

KANSAS BASIDIOMYCETES
(EXCLUSIVE OF THE TELIOSPOREAE)

by

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INTRODUCTION

It became evident, while searching for a Master's problem, that a general study of the fleshy and woody Basidiomycetes of Kansas was desirable in the light of both the author's interests and his future plans. A study of this type afforded an excellent opportunity for combining field work with work in the laboratory.

This paper represents the results of a year's collecting and identifying of members of the following fungous orders: Auriculariales, Dacrymycetales, Tremellales, Polyporales, Agaricales, Hymenogastrales, Phallales, Sclerodermatales, Nidulariales, and Lycoperdales. By far the species of the Order Agaricales, Family Agaricaceae are the most numerous included.

The work was begun in April, 1951, and proceeded until May, 1952. All specimens have been placed in the Kansas State College Mycological Herbarium at Manhattan, Kansas

HISTORICAL

Probably the first person who worked with the fleshy fungi of Kansas was Cragin (1884a,b). He reported over 200 species, fifteen of which were new. Jewell (1881) collected the hymenomycetes and gasteromycetes of the Blue River valley area. Smyth (1898, 1899) included fungi, most of which were collected

and identified by Elam Bartholomew, in his list of the Kansas flora. With this list of agarics and polypores were included habitats and a few diagnostic characters of the species.

Bartholomew, who will long be remembered as one of Kansas' foremost students of the fungi, discussed generally twenty-five species of agarics, puffballs, and morels (1919) and later produced a list with two additions of the fungous flora of Kansas (1927, 1930, 1933).

Feese (1930) included both Ascomycetes and Basidiomycetes in a fleshy fungous flora of Riley and Geary Counties, Kansas. Her paper gave brief descriptions of the species included.

The fleshy fungi of Crawford County were studied by Travis and Hall (1939). Their list included no descriptions, but indicated the fruiting time of the various species. Showalter (1951) presented before the Kansas Academy of Science a paper listing some of the fungi collected by Stubbs. These collections were made in both northeastern Kansas and the adjoining part of Missouri.

From the preceding discussion it may be seen that the fleshy and woody Basidiomycetes are a group which has not been thoroughly studied in Kansas. It is hoped that this paper will contribute to a knowledge of it and that eventually a rather complete basidiomycetous flora will be published for the state.

PROCEDURE AND METHODS

Methods for Collecting and Preserving Specimens

Because all of the identifications and descriptions of the species treated in this paper were to be made from fresh specimens, the growing season of 1951 was used exclusively for collecting. During the spring two field trips were made each week to various places near Manhattan, Kansas. This number was increased to four or five during the summer months, but again in the fall the original number of trips was made each week. Some specimens were received from and collected in other parts of the state.

Whenever a specimen was encountered in the field, it was placed in a paper bag upon which the habitat and locality were noted. The collections were retained in a vasculum until the end of the collecting period. Upon returning to the laboratory the collections were placed in a refrigerator to be held overnight.

The following day notes which could be obtained only from fresh specimens were recorded on mimeographed field data sheets. If the collection was one of an agaric, bolete, or polypore, a pileus was placed on a small piece of paper (half white and half black), covered with a dish, and allowed to remain for approximately twenty-four hours. This was done to obtain a spore print, which was later filed with the collection.

The collections were numbered consecutively and were then dried in an oven at 100 degrees Fahrenheit. When thoroughly dry, they were removed and packeted in herbarium packets in which a pinch of paradichlorobenzene was placed. The packets were filed in numerical order in cardboard boxes. Approximately 800 collections were made during the season.

When identification was begun, all the specimens were first determined to the generic level. The collections were then arranged into generic groups so that all the collections of one genus could be specifically determined during the same period.

The members of the Family Agaricaceae were identified first, followed by those of the Boletaceae. The genera of the Orders Auriculariales, Dacrymycetales, Tremellales, Polyporales, Hymenogastrales, Phallales, Sclerodermatales, Nidulariales, and Lycoperdales were then done in that order.

Methods for Microscopic Work

To study microscopic details of agarics and boletes it was necessary to use a method of sectioning which could be quickly and easily done without sacrificing the production of satisfactory sections. This was accomplished by cutting a radial portion from the dried pileus and inserting it into a slit in a stick of elderberry pith so that by cutting across the end of the pith, tangential sections of the pileus would

result. The pith containing the pileus portion was placed in water until the fungous tissue became soft. It was then removed, and sections were cut by rapidly drawing a straight edge razor across the end of the pith. The mixture of pith and sections was floated in a syracuse dish filled with water, and sections were removed with tweezers and placed on a microscope slide.

Sections prepared as outlined above were stained by a method given by Martin (1934). A drop of one per cent aqueous phloxine solution and one of three per cent aqueous potassium hydroxide solution were placed on the sections. After standing for approximately fifteen seconds, the liquid was removed with filter paper and replaced by a drop of the three per cent potassium hydroxide solution. A cover slip was then applied with gentle pressure. This method served the double purpose of reviving the dried fungous tissue and staining it so that microscopic structure could be seen easily.

In the white-spored genera of agarics, a chloral hydrate-iodine solution (Smith, 1949) (potassium iodide 1.5 grams, iodine 0.5 gram, distilled water 20.0 grams, chloral hydrate 20.0 grams) was used to test the amyloid reaction of the spores.

Lactophenol-cotton blue stain (Riker and Riker, 1936) (equal parts of distilled water, melted carbolic acid crystals, and lactic acid plus a trace of cotton blue dye) was employed when it was necessary to see spore wall markings clearly.

Decoloration of the spores of dark-spored genera was tested with concentrated sulfuric acid. This was done by placing a small drop of the acid on a slide with a mass of the spores, applying a cover slip, and observing under a microscope.

At times it was desirable to retain a slide for further examination. For this, the potassium hydroxide solution or stain was replaced with glycerine or the cover slip was sealed to the slide with wax.

COLLECTING AREAS

The collecting trips were arranged so that all types of available habitats could be inspected at two or three week intervals. These habitats and localities in which they were located were as follows:

1. Lawns. Kansas State College campus and various private lawns in Manhattan, Kansas.
2. Prairies. An area west of Kansas Highway 13 approximately four miles southeast of Manhattan, and an area northwest of the Manhattan Country Club golf course.
3. Wooded ravines. Pawpaw and Hackberry Glens, two and one-half and three and one-half miles, respectively, south of Manhattan along old Kansas Highway 13 and the ravines west of the Manhattan Country Club golf course.
4. Lowland woods. The woods along Wildcat Creek west of

Sunset Cemetery, Manhattan, and near the second Rock Island railroad bridge west of Manhattan, and the woods along the Kansas River north of the Soil Conservation Service nursery southwest of Manhattan.

These, by no means, were the only localities visited, but they represented well the general types of habitats found in the area.

The lawns contained among others the usual grasses, Poa pratensis¹ and Cynodon dactylon, and lawn weeds, Digitaria sanguinalis and Taraxacum vulgare. Many species of shrubs and trees were to be found. A few of the more common ones were Acer spp., Celtis occidentalis, Gleditsia triacanthos, Pinus spp., Quercus spp., Spiraea spp., Syringa vulgaris, and Ulmus americanus.

Coprinus micaceus, Collybia velutipes, Pleurotus sapidus, and Pluteus cervinus were the first agarics to be found in the spring. All were lignicolous. The former not only appeared throughout the growing season, often at intervals on the same stump, but also was the most abundant species found.

The stinkhorn, Phallus impudicus, appeared in late May and early June. Coprinus quadrifidus, Pseudocoprinus disseminatus, and Psathyrella candolleana were found quite often throughout the summer. Both collections of the latter were made at the base of Gleditsia triacanthos. Lepiota clypeolaria

¹ The names of all vascular plants were taken from Flora of Kansas by Frank C. Gates.

and several species of Inocybe were the most common terrestrial agarics seen.

In late July and August, abundant collections of Marasmius nigripes were made. This species was found on dead wood, acorn shells, and the veins and midribs of oak leaves.

The puffballs, Lycoperdon marginatum, Scleroderma lycoperdoides, and S. arenicola were the most common members of the gasteromycetous group to be found in lawns. L. marginatum appeared in late spring while the two species of Scleroderma fruited from July to September.

The flora of the prairies which surround Manhattan included the grasses Andropogon furcatus, A. scoparius, Buchloe dactyloides, and Bouteloua curtipendula and many dicotyledonous herbs, which grew and flowered successively throughout the growing season. Some such herbs were Baptisia minor, B. leucophaea, Oxalis violacea, Callirhoe involucrata, Psoralea floribunda, Oenothera missouriensis, Echinacea angustifolia, Liatris punctata, and Solidago spp.

The prairies did not provide fruitful collecting areas. Even with the abundant rainfall during the summer of 1951, coprophilous species, such as Panaeolus semiovatus and Stropharia semiglobata, made up most of the collections from this type of habitat. Agaricus campestris was found once in June, and Coprinus comatus was collected twice during the summer.

The dominant species of the wooded ravines were Quercus muhlenbergii, Q. macrocarpa, and Ostrya virginiana. In a few

ravines Asimina triloba and Cercis canadensis were abundant, while Juniperus virginiana was often present at or near the ravine rims. The most common shrubs were Symphoricarpus orbiculatus and Ribes missouriense. Monispermum canadense, a vine, and Smilax hispida, a liana, were also often encountered. The herbaceous flora of the ravines was quite varied. Rhus toxicodendron, Desmodium sp., and Viola spp. comprised the group of most noticeable species.

The soil of the ravines showed the effects of much erosion during the summer of 1951. The abundant accumulation of leaf mold and humus, however, made this type of habitat the most productive of all as far as the fungous group treated in this paper was concerned.

The earliest appearance of a fleshy basidiomycetous fungus was that of Polyporus arcularius in the latter part of April. It fruited abundantly through May and June. Auricularia auricularis also made an early arrival.

Russula uncialis and R. pectinatoides, both terrestrial species, were common in June and July. Tricholoma sordidum, and various species of Cortinarius appeared in June and were collected throughout the remainder of the season. Coprinus quadrifidus, while not found as commonly as in lawns and lowland woods, appeared in the ravines in July. Lactarius insulsus was so abundant for a period of two or three weeks in July and early August that it literally covered the ravine slopes.

Very few members of the genus Amanita were seen. Two collections of A. verna were made in the ravines, one in July and the other in September. Marasmius dichrous, Clitocybe truncicola, and Lepiota acutaesquamosa could be found at will during the same period. Collybia radicata and Pholiota polychroa were seen often during the last half of the collecting season.

Agaricus silvaticus and Tricholoma personatum appeared in late August, the latter in abundance. Several lignicolous species of Mycena were collected in September. Clitocybe odora was found during this month. Two large fairy rings of a Hebeloma were seen, and this species and Armillariella mellea were the most abundant members of the fall agaric flora. A. tabescens was found twice at the base of dead junipers.

Four gasteromycetes, Calvatia craniformis, Lycoperdon pyriforme, Geastrum saccatum, and Scleroderma lycoperdoides, were the members of this group most commonly collected in ravines. The latter two species appeared from June to September while the others were exclusively fall species.

Present in the vascular flora of the lowland woods were the trees Morus rubra, Populus deltoides, Salix interior, and Ulmus americana. Along creeks Aesculus glabra sargentii, Menispermum canadense, and Ribes missouriense were present. Common herbaceous species were Aster spp., Eupatorium sp., Polygonum spp., Rhus toxicodendron, and Urtica procera.

The basidiomycetous flora of the lowland woods contained

many species which were also found in the wooded ravines.

Three species of Coprinus, C. atramentarius, C. laniger, and C. quadrifidus, were common. The first made the earliest arrival in the spring, but Pleurotus sapidus appeared in great abundance soon afterwards.

Due to the floods in eastern Kansas in July, 1951, no collections were made in the lowland woods from this time till late August. Russula purpurina, which was found only in this type of habitat, and Pleurotus sapidus were the species collected most often during the fall.

The preceding discussion indicates that while many fungous species are ubiquitous, there is a certain correlation between the habitat and the species which can be found in it. This is to be expected, for most plants "seek out" the environment which is most suited to them ecologically.

KEY TO ORDERS AND FAMILIES

1. Basidium one-celled, without epibaeidia; fruit body not gelatinous 4
1. Basidium not as above; fruit body usually gelatinous . . 2
 2. Basidium nonseptate, forked, bearing two basidiospores (Dacrymycetales) Dacrymycetaceae
 2. Basidium not as above 3
3. Basidium vertically cruciately septate (Tremellales) Tremellaceae

3. Basidium transversely, usually 3-septate (Auriculariales).
 Auriculariaceae
4. Hymenium at maturity exposed 5
4. Hymenium at maturity in closed fruit bodies . . . 10
5. Fruit body usually woody, leathery, or tough (Polyporales).
 6
5. Fruit body usually soft, fleshy (Agaricales) 9
6. Hymenium on low, broad, lamellae-like ribs
 Cantharellaceae
6. Hymenium not as above 7
7. Hymenium on downward projecting teeth Hydnaceae
7. Hymenium not as above 8
8. Hymenium on filiform, clavate, or coral-like fruit
 bodies Clavariaceae
8. Hymenium lining shallow or deep, round or elongate
 tubes Polyporaceae
9. Hymenium on lamellae Agaricaceae
9. Hymenium lining tubes Boletaceae
10. Fruit bodies subterranean (Hymenogastrales)
 Hymenogastraceae
10. Fruit bodies not as above 11
11. Gleba at maturity a slimy, fetid mass (Phallales) Phallaceae
11. Gleba not as above 12
12. Glebal cavities isolated from each other at
 maturity (Nidulariales) 13
12. Gleba a powdery mass at maturity 14

13. Exoperidium cup-shaped and firm at maturity, glebal chambers (peridioles) egglike Nidulariaceae
13. Exoperidium collapsed at maturity, one glebal chamber Sphaerobolaceae
14. Fruit body with thick peridium, hymenial cavities replaced by nests or clusters of basidia (Sclerodermatales) 15
14. Fruit body not as above (Lycoperdales) 17
15. Exoperidium splitting stellately, both exoperidium and endoperidium present Astraeaceae
15. Peridium simple 16
16. Gleba forming peridioles Pisolithaceae
16. Gleba not as above Sclerodermataceae
17. Exoperidium splitting and folding back stellately Geastraceae
17. Exoperidium not as above Lycoperdaceae

Within each order in the following part of the thesis, the families are arranged alphabetically; within each family, the genera, and within each genus, the species are also arranged alphabetically.

AURICULARIALES

Auriculariaceae

Auricularia Persoon

1. Auricularia auricularis (S. F. Gray) Martin.

Fructification 3-6 cm. broad, auriform, tough gelatinous, centrally or laterally attached, cinnamon brown; hymenial surface cupulate; upper surface pruinose. Spores smooth, allantoid, 4-6 X 12-14 u.

