BOTANICAL CONTRIBUTIONS.

Mycological Studies. I.

By F. S. Earle.

1. Ascocorticium in North America.

In 1881 * Ellis and Harkness described under the name o *Ascomyces anomalus* a fungus with naked asci forming white spots on fallen pine bark. In 1889 Saccardo † transferred this species to the genus *Exoascus*. In 1881, Brefeld ‡ published *Ascocorticium albidum* as a new genus and species.

An examination of the material in the herbarium here shows Ellis' and Brefeld's species to be identical. The genus *Ascocorticium* is well founded as it is sufficiently distinct from *Exoascus* to be considered the type of a different family, but the earlier specific name will evidently have to be retained. The name and synonomy of the species will, therefore, be as follows:

Ascocorticium anomalum (Ell. & Hark.).

Ascomyces anomalus Ell. & Hark. *loc. cit.* (1881).

Exoascus anomalus Sacc. *loc. cit.* (1889).

Ascocorticium albidum Brefeld. *loc. cit.* (1891).

Exsic.: Ellis N. A. Fungi, no. 561, Rehm, Ascomyceten, no. 1102.

Icones: Brefeld, Untersuchungen, 9: *pl. 1. figs. 37–39.*

2. A Synopsis of the North American Species of Periconia.

The genus *Periconia* of the Dematiaceae has had a rather checkered history. Nearly all the species now referred to it have at one time or another been called *Sporocybe*, while many of the species formerly known by this name must now be sought for under *Sporocybe*, *Stachybotrys*, *Haplophragmium* or *Graphium*. *Periconia* was first described and

* Bull. Torrey Club, 8: 26

† Sylloge Fungorum, 8: 82.

‡ Untersuchungen über Schimmelpilze, 9: 145.

figured by Tode * in 1791, but it was defined in its modern sense by Bonardin † in 1851. It includes those dematiaceous fungi having erect, simple, usually septate conidiophores bearing simple conidia in a somewhat compact head at the more or less enlarged apex, without special basidia.

The North American species may be distinguished by the following synopsis:

KEY TO THE NORTH AMERICAN SPECIES OF PERICONIA.

1.	Conidia globose, brown.	2.
	Conidia ovate, oblong, etc.	10.
2.	Conidia roughened, echinulate, etc.	3.
	Conidia nearly or quite smooth.	8.
3.	Conidiophores densely gregarious, forming velvety areas, substratum blackened.	4.
	Conidiophores scattered, substratum not blackened.	7.
4.	Conidia large, 10 μ or more.	5.
	Conidia small, less than 10 μ.	6.
5.	Capitulum apical.	1. *P. byssoides.*
	Capitulum lateral (near the apex).	2. *P. lateralis.*
6.	Conidiophores unbranched, rough, on woody twigs, etc.	3. *P. commonsii.*
	Conidiophores occasionally branched above, smooth, shining, on grasses and sedges, etc.	4. *P. nigriceps.*
7.	Conidiophores 400–500 μ, conidia 10–14 μ.	5. *P. epiphylla.*
	Conidiophores 150–300 μ, conidia 16–18 μ.	6. *P. Palmeri.*
8.	Conidia large, 8–10 μ.	7. *P. opaca.*
	Conidia small, 2–3 μ.	9.
9.	Conidiophores fascicled, conidia agglutinate.	8. *P. Langloisii.*
	Conidiophores not fascicled, conidia separating.	9. *P. tenuissima.*
10.	Conidia colorless, 8–15 μ long.	10. *P. albiceps.*
	Conidia yellowish, minute, spermatoid.	11. *P. abictina.*

1. PERICONIA BYSSOIDES Pers. Syn. Fung. 686. 1801.

Sporocybe byssoides Fr. Syst. Myc. 3: 343. 1829.

Periconia pycnospora Fresenius, Beiträge zur Myk. 20: *pl. 4. f. 1.* 1850.

Widely effused over blackened areas; conidiophores gregarious, erect, fuscous, often somewhat curved and lighter or subhyaline above, sparingly septate, tapering upwards, ½–1 mm. long, about 17 μ thick at base, tapering to about

* Fungi Meckleubergensis Selecti Fasc. 2: 2. 1791.

† Handbuch der Allgemeinen Mykologie, 112. 1851.

12 μ at apex; capitulum compact, subglobose, apical, about 50 μ; conidia globose, sharply echinulate, 12–15 μ.

On dead stems of various herbaceous exogens, very common throughout Europe and North America.

Persoon's description is not sufficient to fully identify his species, but the material usually referred to it can not be distinguished from the better described and well figured *P. pycnospora* Fresen. The very abundance of the species argues in favor of its being the one in Persoon's hands.

2. Periconia lateralis El. & Ev. Jour. Myc. 2: 104. 1886.

Widely effused over blackened areas; conidiophores gregarious, erect, subulate, opake, septate, nearly straight, 250–300 μ high, 8–10 μ thick at base; capitulum lateral, borne just below the tip of the conidiophore, flattened; conidia globose, yellowish brown, echinulate, nucleate, 10–12 μ.

