitate, 8-spored,  $65-90 \times 11-15\mu$ , apex conical with the pore deeply blued by Melzer's reagent; ascospores elliptical or inequilateral,  $10-18 \times 4-5\mu$ , nonseptate, hyaline; paraphyses cylindrical, filiform. (Fig. 60, p. 362).

On *Sadleria* sp., Upper ditch trail, Hamakus, Hawaii, 31.7.1921, *F. L. Stevens* 1078.

*Peziza (Dasyscyphae) scabro-villosa* in Grevillea 7: 22 (1878).

*Dasyscyphus scabrovillosus* (Phill.) Sacc., Syll. Fung. 8: 458 (1889).

*Dasyscyphus bicolor* var. *indicus* Müller & Dennis in Sydowia 13: 42 (1959).

On *Rubus nutkanus*, California, U.S.A., *Harkness* 982.

Müller & Dennis have described and illustrated the fungus from Indian material. As indicated by Seaver (1951) it is closely akin to *D. bicolor* (Bull. ex St. Amans) Fuck. and probably deserves no more than varietal rank.

*Trichopeziza secalis* (Lib.) Sacc., Syll. Fung. 8: 419 (1889).

'*Peziza secalis* Lib. in Herb. Minuta, sparsa, sessilis, globosa, strigoso tomentosa, sulphureo-fuscescens, disco roseo. In culmis siccis Secalis cerealis. Hieme'. As stated by Saccardo, the hymenium is immature so that the species has to be judged on its habit and colouring, given above, and on its hair characters. The sessile cupulate apothecia, about 0.5 mm. diameter, are clothed with long, cylindrical, brown hairs,  $4\mu$  thick, with smooth brown walls. Small crystal balls occur among the hairs. Roumeguère distributed part of the material under the name *Lachnella flammea*, which it clearly is not. Probably *Dasyscyphus horridulus* (Desm.) Masee is a better guess at its identity.

*Peziza (Dasyscypha) seminis* Cooke & Phillips in Grevillea 9: 104 (1881).

*Trichopeziza seminis* (Cooke & Phill.) Lambotte, Flore Mycol. Belge, Suppl. 1: 293 (1887) [as *seminalis*].

*Dasyscypha seminis* (Cooke & Phill.) Sacc., Syll. Fung. 8: 467 (1889).

*Stromatinia seminis* (Cooke & Phill.) Boud., Hist. Classif. Discom. Europe: 109 (1907).

**Urceolella seminis** (*Cooke & Phill.*) *Dennis*, comb. nov.

Apothecia gregarious, sessile, cupulate, less than 0.5 mm. diameter, receptacle white and clothed with white hairs, disc concave, yellow. Hairs cylindrical, obtuse, hyaline, nonseptate, up to  $100 \times 3-4\mu$ , thick-walled and unstained by Melzer's reagent; asci cylindric-clavate, 8-spored, pore not blued by iodine,  $45 \times 5\mu$ ; ascospores biseriate, narrowly clavate,  $6-8 \times 1.5\mu$ ; paraphyses cylindrical.

On *Sclerotium semen* (*Typhula* sp.?), *Reliquae Libertianae* No. 894.

Evidently this offers a name in the specific rank for *Helotium carestianum* subsp. *curvipilum* Karst. (1871)—see Dennis, 1956: 184-185, Fig. 165.

*Lachnella setiformis* Rehm in Ann. Mycol. 12: 174 (1914).

On rotting twigs of *Populus canadensis*, Oct. 1913, *O. Jaap*. Fungi Sel. Exs. No. 876.

The Kew example is *Trichophaea bicuspis* Boud.

*Peziza* (*Dasyscyphae*) *setigera* Phill. in Grevillea 7: 22 (1878).

*Trichopeziza setigera* (Phill.) Sacc., Syll. Fung. 8: 407 (1889).

*Lachnum setigerum* (Phill.) Rehm in Ann. Mycol. 3: 518 (1905).

**Dasyscyphus setigerus** (Phill.) Dennis, comb. nov.

Apothecia gregarious, sessile, cupulate, 0.5 mm. diameter, clothed with long, stiff, brown hairs, disc 'brownish flesh colour'. Hairs cylindrical, obtuse, septate,  $120-150 \times 5-7\mu$ , walls smooth, apical cell subhyaline. Asci cylindric-clavate,  $60-80 \times 6-7\mu$ , 8-spored, pore blued by Melzer's reagent; ascospores fusoid,  $10-14 \times 2\mu$ ; paraphyses lanceolate, up to  $95 \times 6\mu$ . (Fig. 61, p. 362).

On dead stems of *Aralia* sp., California, U.S.A., *Harkness* 981.

The paraphyses are longer and broader than those of *D. relacinus* (Fr.) Boud. but there is little beyond the slightly larger ascospores to separate the species from *D. nidulus*, of which it should perhaps be regarded as a variety. Compare also *T. subnidulus*, below, p. 366.

*Peziza solenia* Peck in 25th Rep. New York State Museum: 99 (1873).

*Solenopezia solenia* (Peck) Sacc., Syll. Fung. 8: 477 (1889).

*Lachnella solenia* (Peck) Seaver, N. Amer. Cup-fungi (Inoperculates): 260 (1951).

**Dasyscyphus solenia** (Peck) Dennis, comb. nov.

Apothecia gregarious, cupulate, sessile on a broad base, less than 0.5 mm. diameter, clothed throughout with hairs which are brown on the flanks, white round the margin, disc cream colour. Hairs cylindrical or slightly clavate, obtuse, closely septate, curving so as to lie parallel and close to the receptacle, up to  $110 \times 4-5\mu$ , wall moderately thick, brown below, becoming hyaline towards the tip, surface somewhat encrusted but not regularly granulate. Asci cylindric-clavate, somewhat rounded at the tip, 8-spored,  $65 \times 7\mu$ , pore not blued by Melzer's reagent; ascospores irregularly biseriate, fusoid,  $12-14 \times 3\mu$ , with 2 or 4 guttules; paraphyses delicate, cylindrical but tapered at the tip, as long as the asci. (Fig. 62, p. 365).

On dead stems of *Eupatorium ageratoïdes*, in damp shady places, Watkin's Glen, New York, U.S.A., September, *C. H. Peck*.

The ascospores in the apothecium examined are non-septate but there is no reason to doubt that they may become 1-septate, as stated by Peck and

figured by Seaver (1951). The species is certainly peculiar in several features and suggests a transition to *Perrotia*. *S. solenia* is placed as the first species in Saccardo's treatment of his genus *Solenopezia*, the generic name points to it as the type species and it was duly designated as 'Pseudotypus' of *Solenopezia* by Nannfeldt (1932). If it is considered to be a *Perrotia*, the latter name will have to be displaced by *Solenopezia*.

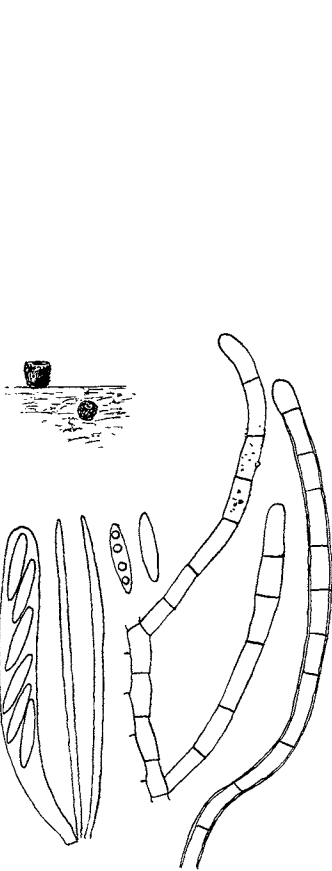


FIG. 62. *Peziza solenia*. Apothecia  $\times 10$ ; details  $\times 660$ .