Cespitose on deciduous logs, May-June. Common. RLS No. 82.¹

DACRYMYCETALES

Dacrymycetaceae

Key to Genera

1. Fruit body pulvinate or discoid Dacrymyces
 1. Fruit body stipitate and pileate Dacryopinax

Dacrymyces Fries

1. Dacrymyces deliquescens Duby.

Fructification 1-3 mm. broad, pulvinate, sessile, firm gelatinous, orange yellow. Spores smooth, 3-septate, allantoid, 4.5-6 X 14-16 u.

¹ Numbers following the descriptions are the author's collection numbers.

Scattered on coniferous log (juniper) April. RLS No. 5.

2. Dacrymyces ellisii Coker.

Fructification 2-6 mm. broad, pustulate, with stalklike base, anastomosing to form clusters up to 1 cm. high, soft gelatinous, orange yellow. Spores smooth, allantoid, 5.5-7 X 12-15 u.

On dead deciduous (honey locust) branches, September.

RLS No. 494.

Dacryopinax Martin

1. Dacryopinax elegans (Berkeley and Curtis) Martin.

Fructification 1-2 cm. high, 4-6 mm. wide, spatulate and stipitate, tough gelatinous, amber brown. Spores smooth, 1- to 3-septate, allantoid, 4.5-6.5 X 11-16 u.

Gregarious on deciduous logs in lowland woods, June.

RLS No. 285.

2. Dacryopinax spathularia (Schweinitz) Martin.

Fructification .5-1 cm. high, 4-6 mm. wide, spatulate and pileate, firm gelatinous, light orange. Spores smooth, 1-septate, allantoid, 3.5-4 X 8-11 u.

Gregarious on deciduous stumps in wooded ravine, July.

RLS No. 451.

TREMELLALES

Tremellaceae

Key to Genera

1. Resupinate, broadly effused, with indeterminate margin
 Sebacina
1. Erumpent or pileate 2
 2. Erect, branched, with aspect of Clavaria
 Tremellodendron
 2. Not as above 3
3. Spores subglobose or ovate Tremella
3. Spores allantoid Exidia

Exidia Fries

1. Exidia alba (Lloyd) Burt.

Fructification 2-3 cm. broad, convolute, tough gelatinous, white to creamish. Spores smooth, allantoid, 4-5 X 8-11 u.

Gregarious on rotting deciduous logs in wooded ravines, June-August. RLS No. 294.

2. Exidia recisa (S. F. Gray) Fries.

Fructification 1-3 cm. broad, lobed, tough gelatinous, dull orangish brown. Spores smooth, allantoid, 3-5 X 10.5-14 u.

Gregarious on deciduous branches in lowland woods, May. RLS No. 48.

3. Exidia spiculosa (S. F. Gray) Sommerfelt.

Fructification 4-9 cm. broad, effused, tough gelatinous, whitish then brownish black. Spores smooth, allantoid, 4-5 X 10-16 u.

Gregarious and anastomosing on deciduous logs in lowland woods and wooded ravines, May-October. RLS Nos. 66, 661.

Sebacina Tulasne

1. Sebacina incrustans (Fries) Tulasne.

Fructification 3-5 cm. broad, resupinate and incrusting leaves and the bases of herbs, tough gelatinous, whitish. Spores smooth, ovate, 6-7.5 X 10-13 u.

In wooded ravines, September. RLS No. 522.

Tremella Dillenius ex Fries

1. Tremella foliacea (S. F. Gray) Persoon.

Fructification 3-5 cm. broad, convoluted, with leaflike folds, tough gelatinous, brown with pinkish tints. Spores smooth, ovate to globose, 7-9 X 8-9 u.

Solitary on deciduous logs (oak) in wooded ravines, September-October. RLS Nos. 516, 683.

2. Tremella mesenterica (S. F. Gray) Persoon.

Fructification 2-3 cm. broad, convoluted, gelatinous, lemon yellow. Spores smooth, ovate to globose, 6-10 X 7-10 u.

Gregarious on deciduous logs in wooded ravines, July-September. RLS No. 345.

Tremello dendron Atkinson

1. Tremello dendron schweinitzii (Peck) Atkinson.

Fructification 2-4 cm. high, erect, with aspect of Clavaria, with branches flattened and anastomosing, pallid.

Spores smooth, subglobose to allantoid, 4-6 X 7.5-10 u.

Gregarious in wooded ravines, June-July. RLS No. 241.

POLYPORALES

Cantharellaceae

Cantharellus Fries

1. Cantharellus cibarius Fries.

Pileus 2.5-4 cm. broad, flattened convex to plane then depressed, glabrous, orange yellow. Stipe .6-1.5 X 3.5-6 cm., tapering to base, glabrescent, solid, yellow cream. Lamellae fold-like, distant, decurrent, orangish yellow. Spores smooth, ellipsoid, 4-5 X 7-9 u.

Scattered in wooded ravines, August-October. RLS Nos. 484, 667.

Clavariaceae

Key to Genera

1. Spores ochraceous Ramaria
 1. Spores hyaline 2

2. Very finely branched, feather-like Pterula
 2. Branches larger or unbranched Clavaria

Clavaria Fries sensu stricto

1. Clavaria cretacea Coker.

Fructification 3 cm. high, sparingly branched, with whitish branches. Stem indistinct, tannish. Spores smooth, ellipsoid, 3-4 X 5.5-7.5 u.

Gregarious in wooded ravine, September. RLS No. 515.

No clamp connections are reported for this species, but they were present in specimens of this collection.

2. Clavaria fumosa Fries.

Fructification 3-7 cm. high, compressed and fusiform, white at base, smoky gray above. Spores smooth, ellipsoid, 3-4 X 5-8 u.

Cespitose in wooded ravines, June-July. RLS Nos. 218, 441.

Pterula Fries

1. Pterula plumosa (Schweinitz) Fries.

Fructification 2-3 cm. high, brush-like with slender branches, pinkish tan. Spores smooth, ellipsoid, 3-3.5 X 6.5-7.5 u.

Scattered on well rotted stump, September. RLS Nos. 496, 579.

Ramaria S. F. Gray

1. Ramaria stricta (Fries) Quelet var. concolor Corner.

Fructification 3-7 cm. high, branched, tough, buff.

Spores rough, 3.5-5 X 6-10 u.

Gregarious to scattered on deciduous logs, June-August.

RLS Nos. 197, 274, 346, 347, 399, 478.

Hydnaceae

Key to Genera

1. Fruit bodies strictly resupinate 2
1. Fruit bodies not strictly resupinate 3
 2. Cystidia present Odontia
 2. Cystidia absent Mycoacia
3. Fruit body fleshy Hericium
3. Fruit body coriaceous or tough 4
 4. Stipitate Auriscalpium
 4. Broadly attached with reflexed margins or lobes Steccherinum

Auriscalpium S. F. Gray

1. Auriscalpium vulgare S. F. Gray

Pileus 5-8 mm. broad, convex, with ochraceous hairs, brown with purplish tints. Stipe 1-4 cm. long, equal, with ochraceous hairs, solid, black. Teeth 3 mm. long, terete, close, lilac then gray. Spores smooth, obovate, 3.5-4 X 4.5-5 u.

Cespitose on buried cone of Pinus sylvestris, June.

RLS No. 111.

Hericium Persoon ex S. F. Gray

1. Hericium erinaceus (Bulliard ex Fries) Persoon.

Fructification 15 cm. long, 17 cm. wide, 12 cm. high, massive, laterally attached, fleshy, whitish then orangish brown. Teeth 1-2 cm. long, terete. Spores smooth, sub-globose, 4.5-5 X 5-6.5 u.

Solitary on dead deciduous tree (honey locust), September.
 RLS No. 619.

Mycoacia Donk

1. Mycoacia fragilissima (Berkeley and Curtis) Miller and Boyle.

Fructification resupinate-effused, yellow to light orangish with long orange rhizomorphs. Teeth 1-2 mm. long, terete to flattened. Spores smooth, ellipsoid, 2-2.5 X 3.5-4.5 u.

Scattered on deciduous logs and branches in wooded ravines, September-October. RLS No. 703.

The distinctive rhizomorphs of this species were seen rather abundantly during May and June.

Odontia Persoon emended Fries

1. Odontia stipata (Fries) Quelet.

Fructification effused, soft, floccose, whitish becoming buff when dry. Spores smooth, oblong, 3-4 X 4-6 u.

On deciduous logs in wooded ravine, April. RLS No. 4.

Steccherinum S. F. Gray

1. Steccherinum ochraceum (Persoon ex Fries) S. F. Gray.

Fructification resupinate or reflexed, zonate, tomentose,

buff. Teeth 1-2 mm. long, crowded, terete or flattened, pinkish cinnamon. Spores smooth, obovate, 2-2.5 X 3-4 u.

On deciduous (oak) logs and branches in wooded ravines, April-September. RLS Nos. 3, 620.

2. Steccherinum septentrionale (Fries) Banker.

Fructification 3-10 cm. long, 3 cm. wide, pubescent, sessile, flattened, tough, creamish white. Teeth .6-1 cm. long, terete, creamish white. Spores smooth, ellipsoid, 4-4.5 X 6 u.

Scattered on rotting deciduous log in wooded ravine, October. RLS No. 655.

This collection seems closest to S. septentrionale. However, that species is described as having more narrow spores (2.5-3.5 u) and cystidia, which were not seen in this collection.

Polyporaceae

Key to Genera

1. Spores truncate and appearing echinulate . . . Ganoderma
1. Spores not truncate or, if so, not echinulate 2
 2. Hymenophore composed of radiating lamellae or elongated pores breaking up to form lamellae . . . Lenzites
 2. Hymenophore poroid 3
3. Pores daedaloid Daedalea
3. Pores circular or angular 4

4. Tubes sunken to uneven depths in context . . . Trametes
 4. Tubes sunken to even depths in context 5
 5. Pores circular to angular Polyporus
 5. Pores radially elongated, angular Favolus

Daedalea (Persoon) Fries

1. Daedalea confragosa (Bolton) Fries.

Pileus 2.5-4 cm. long, 3-5.5 cm. wide, sessile, zonate, radially striate in places, woody, brownish. Tubes .5-1.5 mm. broad, daedaloid to lamellate, whitish. Spores smooth, cylindrical, 1.5-2 X 6-7.5 u.

Scattered on deciduous logs and dead trees, September-October. RLS Nos. 580, 692.

2. Daedalea unicolor Bulliard ex Fries.

Pileus 2-5 cm. long, 4-11 cm. wide, effused-reflexed, hirsute, zonate, coriaceous, white to grayish. Tubes 1-4 mm. long, daedaloid then breaking up into teeth, grayish. Spores smooth, ellipsoid, 3-4 X 5-6.5 u.

Solitary to scattered on deciduous (cottonwood, black walnut) logs, September-October. RLS Nos. 624, 674.

Favolus Fries

1. Favolus alveolaris (De Candolle) Quelet.

Pileus 4.5 cm. long, 5-6 cm. wide, slightly laterally stipitate, innately fibrillose and becoming scaly, leathery-woody, brownish yellow. Tubes hexagonal, elongated radially, yellowish. Spores smooth, cylindrical, 3-4 x 9-11 u.

Solitary on dead deciduous branches, June. RLS No. 219.

Ganoderma Karsten emended Patouillard

1. Ganoderma applanatum (Persoon) Patouillard.

Pileus 7.5 cm. long, 10 cm. wide, sessile, plane, with a horny crust, woody, grayish brown. Tubes 4-10 mm. long, stratified, cream tan. Spores smooth, ovoid, 4-5 X 5-7 u.

Solitary on dead deciduous (honey locust) trees, September. RLS No. 607.

2. Ganoderma lucidum (Leyssing ex Fries) Karsten.

Pileus 3.5 cm. long, 5.5 cm. wide, sessile or laterally stipitate, glabrous, zonate, covered with a yellowish brown crust. Stipe when present, lateral, tapering from pileus, solid, varnished brick red. Tubes 3-5 per mm., whitish. Spores smooth, ovoid, 5-6 X 9.5-11 u.

Solitary on deciduous (oak) stump in lawn, July-August. RLS Nos. 432, 485.

Lenzites Fries

1. Lenzites trabea Persoon ex Fries.

Pileus 2-4 cm. long, 6.5-7.5 cm. wide, sessile or effused-reflexed, glabrous, rough, coriaceous to woody, grayish brown to orangish brown. Tubes 1-3 mm. broad, daedaloid-lamellate, yellowish to rusty brown. Spores smooth, cylindrical, 2.5-4 X 8-10 u.

Scattered on dead deciduous tree, July. RLS No. 343.

Polyporus Micheli ex Fries

1. Polyporus arcularius Batsch ex Fries.

Pileus .7-4 cm. broad, convex-umbilicate to infundibuliform, fibrillose becoming scaly, tough, tan to blackish brown. Stipe .1-.3 X 1.8-3 cm., tapering slightly to base, pubescent, tan to dull brown. Tubes 1 mm. broad, angular, decurrent, yellowish cream. Spores smooth, ellipsoid, 2-3 X 6-9 u.

Scattered on deciduous (oak) logs in lawns and wooded ravines, April-July (September). Abundant. RLS Nos. 19, 418, 597.

2. Polyporus conchifer Schweinitz ex Fries.

Pileus 1-3 cm. long, 1-5 cm. wide, laterally attached, with a cup-shaped structure at the base of the pileus, zonate, coriaceous, whitish. Tubes 3 per mm., white to yellowish. Spores smooth, cylindrical, 1.5-2 X 6-7 u.

Gregarious on deciduous logs and branches in lawns and wooded ravines, July-October. Abundant. RLS Nos. 386, 550.

3. Polyporus dichrous Fries.

Pileus .5-1.3 cm. long, 1.7-2.8 cm. wide, sessile, tomentose, coriaceous, whitish. Tubes 5-6 per mm., circular, reddish brown. Spores smooth, allantoid, .5-1 X 3-4.5 u.

Gregarious on dead oak branch, September. RLS No. 510.

4. Polyporus fumosus Persoon ex Fries.

Pileus 1.5-3 cm. long, 2-8 cm. wide, effused-reflexed, tomentose, tough, gray tan. Tubes 3-4 per mm., gray. Spores smooth, ellipsoid, 2-3 X 4.5-6 u.

Gregarious to scattered on deciduous (tulip tree) log, October. RLS No. 678.

5. Polyporus gilvus Schweinitz ex Fries.

Pileus 3-5.5 cm. long, 5-10 cm. wide, reflexed, glabrous, rough, zonate, corky, orangish brown. Tubes 6-8 per mm., orangish brown. Spores smooth, oblong-ellipsoid, 3-4 X 5-6 u.

Solitary to scattered on dead deciduous (oak) logs and branches, June-September. RLS Nos. 212, 405, 520.