On dead stems of grasses, Louisiana (Langlois). By a strict construction this species would be excluded from *Periconia* on account of its lateral capitulum. The entire group is in need of further study with more abundant and fresher material. Until this is possible it seems best not to increase the number of generic names.

3. Periconia Commonsii sp. nov.

Blackening the substratum over considerable areas; conidiophores densely gregarious, larger below and tapering upwards but not distinctly bulbous, obscurely 1–3-septate, roughened by adhering conidia, brown throughout, 150–300 μ long, about 14 μ wide at base, 7 μ at apex; capitulum globular, terminal, 35–40 μ; conidia globular, light brown, minutely and sparingly echinulate, 6–7 μ.

On decorticated area on dead limb of *Morus*, Delaware, Aug., 1889, Commons no. 939 (in herb. Ellis).

This specimen was labeled *Periconia minutissima* Corda? In that species as shown by Corda Icones, 1: *pl. 5, f. 259*, the apex of the conidiophore is more or less branched, and there are basidia differing in shape from the conidia. This would exclude it from *Periconia* as here understood, but this

specimen seems to be entirely typical of the genus. The description as given above agrees closely with the next following species but the substrata are very different and there are other differences hard to define exactly.

4. Periconia nigriceps (Peck) Sacc. Syll. 4: 274. 1886.
Sporocybe nigriceps Peck, Reg. Rep. 34: 49. 1883.

Blackening the substratum; conidiophores gregarious, erect, smooth, shining, septate, sometimes with one or two short thick branches near the top, not exceeding 500 μ; capitulum globose or elliptical; conidia brownish, globose, minutely roughened, 6–8 μ.

On dead stems of sedges and grasses. New York. I also refer here somewhat doubtfully Common's no. 2361 on *Scirpus lacustris*, from Delaware, Langlois, no. 919 on *Spartina polystachya* from Louisiana, and two specimens on corn stalks collected in New Jersey by Mr. Ellis.

5. Periconia epiphylla Schw. Trans. Am. Phil. Soc. (Syn. Fung. Amer.), 4: 304. 1834.

Sporocybe epiphylla Sacc. Syll. 4: 608. 1886.

Not blackening the substratum; conidiophores scattered, nearly cylindrical or slightly tapering upward, often flexed, 2–4-septate, brown, 400–500 × 14 μ; capitulum nearly spherical, about 40 μ; conidia globose, brown, echinulate, about 10–14 μ.

On more or less definite areas on dead leaves. I refer here a specimen on leaf-miner spots on *Smilax*, from New Jersey (Ellis), and on *Ailanthus* leaves, locality and collector not stated.

The taking up of von Schweinitz's name for this species is perhaps hardly warranted by his description which is as follows:

"3047. P. epiphylla L.v.S., in variis foliis dejectis observata, Bethl. P. sparsa, pluribus tamen approximatis. Sporodochio breviusculo, superne attenuate, nigro. Capitulo pro ratione magno, fusco, globoso. Sporidiis nigris, densein inspersis."

There is certainly nothing here to justify the wholesale transference of this and others of von Schweinitz's species to *Sporocybe* as is done by Saccardo in Sylloge Fungorum.

The species is near *P. byssoides*, but may be distinguished by the scattered and shorter, less tapering, conidiophores and by the fact that the substratum is not blackened.

6. Periconia Palmeri sp. nov.

Substratum not blackened; conidiophores few, scattered, rather short and stout, dark brown, opake, continuous or once or twice obscurely septate, slightly tapering upwards, 150–300 μ high, 18 μ wide at the base; capitulum large, oblately flattened, 60–70 × 80–100 μ. Conidia globose, brown, tuberculate, 16–18 μ.

On dead hanging twigs and leaves of *Juniperus Virginiana*, Stanford, Conn., October 27, 1901, Mr. L. M. Palmer.

A very distinct species well characterized by its large tuberculate (not echinulate) conidia and short, thick, scattered conidiophores. It is probably a saprophyte but it occurs in connection with a peculiar dying of the twigs of the common red cedar.

7. Periconia opaca Cooke, Grevillea, 16: 79. 1888.

Conidiophores gregarious, erect, 3–4-septate, simple, dark brown, opake; capitulum subglobose, composed of 5 or 6 conidia; conidia globose, dark brown, opake, smooth with a minute apiculus below, 12–15 μ.

On leaves of carices, So. Car., Ravenel, no. 3140. Not seen by me.

8. Periconia Langloisii sp. nov.

Blackening the substratum over larger areas; conidiophores densely gregarious, cespitose, several from a common base, very slender, almost thread-like, occasionally septate, subpellucid, light brown, about 100 × 2½ μ. Capitulum small, globose, yellowish-brown, deciduous, composed of densely agglutinated conidia that are not readily separable, about 12–20 μ; conidia globose, smooth, light brown, translucent, about 2 μ.

On dead stems of *Andropogon*, Louisiana, Langlois, no. 1795.

This has been determined as *Periconia fusca* Corda? but that species has oblong spores. It is perhaps near the next following species but seems to be sufficiently distinguished by the fascicled conidiophores and densely agglutinated capitulum.