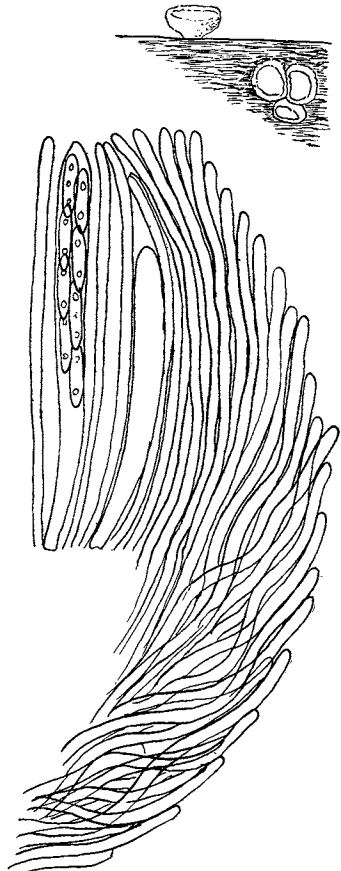


FIG. 63. *Peziza subochracea*. Apothecia  $\times 12$ ; section of margin  $\times 660$ .

*Peziza (Dasyscypha) soleniiformis* Ellis & Everh. in Journ. Mycol. 4: 55 (1888), non *P. soleniiformis* Berk. & Curt. in Grevillea 3: 160 (1875).

*Peziza cazenoviaae* Ellis & Everh. in Journ. Mycol. 5: 180 (1889).

*Dasyscyphus soleniiformis* (Ellis & Everh.) Sacc., Syll. Fung. 8: 436 (1889).

*Atractobolus soleniiformis* (Ellis & Everh.) Kuntze, Rev. Gen. Pl. 3(2): 446 (1889).

Apothecia gregarious, cupulate with a short cylindrical stalk, shorter than the diameter of the cup, light brown and clothed with short concolorous hairs; disc concave, 'dull white, inclining to yellowish or watery flesh color', less than 1 mm. wide. Hairs cylindrical, septate, rounded at the tip, up to  $80 \times 3(-4) \mu$ , with thin brown walls, not distinctly granulate; excipular cells angular,  $6-8 \mu$  diameter. Asci cylindric-clavate,  $50 \times 4 \mu$ , 8-spored,

pore blued by Melzer's reagent; ascospores biseriate, clavate,  $5-7 \times 1.5-2\mu$ ; paraphyses narrowly lanceolate,  $55 \times 1.5-2.5\mu$ , only slightly longer than the asci. (Fig. 18, p. 330).

On decaying wood, Cazenovia, New York, U.S.A., Oct. 1887, *O. F. Cook* 438 (NY).

Ellis subsequently annotated the type '*P. soleniaeformis* E. & E. is *Lachnella canescens* Cke.' but I think this doubtful. The latter has much longer hairs, usually more or less spirally twisted when dry, and longer 1-septate spores,  $11-13 \times 2\mu$ , but the affinities are no doubt with the *D. corticalis* complex rather than with *P. solenia* Peck as proposed by Seaver (1951).

*Lasiobelonium subflavidum* Ellis & Everh. in Bull. Torr. Bot. Club 24: 136 (1897).

On wood of *Salix*, 7000 ft. [2100 m.], Mt. Paddy, Washington, U.S.A., 18.9.1894, *Suksdorf* 489 (type in NY).

No apothecia remain on the type collection, but Ellis's notes on the packet include the unpublished information that the ascospores became 1-3 septate. This and the substrate is consistent with Seaver's suggestion that the fungus was *Perrotia flammea*.

*Trichopeziza subnidulus* Rehm in Hedwigia 21: 102 (1882).

*Lachnum nidulus* var. *subnidulus* (Rehm) Rehm in Rabenh., Krypt. Flora 1 (3): 983 (1893).

*Lachnella subnidulus* (Rehm) Boud., Hist. Classif. Discom. Europe: 124 (1907).

On rotting stems of *Aconitum napellus*, the Rigi, Switzerland, June 1882, *Rehm* Ascomyceten No. 708.

The type was on *Adenostylis* from Bavaria but the collection cited was approved by Rehm who, in 1893, reduced the species to varietal rank with the comment 'Stellt wohl nur die alpine Form von *L. nidulus* dar, durch etwas grössere und hellere Apothecien und schmälere Sporen gekennzeichnet'. The ascospores of the apothecium examined measured  $8-10 \times 2\mu$ , as in typical *L. nidulus*. The hairs are, however, very long, up to  $400 \times 6\mu$ , like those of *D. relicimus*.

*Peziza (Dasyscypha) subochracea* Cooke & Peck in Grevillea 1: 6 (1872).

*Trichopeziza subochracea* (Cooke & Peck) Sacc., Syll. Fung. 8: 408 (1889).

*Lachnella subochracea* (Cooke & Peck) Seaver, N. Amer. Cup-fungi (Inoperculates): 251 (1951).

***Calycella subochracea* (Cooke & Peck) Dennis, comb. nov.**

Apothecia gregarious, superficial, cupulate, sessile on a small base, receptacle white, pruinose, disc flat, yellow, 0.5 mm. diameter. Excipulum composed of rather thick-walled, undulating, hyaline hyphae, lying at a rather high angle to the surface and with their tips protruding as short, cylindrical, obtuse, downy hairs. Asci cylindrical-clavate,  $75-80 \times 7-8\mu$ , 8-spored; ascospores narrowly ellipsoid,  $12-13 \times 3\mu$ , nonseptate; paraphyses cylindrical, obtuse,  $2.5\mu$  thick. (Fig. 63, p. 365).

On stems of *Rubus odoratus*, Adirondack Mts., New York, U.S.A., July Peck 93.

The structure is Helotiaceous and that of a typical *Calycella*.



*Peziza (Dasyscypha) succina* Phillips in Grevillea 5: 116 (1877).

*Dasyscypha succinea* (Phill.) Sacc., Syll. Fung. 8: 458 (1889).

*Lachnella succina* (Phill.) Seaver, N. Amer. Cup-fungi (Inoperculates): 263 (1951).

***Perrotia succina*** (Phill.) Dennis, comb. nov.

Apothecia scattered, cupulate on a short cylindrical base, up to 5 mm. diameter, margin strongly incurved, clothed with long undulating hairs, which shade from brown at the base through ochraceous tints to yellow at the margin. Hairs cylindrical, obtuse,  $2.5-3\mu$  wide, thin-walled and bearing a copious, loose, coarse incrustation of orange granules which dissolve in ammonia. Asci cylindrical-clavate, 8-spored,  $110 \times 10\mu$ , apex rounded, pore not blued by Melzer's reagent; ascospores uniseriate, elliptical to ovoid,  $10-12 \times 3-4\mu$  ( $-14 \times 5\mu$ , Phillips); paraphyses cylindrical, obtuse,  $2\mu$  thick. (Fig. 64).