6. Polyporus picipes Fries.

Pileus 6.5-9.5 cm. long, 9-14 cm. wide, convex to depressed, glabrous, perhaps slightly viscid, leathery, orangish brown to almost black at center. Stipe .9-1.5 X 2-3 cm., equal, glabrous, solid, blackish. Tubes 5-7 per mm., sub-decurrent, yellowish cream. Spores smooth, ellipsoid, 2-2.5 X 5.5-6.5 u.

Cespitose on deciduous stump in wooded ravine, October. RLS No. 656.

7. Polyporus cinnabarinus Jacquin ex Fries.

Pileus 1.2-2 cm. long, 2.5-7 cm. wide, sessile, glabrous, coriaceous to woody, bright orangish red. Tubes 2-4 per mm., bright orangish red. Spores smooth, oblong, 2-2.5 X 4.5-5.5 u.

Scattered on decorticated deciduous logs in lowland woods and wooded ravines, July-October. RLS No. 359.

8. Polyporus sulphureus Bulliard ex Fries.

Pileus 6-8 cm. long, 8-9.5 cm. wide, sessile or appearing substipitate, glabrous, fleshy and watery becoming tough, cream yellow to light orange. Tubes 2-4 per mm., angular, bright yellow. Spores smooth, ovoid, 4-5 X 5-7 u.

On deciduous stumps and at bases of living trees (oak, honey locust) in lawns and lowland woods, June-September.

RLS Nos. 305, 566.

9. Polyporus versicolor Linnaeus ex Fries.

Pileus 1-3.5 cm. long, 2-7 cm. wide, effused-reflexed, velvety, with narrow multicolored (black, greenish, purplish, brown, etc.) zones. Tubes 3-5 per mm., whitish. Spores smooth, oblong or allantoid, 1-2 X 5-6.5 u.

On deciduous stumps and branches in lawns, lowland woods, and wooded ravines, July-October. Abundant. RLS Nos. 409, 519.

Trametes Fries

1. Trametes hispida Baglietto.

Pileus 3 cm. long, 5 cm. wide, sessile to resupinate, hirsute to tomentose, yellowish brown. Tubes 1 per mm., angular, gray to tan. Spores smooth, cylindrical, 4 X 11-13 u.

On rotting deciduous branches in lowland woods, June.
RLS No. 200.

AGARICALES

Agaricaceae

Key to Genera

1. Spore deposit white to creamy 4
1. Not as above 2

2. Spore deposit flesh color to pink 20
2. Not as above 3
3. Spore deposit yellow, ochor, or rusty brown 23
3. Spore deposit purplish to dark brown or black 31
4. Pilear trama containing nests of sphaerocysts 5
4. Not as above 6
5. Fruit body exuding latex when cut Lactarius
5. Not as above Russula
6. Stipe eccentric, lateral, or absent 7
6. Not as above 8
7. Lamellae split along edges Schizophyllum
7. Not as above Pleurotus
8. Fruit body reviving when moistened 9
8. Not as above 10
9. Fruit body tough, lamellae with dentate or serrate
edges Lentinus
9. Not as above Marasmius
10. Lamellae free 11
10. Lamellae attached 13
11. Annulus present 12
11. Annulus absent Vaginata
12. Volva present Amanita
12. Volva absent Lepiota
13. Stipe less than 5 mm. in diameter or with a
cartilaginous cortex 14
13. Stipe usually larger than 5 mm. in diameter and fleshy 15

14. Cap margin straight in young pilei Mycena
14. Cap margin incurved in young pilei Collybia
15. Lamellae strongly decurrent 16
15. Lamellae not or only slightly decurrent 17
16. Partial veil present Armillariella
16. Partial veil absent Clitocybe
17. Spores amyloid 18
17. Spores nonamyloid 19
18. Conspicuous mycelium surrounding base of stipe .
. Leucopaxillus
18. Not as above Melanoleuca
19. Lamellae with a waxy luster, spores echinulate . Laccaria
19. Not as above Tricholoma
20. Spores angular Rhodophyllus
20. Spores not angular 21
21. Stipe eccentric, lateral, or absent Glaudopus
21. Stipe central 22
22. Volva present, lamellae attached Volvaria
22. Volva absent, lamellae free Pluteus
23. Stipe eccentric, lateral, or absent Crepidotus
23. Stipe central 24
24. Partial veil arachnoid, spores usually with
wrinkled walls Cortinarius
24. Not as above 25
25. Cuticle of pileus composed of pear-shaped,
vesiculose or isodiametric cells 26

25. Cuticle of pileus a viscid pellicle or composed of radially arranged or interwoven filamentous hyphae . . . 27
26. Pileus margin incurved at first, spore deposit deep rusty brown to earthy brown Agrocybe
26. Pileus margin straight at first, spore deposit yellow brown to rusty brown Conocybe
27. Stipe 4 mm. or less in diameter 28
27. Stipe larger in diameter 29
28. Spores thin-walled, lamellae subdecurrent to de-current Tubaria
28. Spores thick-walled, lamellae adnate or notched Naucoria
29. Terrestrial 30
29. Lignicolous Pholiota
30. Pileus viscid Hebeloma
30. Pileus dry, fibrillose Inocybe
31. Lamellae deliquescent at maturity Coprinus
31. Not as above 32
32. Cuticle of pileus composed of pear-shaped or vesiculose cells 33
32. Cuticle of pileus composed of slender filamentous hyphae 35
33. Pileus plicate-striate Pseudocoprinus
33. Pileus not plicate-striate 34
34. Spores decolorizing rapidly in concentrated sulfuric acid Psathyrella

34. Spores not decolorizing as above Panaeolus
35. Annulus present 36
35. Annulus absent 37
36. Lamellae free Agaricus
36. Lamellae attached, typically coprophilous . Stropharia
37. Gleocystidia present Naematoloma
37. Gleocystidia absent Psilocybe

Agaricus Linnaeus ex Fries

1. Agaricus bisporus (Lange) Pilat.

Pileus 3-6 cm. broad, convex, squamulose, rimose, brown. Stipe .7-1.2 X 2-4 cm., enlarging to subbulbous base, glabrous, whitish. Lamellae close, free, white becoming pink then blackish brown. Spores smooth, ovate, 4-5.5 X 5-7 u. Basidia two-spored. Cheilocystidia broadly clavate. Annulus narrow, white.

Cespitose in compost in greenhouse, April and November.

RLS No. 1.

2. Agaricus campestris Linnaeus ex Fries.

Pileus 4-6 cm. broad, convex, glabrous or fibrillose-scaly, white. Stipe 1 X 3-5 cm., tapering to base, glabrous, solid, whitish. Lamellae crowded to close, free, pink then purplish brown. Spores smooth, ellipsoid, 4.5-5.5 X 7-9 u. Annulus lacerated, white.

Gregarious in lawns and prairies, May-July. RLS No. 37.

3. Agaricus micromegethus Peck.

Pileus 3.8-5 cm. broad, convex then expanded, fibrillose-scaly, yellowish to light brown. Stipe .5-1.2 X 5-5.3 cm., bulbous, fibrillose-scaly, solid, whitish above to tan below. Lamellae crowded, free, whitish then brown. Spores smooth, ovate, 4 X 5 u. Annulus white.

Scattered in lawns, June. RLS No. 244.

4. Agaricus rutilescens Peck.

Pileus 5 cm. broad, convex, with cuticle breaking into areolate patches, whitish with tan patches. Stipe .5-.9 X 5 cm., enlarging to bulbous base, glabrous, solid, whitish to dull brown. Lamellae crowded-close, free, white becoming brown. Spores smooth, ellipsoid, 4-5.5 X 6-7 u. Annulus double, whitish.

Gregarious in lawns, July. RLS No. 310.

5. Agaricus silvaticus Fries.

Pileus 5-6 cm. broad, convex, fibrillose becoming scaly, russet brown. Stipe .5-.8 X 5-6 cm., subbulbous at base, appressed fibrillose, stuffed, whitish above to reddish brown below. Lamellae crowded, free, vinaceous then purplish brown. Spores smooth, ellipsoid, 3-4 X 5-6 u. Annulus single, white.

Solitary in wooded ravines and lawns, August-September.
RLS Nos. 471, 572.

Agrocybe Fayod1. Agrocybe acericola (Peck) Singer.

Pileus 3.6 cm. broad, broadly convex becoming plane, glabrous, hygrophanous, yellow cream with darker disc. Stipe .3-.4 X 4.7 cm., slightly bulbous, glabrous, hollow, whitish above annulus, dark beneath. Lamellae crowded-close, adnexed to sinuate, tan then cinnamon. Spores smooth, ovate, 5-6 X 9-10 u. Annulus large, tannish.

Solitary in wooded ravines, June. RLS No. 136.

2. Agrocybe praecox (Persoon ex Fries) Fayod.

Pileus 2-4 cm. broad, convex or becoming nearly plane, glabrous, rimose, dry to slightly viscid, light tan or tinged yellowish. Stipe .3-.8 X 3-9 cm., equal or enlarging to base, striate, glabrous, stuffed, cream tan. Lamellae close, adnate, whitish then rusty brown. Spores smooth, ellipsoid, 6-7 X 9-13 u.

Gregarious to scattered in pastures and wooded ravines, May-June. Common. RLS Nos. 35, 42, 76, 98.

Amanita (Fries) S. F. Gray

1. Amanita cothurnata Atkinson.

Pileus 6.6 cm. broad, umbonate-convex, with striate margin, covered with white warts, viscid, white at margin to yellowish on disc. Stipe .4-.5 X 7 cm., enlarging to bulbous base, scaly below annulus, hollow, white. Lamellae close, free, with floccose margins, white. Spores smooth, ellipsoid, 6-8 X 8-10 u. Annulus superior, white. Volva with inrolled margin, white.

Solitary in wooded ravine, September. RLS No. 568.

2. Amanita verna (Fries) Quelet.

Pileus 3.8-6.7 cm. broad, convex then plane or depressed, glabrous, viscid, white. Stipe .4-2.7 X 10-15 cm., enlarging to base, silky above annulus, scaly below annulus, hollow, white. Lamellae close, free, with floccose margin, white. Spores smooth, globose, 7-9 u. Annulus membranous, white. Volva membranous, white.

Solitary in wooded ravines, July-September. RLS Nos. 417, 504.

Armillariella Karsten

1. Armillariella mellea (Vahl ex Fries) Karsten.

Pileus 2.5-6.5 cm. broad, convex-umbonate and perhaps becoming plane or depressed, with pallid scales at first, often with striate margin, orangish brown. Stipe .4-.8 X 4.5-6.5 cm., enlarged at apex or equal, appressed fibrillose, stuffed, cream tan above to sordid brown at base. Lamellae close, adnate to subdecurrent, whitish becoming rusty. Spores smooth, ellipsoid, 5-6 X 7-9 u. Annulus superior, whitish.

Cespitose at base of living or dead trees (juniper, dogwood, oak, elm) in wooded ravines, October. Abundant. RLS Nos. 653, 662.

This species is commonly known as Armillaria mellea. The genus Armillariella is characterized by having nonamyloid spores, decurrent lamellae, interwoven lamellar trama, and an annulus.

Armillaria has amyloid spores, adnexed to sinuate gills, parallel to subinterwoven lamellar trama, and an annulus.

2. Armillariella tabescens (Scopoli ex Fries) Singer.

Pileus 1.2-3 cm. broad, convex, appressed fibrillose to fibrillose-scaly, with tawny scales on yellow background.

Stipe .2-.4 X 3.5-10 cm., enlarged at pileus, fibrillose, solid, cream or tannish above, blackish brown below. Lamellae close, subdecurrent, pallid then pinkish orange to pinkish tan.

Spores smooth, ellipsoid, 5-6 X 6-7.5 u.

Densely cespitose at base of dead juniper in wooded ravine, September. RLS No. 598.

Claudopus (Fries) Gillet

1. Claudopus subnidulans Overholts.

Pileus 1 cm. broad, reniform to circular, tomentose, tawny orange. Stipe none. Lamellae close, orange. Spores smooth, globose, 4.5-5 u.

Solitary on deciduous wood in wooded ravine, October. RLS No. 652.

Clitocybe (Fries) Quelet

1. Clitocybe eccentrica Peck.

Pileus 4.2 cm. broad, umbilicate-convex, glabrous, white. Stipe .5 X 3.2 cm., with bulbous base and long white rhizomorphs, glabrous, stuffed, whitish. Lamellae close, decurrent, whitish. Spores smooth, ellipsoid, 2-3 X 4.5 u.

Solitary on very rotten wood in wooded ravine, September.
 RLS No. 555.

This specimen differs from the description of C. eccentrica by having neither strigose hairs at the base of the stipe nor very crowded gills.

2. Clitocybe nebularis (Batsch ex Fries) Quelet.

Pileus 9 cm. broad, convex with wavy margin, glabrous, brownish gray. Stipe 1.5-2 X 5 cm., subequal, glabrous, stuffed, whitish. Lamellae close, subdecurrent, whitish. Spores smooth, ellipsoid, 3-4 X 5-6 u.

Solitary in wooded ravines, September. RLS No. 605.

3. Clitocybe odora (Bulliard ex Fries) Quelet.

Pileus 4-7.5 cm. broad, convex or depressed, glabrous, chalky white with disc tinged brown. Stipe .4-1 X 4-5 cm., subbulbous at base, white mycelioid at base, stuffed to hollow, white to brownish. Lamellae crowded-close, subdecurrent, whitish then cream. Spores smooth, ellipsoid, 4-5 X 6-8 u.
Odor pleasant; taste slightly bitter.

Scattered in rotting leaves in wooded ravines, September.
 RLS Nos. 509, 513.

4. Clitocybe truncicola (Peck) Saccardo.

Pileus 1-5 cm. broad, convex then expanded or depressed, glabrous, white. Stipe .2-.5 X 2-4 cm., equal or subequal, glabrous, solid, white. Lamellae crowded-close, decurrent, white to cream. Spores smooth, ovoid, 2.5-3 X 4-5.5 u.

Gespitose to subcespitose on deciduous (cottonwood, oak)

logs in wooded ravines and lowland woods, August-October.

RLS Nos. 460, 482, 523, 531, 675.

Collybia (Fries) Quelet

1. Collybia alcalinolens Peck.

Pileus 1.3-4 cm. broad, convex-subumbonate, with striate margin, glabrous, hygrophanous, grayish brown. Stipe .2-.5 X 2.5-6 cm., subequal, pruinose or slightly scaly, solid, cream tan. Lamellae close to subdistant. adnexed, white or creamish. Spores smooth, oblong-ovate, 4-5 X 7-10 u. Odor alkaline; taste slight.

Scattered in lawns, May-July. Common. RLS Nos. 86, 93, 382, 436.

2. Collybia confluens (Persoon ex Fries) Quelet.

Pileus 2-4 cm. broad, convex-plane, glabrous, hygrophanous, grayish pink. Stipe .2-.5 X 4-6 cm., subequal, densely covered with white pubescence, hollow. Lamellae close, adnexed, whitish. Spores smooth, pip-shaped, 3-4 X 4-6 u. Odor and taste slight.