9. Periconia tenuissima Peck, Reg. Rep. 46: 33. 1893.

Effused, forming a thin indefinite purplish-brown stratum; conidiophores erect, slender, simple, scarcely septate, 300–350 × 4 μ; capitulum minute, globose; conidia globose, colored like but paler than the hyphae, 2½–3 μ.

On a thick stratum of mycelium of some wood inhabiting fungus. New York (Peck), Not seen by me.

10. Periconia (?) albiceps Peck, Reg. Rep. 32: 40. 1880.

(Figured Bull. N. Y. State Mus. 1²: *pl. 1. f. 8–11.*)

Conidiophores short, equal or slightly tapering upward, black, ½–¾ mm.; capitulum white, subglobose; conidia oblong or subfusiform, colorless, 7½–15 μ long.

On dead stems of *Chelone glabra*, New York (Peck). The published figures of this species shows the conidia borne on elongated basidia which would exclude it from *Periconia* as here defined. Unfortunately the only specimen seen is not in good condition, and gives no light on the subject. In his earlier reports Peck followed Berkeley and Cooke in using the name *Periconia* for species with compound conidiophores, so it quite possibly belongs to the Stilbaceae, though there is nothing in the description or figure to indicate it. Saccardo did not transfer this species to *Sporocybe* as he did most of Peck's earlier species of *Periconia*.

11. Periconia abietina (Peck) Sacc. Syll. 4: 273. 1886.

Sporocybe abietina Peck, Reg. Rept. 31: 45. 1879.

Very minute; condiophores slender, distinctly septate, nearly black; capitulum terminal, yellowish, obovate or subglobose; conidia minute, oblong, spermatoid.

On bark and wood of *Abies nigra*, New York (Peck), not seen by me, said to be about the size of *P. byssoides*.

Excluded Species.

The following species have at one time or another been referred to *Periconia*, but are now excluded:

Periconia alternata (Berk.) Sacc. So far as American material is concerned this is *Stachybotrys alternans* Bon.

Periconia azaleae Peck is *Sporocybe azaleae* (Peck) Sacc.

Periconia bulbosa Schw. is *Sporocybe bulbosa* (Schw.) Sacc.

Periconia calicioides (Fr.) Berk. is *Sporocybe calicioides* Fr.

Periconia corticalis C. & P. is *Sporocybe corticalis* (C. & P.) Sacc.

Periconia fasciculata Schw. is *Sporocybe fasciculata* (Schw.) Sacc.

Periconia gracilis Schw. is *Sporocybe gracilis* (Schw.) Sacc.

Periconia lichenosa Schw. is *Sporocybe macularis* (Schw.) Sacc.

Periconia macularis Schw. is *Sporocybe macularis* (Schw.) Sacc.

Periconia nana Lk. is *Graphium nanum* (Ehrh.) Sacc.

Periconia parasitica Peck is *Sporocybe parasitica* (Peck) Sacc.

Periconia persicae Schw. is *Cornularia persicae* (Schw.) Sacc.

Periconia robiniae Schw. is *Sporocybe robiniae* (Schw.) Fr.

Periconia sphaerophila Peck is *Sporocybe sphaerophila* (Peck) Sacc.

Periconia stemonites Schw. is *Graphium subulatum* (Nees) Sacc.

Periconia subulata Lk. is *Graphium subulatum* (Nees) Sacc.

Periconia truncata C. & P. is *Sporocybe truncata* (C. & P.) Sacc.

3. New Florida Fungi.

Helotiaceae

Hymenoscypha nigromaculata sp. nov.

Epiphyllous on jet black suborbicular spots ½–1 cm. in diameter; ascomata gregarious, brown, sessile or substipitate, margin inrolled, covering the brownish disc when dry, expanding to turbinate when moist, about ⅓ mm. broad and high, peridium of thin-walled, brownish, narrow, prosenchymatous threads about 3 μ thick, the margin roughened by the slightly swollen projecting ends of the threads; asci numerous, broadly clavate, about 70 × 14 μ; paraphyses few, thread-like, but rather thick and substrict, ends not swollen; ascospores distichous or subinordinate, hyaline, irregularly oblong, continuous, 18–20 × 6 μ.

On languishing leaves of *Iris* sp., Palmetto, Fla., Nov. 30, 1901, S. M. Tracy, no. 7299.

The specimens seem slightly immature. It is possible that the spores may develop septa at full maturity.

Perisporiaceae

Dimerosporium vestitum sp. nov.

Epiphyllous, forming a thin black widely effused coating; mycelium slender, pale brown, about 3–4 μ thick; conidia subglobose, sarcinella-like, usually 4-celled, opake, black, short-stalked, about 20 μ; perithecia dark brown, about 85–100 μ, wall-cells minute, close woven, densely clothed with depressed-spreading, brown hairs which are substraight at base, but variously flexed above, continuous or sparingly septate, 100–200 × 4–5 μ; asci broadly clavate, 35–40 × 8–10 μ; paraphyses abundant, thread-like; ascospores distichous or inordinate, narrowly ovate, unequally septate, hyaline, conspicuously 3-guttate, about 8 × 3–4 μ.