On dead oak [*Quercus*] branches, Blue Canyon, Sierra Nevada Mts., California, U.S.A., *Harkness* 393.

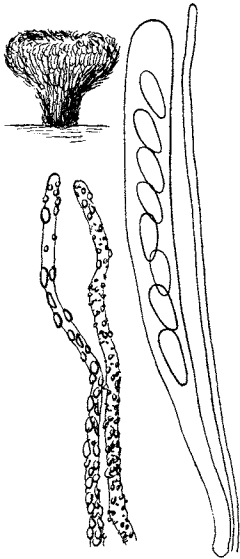


FIG. 64. *Peziza succina*. Apothecium  $\times 5$ ; details  $\times 660$ .

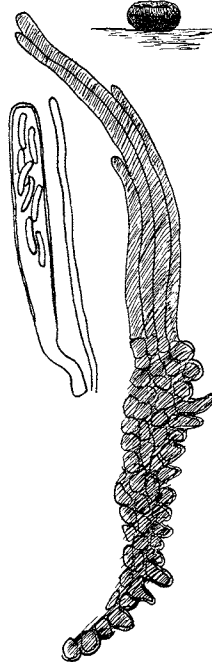


FIG. 65. *Lachnella symphoricarpi*. Apothecium  $\times 5$ ; ascus, paraphysis and section of margin  $\times 660$ .

*Lachnella symphoricarpi* Ellis & Everh. in Bull. Torr. Bot. Club 24: 467 (1897).

***Pyrenopeziza symphoricarpi*** (Ellis & Everh.) Dennis, comb. nov.

Apothecia gregarious, sessile, cupulate, up to 1.5 mm. diameter, receptacle dark brown to black, smooth, margin fringed with long blackish hairs, which tend to cohere to form incurving denticulations; flesh white, disc concave, 'dull white with a rosy tint'. Excipulum composed of globose cells about  $4\mu$  diameter with dark brown opaque walls, the surface layer papil-

late, replaced at the margin by parallel brown hyphae up to  $70 \times 3\mu$ ; asci cylindric-clavate, short stalked, 8-spored,  $50-60 \times 7-8\mu$ , apex broadly rounded, pore not blued by Melzer's reagent; ascospores biseriate, allantoid, rounded at each end, nonseptate,  $8(-10) \times 1.5-1.75\mu$ ; paraphyses cylindrical, obtuse, scarcely as long as the asci. (Fig. 65, p. 367).

On dead stems of *Symphoricarpus*, Baldwin, Colorado, U.S.A., June 1897, *Bethel* 274b.

This seems to have no connection with *Dasyyscyphus* or any genus of *Hyaloscyphaceae* but it is hard to place with confidence elsewhere. The texture seems too tough for the *Dermateaceae* yet in structure there is much in common with *Pyrenopeziza fuscorubra* and the two may well be congeneric, though whether they are well placed in *Pyrenopeziza* is more doubtful. Seaver (1951) thought *Solenopeziza symphoricarpi* Ellis & Everh. in Journ. Mycol. 9: 165 (1903) might be the same but could not trace the type of the latter for examination. If so the ascospores must be somewhat variable for they were said in 1903 to be 'Fusoid oblong or subclavate, becoming faintly uniseptate but not constricted'.

*Peziza tami* Lamy apud Desmazières, Pl. Crypt. France: 827 and Ann. Sci. Nat., Bot. sér. 2, 6: 244 (1836).

*Belonidium tami* (Lamy) de Not. in Comm. Soc. Crit. Ital. 1: 381 (1864).

*Lachnella tami* (Lamy) Phill., Brit. Discom.: 270 (1887).

*Trichopeziza tami* (Lamy) Sacc., Syll. Fung. 8: 408 (1889).

*Urceolella tami* (Lamy) Boud., Hist. Classif. Discom. Europe: 130 (1907).

*Pezizellaster tami* (Lamy) von Höhnelt in Ann. Mycol. 15: 350 (1917).

***Psilachnum tami* (Lamy) Dennis, comb. nov.**

Apothecia scattered, superficial, shallow cupulate and sessile on a small base, 0.5 mm. diameter, receptacle whitish, drying pale buff, minutely pruinose, margin even. Excipulum composed of subprismatic, thin-walled, hyaline cells about  $5-7\mu$  diameter, which become more elongated and parallel towards the margin. There are no real hairs but the surface cells are often somewhat limoniform and free-standing, up to  $12 \times 5\mu$ . Asci cylindric-clavate, 8-spored,  $30-33 \times 4\mu$ , the minute pore blued by Melzer's reagent; ascospores slender-clavate,  $8-9 \times 1.5\mu$ ; paraphyses lanceolate, up to  $3\mu$  wide and  $10\mu$  longer than the asci. (Fig. 66 right).

On dead stems of *Tamis communis*, near Limoges, France, *Desmazières* Pl. Crypt. Fr. No. 827.

It is astonishing that von Höhnelt referred this to his new genus *Pezizellaster*, which he had just defined on the previous page as having 'Paraphysen fädig, stumpflich, nicht vorragend'. Obviously of all the authors who have renamed the species Masee came nearest to the mark, for a hairless *Dasyyscyphus* is exactly what it is, extremely close to *D. granuloseus* (von Höhnelt) Dennis, which was described in his later genus *Psilachnum* (1926). The two can hardly be distinguished on morphological characters but their substrates are possibly different enough to justify keeping both names in use.

Equally astonishing is Phillip's statement that his var. *humuli* was 'So near to *L. tami* that it hardly deserves to be called a variety, except for more developed hairs and a different host plant'. Taking this at face value, Dennis (1949) described the var. *humuli* under the name *Pezizellaster tami*. Actually the two cannot be regarded as conspecific as I should have realised from von Höhnelt's very accurate description of *P. tami* in 1917.

*Lachnella tami* var. *humuli* Phill., Brit. Discom.: 270 (1887).

***Dasyscyphus humuli*** (Phill.) Dennis, comb. nov.

Apothecia superficially like those of *D. grevillei* (Berk.) Masee and *D. occultus* (Ces.) Dennis but with the paraphyses completely cylindrical, obtusely rounded and shorter than the asci. Hairs cylindrical, obtuse, thin-walled, finely granulate, up to  $30 \times 5 \mu$ , mostly non-septate but occasionally 1-septate; asci  $32-37 \times 5 \mu$ ; ascospores  $6-10 \times 1-1.5 \mu$ . (Fig. 66 left).

On Hop bine [*Humulus*], Darenth, Kent, England, 1879.

If one recognized *Clavdisculum* Kirschst., that would obviously be the place for the present fungus. As explained in the introductory remarks, however, there appears to me to be too obvious a series *D. occultus*—*D. grevillei*—*D. humuli*, with progressive degeneration of the paraphyses to permit the segregation of a few species with filiform paraphyses in this way.

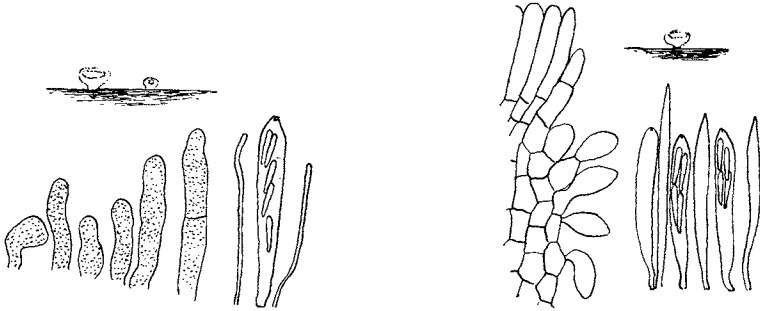


FIG. 66. Left: *Lachnella tami* var. *humuli*. Right: *Peziza tami*. Apothecia  $\times 7$ ; details  $\times 660$ .