Cespitose in soil and humus of lawns, June. RLS No. 249.

3. Collybia dryophila (Bulliard ex Fries) Quelet.

Pileus 3-3.5 cm. broad, convex, glabrous, hygrophanous, light purplish brown. Stipe .4-.7 X 7.5 cm., enlarged at base, mycelioid at base, hollow, yellowish above to orangish brown below. Lamellae close, adnexed, with crenulate margins, white or cream. Spores smooth, ovate, 3.5-X 5-7 u. Odor and taste none.

Scattered in wooded ravines, July. RLS No. 318.

4. Collybia familia Peck.

Pileus 1.5-2.7 cm. broad, convex, glabrous, hygrophanous, brownish buff. Stipe .4-.6 X 2-4.8 cm., enlarging to base, glabrous, hollow, cream. Lamellae crowded, adnexed, with entire margins, cream. Spores smooth, oval, 3 X 4-5 u. Odor and taste slight.

Cespitose at base of deciduous (elm) tree, June. RLS No. 195.

5. Collybia maculata (Albertini and Schweinitz ex Fries) Quelet.

Pileus 4.5-8 cm. broad, convex-subumbonate, glabrous, reddish brown. Stipe .5-1 X 4.6-7 cm., equal or tapered at base, striate and lacerated, hollow, whitish becoming purplish tan. Lamellae close, adnexed to free, whitish. Spores smooth, short ellipsoid, 3-4 X 6 u. Odor slight or none.

Gregarious on lawns, June-August. RLS Nos. 246, 469.

6. Collybia platyphylla (Persoon ex Fries) Quelet.

Pileus 10-12.5 cm. broad, convex-expanded, fibrillose, rimose, grayish brown. Stipe 1.6-2.1 X 10.4 cm., enlarged at pileus, fibrillose, hollow, whitish. Lamellae close, adnexed, with erose margins, white. Spores smooth, ellipsoid, 6-7 X 8-10 u. Odor mild; taste none.

Solitary near deciduous log in wooded ravine, July. RLS No. 333.

7. Collybia radicata (Rehhan ex Fries) Quelet.

Pileus 3-8 cm. broad, convex to umbonate, glabrous, viscid,

grayish brown. Stipe .4-.7 X 5-8 cm., subbulbous at base which is prolonged into a long pseudorhiza, glabrous, white. Lamellae close to subdistant, adnexed, white. Spores smooth, ellipsoid, 9-11 X 14-17 u. Odor and taste slight.

Solitary or gregarious in lawns and wooded ravines, June-October. RLS No. 123.

8. Collybia velutipes (Curtis ex Fries) Quelet.

Pileus 2-5 cm. broad, convex to expanded, glabrous, viscid, orange to ochraceous brown. Stipe .2-.6 X 3-5 cm., equal, densely velvety with dark hairs. Lamellae close to subdistant, adnexed, white or orangish. Spores smooth, oblong, 3-4 X 7-9 u. Odor and taste slight.

Cespitose on deciduous logs or stumps in lawns and low-land woods, (January) March-October. Common. RLS Nos. 10, 63.

Conocybe Fayod

1. Conocybe sp.

Pileus 1.5-4 cm. broad, campanulate becoming umbonate, radiately grooved, glabrous, light tan. Stipe .15-.2 X 2.5-3 cm., slightly bulbous at base, glabrous, hollow, whitish. Lamellae close-subdistant, adnate, yellowish tan to rusty brown. Spores smooth, ellipsoid to ovoid, 4.5-5.3 X 6.8-7.6 u.

Scattered in manured soil in greenhouse, April-May. RLS Nos. 2, 23.

Coprinus (Persoon ex Fries) S. F. Gray

1. Coprinus atramentarius (Bulliard ex Fries) Fries.

Pileus 2.5-5 cm. broad, ovate to obtusely conic, silky fibrous, striate-plicate, brown to brownish gray. Stipe 1 X 7-14 cm., enlarging to base, silky shining, hollow, white. Lamellae crowded, free, white then black, deliquescing. Spores ellipsoid, 5.5-6 X 11-12 u. Pleurocystidia subcylindrical.

Cespitose at base of cottonwood or willow stumps in lowland woods, April-May. RLS Nos. 11, 13.

2. Coprinus comatus (Mueller ex Fries) S. F. Gray.

Pileus 1.8-7.1 cm. broad, 4.7-9.5 cm. high, cylindrical becoming conical when expanded, with appressed scales, pale ochraceous becoming gray to blackish. Stipe 1.5-2.8 X 8-22 cm., equal or enlarging to base, appressed fibrillose, hollow, whitish. Lamellae crowded, free, white then black and deliquescing. Spores ellipsoid, 7-8 X 13-18 u.

Gregarious in pasture-prairies, May-June. RLS Nos. 58, 128.

3. Coprinus domesticus (Bulliard ex Fries) S. F. Gray.

Pileus 1.5 cm. broad, obtusely conic, furfuraceous, sulcate, splitting, grayish brown. Stipe .2 X 4-6 cm., enlarging to base, subsilky, hollow, light brown. Lamellae close, adnexed, white then blackish brown and deliquescing. Spores ellipsoid, 8-9 X 14-16 u.

Gregarious on cottonwood log in lowland woods, May.
RLS No. 22.

4. Coprinus laniger Peck.

Pileus 1.2-2.1 cm. broad, obtusely conical, floccose-scaly, sulcate-striate, light grayish brown. Stipe .2-.4 X

1.7-2.1 cm., enlarging towards base, pruinose, hollow, white. Lamellae crowded, free, white then grayish black and deliquescing. Spores oblong-ellipsoid, 4 X 7-10 u.

Gregarious on rotting logs, the base of the stipes being surrounded by a yellow orange ozonium, in lowland woods, June. RLS Nos. 198, 271.

5. Coprinus micaceus (Bulliard ex Fries) Fries.

Pileus 4-6 cm. broad, elliptical then campanulate, covered when young with glistening particles, striate, ochraceous brown. Stipe .3-.5 X 3.6-6 cm., subequal, glabrous, hollow, white. Lamellae crowded-close, adnexed, white becoming black and deliquescing. Spores 4-5 X 7-8 u.

Densely cespitose on or near deciduous stumps in lawns, April-October. RLS No. 8.

6. Coprinus niveus (Persoon ex Fries) Fries.

Pileus 1.5-2.5 cm. broad, campanulate and expanded, with white-floccose down, grayish brown. Stipe .4-.5 X 4-7 cm., subequal, tomentose, hollow, white. Lamellae close, adnexed, white then blackish and deliquescing. Spores flattened ellipsoid, 8-10 X 13-14 u.

Gregarious on compost in greenhouse, February. RLS No. 709.

7. Coprinus quadrifidus Peck.

Pileus 4-5 cm. broad, conical then somewhat expanded, striate, with orangish scales or patches on grayish brown background. Stipe .7-1.2 X 4.5-14.5 cm., equal or enlarging

to base, squamose, hollow, white then darkening. Lamellae crowded, free, white then blackish brown and deliquescing. Spores oblong-ellipsoid, 4-5 X 7.5-10 u.

Cespitose on or near deciduous stumps or logs in lawns, wooded ravines, and lowland woods, May-October. Common. RLS Nos. 54, 99, 206, 332, 457, 459, 643.

8. Coprinus radiatus Fries.

Pileus 1.5-1.8 cm. broad, conical to campanulate, with scales, plicate, light brown. Stipe .2-.3 X 6-6.5 cm., enlarging to base, pubescent, hollow, glistening white. Lamellae close, free, white then blackish brown and deliquescing. Spores ellipsoid, 8-10 X 10-13 u.

Scattered in lawn, June. RLS No. 125.

Cortinarius (Fries) S. F. Gray

1. Cortinarius argentatus (Fries) Fries.

Pileus 3.5-6.5 cm. broad, convex, appressed silky, silvery violaceous. Stipe 1.5-2.5 X 2.9-3.5 cm., bulbous, solid, appressed silky, violaceous. Lamellae crowded-close, sinuate-adnate, violaceous then pale cinnamon. Spores slightly rough, ellipsoid, 5-6 X 7-9.5 u. Veil arachnoid, violaceous. Odor and taste slight.

Gregarious in dry woods at rim of wooded ravine, September. RLS No. 603.

2. Cortinarius atkinsonianus Kauffman.

Pileus 7.4 cm. broad, convex, glabrous, slightly viscid,

reddish to orangish tan with olive tinted margin. Stipe 2.3 (apex) X 5 cm., bulbous, fibrillose, violaceous. Lamellae close, adnexed, purplish with yellowish edges then cinnamon. Spores tuberculato, ellipsoid, 7-8.5 X 13-15 u. Veil arachnoid, olivaceous yellow. Odor and taste none.

Solitary in wooded ravine, September. RLS No. 635.

3. Cortinarius bolaris (Persoon ex Fries) Fries.

Pileus 5.5-6.8 cm. broad, convex becoming expanded, with appressed hairy reddish brown scales on whitish background. Stipe 1.2-2 X 9 cm., enlarging to bulbous base, fibrillose, stuffed similar to pileus in color. Lamellae close, adnate or sinuate, cinnamon. Spores slightly rough, oval, 5-5.5 X 6-7 u. Veil arachnoid, white. Odor and taste slight or none.

Scattered to gregarious in wooded ravines, September.

RLS Nos. 503, 576.

4. Cortinarius coloratus Peck.

Pileus 5.5 cm. broad, convex then expanded, glabrous, viscid, reddish yellow to tawny orange. Stipe .7-1.1 X 1.3-3.5 cm., equal to subbulbous, appressed fibrillose, stuffed, whitish. Lamellae crowded-close, adnate, whitish then pale ocher. Spores rough, ellipsoid, 6-7 X 9-11 u. Veil arachnoid, white. Odor and taste none.

Scattered in soil and humus of wooded ravine, September.

RLS No. 608.

5. Cortinarius infractus (Persoon ex Fries) Fries.

Pileus 6-7.3 cm. broad, convex, with incurved margin at

first, glabrous, viscid, sooty olive with light brown tinge. Stipe .7-2.7 X 3.5-6 cm., bulbous, fibrillose, solid, whitish with purplish flesh. Lamellae close, adnate, with eroded margins, sooty olive becoming dull dark ocher. Spores rough-punctate, ovoid, 5-6.5 X 7-8 u. Veil arachnoid. Odor slight; taste bitter.

Scattered to gregarious in soil and humus of wooded ravine, September. RLS No. 583.

6. Cortinarius juberinus (Fries) Fries.

Pileus 2.4 cm. broad, campanulate then expanded, with incurved margin at first, glabrous, chestnut brown. Stipe .4 X 3 cm., equal, fibrillose, solid, brown. Lamellae subdistant, adnexed, tan then cinnamon. Spores slightly rough, ellipsoid-ovoid, 4.5-5 X 6.5-7.5 u. Veil arachnoid, brown. Odor and taste none.

Solitary in wooded ravine, August. RLS No. 481.

7. Cortinarius prepallens Peck.

Pileus 1.8-4 cm. broad, fibrillose, hygrophanous, brown when moist to ochraceous when dry. Stipe .4-.8 X 2.5-3 cm., tapering to base or subbulbous, fibrillose, ochraceous. Lamellae close, adnate, brownish-cinnamon. Spores subellipsoid, 6.5 X 7-10 u. Veil arachnoid. Odor and taste slight.

Scattered in wooded ravine, July. RLS No. 367.

Crepidotus (Fries) Quelet1. Crepidotus mollis (Bulliard ex Fries) Quelet

Pileus 2 cm. broad, 1.4 cm. long, reniform, glabrous, cream. Lamellae crowded-close, decurrent, white to orange tan. Spores 5-6 X 8-9 u. Clamp connections absent.

On decorticated deciduous logs in wooded ravines, June-July. RLS No. 113.

2. Crepidotus nephrodes (Berkeley and Curtis) Saccardo.

Pileus 1.1-4.5 cm. broad, 1.5-3 cm. long, suborbicular or reniform, covered with down and perhaps a few scales, white to yellowish or orange brown in old specimens. Lamellae close, ochraceous to orangish brown. Spores punctate, globose, 6.8-7.6 u. Clamp connections present.

Abundant on deciduous logs in wooded ravines, May-September. RLS Nos. 100, 101, 102, 115, 275, 288, 375, 533.

3. Crepidotus versutus (Peck) Saccardo.

Pileus 1.1 cm. broad, .6 cm. long, spatulate to reniform, tomentose, white. Lamellae close, yellowish brown. Spores punctate, ellipsoid, 6-7 X 9-10 u. Clamp connections absent.

On bark of oak logs in wooded ravine, June. RLS No. 139.

Hebeloma (Fries) Quelet1. Hebeloma progarium Peck.

Pileus 1-2 cm. broad, convex or expanded, glabrous, slightly viscid, tan. Stipe .2-.4 X 2-5 cm., enlarging to base,

fibrillose to fibrillose-scaly, stuffed, cream to light brown. Lamellae close to subdistant, adnexed, whitish then cinnamon. Spores smooth, ellipsoid, 5-6 X 9-12 u.

Gregarious to scattered in lawns, June. RLS Nos. 117, 255.

2. Hebeloma sp.

Pileus 5-8 cm. broad, convex and expanding, viscid, vinaceous to orangish brown. Stipe 1.5-2 X 4-6 cm., with bulbous base, scaly, hollow, cream to whitish with brown-edged scales. Lamellae close, adnexed, with serrulate margins, cream then brownish ocher. Spores roughened, almond-shaped, 6-7 X 10-12 u.

Gregarious (in fairy rings) in wooded ravines, September. Common. RLS No. 614.

Inocybe (Fries) Quelet

1. Inocybe albodisca Peck.

Pileus 2-2.5 cm. broad, subconic to expanded, innately fibrillose, whitish on disc, with lilac margin. Stipe .5-1 X 4.5-6 cm., bulbous, glabrous, white with lilac tint. Lamellae close, sinuate-adnexed, whitish then dull light tan. Spores angular to subglobose, 5-6 X 6-7 u. Pleurocystidia thick-walled, hyaline, subfusoid-ventricose; cheilocystidia short, clavate.

Solitary to scattered in wooded ravines and lawns, June. RLS Nos. 122, 211.

2. Inocybe asterospora Quelet.

Pileus 1-4.3 cm. broad, conic-campanulate to convex-subumbonate, fibrillose becoming scaly, yellowish brown. Stipe .2-.8 X 3-6.3 cm., equal above a bulbous base, pubescent, solid, whitish. Lamellae close, adnexed, with fimbriate margins, gray tan. Spores with blunt subcylindrical nodules, subglobose, 8-10 X 9-12 u. Pleurocystidia ventricose-sublanceolate.

Scattered in lawns and wooded ravines, June-August.

Common. RLS Nos. 118, 234, 297, 470.