On living leaves of *Baccharis glomeruliflora*, Manatee, Fla., Dec. 11, 1901, S. M. Tracy, no. 7279.

This is at once distinguished from other species of *Dimerosporium* on *Baccharis* by the abundant vestiture of long brown hairs. The conidial stage would easily pass for *Sarcinella heterospora* Sacc.

MELANCONIACEAE.

Colletotrichum cerei sp. nov.

Thickly scattered over considerable areas, without definite spots; ascervuli black, buried, long covered by the epidermis which is pierced by the slender bundle of setae, at length exposed by the falling away of the epidermal covering; setae few, usually centrally fascicled, black or dark brown, septate, irregularly tapering upward, about 70 μ long by 6–7 μ wide at base; sporules irregularly oblong, 18–22 × 6–7 μ, hymenial layer of dark, somewhat regular, parenchymatous cells 6–7 μ in diameter.

On dying *Cereus triangularis*, Sanibel Island, Fla., May 16, 1901, S. M. Tracy, no. 7309.

DEMATIACEAE.

Verticicladium effusum sp. nov.

Hypophyllous, forming widely effused, irregular, dark olivaceous areas; mycelium superficial, of pale brown, creeping, frequently septate threads, 3–3½ μ in diameter; conidiophores resembling the mycelium threads, erect, at first simple, at length sparingly branched about the middle, 75–150 × 3–3½ μ; conidia narrowly elliptic, hyaline, continuous, 8–10 × 3 μ.

On languishing leaves of *Coccoloba uvifera*, Sarasota Key, Fla., May 12, 1901, S. M. Tracy, no. 7316.

Sporoschisma Tracyi sp. nov.

Covering conspicuous gall-like swellings 1 cm. in diameter; conidiophores blackish-brown in mass, dark yellow under the microscope, densely floccose or subfascicled, suberect, variously flexed, 300–400 × 15 μ; conidia internal, escaping from the broken ends of the conidiophores (sporangia?), dark yellow, cylindrical, ends rounded, at first 2-septate, becoming several-septate, usually 35–40 × 14 μ, sometimes larger.

On dead twigs of *Ilex* sp., Sanibel Islands, Fla., May 16, 1901, S. M. Tracy, no. 7308.

This is a conspicuous addition to a small and poorly understood genus. It can hardly properly belong to the Dematiaceae when it is placed both by Saccardo in Sylloge Fungorum and by Lindau in Engler & Prantl, Pflanzfamilien. The

Vaucheria-like sporangia (?) suggest its algal relationship, but it seems to have no chlorophyll.

TUBERCULARIACEAE.

Pucciniopsis caricae sp. nov.

Hypophyllous; spots suborbicular, thickened, 1–1½ mm. in diameter, discolored and marked by a circumscribing brown line above, black from the crowded sporodoches below; sporodoches black, orbicular, densely aggregated, becoming subconfluent, 50–100 μ; conidiophores densely crowded, clavate-cylindric, brown, continuous, 40–50 × 7–8 μ; conidia light fuscous, obovate to subelliptic, conspicuously roughened by short, blunt papillae, at first continuous, at maturity 1-septate, scarcely constricted, rounded above, narrowed below, 18–20 × 8–10 μ.

On languishing leaves of *Carica Papaya*, Sanibel Islands, Fla., May 18, 1901, S. M. Tracy, no. 7314.

4. New California Fungi.

Among a large and interesting lot of fungi collected by C. F. Baker at or near Stanford University, Calif., during the fall of 1901, the following seem to be new or noteworthy. Descriptions of the fleshy species are mostly taken from the very full and satisfactory field notes made by the collector.

AGARICACEAE.

Russula cremoricolor sp. nov.

Among decaying oak leaves; pileus 6–10 cm., convex with the center often depressed, dark cream color, disc darker, smooth, viscid when young, margin incurved, entire; lamellae heterophyllous, subsinuate, subcrowded, broad, nearly plane, pale cream color; spores white, globose, sparingly echinulate, 5½–7 μ; stipe 4–6 × 2½–3½ cm., irregular, subequal, smooth, white, solid; flesh white, unchanging, very peppery, odor not noticeable.

Stanford University, Calif., Dec. 4, 1901, C. F. Baker, no. 137.

This somewhat resembles *R. mustelina* Fr., but differs in the white not pallid stipe and in the cream-colored, not white

lamellae. No measurements of that species are recorded, but as figured (Krombh. *pl. 61, f. 8, 9*) it is smaller and darker colored than our plant. It belongs to the section *Compactae*.

Russula paxilloides sp. nov.

In beds of decaying oak leaves; pileus 5–9 cm. thick and fleshy but with thin margin, expanded or subdepressed, disc whitish or pallid more or less deeply washed with carmine toward the margin, smooth, slightly viscid, margin entire; lamellae all equal, interveined and subanastomosing near the stipe, subsinuate, broad, subplane, white to cream yellow; spores pale yellow, globose, rough with sharp conical projections, 7–9 μ; stipe variable in size, 5–11 × 1½–3 cm., equal, smooth, white, spongy, stuffed with a loose pith; flesh white, unchanging, taste burning peppery, odor not noticeable.