*Peziza tautilla* Phill. & Harkn. in Bull. Calif. Acad. Sci. 1: 21 (1884).

*Dasyscypha tautilla* (Phill. & Harkn.) Sacc., Syll. Fung. 8: 445 (1889).

*Lachnella tautilla* (Phill. & Harkn.) Seaver, N. Amer. Cup-fungi (Inoperculates): 256 (1951).

***Hyalopeziza tautilla*** (Phill. & Harkn.) Dennis, comb. nov.

Apothecia scattered, superficial, cupulate with a short cylindrical stalk, white, drying pale reddish brown, about  $250 \mu$  diameter, clothed with fine white hairs which measure up to  $120 \times 3.5 \mu$ , cylindrical, undulating, obtusely rounded or tapered at the tip, with thick, smooth, hyaline walls which are not pseudoamyloid. Asci clavate, 8-spored,  $60 \times 8 \mu$ , apex rounded, pore not blued by Melzer's reagent; ascospores irregularly biserial, elliptical to ovoid,  $7-8 \times 3 \mu$ ; paraphyses cylindrical, obtuse,  $1-3 \mu$  thick, no longer than the asci. (Fig. 67, p. 370).

Amongst the hairs on the lower surface of living leaves of *Garrya elliptica*, Tamalpais, California, May, Ellis & Everhart, North American Fungi Ser. 2, No. 2041.

This is not the type and the ascospores prove larger than stated in the diagnosis, viz.  $4 \times 1 \mu$ . It seems unlikely, however, that there are two such similar Ascomycetes on living *Garrya* leaves. The lumen of the hairs is difficult to stain but it appears to become septate which favours placing the species in *Hyalopeziza* instead of *Urceolella*.

*Peziza (Hymenoscypha) tenuissima*. Quél. in Grevillea 8: 38 (1879).

*Phialea tenuissima* (Quél.) Quél. in Assoc. Franç. Avanc. Sic., Reims, 1880 (p. 13 of separate).

*Helotium tenuissimum* (Quél.) Boud., Hist. Classif. Discom. Europe: 112 (1907).

***Dasyscyphus tenuissimus*** (Quél.) Dennis, comb. nov.

Apothecia scattered, superficial, receptacle shallow cupulate, 0.5 mm. diameter, with slender stalk scarcely 1 mm. long, white throughout, margin denticulate. Excipular cells of the stalk prismatic, about  $15 \times 4\mu$ , those of the receptacle much shorter and bearing cylindrical, obtuse or slightly clavate, hyaline hairs, up to  $32 \times 3\mu$  ( $-5\mu$  at the tip), with one or two septa and thin granulate walls; asci cylindrical-clavate, 8-spored,  $30 \times 3\mu$ ; ascospores fusoid,  $7-8 \times 1\mu$ ; paraphyses lanceolate, about  $2\mu$  thick, longer than the asci.

On grass, comm. Quélet in Herb. M. C. Cooke.

Evidently this is the specimen Quélet submitted to Cooke with his paper for *Grevillea* and can therefore be regarded as part of the type material. Quélet must have overlooked the hairs, which is easily done with weathered collections, especially when only low magnifications are available, as seems to have been the case with Quélet. The apothecia have not reddened with age but nevertheless this would seem to be an earlier name for *D. pudicellus* (Quél.) Sacc., which dates only from 1885.

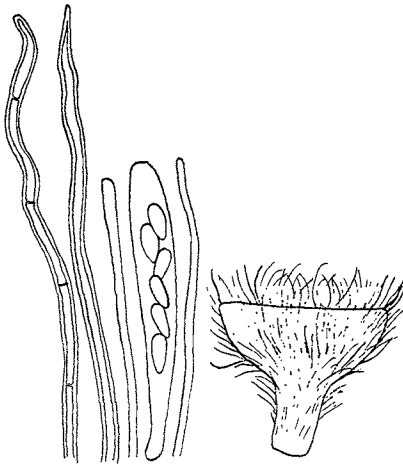


FIG. 67. *Peziza tautilla*. Apothecium  $\times 100$ ; details  $\times 660$ .

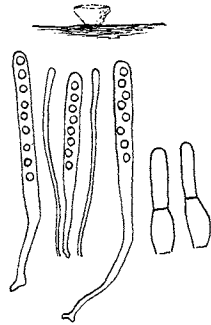


FIG. 68. *Peziza theiodes*. Apothecium  $\times 10$ ; details  $\times 660$ .

*Peziza (Dasyscypha) theiodes* Cooke & Ellis in Grevillea 7: 7 (1878).

*Lachnellula theiodes* (Cooke & Ellis) Sacc., Syll. Fung. 8: 391 (1889).

Apothecia scattered, cupulate, sessile on a broad base, dark gray-brown, 0.5 mm. diameter, pruinose. Hairs cylindrical, obtuse, 1-septate, about  $20 \times 3-5\mu$ , the basal cell usually broader than the apical, wall smooth and thin. Asci cylindrical-clavate, long-stalked,  $45-55 \times 3\mu$ , 8-spored, apex rounded and not blued by Melzer's reagent; ascospores more or less uniseriate, globose,  $1.5\mu$  diameter; paraphyses cylindrical or slightly clavate,  $1-1.5\mu$  thick, no longer than the asci. (Fig. 68).

On decorticated *Rhus venenata*, New Jersey, U.S.A., *J. B. Ellis* 2956.

Cooke noted that 'The sulphury powder which covers the cups is sprinkled over the matrix' and it seems uncertain what relation, if any, it bears to the fungus. These are not the hairs of a typical *Lachnellula*. It may possibly be a *Pithyella* but I have not studied the type species, *P. hypnorum* (Quél.) Boud., and prefer not to propose a transfer here. It should be possible for North American mycologists to find the species again and clarify both the nature of the yellow powder and the dehiscence of the ascus, which is often somewhat ambiguous in species with spherical ascospores unless they can be studied fresh. As Boudier (1885) wrote of *Pithya*, 'Ayant toujours reçu avec un commencement de dessiccation; je n'ai pu observer la déhiscence; peut-être est-il operculé?'

*Helotium trabinelloïdes* Rehm in *Hedwigia* 26: 82 (1889).

*Solenopeziza trabinelloïdes* (Rehm) Sacc., *Syll. Fung.* 8: 477 (1889).

*Dasyscypha trabinelloïdes* (Rehm) Masee, *Journ. Bot.* 34: 145 (1896).

*Helotiella trabinelloïdes* (Rehm) Rehm in *Ann. Mycol.* 2: 36 (1904).

*Trichopeziza trabinelloïdes* (Rehm) Boud., *Hist. Classif. Discom. Europe*: 131 (1907).

*Arachnopeziza trabinelloïdes* (Rehm) Korf in *Lloydia* 14: 169 (1951).