3. Inocybe caosariata (Fries) Karsten.

Pileus 2.5-4.3 cm. broad, convex to nearly plane, appressed fibrillose, at length scaly, ocher. Stipe .4-.9 X 2.8-4.3 cm., subequal, fibrillose, hollow, yellow ocher. Lamellae close, adnate and seceding, rusty ochraceous with light floccose margins. Spores smooth, subuniform, 5-6 X 7.5-9 u. Pleurocystidia none; cheilocystidia clavate-pyriform.

Gregarious to scattered in wooded ravines, September.

RLS Nos. 507, 613.

4. Inocybe calospora Quelot.

Pileus 1.2-2.2 cm. broad, conic-campanulate then subumbonate, squarrose-fibrillose, rimose, orangish brown. Stipe .1-.2 X 2-2.7 cm., subequal, pruinose, stuffed, light brown. Lamellae close, almost free, light tan then yellowish brown. Spores with blunt spines, subglobose, 9-12 u. Pleurocystidia subfusoid; cheilocystidia globose.

In lawns, Juno. RLS No. 293.

5. Inocybe fastigiata (Schaeffer ex Fries) Karsten.

Pileus 2-5.5 cm. broad, conic-campanulate, innately fibrillose, rimose, golden brown. Stipe .6-1 X 6-8 cm., enlarging to base and at pileus, subfibrillose, solid, creamish. Lamellae crowded-close, adnexed becoming nearly free, olivaceous brown. Spores smooth, subreniform, 5-6 X 9-10 u. Pleurocystidia none; cheilocystidia saccate.

Solitary in wooded ravines, June-October. RLS Nos. 239, 691.

6. Inocybe flocculosa (Berkeley) Saccardo.

Pileus 1.5-1.8 cm. broad, expanded-umbonate, appressed fibrillose-scaly, tawny brown. Stipe .2-.5 X 1.7-3.8 cm., enlarged at pileus, pruinose-pubescent, solid, light tan. Lamellae close, adnexed, dull light brown with lighter and fimbriate margins. Spores smooth, ellipsoid-ovoid, 4-5.5 X 7-9 u. Pleurocystidia subventricose.

Gregarious to scattered in wooded ravines, June. RLS No. 224.

7. Inocybe hirtella Bresadola.

Pileus 2-2.3 cm. broad, conical to convex, fibrillose-squarrose, with split margin, ochraceous brown. Stipe .3-.4 X 3.5-4 cm., subequal, subglabrous, solid, cream white. Lamellae close, adnate, whitish then fuscous with lighter fimbriate margins. Spores smooth, elongate-oblong, 5.5-6 X 10-11 u. Pleurocystidia lanceolate-subfusoid, incrustated.

Scattered in wooded ravine, October. RLS No. 695.

8. Inocybe jurana (Patouillard) Saccardo.

Pileus 3-6.5 cm. broad, conical to conic-umbonate, innately fibrillose, reddish brown. Stipe .6-1 X 5-9 cm., equal, fibrillose, stuffed, whitish, with reddish tints when bruised. Lamellae close, adnexed to emarginate, white then grayish tan with lighter flocculose margins. Spores smooth, elliptic-subreniform, 6-7 X 10-10.5 u. Pleurocystidia none; cheilocystidia clavate.

Solitary to scattered in wooded ravines or shrubby pasture-like areas, August-September. RLS Nos. 475, 517.

9. Inocybe lilacina (Boudier) Kauffman.

Pileus 1.1-2.5 cm. broad, conical or umbonate, innately fibrillose to somewhat scaly, vinaceous lilac. Stipe .3-.4 X 2.2-3.3 cm., subequal, pruinose, stuffed, dark cream. Lamellae close, adnate, white then clay colored. Spores smooth, ellipsoid, 4.5-5.5 X 7-9 u. Pleurocystidia ventricose-subfusiform.

Scattered among juniper duff in wooded ravine, June.

RLS No. 225.

10. Inocybe lorillardiana Murrill.

Pileus 2.2-3.6 cm. broad, convex to umbonate, appressed fibrillose-scaly, yellowish brown. Stipe .3-.6 X 2-3.6 cm., equal, floccose-scaly, solid, yellowish brown. Lamellae crowded-close, adnate, white becoming dark ocher. Spores smooth, subreniform, 5-5.5 X 8-10 u. Pleurocystidia none; cheilocystidia clavate or subcapitate.

Solitary to scattered in wooded ravines, June-September.

RLS Nos. 236, 585.

11. Inocybe pyriodora (Persoon ex Fries) Quelet.

Pileus 4-9.1 cm. broad, conical to convex-subumbonate, appressed fibrillose-scaly, clay colored. Stipe 1-1.5 X 3-5.5 cm., subbulbous, subfibrillose, stuffed, white to light tan. Lamellae crowded-close, adnexed, white then cinnamon. Spores smooth, elliptic-subovoid, 5-6 X 7.5-9 u. Pleurocystidia fusoid. Odor spicy.

Scattered in wooded ravine, September. RLS No. 593.

12. Inocybe repanda (Bulliard ex Fries) Quelet.

Pileus 2.1-5.5 cm. broad, conic-campanulate to subumbonate, fibrillose with some scales, rimose, orange brown. Stipe .6-.7 X 3.5-8 cm., equal above a bulbous base, fibrillose, stuffed, orangish brown. Lamellae close, adnexed to almost free, white becoming cinnamon brown. Spores angular-tuberculate, 5-6 X 7.5-8 u. Pleurocystidia fusiform.

Solitary to scattered in wooded ravines, July-September. RLS Nos. 416, 574.

13. Inocybe sororia Kauffman.

Pileus 1.8-2.9 cm. broad, conic to subumbonate, innately silky-fibrillose, pale yellow to straw colored. Stipe .3-.6 X 3.6-5.2 cm., enlarging to base, innately fibrillose, solid, whitish. Lamellae crowded-close, adnexed, whitish then yellow tan. Spores smooth, ellipsoid, 5.5-6 X 9-13 u. Pleurocystidia none; cheilocystidia clavate.

Scattered in wooded ravines, July. RLS Nos. 379, 446.

14. Inocybe subochracea (Peck) Earle.

Pileus 2.1-4 cm. broad, subconic then convex or umbonate,

appressed fibrillose and subscaly, ocher. Stipe .4-.7 X 3-6.5 cm., subbulbous, subfibrillose, dirty ochraceous. Lamellae close, sinuate-adraxed, white then honey yellow. Spores smooth, ellipsoid, 4.5-5.5 X 7-9 u. Pleurocystidia fusoid to sublanceolate.

Gregarious to scattered abundantly in wooded ravines, June-July. RLS Nos. 188, 210, 362, 376, 403.

Laccaria Berkeley and Broome

1. Laccaria laccata (Scopoli ex Fries) Berkeley and Broome.

Pileus 2-6 cm. broad, convex with disc depressed, glabrous, orange pink to pinkish tan. Stipe .2-.8 X 3-10.5 cm., equal or enlarging to base, fibrous, hollow, pinkish tan. Lamellae subdistant, subdecurrent, with entire margins, pinkish tan. Spores echinulate, globose, 8.5-10 u.

Gregarious in wooded ravines, June-September. RLS Nos. 240, 552.

Lactarius S. F. Gray

1. Lactarius fuliginosus (Fries) Fries.

Pileus 6 cm. broad, convex becoming plane, glabrous, tan to light brown with whitish margin. Stipe 1.2 X 5.3 cm., equal or subequal, glabrous, hollow, cream. Lamellae close, adnate, orangish cream. Spores echinulate, globose, 7-9 u. Latex white, changing to pinkish buff. Odor nondescript; taste slightly acrid.

Scattered in wooded ravine, September. RLS No. 562.

2. Lactarius insulsus (Fries) Fries.

Pileus 4.5-18 cm. broad, convex-umbilicate to infundibuliform, glabrous, viscid, tan to yellow or coppery orange, zonate. Stipe .8-1.6 X 3.5-6 cm., tapering to base or equal, glabrous, stuffed to nearly hollow, orange cream to tan. Lamellae close, adnate becoming decurrent, white becoming buff. Spores echinulate, globose, 7.5-8 u. Latex white, unchanging. Odor pleasant; taste peppery.

Gregarious to scattered in wooded ravines, July-August. Very abundant. RLS Nos. 326, 477.

Lentinus Fries

1. Lentinus lepideus Fries.

Pileus 2.5-5 cm. broad, convex, with dark-tipped scales, leathery, dull brown. Stipe 1.3-3.5 cm. long, scabrous, solid, dull light brown. Lamellae close, subdecurrent, with erose margins, whitish. Spores smooth, elongated, 4-5.5 X 10-13 u.

Scattered on railroad ties, May. RLS No. 69.

2. Lentinus ursinus Fries.

Pileus 1.5-3.6 cm. broad, depressed conchate, leathery, densely hirsute, with inrolled margin, dull orangish tan. Stipe short or none. Lamellae crowded-closed, decurrent, with serrate margins, whitish to tan. Spores nearly smooth, subglobose, 4 X 5.5 u. Odor and taste slight.

Gregarious to scattered on deciduous logs in wooded ravines and lowland woods, May-July. RLS Nos. 72, 358.

Lepiota (Persoon ex Fries) S. F. Gray

1. Lepiota acutaesquamosa (Weinman) Gillet.

Pileus 5.3-8.3 cm. broad, convex to expanded, with erect scales or warts, rufous brown. Stipe .8-1.2 X 5-6 cm., enlarging to subbulbous base, stuffed, with scattered brown squamules on a whitish background. Lamellae crowded-close, free, with erose margins, white then dingy light orange. Spores smooth, oblong, 2.5-3 X 7-9 u. Annulus white with brownish scales on margin.

Solitary to scattered in wooded ravines, July-September. Common. RLS Nos. 344, 480, 634.

2. Lepiota cepaostipes (Fries) Quelet.

Pileus 4.5-7 cm. broad, oval then campanulate-expanded, with brown mealy scales, white. Stipe .4-1 X 9-10.5 cm., enlarging to bulbous base, glabrous, hollow, white. Lamellae close, free, with floccose margins, white. Spores smooth, oval-ellipsoid, 5-7 X 9-10 u. Annulus membranous, white.

Cespitose to scattered on straw pile, June. RLS No. 201.

3. Lepiota clypeolaria (Bulliard ex Fries) Quelet.

Pileus 2.5-6.2 cm. broad, campanulate-convex, floccose-scaly, with striate margin, white to yellowish with brownish disc. Stipe .5-.6 X 4-5.5 cm., equal or enlarging to base, with white or yellowish scales below annulus, hollow. Lamellae crowded-close, free, with floccose margins, white. Spores smooth, subfusiform or ellipsoid, 4-6 X 10-16 u. Annulus present.

Solitary to scattered in lawns, June. RLS Nos. 154, 155, 307.

4. Lepiota cristata (Albertini and Schweinitz ex Fries) Quelet.

Pileus 1.2-1.5 cm. broad, convex to campanulate-convex, with reddish brown scales on whitish background. Stipe .2 X 2-5 cm., subbulbous, glabrous, hollow, whitish with lilac tint at base. Lamellae crowded, free, with crenulate margins, white. Spores subtruncate-cuneate, 3-4 X 6-7 u. Annulus evanescent, white.

Scattered in wooded ravine, September. RLS No. 565.

5. Lepiota juniperina Murrill.

Pileus 1.2 cm. broad, campanulate, yellowish with tan umbo. Stipe .2-.3 X 3-4 cm., equal above a subbulbous base, fibrillose-pubescent, solid, white then yellowish. Lamellae close, free, white. Spores smooth, ellipsoid, 4 X 6-7 u. Annulus white.

Solitary on juniper duff in lawn, August. RLS No. 463.

6. Lepiota miamensis Morgan.

Pileus 2-3 cm. broad, convex-expanded to umbonate, white with yellowish umbo. Stipe .2-.3 X 2.5-3.5 cm., equal, glabrous, hollow, white. Lamellae close, free, white. Spores smooth, oblong-oval, 3-3.5 X 5-6 u. Annulus thin, white.

Gregarious on juniper duff in lawn, August. RLS No. 462.

7. Lepiota molybdites (Meyer ex Fries) Saccardo.

Pileus 8-10 cm. broad, campanulate-convex, with cuticle broken into irregular patches, white with tan patches and disc. Stipe 1.5-3 X 15-16 cm., clavate, glabrous, stuffed, whitish. Lamellae close, free, white then dull greenish. Spores smooth,

subellipsoid, 6-8 X 9-12 u, green in mass. Annulus thick, movable, whitish then brownish.

Gregarious in lawns, August. RLS No. 473.

8. Lepiota pratensis (Fries) Rea.

Pileus 2-4 cm. broad, subglobose to campanulate, with minute fibrillose patches, yellowish tawny. Stipe .5-.8 X 6-8 cm., equal, fibrillose-scaly, white. Lamellae close, free, white. Spores smooth, elongate, 4-5 X 12-14 u. Annulus floccose.

Solitary on juniper duff in lawn, August. RLS No. 464.

9. Lepiota rugulosa Peck.

Pileus 1 cm. broad, convex, warty-scaly, brownish tan. Stipe .1-.2 X 1.9 cm., rough, enlarging to subbulbous base, creamish. Lamellae crowded, free, creamish. Spores ellipsoid, 4-5 X 6-8 u. Annulus white.

Solitary in lawns, June. RLS No. 266.

Leucopaxillus Boursier

1. Leucopaxillus albissimus (Peck) Singer.

Pileus 3 cm. broad, depressed, glabrous, dull light brown. Stipe .4-.7 X 3 cm., tapering to base, stuffed, glabrous, cream tan. Lamellae close, decurrent, forked, ochraceous. Spores warted, amyloid, ellipsoid, 4-5.5 X 5.5-7.5 u.

Solitary on mossy bank in wooded ravine, September.

RLS No. 559.

2. Leucopaxillus laterarius (Peck) Singer and Smith.

Pileus 4-7.5 cm. broad, convex, with inrolled margin when young, with grooved margin, matted fibrillose, light orangish tan. Stipe .6-1.1 X 4-5 cm., with subbulbous base, glabrous, solid, whitish. Lamellae close, decurrent by lines, whitish cream. Spores rough, subglobose, amyloid, 3.5-4.5 X 3.5-5.5 u.

Scattered in wooded ravine, October. RLS No. 679.

Marasmius Fries

1. Marasmius badiceps Peck.

Pileus 1.7-1.9 cm. broad, conical to convex, striate, glabrous, bay brown to pinkish buff brown. Stipe .1-.25 X 1.5-1.9 cm., compressed, enlarged at pileus, glabrous to pruinose, hollow, dull blackish brown. Lamellae subdistant, adnate to subdecurrent, whitish becoming pinkish tan. Spores ellipsoid, 3 X 5 u. Odor pleasant; taste of radish.

Gregarious on decorticated deciduous log in wooded ravine, July. RLS No. 455.