Stanford University, Calif., Nov. 30, 1901, C. F. Baker, no. 156.

This showy species is somewhat nearly related to *R. vesternosa* Fr. but it may be distinguished by the equal subanastomosing lamellae. It belongs to the section *Fragiles*.

Pholiota ventricosa sp. nov.

Gregarious or cespitose, on the ground at the base of living pine trees; pileus 7–8 cm., convex, obtuse, reddish-brown, disc often lighter, surface subdry, minutely yellow fibrillose to subglabrate, margin even, subappendiculate with the fibrous remnant of the ruptured veil; lamellae subsinuate, crowded, rather broad and subventricose, edge thin but entire, pale brown becoming dark cinnamon, spores bright ferruginous, ovate or subelliptic, 8–9 × 4–5 μ; veil yellowish-white or pale brownish, very thick, of felted fibers; annulus persistent, thick, margin jagged and remaining erect, almost apical, only 3–5 mm. from top of stalk; stipe stout, conspicuously ventricose, 14–18 × 2–3 cm., largest below the middle, radicating and white mycelioid below, surface yellow-fibrillose to subglabrate, apex above the annulus densely white tomentose, pale brownish, solid, the outer layers tough and fibrous; flesh pale yellow, unchanging, taste bitter, odor none.

Stanford University, Calif., Dec. 12, 1901, C. F. Baker, no. 122.

This conspicuous species seems to be somewhat closely related to *Pholiota caperata* Pers. but it may be distinguished by the ventricose radicating stem which is white tomentose, not scaly, above the nearly apical erect margined annulus, and by the smaller spores.

Flammula Californica sp. nov.

Gregarious or cespitose, under trees, probably from buried rotten wood; pileus 4–7 cm., expanded, subumbonate, pale ochraceous brown, umbo often darker, glabrous, subhygrophanous, margin entire; lamellae subsinuate-decurrent, heterophyllous, crowded, subventricose, pale ochraceous to fusco-ferruginous, spores ferruginous, elliptic, 6–7 × 4 μ; stalk 5–6 cm. × 3–4 mm. subequal, slightly enlarged at apex and base, glabrous above, brown fibrillose below, base white mycelioid bringing up attached sand and fragments, pale brown, apex yellowish-white, solid; flesh cream-colored, unchanging, taste and smell mild.

Stanford University, Calif., Dec. 5, 1901, C. F. Baker, no. 167.

The glabrous, subhygrophanous pileus places this species in the section *Udae.*

Hebeloma sericipes sp. nov.

Solitary, among decaying oak leaves; pileus 4–6 cm., broadly convex to plane or subdepressed, obtuse, pale olive brown, dry, disc glabrous, margin silky fibrillose, entire; lamellae sinuate, crowded, subnarrow, nearly plane, white to ochraceous brown, edge white, erose, spores elliptic or subovate, varying in size, smooth, often with a large central vacuole, 7–10 × 5–7 μ; universal veil white, arachnoid; stalk 4–6 cm. × 7–9 mm., equal, subglabrate below, the upper half conspicuously silky-fibrillose, white, solid, crisp; flesh white, unchanging, taste mild, pleasant, odor sickish like chestnut flowers.

Stanford University, Calif., Dec. 3, 1901, C. F. Baker, no. 148. (Section *Indusiatae.*)

Hebeloma Bakeri sp. nov.

Solitary, among decaying oak leaves; pileus 5–7 cm., expanded, cream color, disc darker, viscid and slimy, glabrous,

margin entire; lamellae deeply sinuate, heterophyllous, crowded, subventricose, pale ochraceous brown, edges white and suberose, spores elliptic-ovate, 10–12 × 6–7 μ, usually with a large central vacuole; veil none; stipe long, about 8 cm. × 7 mm., equal, subglabrous below, pruinose above, colored like the pileus, solid; flesh white or cream, unchanging, taste and smell mild.

Stanford University, Calif., Dec. 4, 1901, C. F. Baker, no. 147.

This species belongs to the section *Denudatae*. It is somewhat closely related to *Hebeloma crustuliforme* Bull., that has been credited to California, but it is clearly different in its deeply sinuate gills, longer solid stem and mild taste and odor.

Cortinarius nudipes sp. nov.

Gregarious in grassy places; pileus 5½–6½ cm., convex to expanded, obtuse, clear bright reddish-brown, disc darker, smooth, shining, viscid, margin entire, subinflexed; lamellae strongly heterophyllous, adnexed, rounded behind, crowded, rather broad, narrowed toward the margin, ochraceous cinnamon (probably pallid when young), spores ochraceous-cinnamon, elliptical, smooth, about 7 × 4 μ; cortina fugacious; stipe about 5 cm. × 8–10 mm., even or slightly enlarged above, entirely smooth or with a few loose fibers below, white above, sordid at base, hollow; flesh outer layers white, pellucid within, unchanging, taste and odor mild, brittle when dry.