This is an *Arachnopeziza*, as stated by Korf, who indicates as a further synonym *Helotiella nuttallii* Ellis & Everh. 1895. These names in *Helotiella* illustrate the disastrous results of attempting to use ascospore septation as a basis for genera.

*Peziza translucida* Berk. & Curt. in *Grevillea* 3: 155 (1875).

*Dasyscypha translucida* (Berk. & Curt.) Sacc., *Syll. Fung.* 8: 439 (1889).

Apothecia gregarious, cupulate on a small base, about 0.5 mm. diameter, whitish to buff with a white pruina. The hymenium has been destroyed, probably by insects and I have been unable to recover asci or paraphyses but there are apparent free ascospores, slightly allantoid, hyaline, rounded at each end,  $7-12 \times 1.5-2 \mu$ . The excipulum is composed of parallel hyphae  $4 \mu$  wide, with rather thick but not gelatinised hyaline walls and there seem to be no hairs, apart from free hyphal tips. All the evidence points to a species of *Pezizella* and I suggest treating the name as a synonym of *P. vulgaris* (Fr.) von Höhnelt.

On twigs of *Castanea*, Pennsylvania, U.S.A., *Michener* in *M. A. Curtis* 4232.

*Peziza triblidioïdes* Rabenh. in *Klotzsch, Herb. Myc. Ed. Nov.* 17 & in *Flora* 31: 508 (1848).

*Trichopeziza tryblidioïdes* (Rabenh.) Sacc., *Syll. Fung.* 8: 429 (1889).

*Lachnella tryblidioïdes* (Rabenh.) Rehm in *Rabenh., Krypt. Fl.* 1 (3): 861 (1893).

*Pyrenopeziza tryblidioïdes* (Rabenh.) Boud., *Hist. Classif. Discom. Europe*: 134 (1907).

On dry twigs of *Berberis* near Steyr, Austria, *Sauter* in *Klotzsch Herb. Myc.* II, 17.

Strauss, in an appendix to *Flora* 33: 111 (1850), claimed that this 'A L. barbata differt villo subtiliore longiore densiore et colore'. Rehm had not seen it and merely quoted Strauss. I see nothing to separate it from *D. barbatus* (Kunze) Masee.

*Dasyscypha triglitziensis* Jaap in Verh. Bot. Ver. Brand. 59: 26 (1918).

Auf faulenden Nadeln von *Pinus silvestris*, Triglitz in der Prignitz, Brandenburg, 15.10.1915, O. Jaap, Fungi selecti exsiccati No. 756.

Kirschstein, in Ann. Mycol. 36: 376 (1938), indicated this to be a synonym of his *Trichopeziza marchica*, *op. cit.* 48: 46 (1906). The Kew example duly proves to be *Peziza trichodea* Phill. & Plowr. in Grevillea 3: 125 (1875), which, Dennis (1949) transferred to *Hyalotricha* and which must now (see under *H. corticicola*, p. 340) be transferred to *Urceolella* as **U. trichodea** (Phill. & Plowr.) Dennis, comb. nov.

*Dasyscypha tuberculiformis* Ellis & Everh. in Bull. Torr. Bot. Club 27: 60 (1900).

**Urceolella tuberculiformis** (Ellis & Everh.) Dennis, comb. nov.

Apothecia gregarious, urceolate, sessile on a broad base, soft-fleshed, clothed with white hairs, which curve inwards when dry and radiate to expose the deeply concave whitish disc when soaked up. Hairs cylindrical,  $300 \times 4\mu$ , with pointed or rounded tips, nonseptate, walls thick, smooth and hyaline. Immature asci  $40 \times 5\mu$ , pore blued by Melzer's reagent (mature  $70 \times 10\mu$  E. & E.); ascospores not seen (oblong,  $10-12 \times 2.5-3\mu$ , biseriate, E. & E.); paraphyses filiform, obtuse,  $1\mu$  thick, as long as the asci.

On dead stems of *Aquilegia coerulea*, 12,000 ft. [3600 m.], Red Mt., Colorado, U.S.A., June 1899, Bethel 490 (type in NY).

Apparently a good species.

*Peziza umbilicata* Berk. & Curt. in Grevillea 3: 157 (1875).

*Peziza curtisii* Cooke in Bull. Buffalo Soc. Nat. Sci. 3: 22 (1875).

*Trichopeziza umbilicata* (Berk. & Curt.) Sacc., Syll. Fung. 8: 430 (1889).

On *Rosa* sp., Pennsylvania, U.S.A., Michener in *M. A. Curtis* 4384.

This proves to be *Velutarina rufo-olivacea* (Alb. & Schw. ex Fr.) Korf. The material is immature, with only unripe asci, but fortunately the curious, thick-walled, nodulose, brown excipular cells and odd oil-bearing vesicles place the identification beyond doubt.

*Peziza uncinata* Phill. in Grevillea 5: 117 (1877).

*Dasyscypha uncinata* (Phill.) Sacc., Syll. Fung. 8: 456 (1889).

**Unguiculella uncinata** (Phill.) Dennis, comb. nov.

Apothecia scattered, superficial, saucer-shaped, sessile on a small base, 0.5 mm. diameter, disc gray, receptacle minutely hoary, dark gray-brown to black. Hairs subcylindric,  $25-30 \times 3\mu$ , recurved above, light brown, minutely roughened, the outer curve appearing darker than the inner. Asci clavate, subsessile,  $30-35 \times 5\mu$ , the small pore blued by Melzer's reagent, 8-spored; ascospores rod-shaped, straight,  $6 \times 1.5\mu$ ; paraphyses filiform, obtuse,  $1\mu$  thick, no longer than the asci. (Fig. 69, p. 373).

On pine [*Pinus*] needles and decorticated wood, Blue Canyon, California, U.S.A., Harkness 35 in Herb. Ellis (NY).

This species ought evidently to be compared with the type of the much younger *U. aggregata* (Feltg.) von Höhnelt.

*Peziza urticina* Peck in Ann. Rept. N.Y. State Mus. 32: 46 (1879).

*Trichopeziza urticina* (Peck) Sacc., Syll. Fung. 8: 403 (1889).

On dead stems of *Urtica canadensis*, Catskill Mountains, New York, U.S.A.

Authentic material from Peck in the Ellis Herbarium at New York Botanical Garden is normal *Dasyscyphus grevillei* (Berk.) Masee. (Fig. 70).

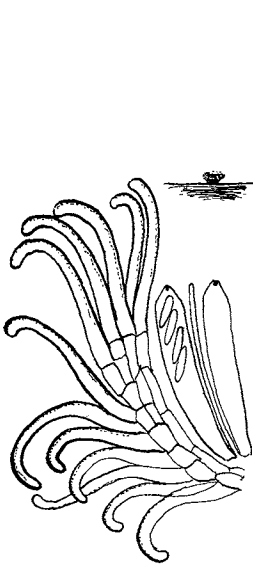


FIG. 69. *Peziza uncinata*.  
Apothecium  $\times 5$ ; section  
of margin  $\times 660$ .

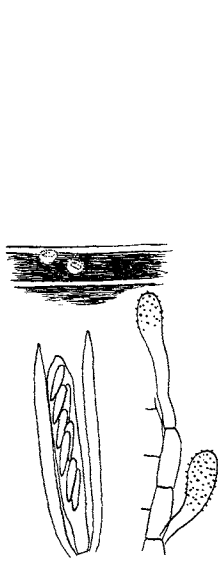


FIG. 70. *Peziza urticina*.  
Apothecia  $\times 5$ ; details  
 $\times 660$ .