2. Marasmius dichrous Berkeley and Curtis.

Pileus 1.7-2.5 cm. broad, conical or convex to depressed, striate, glabrous, orange brown. Stipe .1-.3 X 2-3.6 cm., tapering to base, pruinose, hollow, cream above to dark reddish brown at base. Lamellae close, adnexed to free, dark cream. Spores ellipsoid, 4.5-5 X 8-10 u. Odor and taste slight.

Scattered on juniper or deciduous wood in wooded ravines, July. RLS Nos. 313, 331, 357, 400.

3. Marasmius fuscopurpureus Persoon ex Fries.

Pileus 2.4-3.8 cm. broad, conic-convex to plane, striate at margin, glabrous, dark orange brown with lighter margin. Stipe .1-.2 X 2.5-5 cm., enlarging to base, glabrous above, hollow, cream above to purplish brown below. Lamellae close to subdistant, adnexed, reddish white. Spores ellipsoid, 4-4.5 X 8-10 u. Odor and taste slight.

Scattered on decaying leaves in wooded ravine, September. RLS No. 535.

4. Marasmius glabellus Peck.

Pileus 1.4-2.1 cm. broad, conical becoming umbonate, striate at margin, pruinose, ochraceous with darker disc. Stipe .1-.15 X 3-3.7 cm., enlarged at pileus and mycelioid at base, glabrous, hollow, cream above to light brown below. Lamellae close, free, creamish white. Spores ellipsoid, 4.5-5 X 7.5-9 u. Odor slight; taste none.

Scattered on small pieces of deciduous wood and leaves in wooded ravine, July. RLS No. 378.

5. Marasmius minutissimus Peck.

Pileus .15 cm. broad, convex, pubescent, white. Stipe .02 X 1.5 cm., equal, minutely pubescent, whitish. Lamellae 5-6, subdistant, subdecurrent, white. Spores none.

Scattered on rotting oak bark in wooded ravine, May. RLS No. 71.

The description of this species states that no spores were found in the type specimen, and none were found in this collection.

6. Marasmius nigripes (Schweinitz) Fries.

Pileus 1.2-3.5 cm. broad, convex to plane, glabrous or pruinose, white. Stipe .1-.3 X 2-3.2 cm., tapering downward, pruinose, white above to greenish black below or entirely black. Lamellae subdistant, adnate, white. Spores angular, 8-9 u. Odor slight; taste none.

On leaves (petioles and midribs) and acorn shells of oak in lawns, June-July. Common. RLS Nos. 248, 299, 437.

7. Marasmius oreades (Bolton ex Fries) Fries.

Pileus 4-5.5 cm. broad, convex or subumbonate, at first inrolled at margin, glabrous, cream to light tan. Stipe .4-.6 X 3-4.4 cm., enlarged at base, glabrous, stuffed, dull light tan. Lamellae close, free, white to cream. Spores ellipsoid, 4-5 X 7-9 u. Odor and taste mild.

Gregarious in prairies, October. RLS No. 648.

The specimens of this collection formed a fairy ring sixty feet in diameter.

8. Marasmius rotula (Linnaeus ex Fries) Fries.

Pileus .3-.4 cm. broad, convex or umbilicate, plicate, glabrous, white to cream. Stipe .05 X .8-1.6 cm., enlarging to base, glabrous, white at pileus to purplish brown below. Lamellae subdistant, adnate to a free collar, cream. Spores ellipsoid, 3-4 X 6-8 u. Odor and taste none.

On bark of oak and hackberry in wooded ravines, July. RLS Nos. 154, 454.

9. Marasmius rubrophyllus Pennington.

Pileus 1.6-4.2 cm. broad, plane to depressed, glabrous,

purplish brown at disc and lighter at margin. Stipe .2-.4 X 2.5-3.6 cm., equal, pruinose to pubescent, solid, cream above and brown below or completely brown. Lamellae close to subdistant, adnexed, pinkish tan. Spores ellipsoid, 3.5-7 μ . Odor of radishes; taste slight.

On manure in pine woods, July. RLS No. 388.

10. Marasmius siccus (Schweinitz) Fries.

Pileus .9-1.8 cm. broad, convex or conical, striate at margin, glabrous, ochraceous or light orange. Stipe .1 X 1.2-2.2 cm., equal or tapering to base, glabrous, hollow, cream above to brownish black below. Lamellae subdistant, adnexed to free, cream. Spores ellipsoid, 6-7 X 12-15 μ . Odor and taste mild.

On fallen leaves (oak) in lawns, June-July. RLS Nos. 309, 438.

11. Marasmius squamula (Batsch) Pennington.

Pileus 1-1.8 cm. broad, conical or convex, striate, glabrous, white. Stipe .1-.2 X 2.5-4.3 cm., equal or subbulbous, pruinose at base, white above to purplish brown below. Lamellae close to subdistant, adnate, white. Spores 5 X 25-30 μ . Odor pleasant; taste slight or none.

Scattered to clustered on decaying leaves in wooded ravines, July-September. RLS Nos. 396, 546.

12. Marasmius tomentosipes Peck.

Pileus 1 cm. broad, convex, striate at margin, glabrous, orangish brown. Stipe .1 X 5.3 cm., enlarging to base, tomen-

tose. Lamellae subdistant, subdecurrent, light yellow. Spores ellipsoid, 3-4 X 6-7 u. Odor and taste none.

On rotting leaves in wooded ravine, June. RLS No. 144.

Melanoleuca Patouillard

1. Melanoleuca alboflavida (Pock) Murrill.

Pileus 7.8 cm. broad, convex then expanded or depressed, with inrolled margin at first, glabrous, whitish to yellowish. Stipe 1.2 X 6 cm., bulbous, fibrillose, solid, pinkish white. Lamellae crowded-close, adnexed, whitish. Spores smooth, amyloid, ellipsoid, 4.5-5.5 X 7-10 u. Cheilocystidia lanceolate, incrustated at apex.

Solitary on rotting leaves in wooded ravine, July. RLS No. 366.

Mycena S. F. Gray

1. Mycena corticola (Fries) S. F. Gray.

Pileus 3 mm. broad, campanulate-convex, furfuraceous, plicate, pruinose, whitish to light tan. Stipe .05 x .5 cm., equal, adnate, whitish. Lamellae distant, adnate, whitish. Spores globose, 9-11 u. Cheilocystidia clavate, with echinulate apices.

Gregarious on the bark of living deciduous trees, September. RLS No. 495.

2. Mycena flavoalba (Fries) Quelet.

Pileus .5-2.3 cm. broad, conic becoming convex, glabrous,

striate, white to dull yellow, fading to yellowish white.

Stipe .1-.2 X 3-9 cm., subequal, pruinose above, white strigose below, white to creamish. Lamellae close-subdistant, adnexed, white to creamish. Spores ellipsoid, 3-4.5 X 7-9 u. Pleurocystidia and cheilocystidia fusoid-ventricose.

On humus in wooded ravine and lowland woods, September.
 RLS Nos. 626, 628.

3. Mycena galericulata (Fries) S. F. Gray.

Pileus 1.5-3 cm. broad, conic becoming campanulate, with striate margin, glabrous, tan at margin to dull brown on disc. Stipe .2-.3 X 4-6 cm., equal or enlarging to base, glabrous, hollow, grayish white above to grayish tan below. Lamellae close, adnexed or sinuate, dull white then pale pink. Spores ellipsoid, 5.5-7 X 8-10 u., amyloid. Cheilocystidia clavate, with rodlike projections on apices.

Gregarious to caespitose on deciduous stumps or logs in wooded ravines, September-October. RLS Nos. 588, 659, 700.

4. Mycena hemisphaerica Peck.

Pileus 2.5-4.5 cm. broad, conic becoming campanulate-convex or nearly plane, striate, pruinose, blackish brown becoming light brown with darker disc. Stipe .2-.5 X 4-8 cm., enlarging at pileus and base, strigose at base, hollow, creamish white. Lamellae close, adnate, white (turning pink upon drying). Spores ellipsoid 4-5 X 7-9 u, amyloid. Cheilocystidia clavate, with rodlike projections on apices.

Cespitose on deciduous stump in wooded ravine, September.
 RLS No. 623.

5. Mycena inclinata (Fries) Quelet.

Pileus 1 cm. broad, campanulate, striate, glabrous, gray brown. Stipe .2 X 2.3-2.9 cm., subequal, glabrous, hollow, creamish white above to grayish tan below. Lamellae close, adnate, white. Spores ellipsoid, 5-6.5 X 7-9 u, amyloid. Cheilocystidia clavate, with slender projections on apices.

Cespitose on deciduous log in wooded ravine, October.

RLS No. 668.

6. Mycena pseudoinclinata A. H. Smith.

Pileus .9-1.5 cm. broad, campanulate, striate, glabrous, moist, grayish brown. Stipe .2-.3 X 3-6 cm., tapering to base, glabrous, hollow, whitish above to ochraceous brown below. Lamellae close-subdistant, adnate with a tooth, white. Spores smooth, ellipsoid, 5-6 X 8-11 u., amyloid. Pleurocystidia and cheilocystidia clavate, smooth.

Cespitose on deciduous log in wooded ravine, September.

RLS No. 616.

7. Mycena radicatella (Peck) Saccardo.

Pileus .8-2.1 cm. broad, glabrous, striate, whitish with tan disc. Stipe .1-.25 X 4-8.5 cm., enlarging to base, glabrous, hollow, whitish above to yellowish below. Lamellae close-subdistant, adnate, white then with a pinkish tint. Spores broadly ellipsoid, 5.5-7 X 6-8 u, amyloid. Cheilocystidia clavate, with rodlike projections on apices.

Cespitose on deciduous stump in wooded ravine, September.

RLS No. 629.

Naematoloma Karsten

1. Naematoloma sublateritium (Fries) Karsten.

Pileus 3.5 cm. broad, obtuse becoming convex to nearly plane, glabrescent, orangish cinnamon. Stipe .6-1 X 4-6 cm., equal, appressed fibrillose, solid, yellowish to rusty brown. Lamellae close, adnate and seceding, whitish becoming purple gray. Spores smooth, ellipsoid, 3.5-4 X 6.5-7.5 u. Pleurocystidia fusoid-ventricose to mucronate, with a refractive body when revived in KOH.

Cespitose in soil near oak stumps, December. RLS No. 706.

Naucoria (Fries) Quelet

1. Naucoria semiorbicularis (Bulliard ex Fries) Quelet.

Pileus 1-2.5 cm. broad, hemispherical-convex, glabrous, yellowish tan. Stipe .1-.2 X 2-4.5 cm., equal, striate, solid, tan. Lamellae close, adnate, light tan then yellowish brown. Spores smooth, ellipsoid, 8-9 X 12-15 u. Odor slight; taste unpleasant.

Scattered in cultivated field, June. RLS No. 179.

Panaeolus Fries

1. Panaeolus semiovatus (Fries) Lundell.

Pileus 9.3 cm. broad, obtusely conic becoming convex, glabrous, rugulose, viscid, tan fading to whitish with gray margin. Stipe .7-1.1 X 15 cm., with enlarged base, glabrous, solid, tannish white. Lamellae subdistant, adnate, with fim-

briate margins, whitish then greenish black. Spores smooth, ellipsoid, 8-11 X 17-22 u. Annulus whitish.

Scattered on horse dung in prairie-pasture, September.
 RLS No. 534.

Pholiota Fries

1. Pholiota erinaceella Peck.

Pileus 1.3-3 cm. broad, convex, with minute granular brownish scales on cream background. Stipe .4-.9 X 1.5-3 cm., subequal, with small scales, stuffed, tan. Lamellae close, adnate, pallid then cinnamon. Spores smooth, ellipsoid, 4-5 X 7-8 u. Annulus evanescent.

Gregarious on deciduous twigs in wooded ravine, September.
 RLS No. 636.

2. Pholiota marginata (Batsch ex Fries) Quelet.

Pileus 1-1.6 cm. broad, convex, glabrous, ochraceous orange. Stipe .2-.25 X 1.7-2.6 cm., subequal, pruinose above, white tomentose at base, hollow, pale ochraceous. Lamellae close, adnate, with entire margins, ochraceous. Spores rough, ellipsoid, 4.5-6 X 7-9.5 u. Annulus evanescent, whitish.

Gregarious to scattered on deciduous (oak) logs in wooded ravines, October. RLS Nos. 209, 685.

3. Pholiota polychroa (Berkeley) Smith and Brodie.

Pileus 2.5-5 cm. broad, convex or flattened, squamose, viscid, light to reddish brown on disc with yellowish or purplish margin. Stipe .2-.6 X 2-3 cm., subequal, fibrillose and perhaps slightly scaly, hollow, yellowish above to reddish

brown at base. Lamellae crowded-close, subdecurrent, with whitish crenulate margins, yellowish cream then purplish brown. Spores smooth, oblong, 3.5-4.5 X 6-7.5 u. Vell whitish, leaving a slight annulus.

Gregarious on deciduous logs in wooded ravines, July-September. RLS Nos. 322, 638.

Pleurotus (Fries) Quelet

1. Pleurotus approximans Peck.

Pileus .7 cm. wide, .6-.9 cm. long, pubescent near stipe, straw color. Stipe small or absent. Lamellae close, rounded in front and behind. Spores smooth, ellipsoid, 3.5-4.5 X 6.5-8 u. Cystidia with a constricted apex which is incrustated.

Gregarious on small deciduous twigs on lawns, July. RLS No. 433.

2. Pleurotus petaloides (Fries) Quelet.

Pileus 2.5-4.5 cm. broad, spathulate, glabrous, with gelatinous feel, with concolorous stipelike base, brown.

Lamellae crowded, decurrent, with crenulate margins, whitish to creamish. Spores smooth, ellipsoid, 4.5-5 X 7-9 u.

Growing from buried wood in wooded ravine, June. RLS No. 231.

3. Pleurotus sapidus (Schulzer apud Kalchbrenner) Saccardo.

Pileus 4-10 cm. broad, with lateral or eccentric stipe, glabrous, moist, white to grayish brown. Stipe .6-1.2 X 2-2.5 cm. or lacking, nearly equal, tomentose at base, glabrous above,

concolorous with pileus. Lamellae crowded-close, decurrent, whitish. Spores smooth, oblong, 3-5.5 X 7-9 u, lilac tinted.

In large masses on stumps and logs in lawns, wooded ravines, and lowland woods, May-September. Abundant. RLS Nos. 9, 422.

One collection (RLS No. 9C) may be P. ostreatus (Fries) Quelet if that species is distinct. The spores were whitish in mass.

4. Pleurotus septicus (Fries) Quelet.

Pileus .2-.3 cm. broad, eccentrically attached and nearly circular, pubescent, white. Stipe very short. Lamellae subdistant, free, yellowish. Spores smooth, pip-shaped, 3-3.5 X 6-7.5 u.

Solitary or gregarious on twigs and leaves in wooded ravines, April-September. RLS Nos. 17, 698.