Stanford University, Calif., Dec. 4, 1901, C. F. Baker, no. 124.

This species belongs to the subgenus *Phlegmacium*, section *Cliduchi*. It is perhaps nearest to *C. maculipes* Pk.

Cortinarius radians sp. nov.

Among decaying oak leaves; pileus 7½–11 cm., expanded, obtuse, bright brown with grayish disc and radiating streaks of gray, subsmooth but minutely radiate-fibrillose, scarcely viscid, margin thin, entire, inflexed or at length subrevolute; lamellae heterophyllous, narrowly sinuate, crowded, narrow but subventricose, (pallid?) to dark cinnamon, spores ferruginous-cinnamon, narrowly ovoid, granular, 9–11 × 5–6 μ; cortina thin, fragile, fugacious; stipe 6½–8½ × 1½–3 cm.,

subequal but slightly enlarged below, nearly smooth or with a few loose fibers below, brown, solid but softer within; flesh pale brown, unchanging, taste and odor mild, subfirm when dry.

Stanford University, Calif., Dec. 4, 1901, C. F. Baker, no. 129.

This belongs to the subgenus *Phlegmacium*, section Cliduchi. It is a larger plant than *C. nudipes* and can be distinguished by the solid brown stipe and the radiate gray center of the pileus.

Hypholoma Californicum sp. nov.

Densely cespitose on or near the base of oak stumps; pileus thin, 5–5½ cm. convex, then expanded and subumbonate, deep rich brown, smooth, hygrophanous, margin entire (or obscurely striate in dried specimens); lamellae adnexed or subfree, subcrowded, slightly ventricose, pale brown at first then darker, spores dark purplish brown, oblong-elliptic, 5–6 × 3 μ; veil white, of thin fibers soon breaking away from the stem but more closely woven toward the margin, appendiculate; stalk 7–10 cm. × 4–5 mm., equal, glabrous but uneven with small irregular swellings, sordid white marked with brownish stains on drying, hollow, cartilaginous, fragile, often splitting; flesh thin, pale brownish, unchanging, taste and smell mild (normal agaric).

Summit of Coast Range, near Palo Alto, Calif., Dec., 1901, C. F. Baker, no. 86.

This species somewhat closely resembles *Hypholoma longipes* Peck from southern California, but differs in its larger size, ventricose gills, and smaller, more oblong spores.

Psathyrella fragilis sp. nov.

Gregarious, in decaying beds of pine needles; pileus very thin and fragile, 4–8 mm., subconic to broadly convex, light brownish-gray when young, becoming pale gray with the disc usually darker, minutely furfuraceous, deeply radiate sulcate from disk to margin; lamellae subfree, heterophyllous, subdistant, ventricose, pale gray, not perceptibly blackened with age, spores hyaline, faintly blackened in mass, oblong-elliptic, often with one small vacuole, 8–9 × 4–5 μ; stipe filiform, 2–3 cm. × ¾–1 mm., equal or slightly enlarged

above, smooth above, minutely furfuraceous below, waxy white above, gray or pallid below, hollow, cartilaginous; flesh white, unchanging, taste and smell mild.

Stanford University, Calif., Nov., 1901, C. F. Baker, no. 90.

This exceedingly delicate, fragile species is somewhat closely related to *Psathyrella disseminata* Pers., from which it may be distinguished by its still smaller size, paler color, and by the very light colored hyaline spores that do not blacken the gills. The spores too are symmetrical, not inequilateral as in that species.

Hypodermataceae.

Hypodermopsis gen. nov.

Ascoma elongate, black, minute, confluent with the host tissues (as in *Hypoderma*); ascospores elliptic or spindle-shaped, brown, two or more septate.

This is not to be confounded with *Rhytidhysterium*, although the spore characters are the same. In the latter genus the ascoma is fully erumpent with inrolled lips that expand to discoid when moistened. It should probably be placed in the Cenangiaceae rather than in the Hypodermataceae. This family when properly defined forms a natural group in which the elongated ascoma is buried, having its walls more or less completely blended with the host tissue. The structure is comparable to that of *Rhytisma* in the Phacidiaceae or of *Phyllachora* in the Dothideales.

Hypodermopsis sequoiae sp. nov.

Ascomata scattered, broadly elliptic or subangular, prominently convex, the margin confluent with the epidermis, smoothish or somewhat wrinkled, the lips closely connivent, forming a subprominent medial line, about ¾–1 × ½–¾ mm.; asci subcylindrical, 70–75 × 8–10 μ; paraphyses abundant, thread-like, forming a poorly defined epithecium; ascospores distichous, subspindle-shape, olivaceous, 3-septate, not constricted, about 18 × 6 μ.

On dead twigs and needles of *Sequoia sempervirens*, Sum-

mit of Coast Range, near Stanford University, Calif., Nov. 15, 1901, C. F. Baker, no. 81.

Hysteriaceae.

Gloniella pentstemonis sp. nov.