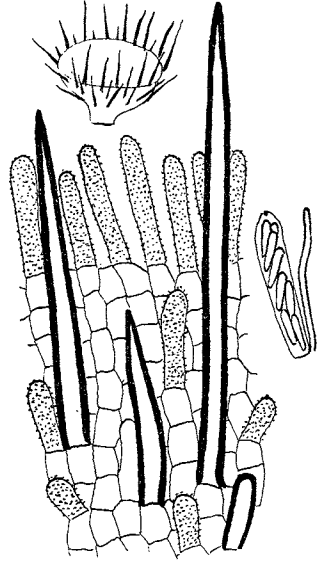


FIG. 71. *Peziza venturioides*.  
Apothecium  $\times 100$ ; details  
 $\times 660$ .

*Dasyscypha variegata* Fuck. in Jahrb. Nass. Ver. Nat. 27/28: 61 (1873).

*Lachnum variegatum* (Fuck.) Rehm in Rabenh. Krypt. Flora 1 (3): 899 (1893).

Apothecia gregarious, sessile on a broad base, shallow cupulate, receptacle densely clothed with tangled tawny hairs; disc yellowish when soaked up, gray-brown when dry, about 1 mm. diameter. Hairs cylindrical, undulating or spirally twisted, up to  $200 \times 4\mu$ , septate, wall thin, brown and smooth over much of their length, hyaline and finely granulate at the obtuse tip. Asci cylindrical-clavate, 8-spored,  $60-65 \times 6\mu$ , pore blue by Melzer's reagent; ascospores elliptic-fusoid, 1-septate,  $11-14 \times 2-3\mu$ ; paraphyses narrowly lanceolate  $2-3\mu$  thick, up to  $10\mu$  longer than the asci. (Fig. 18, p. 330).

'An faulenden stammen *Fraxinus* in Gesellschaft mit *D. flavo-fuliginea*. Selten, im Fruhling, Reichartshausen', ex Herb. Fuckel.

There seem to be no loose crystal balls among the hairs but this is clearly a member of the *D. corticalis* (Pers. ex Fr.) Masee complex and identical with the later *D. canescens* (Cooke) Masee.

*Peziza* (*Dasyscypha*) *venturioides* Ellis & Everh. in Journ. Mycol. 4: 99 (1888).

*Trichopeziza venturioides* (Ellis & Everh.) Sacc., Syll. Fung. 8: 419 (1889).

*Pirottaea venturioides* Rom. & Sacc., Syll. Fung. 8: 388 (1889).

*Lachnum venturioides* (Rom. & Sacc.) Nannfeldt in Nov. Acta Reg. Soc. Sci.

Upsal., ser. 4, 8(2): 133 (1932).

***Dasyscyphus venturioides*** (Ellis & Everh.) Dennis, comb. nov.

The type collection of *Peziza venturioides* yields abundant, superficial, substipitate, cupulate apothecia about  $150\mu$  diameter, with pallid receptacle fringed by white hairs and clothed externally by blackish ones. The hairs are of two kinds, thin-walled, cylindrical, obtuse, hyaline, non-septate, finely granulated hairs,  $20-25 \times 4-5\mu$ , of the normal *Dasyscyphus* type which form the marginal fringe and occur scattered among the second kind, which are stiff, thick-walled, pointed, dark brown setae up to  $100 \times 6\mu$ ; excipular cells thin-walled, quadrate, subhyaline; asci sessile, cylindrical, pointed above with minute pore blued by Melzer's reagent, 8-spored,  $30 \times 6\mu$ ; ascospores biseriate, rod-shaped,  $7-8 \times 1.5\mu$ ; paraphyses cylindrical,  $1.5\mu$  thick, scarcely as long as the asci. (Fig. 71, p. 373).

On fallen leaves of *Gaylussacia resinosa* and *G. dumosa*, Newfield, New Jersey, U.S.A., June 1888 (type in NY).

I have not seen the type of *Pirottaea venturioides* Rom. & Sacc., which was on fallen leaves of *Vaccinium uliginosum* in Sweden but there is at Kew a collection on the same substrate, Käshalde, Fürstenalp, Gr. Switzerland, 2000 m., 18.6.1905, *A. Volkart*. This has larger asci and ascospores,  $40-55 \times 6-8\mu$  and  $12-16 \times 2-2.5\mu$  respectively but the diagnosis of Romell & Saccardo's species indicates dimensions for these organs which agree with the material of Ellis & Everhart and I feel little doubt these two species on Ericaceous leaves are the same. There is an obvious relationship with *D. misellus* (Rob. & Desm.) von Höhnel and a case could be made for proposing a new genus to include these peculiar species with two kinds of hairs and filiform paraphyses, unless one refers them to *Zoellneria* Velen.

*Peziza vincae* Lib., Pl. Crypt. Arduennae Fasc. 4: 325 (1837).

*Helotium vincae* (Lib.) Fuck., Jarb. Nass. Ver. f. Naturk. 23/24: 316 (1870).

*Dasyscypha vincae* (Lib.) Sacc., Syll. Fung. 8: 461 (1889).

*Micropodia vincae* (Lib.) Boud., Hist. Classif. Discom. Europe: 128 (1907).

***Mollisia vincae*** (Lib.) Dennis, comb. nov.

Apothecia scattered, superficial, patellate, less than 1 mm. diameter, dark brown, disc flat, receptacle smooth with a low even margin. Excipulum composed of isodiametric rounded cells,  $8-10(-12)\mu$  diameter, with thin reddish-brown walls, becoming prismatic and parallel beside the hymenium and bearing on the surface towards the margin unicellular, downy, thin-walled, obtuse, smooth hairs, up to  $30 \times 6\mu$ . Asci cylindrical-clavate, 8-spored,  $55 \times 5-6\mu$ , pore not blued by Melzer's reagent; ascospores narrowly ovate to elliptical,  $7-9 \times 2-2.5\mu$ , non-septate; paraphyses cylindrical, obtuse,  $2.5\mu$  thick, as long as the asci. (Fig. 72).

On fallen leaves of *Vinca minor*, in autumn.

*Trichopeziza virescentula* Mouton in Bull. Soc. Roy. Bot. Belge 36, Compt. Rend.: 19 (1897).

***Trichodiscus virescentulus*** (Mouton) Dennis, comb. nov.

Apothecia sessile on a small base, obconical, light greenish yellow, receptacle clothed with slender, spreading, greenish hairs; disc flat,  $200\mu$  diameter. Hairs delicate, up to  $85 \times 4\mu$ , tapered evenly to a sharp point, with about 4 septa, walls hyaline but encrusted with lumps of pale greenish matter, not dissolved in water, KOH or Melzer's reagent. Asci clavate, 8-spored, subsessile,  $45-50 \times 7-8\mu$ , pore blued by iodine; ascospores



biseriate, elliptical,  $10-12 \times 3\mu$ ; paraphyses filiform, obtuse,  $1\mu$  thick. (Fig. 73).

On rotting leaves of *Carpinus*, Beaufays near Liège, Belgium (BR).

In disposing the species one has to choose between *Trichodiscus* and *Hyalopeziza*. The stature and habit point rather to the latter, the coarsely encrusted hairs to the former, moreover the hairs are not stiffly radiating but tend to be flexuous and become mutually entangled at their tips.