5. Pleurotus "ulmarius."

Pileus 13-15 cm. broad, depressed convex, appressed fibrillose, cream to tan. Stipe 2-2.3 X 10 cm., eccentric, tapering to base, glabrous, whitish or nearly concolorous. Lamellae close, adnate, whitish to orangish tan. Spores smooth, globose, 5-7 u.

Cespitose on dead branch of deciduous (box elder) tree, November. RLS No. 705.

According to Singer (1949) the correct name for this agaric is Hypsizygus tessulatus (Bulliard ex Fries) Singer.

Pluteus Fries

1. Pluteus cervinus (Schaeffer ex Fries) Quelet.

Pileus 3-6 cm. broad, umbonate to plane, glabrous to slightly fibrillose, viscid, light brown. Stipe .6-1 X 3-6 cm., enlarging to subbulbous base, glabrous to slightly fibrillose, solid, whitish. Lamellae close, free, white then cream with pinkish tint. Spores smooth, ellipsoid, 4.5 X 5.5-7 u. Plourocystidia with hornlike projections on apices.

Solitary to cespitose on deciduous stumps or logs in lawns and wooded ravines, June-October. Common. RLS Nos. 13A, 164, 660, 666, 704.

P. cervinus (Schaeffer ex Fries) Quelet var. albus Peck was found on a deciduous stump in April (RLS No. 13).

2. Pluteus chrysophaeus (Schaeffer ex Lasch) Quelet.

Pileus 4-5.5 cm. broad, subumbonate, with striate margin, glabrous, grayish brown. Stipe .3-.4 X 2.5-6 cm., with subbulbous base, glabrous, hollow, white. Lamellae close, free, pinkish. Spores smooth, ellipsoid, 5.3-6 X 7.6-8.4 u.

Gregarious on deciduous log in lowland woods, June.
RLS No. 196.

3. Pluteus nanus (Persoon ex Fries) Quelet.

Pileus 3-4.5 cm. broad, convex then expanded, with striate margin, glabrous, light brown with pinkish tint. Stipe .3-.4 X 4-5 cm., enlarging to base, glabrous, hollow, yellowish white. Lamellae close-subdistant, free, with fimbriate margins, pinkish. Spores smooth, subglobose, 4-5.5 u. Pleurocystidia

fusiform.

Gregarious on deciduous wood in wooded ravine, September.
 RLS No. 561.

Psathyrella (Fries) Quelet

1. Psathyrella candolleana (Fries) A. H. Smith.

Pileus 3-7.5 cm. broad, conic to convex becoming nearly plane, with striate margin, glabrous, yellowish cream with purplish margin. Stipe .3-.8 X 4-8.5 cm., tapering or enlarging slightly to base, fibrillose to fibrillose-scaly, hollow, whitish. Lamellae crowded-close, adnexed, with whitish crenate margins, whitish then grayish brown. Spores smooth, ellipsoid, 4-4.5 X 7-8 u.

Solitary to gregarious at the base of or near deciduous (honey locust) trees in lawns and wooded ravines, May-October.
 RLS Nos. 94, 119, 458, 694.

2. Psathyrella sp.

Pileus 1-2 cm. broad, conic becoming convex to subumbonate-convex, with striate margin, atomate, hygrophanous, light tan. Stipe .2-.3 X 2-3 cm., subbulbous at base, atomate, hollow, whitish to tan. Lamellae close to subdistant, adnate, cream becoming blackish brown. Spores smooth, ellipsoid, with apical germ pore, 5.3-6 X 8.5-10 u, brownish black.

Gregarious to scattered in lawns, April-June. RLS Nos. 14, 21.

Collection RLS No. 14 was sent to Alexander H. Smith, who found it to be close to SM 33628 in his manuscript.

3. Psathyrella sp.

Pileus 1-5 cm. broad, convex to nearly plano, striate at margin, glabrous, hygrophanous, dull tan. Stipe .2-.5 X 3-6.5 cm., equal, striate, hollow, cream tan. Lamellae close, adnate, with entire margins, cream becoming blackish brown. Spores smooth, ellipsoid, with apical germ pore, 4.5-5.3 X 8.5-10 u, blackish brown.

Gregarious to scattered in wooded ravines, May-June. RLS Nos. 52, 61.

Alexander H. Smith identified collection RLS No. 61 as BBK 510 in his manuscript.

Pseudocoprinus Kuehner1. Pseudocoprinus disseminatus (Fries) Kuehner.

Pileus .5-2.5 cm. broad, conic or convex becoming campanulate, plicate-striate, pruinose to furfuraceous, light tan then grayish brown. Stipe .1-.2 X 2-5 cm., equal, minutely pubescent to glabrous, hollow, white. Lamellae close, adnate, white then black. Spores smooth, subellipsoid, 4-4.5 X 7-10 u.

Pleurocystidia none.

Cespitose on or near deciduous stumps and logs in lawns and wooded ravines, May-June. Common. RLS Nos. 73, 91, 110, 126, 143, 156, 160, 163.

2. Pseudocoprinus sp.

Pileus .5-1.2 cm. broad, campanulate, plicate-striate, pruinose, orangish brown becoming ochraceous buff. Stipe .1 X

1-1.5 cm., somewhat bulbous, minutely pubescent, hollow, whitish then darkening. Lamellae subdistant, adnate, with entire margins, orangish brown then gray to blackish. Spores smooth, ellipsoid, 4.5-6 X 8.5-10.5 u.

Scattered in sand bed of greenhouse, January-March. RLS No. 707.

This collection was sent to Alexander H. Smith who tentatively identified it as P. granulosus A. H. Smith, nov. sp. ined. He reported that the spores were "off," however.

Rhodophyllus Quelet

1. Rhodophyllus byssisedus (Persoon ex Fries) Quelet.

Pileus .9 cm. broad, reniform, pruinose, brownish gray. Stipe .1-.5 cm., lateral, equal, pruinose, dull brownish. Lamellae close, subdecurrent, pinkish tan. Spores angular, elongate, 6-7 X 9-11 u.

Solitary on very rotten wood, July. RLS No. 419.

2. Rhodophyllus clypeatus (Fries) Quelet.

Pileus 3.4-5.2 cm. broad, convex to subumbonate, glabrous, shining brown. Stipe 1-1.5 X 3.6-5.2 cm., enlarging to base, fibrillose, stuffed, whitish. Lamellae close-subdistant, adnexed, with uneven margins, orangish pink. Spores angular, subglobose, 6-7.5 X 7-9.5 u.

Scattered in wooded ravine, September. RLS No. 604.

3. Rhodophyllus sericeus (Bulliard ex Fries) Quelet.

Pileus 4 cm. broad, convex, slightly pruinose, hygrophanous, dull grayish brown. Stipe .4 X 2 cm., equal, flattened, glab-

rous, hollow, light tan. Lamellae subdistant, adnate, grayish brown. Spores angular, ovoid, 6-7 X 8-9.5 u.

Solitary in wooded ravine, April. RLS No. 16.

4. Leptonia incana (Fries) Quelet.

Pileus 1.5-3.5 cm. broad, umbilicate-convex, with striate margin, fibrillose to slightly scaly, yellowish green. Stipe .2-.3 X 1.7-3.3 cm., equal, slightly pruinose, hollow, yellow green to green. Lamellae close-subdistant, adnexed to decurrent, yellowish turning bright green. Spores angular, oval, 7.5-9 X 9-10.5 (12) u. Odor strongly of mice.

Gregarious to scattered in wooded ravine, July. RLS No. 319.

This species belongs in Rhodophyllus by virtue of its angular spores.

Russula Persoon ex S. F. Gray

1. Russula aeruginea Lindblad apud Fries.

Pileus 6.5 cm. broad, convex to depressed at center, striate at margin, viscid, dull greenish tan. Stipe 1 X 4 cm., equal, glabrous, stuffed, white. Lamellae close, adnexed-adnate, white becoming cream. Spores subglobose, 7-8 u. Odor and taste mild.

Solitary in lawns, June. RLS No. 296.

2. Russula albida Peck.

Pileus 2.5-4 cm. broad, convex becoming expanded, glabrous, white tinged pinkish. Stipe 1.5 X 3 cm., equal, glabrous,

hollow, white. Lamellae close, forked at base, adnate, white.

Spores subglobose, about 7.5 u. Odor and taste none.

Scattered in lawns, May. RLS No. 88.

3. Russula emetica (Schaeffer ex Fries) Persoon ex Fries.

Pileus 4.5 cm. broad, convex to depressed, glabrous, orange red. Stipe 1.5-2.2 X 4.5 cm., enlarged at pileus, glabrous, stuffed, whitish cream. Lamellae close, free, whitish cream. Spores echinulate, globose, 8-9.5 u. Odor nondescript; taste acrid.

Solitary in wooded ravine, June. RLS No. 216.

4. Russula foetens Persoon ex Fries.

Pileus 5.3 cm. broad, depressed, striate at margin, glabrous, golden brown. Stipe 1-1.5 X 5 cm., enlarging to base, fibrillose, stuffed, whitish to tan. Lamellae crowded-close, adnexed, white becoming yellowish. Spores slightly echinulate, subglobose, 7-8 X 9-10 u. Odor fetid; taste acrid.

Solitary in wooded ravine, September. RLS No. 505.

5. Russula lepida Fries.

Pileus 8.5 cm. broad, convex to slightly depressed at center, somewhat silky, brownish red. Stipe 2.2 X 6.5 cm., enlarged at pileus, glabrous, stuffed, cream. Lamellae close, adnexed, white to yellowish cream. Spores echinulate, globose, 8-9 u.

Solitary in wooded ravine, October. RLS No. 689.

6. Russula mariae Peck.

Pileus 4.4 cm. broad, depressed, striate at margin,

pruinose, reddish purple. Stipe 1-1.5 X 4 cm., tapering to base, glabrous, stuffed to hollow, white, bruising pink. Lamellae close, adnexed cream. Spores echinulate, globose, 7-8.5 u. Odor slight; taste mild.

Solitary in wooded ravine, July. RLS No. 423.

7. Russula pectinatoides Peck.

Pileus 3.8-10 cm. broad, convex to plane or depressed, striate at margin, glabrous, viscid, yellow brown to golden brown. Stipe .8-1.5 X 3-6 cm., equal or enlarging to base, glabrous, solid to stuffed, white to cream. Lamellae close, adnate to subdecurrent, white to cream. Spores echinulate, subglobose, 6-8 u. Odor and taste slight.

Solitary to scattered in lawns and wooded ravines, June-September. Common. RLS Nos. 238, 253, 329, 340, 369, 468, 487, 640.

8. Russula purpurina Quelet and Schulzer.

Pileus 4-9 cm. broad, plane or depressed, glabrous, dry to viscid when moist, scarlet red. Stipe 1-1.5 X 5-6 cm., equal or enlarging to base, glabrous, stuffed, white. Lamellae close, adnexed, white to salmon colored. Spores minutely verrucose, globose to subellipsoid, 4-8 u long. Odor and taste none.

Solitary in lowland woods, August. RLS Nos. 479, 483.

9. Russula sanguinea (Bulliard ex Pollacci) Fries.

Pileus 3-5 cm. broad, convex, glabrous, red orange. Stipe 1.3-2.7 X 4-6.4 cm., enlarging to base, glabrous, stuffed,

white with reddish tints. Lamellae close, adnate to subdecurrent, cream white. Spores ochinulate, ovate, 6-7 X 7-8.5 u.

Scattered in wooded ravine, September. RLS No. 571.

10. Russula subdepallens Peck.

Pileus 7.2 cm. broad, convex then depressed, striate at margin, glabrous, viscid, cream at disc to light purple at margin. Stipe 2.2 X 4 cm., enlarging to base, glabrous, solid, whitish. Lamellae close, adnexed, white cream. Spores globose, 7.5-8 u. Odor and taste mild.

Solitary in lawns, June. RLS No. 194.

11. Russula uncialis Peck.

Pileus 4-6.5 cm. broad, convex becoming plane or depressed, striate at margin, glabrous to pruinose, dry to viscid when moist, rosy red to scarlet. Stipe 1-2.5 X 3-6 cm., enlarging to subbulbous base, glabrous, stuffed, white to cream. Lamellae close, adnate, with entire margins, white. Spores echinulate, globose, 7-8.5 u. Odor and taste mild.

Solitary to scattered in lawns, wooded ravines, and lowland woods, June-July. Common. RLS Nos. 237, 278, 295, 364, 521.

12. Russula virescens Fries.

Pileus 9 cm. broad, convex then expanded and depressed, with floccose patches, pale green to grayish green. Stipe 2.9 X 7 cm., subequal, glabrous, stuffed, white. Lamellae close, adnexed, with entire margins, white. Spores subglobose, 6-8 u. Odor and taste none.

Solitary in wooded ravine, September. RLS No. 570.

Schizophyllum Fries

1. Schizophyllum commune Fries.

Pileus 1.5-2.5 cm. broad, fan-shaped, tomentose, leathery, whitish to gray. Stipe none. Lamellae crowded-close, split on margins, whitish to gray and sometimes with pink tints. Spores smooth, cylindrical, 1-1.5 X 3-4 u.

Gregarious on deciduous twigs and branches in wooded ravines and lowland woods, May-October. Common. RLS No. 70.

Stropharia (Fries) Quelet

1. Stropharia coronilla (Fries) Quelet.

Pileus 1.5-3 cm. broad, convex, glabrous, subviscid, creamish. Stipe .3-.6 X 3-4.3 cm., enlarging to subbulbous base, fibrillose at base, white to creamish. Lamellae close, adnexed, light purple then blackish purple. Spores smooth, ellipsoid-ovoid, 4-5 X 8-9.5 u. Annulus white; fragments of veil adhering to pileus margin.

Gregarious in lawns, June. RLS No. 247.

2. Stropharia semiglobata (Fries) Quelet.

Pileus 2.5 cm. broad, hemispherical-convex, glabrous, viscid, yellow. Stipe .3-.6 X 4.8-6 cm., subequal, glabrous, hollow, creamish tan. Lamellae close-subdistant, adnate, blackish gray. Spores smooth, ellipsoid, 9-10 X 15-18 u.

Solitary on cow dung in prairie-pasture, June. RLS Nos. 151, 352.

Tricholoma (Fries) Quelet1. Tricholoma flavobrunneum (Fries) Quelet.

Pileus 8-11.3 cm. broad, convex to expanded, glabrous, viscid, orangish brown. Stipe 1.2-1.6 X 10-12 cm., enlarging to base, pruinose-pubescent in spots, solid, cream with orangish brown tints. Lamellae crowded-close, adnexed, emarginate, yellowish to orangish tan. Spores smooth, ovoid, 4 X 5 u. Odor pleasant; taste bitter.

Solitary at base of deciduous stump, October. RLS No. 701.