Erumpent-superficial, the base buried in the cortex, scattered or gregarious, not blackening the surface, straight or slightly curved, ends acute, dull black, lips connivent, but not closely appressed, smoothly rounded, not striate, 1–1 ½ × ½ mm.; asci clavate, 60–70 × 8–10 μ; paraphyses numerous, at first septate with free ends, finally forming a brownish epithecium; ascospores obliquely monostichous, hyaline, subovate, at length 3-septate and slightly constricted at all of the septa, 15–18 × 6–7 μ.

On dead stems of some cultivated *Pentstemon*, Stanford University, Calif., Nov. 22, 1901, C. F. Baker, no. 76.

Lindau in Engler & Prantl, Pflanzenfamilien follows Rehm in placing part of the Saccardian species of *Gloniella* in the Hypodermataceae under the name *Gloniella* and part in the Hysteriaceae under the new generic name *Hysteroglonium*. This disposition of the species is probably well founded but the original description of *Gloniella* clearly shows that it was intended as a genus of the Hysteriaceae and not of the Hypodermataceae. The name should therefore be retained for those hysteriaceous species that were first included in it. It is in this sense that the name is used above since our species clearly belongs in the Hysteriaceae.

Dothideaceae.

Dothidea yuccae (El. & Ev.).

Phyllachora yuccae Ell. & Ev., Bull. Torrey Club, 22: 440. 1895.

Stromata thickly scattered, at first buried and long covered by the epidermis, at length fully erumpent, black, elliptical, flattened, about ¾ × ½ mm., roughened by the numerous, minute ostioles; ascigerous cavities small, 60–80 μ; asci subcylindric or narrowly ovate, 70 × 12–14 μ; ascospores subdistichous, ovate, nearly equally uniseptate, the lower cell

slighly narrower, constricted, light fuscous, subpellucid, 16–20 × 7 μ.

On dead leaves of *Yucca* sp., Stanford University, Calif., Nov. 12, 1901, C. F. Baker, no. 71.

The somewhat immature stages agree perfectly with the type of *Phyllachora yuccae* from Mexico.

Amphisphaeriaceae.

Trematosphaeria cactorum sp. nov.

Perithecia scattered or gregarious, conic-spheroid, rough, dull black, not collapsing, 130–180 μ, ostiolum indistinct; asci subcylindric, short pedicellate, thin-walled, 100–120 × 8–10 μ; paraphyses abundant, thread-like; ascospores longitudinally monostichous, ovate-oblong, fuscous, 3-septate, one medial cell usually enlarged, ends obtusely conic, 20–25 × 7–8 μ.

On old spines of *Cereus* sp., Stanford University, Calif., Oct. 19, 1901, C. F. Baker, no. 1.

Pleosporaceae.

Metasphaeria washingtoniae sp. nov.

Perithecia densely gregarious over large areas, often two or three linearly confluent, at length blackening the substratum, elevating and finally rupturing the epidermis, black, white within, subspheroid, not collapsing, ostiolum obscure, about 150 μ; asci subcylindric, about 70 × 12 μ; paraphyses numerous, rather broad (2 μ), branching above, with the tips irregular and subswollen; ascospores distichous, hyaline, strongly constricted into two unequal parts, 3-septate, or at length 4-septate, about 20 × 4 μ.

On dead petioles of *Washingtonia*, Stanford University, Calif., Nov. 26, 1901, C. F. Baker, no. 25.

Xylariaceae.

Xylaria Californica sp. nov.

Gregarious or subcespitose; stromata slender, simple, not branched, erect or variously flexed, reaching 7 cm. or more long, the basal portion densely hirsute with stiff, spreading, dark brown hairs, about 1½ mm. thick, fertile portion 2–2½ cm. long by about 2 mm. thick, sterile apex about 1 cm. ×

1 mm., fertile portion whitened by the conidia when young; conidia abundant, narrowly fusiform, hyaline, continuous, 10–11 × 3 μ; perithecia 50 or more, prominent, subhemispheric, black, ostiolum strongly papillate; asci cylindric, 75–85 × 7 μ; ascospores longitudinally monostichous, subinequilateral, dark brown, about 14 × 6 μ.

On decayed, partly buried sticks, summit of Coast Range, San Mateo Co., Calif., Nov., 1901, C. F. Baker, no. 105.

SPHAERIOIDACEAE.

Sphaeropsis stictoides sp. nov.

Amphigenous; pycnidia scattered, without spots, buried, black, rather corky, about ½ mm., the papilliform ostiolum erumpent, surrounded by the whitish upturned leaf tissue; sporophores unusually long, slender, hyaline, about 20 × 2 μ; sporules irregularly oval or oblong, often inequilateral, ends subacute, continuous, brown, 26–28 × 9–11 μ.

On fallen rotting leaves of *Eucalytus* sp., Stanford University, Nov. 26, 1901, C. F. Baker, no. 5.

The whitish upturned leaf tissue bordering the pycnidia gives this species a striking resemblance to a *Stictis*. It is well marked by this and by the very long slender sporophores.

5. New Fungi from Various Localities.

Aecidium helianthellae Arthur, sp. nov.