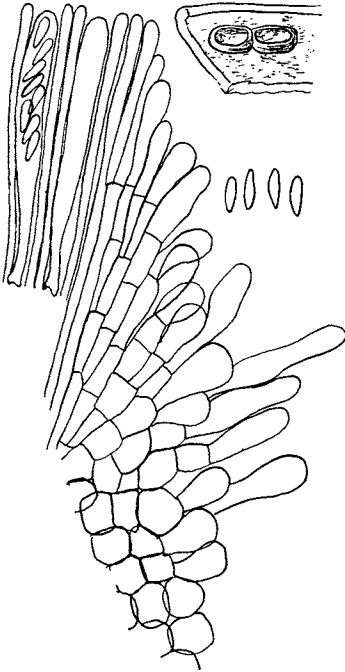


FIG. 72. *Peziza vincae*. Apothecia  $\times 10$ ; section of margin and free spores  $\times 660$ .

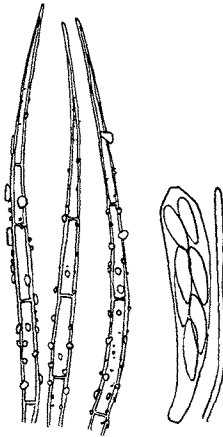


FIG. 73. *Trichopeziza virescentula*. Hairs, ascus and paraphysis  $\times 660$ .

*Dasyscypha virginella* Sacc., Syll. Fung. 8: 444 (1889).

*Lachnum virginellum* (Sacc.) Zeller in Mycologia 26: 293 (1934).

*Lachnella virginella* (Sacc.) Seaver, N. Amer. Cup-fungi (Inoperculates): 256 (1951).

Apothecia scattered, shallow cupulate, less than 1 mm. diameter, with a slender stalk longer than the diameter of the cup, downy, white throughout. Hairs cylindrical, obtusely rounded or tapered at the tip, up to  $100 \times 2.5-4\mu$ , septate, hyaline, with thin finely granulate walls and often capped by small crystal masses. Asci cylindrical-clavate, 8-spored,  $50 \times 4\mu$ , the small pore blued by Melzer's reagent; ascospores fusoid to clavate,  $7-9 \times 1\mu$ ; paraphyses lanceolate,  $70 \times 3-4\mu$ . (Fig. 74, p. 377).

On fallen leaves of *Vaccinium*, Newfield, New Jersey, U.S.A., June 1888, Ellis & Everhart, North American Fungi, Ser. 2, No. 2144.

*Peziza virginella* Cooke was printed as a *nomen nudum* in Grevillea 4: 178 (1876) but effective publication was apparently due to Saccardo and based on his example of Ellis & Everh. 2144. There have probably been too many species of *Dasyscyphus* described on *Ericaceae* in North America and field

studies are required to indicate how many can truly be distinguished there. *D. virginella* seems scarcely separable from *D. virgineus* (Batsch ex Fr.) S. F. Gray by its more tapering hairs. *D. albocitrinus* may be more distinct by its sessile apothecia and yellow disc.

*Lachnella virginica* Ellis & Everh. in Proc. Acad. Sci. Philad. 1894: 349 (1894).

The collector's notes on the type packet, *Nuttall* 380 (NY) read 'In crevice of torn end of *Magnolia fraseri* log. Disk very pale wood color, margin with a short fringe of brown hairs, outside reddish brown. Largest 1.5 mm. in diameter. Asci about  $50 \times 5$ , stipe short. Spores 6 to  $8 \times 1\frac{1}{2}$  to  $2\frac{1}{2}$ . Disk pallid. Hairs septate  $125 \times 3$ ,  $150 \times 3\mu$ . Paraphyses slender, clavate. This is decidedly new to me, oldest spec. are applanate'. Inside there now remains only a slide from which one can merely confirm that the hairs are cylindrical, obtuse, rather closely septate, with reddish brown contents and hyaline walls bearing irregular lumps of reddish matter. Seaver has annotated the packet '=L. cerina' and published this synonymy in 1951. It appears doubtful to me, for *Nuttall* 796, on the same substrate and from the same place, is typical *D. cerinus*, with ascospores  $5-6 \times 2-2.25\mu$  and was so recognized by Ellis. Why, then, did he think 380 distinct? The incrustation and statement 'Paraphyses clavate' suggest a *Perrotia* but the asci and spores recorded are too small for *P. flammea*. For me the name remains of uncertain application.

*Lachnum viridulum* Masee & Morgan in Journ. Mycol. 8: 187 (1902).  
? *Trichopeziza viridula* Grelet in Revue Mycol., n.s. 18: 35 (1953).

**Chlorosplenium viridulum** (Masee & Morgan) Dennis, comb. nov.

Kew Herbarium does not contain a collection labelled *Lachnum viridulum* by Masee, who did not usually adopt the name *Lachnum*. It does have one labelled in his hand '*Dasyscypha morgani* Masee on *Quercus alba*, Preston, O., U.S.A., A. P. Morgan 44, Type.' This name does not appear among Morgan's 'Discomycetes of the Miami valley' nor have I traced its publication elsewhere. As the above particulars of substrate and locality are those given for *Lachnum viridulum* and the fungus agrees tolerably with the diagnosis of that species I assume they are the same and that Morgan changed the name before publication.

Apothecia gregarious but not on a subiculum, shallow cupulate on a short cylindrical base, about 0.5 mm. diameter; disc concave, said to have been green when fresh, now dull yellowish-brown; receptacle and base black but clothed, especially near the incurved margin, with light green hairs. Flesh of the base composed of closely packed thin-walled, vertical hyphae, sheathed by an outer tissue of undulating, radially arranged, broader hyphae with thicker somewhat glassy walls, as in a *Calycella*. On the underside of the receptacle the excipulum is formed by short rows of  $\pm$  isodiametric thick-walled cells, between which protrude cylindrical, obtuse, rather thick-walled, coarsely granulate hairs up to  $30 \times 3\mu$ . The margin is fringed with thin-walled, tapering, pointed hairs up to  $85 \times 3\mu$ , with a few basal septa. These hairs tend to cohere in triangular groups. Asci cylindrical-clavate, sessile,  $30 \times 5\mu$ , apex rounded, pore not blued by Melzer's reagent, 8-spored; ascospores biserial, cylindrical to allantoid, rounded at each end, 5-6

$\times 1.5\mu$ , with small polar guttules; paraphyses filiform, obtuse,  $1\mu$  thick. (Fig. 77, p. 378).

This must surely be the same as *Trichopeziza viridula* Grelet, described independently, though Grelet indicated a basal rather than a marginal distribution for the long smooth pointed hairs. The structure is so like that of a *Chlorosplenium* that I now refer the species there rather than to *Cistella*, in spite of the prominent hairs. If *T. viridula* Grelet is the same as *L. viridulum* then the British collection tentatively ascribed to the former in *Persoonia* 2: 176 (1962) is a distinct species of *Cistella*.