Spermogonia epiphyllous, few and inconspicuous. Aecidia hypophyllous on discolored spots, crowded in circular groups; peridia low, at first erose, becoming somewhat revolute and coarsely torn; spores globoid, 14–22 μ in diameter, minutely roughened, but usually appearing smooth, wall thin, nearly colorless.

On leaves of some species of *Helianthella*, Alcove, Wyoming, July 1, 1901, Leslie Goodding, no. 178.

Cercospora thermopsidis sp. nov.

Spots yellowish or pallid, not bordered, irregular, angular bounded by the veins, 3–4 mm. or by confluence much larger involving considerable areas; conidiophores amphigenous but mostly hypophyllous, densely fascicled, forming subglobose masses that are at first scattered and olivaceous but be-

come densely gregarious and black, the single hyphae olivaceous, continuous, about 25–35 × 3 μ; conidia abundant subhyaline, subcylindric, straight or slightly flexed, ends rounded, minutely guttulate, continuous, or at length faintly 1–2-septate, 75–90 × 5 μ.

On *Thermopsis arenaria*, Glen Rocks, Montana, July 15, 1901, Aven Nelson, no. 4818.

Ohleriella gen. nov. (Amphisphaeriaceae).

Perithecia as in *Amphisphaeria*, asci large, at first 8-spored, the young spores hyaline and several-celled, at maturity brown and separating within the ascus at all the septa, the ascus thus becoming many-spored and the spores unicellular.

This is clearly related to *Ohleria* in which the 4-celled spore divides into two 2-celled parts at maturity, the ascus thus becoming 16-spored, or it may be compared to a *Trametosphaeria* in which the spores fall to pieces in the ascus before maturity.

Ohleriella Neo-mexicana sp. nov.

Perithecia thickly scattered, black, hemispheric-mammillate, erumpent, the base remaining covered by the whitened wood fibers, not collapsing, ostiolum conspicuous, strongly papillate, ½–¾ mm.; asci large, stipitate, subcylindric, at maturity 48-spored, 150–200 × 25–30 μ; paraphyses abundant, thread-like; ascospores about three-ranked, at first cylindric, hyaline, 5-septate, at maturity dark brown, opake, separating into six suborbicular or from pressure subquadrate bodies that are about 8 μ in diameter.

On old whitened woody stems, Albuquerque, New Mexico, Nov. 29, 1901, T. D. A. Cockerell.

Puccinia Oregonensis sp. nov.

I. Involving considerable areas on the leaves and stems; spermagonia minute, light brown, usually epiphyllous; pseudoperidia densely aggregated, often amphigenous, short and broad, ¼ × ¾ mm., margin short, somewhat lacerate, erect, pseudoperidial cells 20–25 × 30 μ or occasionally much larger, conspicuously roughened with short and prismatic or occasionally longer and flexuous ridges; aecidiospores irregularly

oval, unequal in size, averaging 20 × 16 μ, subsmooth but faintly reticulate, wall rather thick, about 1½ μ.

II. Uredospores not seen.

III. Teleutosori hypophyllous on indefinite yellowish areas, scattered or sometimes confluent, large, 1 × ¾ mm., oval, long covered by the thin epidermis, finally free and conspicuous, dark brown, nearly black; teleutospores dark brown, oval, ends rounded, apex not thickened, slightly constricted, epispore thick, opake, roughened with prominent rounded tubercles, stalk colorless, fragile, often broken away.

On *Sanicula bipinnata*, Corvallis, Oregon, Apr. 14, 1899, Moses Craig.

This is very distinct from *Puccinia saniculae* Grev. It approaches *P. pimpinellae* (Strauss) Link, but differs in the strongly tuberculate teleutospores, the more conspicuous teleutosori and in the smoother aecidiospore and different markings of the pseudoperidial cells.

Rhopographus Bakeri sp. nov.

Stromata subsuperficial, elliptic, sometimes confluent, black, about 1–1½ × ⅓–½ mm., acigerous cavities 2 or 3 to several in each stroma, subprominent; asci cylindrical, about 40–50 × 8 μ; paraphyses thread-like; ascospores distichous, subcylindric, fuscous, 3-septate, strongly constricted, one medial cell often enlarged, about 16 × 4 μ.

On leaves of some unknown grass, Massinga, near Santa Marta, Colombia, South America, Nov. 17, 1898, C. F. Baker, no. 94.

Podosporium Bakeri sp. nov.

Scattered or sometimes densely cespitose in crowded, obconic masses; stromata dark brown, nearly black, clavate, ½–1 mm. high, 40–60 μ or by confluence 200–500 μ thick, of closely compacted fuscous hyphae with free widely-spreading ends that are 40–60 × 8 μ and once or twice septate with apex obtusely rounded, occurring on all parts of the stroma but more abundant apically; conidia acrogenous and pleurogenous, stipitate, obovate, 3-septate, apex truncate, dark fuscous, minutely roughened, about 40–60 × 12–15 μ, tapering below to the slender once or twice septate stalk, which is smooth, light fuscous, 50–100 × 4 μ.

On dead stems of some woody vine, near Bonda, Colombia, South America, Dec., 1898, C. F. Baker, no. 99.