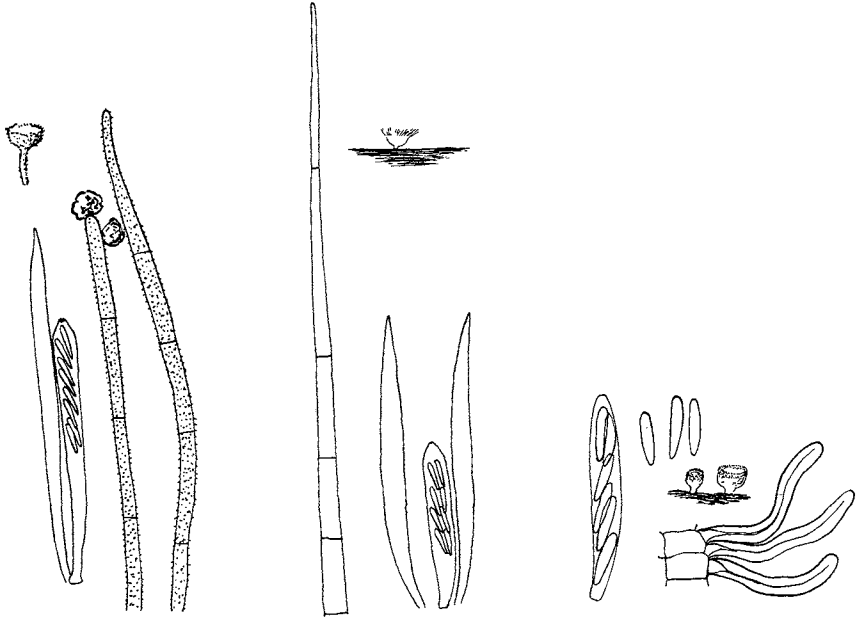


FIG. 74. *Dasyscypha virginella*. Apothecium  $\times 6$ ; details  $\times 660$ .

FIG. 75. *Dasyscyphus washingtonensis*. Apothecium  $\times 10$ ; details  $\times 660$ .

FIG. 76. *Trichopeziza winteriana*. Apothecia  $\times 10$ ; details  $\times 660$ .

### ***Dasyscyphus washingtonensis* Dennis, sp. nov.**

? *Hyalopeziza pteridis* Kanouse in *Mycologia* 39: 660 (1947) non *Dasyscyphus pteridis* (Alb. & Schw. ex Fr.) Masee, *Brit. Fung. Fl.* 4: 368 (1895).

? *Lachnella pteridicola* Seaver, *N. Amer. Cup-fungi (Inoperculates)*: 261 (1951) non *Dasyscyphus pteridicola* Dennis in *Kew Bull.* 15: 299 (1961).

Apothecia sparsa, superficialia, substipitata, alba, villosa, cupula concaviuscula, margine piloso-fimbriato, latit. circiter  $300\mu$ . Asci cylindraceo-clavati,  $33 \times 5\mu$ , octospori apice jodo vix coerulescentes. Ascosporae bacillares,  $5-7 \times 0.75-1\mu$ , biseriatae. Paraphyses ascos superantes, apice acutae,  $55 \times 4-5\mu$ . Pili cupulae articulati, apice longe cuspidati, crassit basin versus  $5\mu$ . (Fig. 75).

As stipites *Pteridis* vetustos, Lake Crescent, Olympic National Park, Washington, U.S.A., 2.6.1939, A. H. Smith 13987 pars. (typus in MICH).

This number, in the herbarium of the University of Michigan, is labelled as holotype of *Hyalopeziza pteridis* Kanouse. The apothecium examined and described above appeared externally similar to several others present on

the material and agrees superficially with Miss Kanouse's diagnosis. There is, however, a serious discrepancy between her observations and mine as regards the paraphyses, which she described as filiform whereas I found them broadly lanceolate. The shape of the hairs of *H. pteridis* was not described but it may be inferred from the generic name selected and from the statement that they were broadest in the middle, that they tapered more or less to the tip. It seems improbable that two so similar species of *Hyaloscyphaceae* existed on such a small amount of host material as was kept in the holotype packet but the possibility that this was so cannot be excluded;

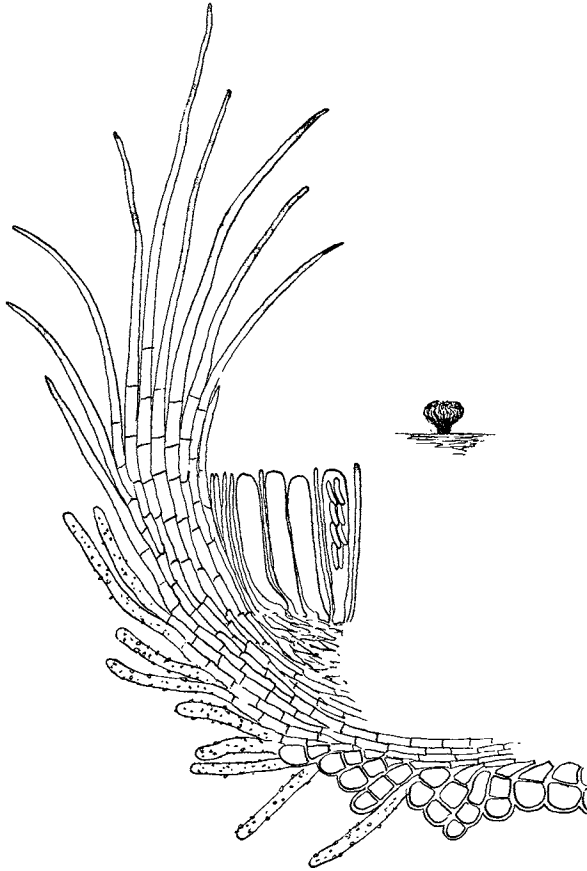


FIG. 77. *Lachnum viridulum*. Apothecium  $\times 10$ ; section of margin  $\times 660$ .

nor would one be justified in mounting all the apothecia that remain to explore this possibility further. As the epithets *pteridis* and *pteridicola* are both preoccupied in *Dasyascyphus*, so that *H. pteridis* would in any case require a new name in that genus, I have thought it best formally to propose a new species based on the apothecium I examined, instead of proposing a new name based on the apothecium Miss Kanouse described as *H. pteridis*. Both species, however, are based on parts of the same collection, A. H. Smith 13987.

*D. washingtonensis* falls naturally into the series *Acutipilae*, where it differs from the graminicolous species in the smaller ascospores.

*Trichopeziza winteriana* Rehm in Hedwigia 24: 230 (1885).

*Dasyscypha winteriana* (Rehm) Rehm in Rabenh., Krypt. Flora 1(3): 840 (1893).

***Urceolella winteriana*** (Rehm) Dennis, comb. nov.

Apothecia scattered, superficial, urceolate on a small base, scarcely 0.5 mm. diameter, drying light brown with a pruinose white margin, disc deeply concave. Hairs cylindrical, adpressed, often somewhat flexuous,  $30-35 \times 3-4 \mu$ , walls thick and glassy above the thin-walled base, so thick as almost to obliterate the lumen, not stained by Melzer's reagent. Asci cylindrical, sessile, 8-spored,  $40 \times 6 \mu$ , 'porus J+' according to Rehm, though I do not see this; ascospores elliptical to slightly clavate, biseriate,  $10-13(-15, \text{Rehm}) \times 2 \mu$ ; paraphyses slender, filiform. (Fig. 76, p. 377).

An den Stengeln faulender Wedel von *Asplenium filix-femina*, Biela-Thal bei Königsten a Elbe, Sachsen, Germany, July 1885, W. Krieger in Rehm Ascomyceten 812.

The species was overlooked by Saccardo and Boudier in their compilations but appears to be recognizable by its large ascospores.

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