2. Tricholoma personatum (Fries) Quelet.

Pileus 4.6-9.2 cm. broad, convex then plane or depressed, glabrous, subviscid, dull lilac to pinkish tan. Stipe 1-2.5 X 3-5 cm., bulbous, fibrillose, stuffed, lilac tinted. Lamellae crowded, adnexed, pale lilac then pinkish tan. Spores nearly smooth, ellipsoid, 4-4.5 X 6.5-7 u.

Gregarious on rotting leaves in wooded ravines, September. RLS Nos. 554, 590.

3. Tricholoma rimosum Peck.

Pileus 2-3 cm. broad, convex, glabrous, hygrophanous, yellowish brown. Stipe .6-.8 X 5-5.5 cm., equal, fibrillose, hollow, whitish. Lamellae close, adnexed, with crenulate margins, white then creamish. Spores smooth, ellipsoid, 4-5 X 7.5-8.5 u.

Solitary in lawn, June. RLS No. 298.

4. Tricholoma sordidum (Fries) Quelet.

Pileus 3-5 cm. broad, convex becoming plane, glabrous,

hygrophanous, vinaceous tan. Stipe .3-.9 X 3-5 cm., equal or enlarged at pileus, glabrous, solid, lighter than pilous. Lamellae crowded-close, adnexed to adnate or subdecurrent, pinkish buff or darker. Spores punctate, ellipsoid, 3.5-4.5 X 6-7.5 u.

Gregarious to caespitose in wooded ravines, June-September. RLS Nos. 84, 148, 220, 602.

Tubaria W. G. Smith

1. Tubaria furfuracea (Persoon ex Fries) Gillet.

Pileus 1.8-2.1 cm. broad, convex or somewhat flattened, glabrous, yellowish cream. Stipe .3-.4 X 3.5-4 cm., enlarging to base, sparsely pubescent, white mycelioid at base, hollow, whitish. Lamellae close, decurrent, whitish then ochraceous. Spores smooth, ovoid, 3-5 X 7-10 u.

Scattered in wooded ravines, June. RLS No. 192.

Vaginata (Fries) S. F. Gray

1. Vaginata fulva (Fries) A. H. Smith.

Pileus 2.5-5.5 cm. broad, convex-umbonate, with striate margin, glabrous, viscid, tannish orange. Stipe .3-.8 X 6.5-11 cm., enlarging to base, glabrous to scaly, hollow, whitish. Lamellae close, free, with crenulate margins, creamish. Spores smooth, globose, 8-10 u. Volva fragile, white.

Solitary to gregarious in wooded ravines, July. RLS Nos. 311, 320.

Volvaria (Fries) Quélet

1. Volvaria volvacea (Bulliard ex Fries) Quélet.

Pileus 4.8-6.5 cm. broad, convex to expanded, fibrillose, grayish brown. Stipe .6-1 X 8.5-9.5 cm., enlarging to base, glabrous, solid, whitish. Lamellae close, free, orangish pink. Spores smooth, ellipsoid, 4-4.5 X 6-6.5 u. Volva delicato, pinkish brown.

Scattered in wooded ravines, July. RLS No. 353.

Boletaceae

Key to Genera

1. Tubes easily separable from flesh of cap, spores usually smooth Boletus
1. Tubes not easily separable from flesh of cap, spores warted, cap and stem strongly scaly-warted Strobilomyces

Boletus Fries

1. Boletus atkinsonianus (Murrill) Coker and Boers.

Pileus 7 cm. broad, convex, glabrous, viscid, with white flesh, leather color. Stipe .9-1.9 X 8.2 cm., enlarging to bulbous base, reticulated above, solid, paler than pileus. Tubes 2-3 per mm., depressed about stipe, straw colored then reddish brown. Spores smooth, fusiform-ellipsoid, 4-5 X 11-13 u.

Solitary in wooded ravine, September. RLS No. 569.

2. Boletus badius Fries

Pileus 11 cm. broad, convex, with a granular-scaly appearance, viscid, with yellowish flesh, orangish brown. Stipe 2-2.5 X 6 cm., tapering to base, reticulated, solid, yellowish above to dark red below. Tubes depressed at pileus, dull yellow turning bluish green when wounded. Spores ellipsoid, 5-6 X 10-14 u.

Solitary in wooded ravine, July. RLS No. 412.

B. badius is described as having spores 3.8-4.8 u in width. This collection differs in having wider spores.

3. Boletus castaneus Bulliard ex Fries f. purpurinus Snell.

Pileus 2-3 cm. broad, convex, velvety, dull purplish red. Stipe .5 X 3.3 cm., tapering to base, velvety, stuffed or hollow, lighter than pileus. Tubes 1-3 per mm., adnate to depressed at stipe, dull white. Sporos ollipsoid, 5.5-7 X 8-11 u.

Scattered in wooded ravines, July-September. RLS Nos. 368, 633.

Singer elevates this form to specific level: Gyroporus purpurinus (Snell) Singer.

4. Boletus cokeri House.

Pileus 1-1.5 cm. broad, convex, velvety-pubescent, orangish scarlet. Stipe .4-.6 X 2-3.5 cm., enlarging to base, granular-scaly above, solid, yellow to orangish. Tubes depressed at stipe, yellowish turning bluish green when wounded. Spores ellipsoid, 4-4.7 X 8.5-11 u.

Gregarious in wooded ravines, June-July. RLS Nos. 182, 442.

5. Boletus fraternus Peck.

Pileus 3-5.5 cm. broad, convex to flattened convex, velvety tomentose, becoming rimose and exposing yellow flesh, dull light red. Stipe .8-1.3 X 5-5.3 cm., tapering to base, furfuraceous, paler than pileus. Tubes depressed at stipe, yellow turning bluish green when wounded. Spores smooth, ellipsoid, 4-5 X 9-12 u.

Solitary to scattered in lawns, lowland woods, and wooded ravines, June-September. Common. RLS Nos. 251, 263, 276, 282, 317.

6. Boletus subglabripes Peck.

Pileus 5.3 cm. broad, convex-plane, glabrous, dull brown. Stipe 1-1.8 X 8 cm., enlarging to base, ridged, stuffed, blackish with yellow flesh which turns bluish green when cut. Tubes 2-3 per mm., depressed at stipe, yellow turning bluish green when wounded. Spores smooth, ventricose, 4-5 X 11-15 u.

Solitary in wooded ravine, October. RLS No. 658.

Strobilomyces Berkeley

1. Strobilomyces floccopus (Vahl ex Fries) Karsten.

Pileus 4-8 cm. broad, convex, with large floccose scales, gray with blackish brown scales. Stipe 1.3-1.6 X 7-18.5 cm., enlarging to bulbous base, fibrillose-scaly, solid, concolorous. Tubes depressed at stipe, dark gray turning black when wounded.

Sporos tuberculate, subglobose, 7.5-9 X 9-10 u.

Gregarious in wooded ravine, July-September. RLS No. 397.

HYMENOGASTRALES

Hymenogastraceae

Hymenogaster Vittadini

1. Hymenogaster citrinus Vittadini.

Fructification 1.7 cm. in diameter, subglobose, fibrillose, whitish to yellow with brown fibrils. Gleba yellow then brownish, becoming black when dry. Sporos verrucose, obovoid, 13-17 X 20-35 u.

Hypogeous and solitary in humus of wooded ravine, October. RLS No. 693.

PHALLALES

Phallaceae

Key to Genera

1. No pileus, gleba covering upper part of stalk . . . Mutinus
1. With pileus 2
 2. Indusium forming a lattice-like skirt. . . Dictyophora
 2. Indusium, if present, not as above Phallus

Dictyophora Desvaux

1. Dictyophora duplicata (Bosc) E. Fischer.

Pileus 5 cm. long, 4 cm. wide, with reticulate upper surface covered with olivaceous gleba. Indusium lattice-like, white. Stipe 2.4-3.4 X 15 cm., enlarging to base, perforated, white. Spores smooth, ellipsoid, 1.5-2 X 3.5-4 u. Egg 7 cm. in diameter, globose, with a rhizomorph, pinkish; remains forming a volva. Odor fetid.

Solitary in wooded ravine, September. RLS No. 578.

Mutinus Fries

1. Mutinus elegans (Montagne) Fries.

Stalk 10-12 cm. long, spongy, hollow, whitish, bearing olivaceous gleba on upper part. Spores 2-2.5 X 4-7 u. Egg globose, with a rhizomorph, whitish; remains forming a volva. Odor fetid.

Gregarious near deciduous (oak) stump in wooded ravine, June. RLS No. 243.

Phallus Persoon

1. Phallus impudicus Persoon.

Pileus 2-2.5 cm. long, conical, with reticulated upper surface covered by olivaceous gleba. Stipe 8-10 cm. long, white. Spores 1.5-2 X 3.5-4 u. Egg 5 X 3 cm., ellipsoid, with a white rhizomorph; remains forming a volva. Odor fetid.

Gregarious near deciduous stumps in lawns, May-September.

Common. RLS No. 96.

SCLERODERMATALES

Astraeaceae

Astraeus Morgan

1. Astraeus hygrometricus (Persoon) Morgan.

Spore sac 1.8-2.6 cm., opening to 4-6 cm. broad, globose, sessile, fibrillose-reticulate, grayish brown. Exoperidium splitting and folding back in rays which are hygroscopic and become rimose, dull tan. Gleba cocoa brown. Spores warty, globose, 7-10.5 μ .

Gregarious in lawn, September. RLS No. 501.

Pisolithaceae

Pisolithus Albertini and Schweinitz

1. Pisolithus tinctorius (Persoon) Coker and Couch.

Fructification 10-15 cm. high, 8-10 cm. in diameter, with a thick rooting base, brown. Exoperidium thin, flaking off. Peridiolos yellowish then reddish brown, separated by a dark brown matrix. Spores verrucose, globose, 8-12 μ .

Gregarious in lawn beneath oaks, August. RLS No. 472.

Sclerodermataceae

Scleroderma Persoon1. Scleroderma arenicola Zeller.

Fructification 3-6 cm. in diameter, subglobose, with small scales, with thick wall opening by irregular splitting, dull light brown. Gleba yellowish brown to blackish. Spores strongly reticulate and echinulate, globose, 15-20 u.

Solitary to scattered in lawns and wooded ravines, August-October. RLS Nos. 461, 657, 663.

2. Scleroderma flavidum Ellis and Everhart.

Fructification 3-5 cm. in diameter, globose, becoming rimose-areolate, opening by irregular splitting. Gleba yellowish brown. Spores strongly echinulate, globose, 9-13 u.

Solitary in pine grove, September. RLS No. 493.

3. Scleroderma geaster Fries.

Fructification 4-8 cm. broad, opening to approximately 15 cm., subglobose, with thick wall which splits and opens out stellately, dull brown. Gleba brown to reddish brown. Spores reticulate, subglobose, 6.5-9 u.

Scattered in lawns, October-November. RLS No. 710.

4. Scleroderma lycoperdoides Schweinitz.

Fructification 1.5-5.4 cm. broad, depressed-globose, stipitate, opening by irregular split or pore, light brown with appressed darker brown scales. Gleba cream becoming purplish then blackish brown. Spores echinulate, globose,

10-15 u.

Scattered to gregarious in lawns, lowland woods, and wooded ravines, June-October. Common. RLS Nos. 183, 259.

NIDULARIALES

Nidulariaceae

Key to Genera

1. Peridioles whitish, wall of fructification consisting of one layer. Crucibulum
1. Peridioles gray or black, wall of fructification consisting of three layers Cyathus

Crucibulum Tulasne

1. Crucibulum levis (De Candolle) Kambly and Lee.

Fructification 6-10 mm. high, 4-5 mm. in diameter at top, subglobose becoming urn-shaped when open, velvety, yellowish tan becoming sordid; inner surface grayish. Peridioles 1-2 mm. broad, lenticular, attached by a funiculus, whitish. Spores smooth, ellipsoid, 4-6 X 7-10 u.

Gregarious on deciduous twigs and stumps in lawns and wooded ravines, June-September. Common. RLS No. 254.

Cyathus Persoon

1. Cyathus olla Persoon.

Fructification 10-14 mm. wide at top, in maturity flaring at top, shaggy fibrillose, brown to blackish brown; inner surface smooth, silvery brown. Peridioles 2-3 mm. wide, disc-shaped, attached by a funiculus, light grayish brown. Spores smooth, ovoid, (6) 8-12 X 8-12 (15) u.

Solitary on rotting leaves in lawn, June. RLS No. 300.

2. Cyathus stercoreus (Schweinitz) De Toni.

Fructification 5-11 mm. high, 3-5 mm. wide at top, vase-shaped, densely tomentose, cream then dull brown; inner surface smooth, grayish. Peridioles 1-2 mm. wide, flattened, attached by a funiculus, lustrous black. Spores smooth, subglobose to ellipsoid, 20-27 X 25-34 u.

Cespitose on dung in prairie-pasture and on corn cobs in lawn, June-July. RLS Nos. 261, 387.

3. Cyathus striatus Persoon.

Fructification 9-13 mm. high, 5-7 mm. wide at top, vase-to trumpet-shaped, fibrillose to fibrillose-sealy, tan to brown or dark grayish brown; inner surface striate, gray. Peridioles 1-2 mm. wide, flattened, attached by a funiculus, metallic gray. Spores smooth, 8-12 X 15-20 u.

Gregarious on humus, twigs (oak), and black walnut fruit in lowland woods and wooded ravines, June-October. Fairly common. RLS Nos. 147, 327, 408, 682.

Sphaerobolaceae

Sphaerobolus Persoon

1. Sphaerobolus stellatus Persoon.

Fructification 1.5-2 mm. in diameter, opening by lobes.

Glebal ball smooth, slippery, brown. Spores 3.5-5 X 7.5-10 u.

Gregarious on horse dung in wooded ravine, September.

RLS No. 500.

LYCOPERDALES

Geastraceae

Geastrum Persoon

1. Geastrum coronatum Persoon.

Fructification subglobose when unexpanded; outer wall splitting into 5-6 segments which turn back stellately; white mycelial mass forming an indistinct cup below fruit body.

Spore sac pedicellate, pruinose, with fimbriate mouth, grayish brown. Gleba purplish brown. Spores warted, globose, 3.5-5 u.

Solitary on humus in wooded ravine, September. RLS No. 621.

2. Geastrum saccatum Fries.

Fructification 2.5-7 cm. wide when rays are expanded, with 4-10 rays, pallid to wood brown. Spore sac .7-3 cm. in diameter, subglobose, with a conic fibrillose peristome delimited by a line, dull light brown. Gleba dark brown. Spores verrucose, globose, 3.5-4 u.

Gregarious on humus in lowland woods and wooded ravines,

June-October. Common. RLS Nos. 268, 696.

3. Geastrum schmidelii Vittadini.

Fructification 5 cm. in diameter when expanded, with outer wall splitting into 7 rays which are recurved and pallid on inner surface. Spore sac 1.6 cm. in diameter, globose, with conical peristome which is strongly sulcate, glaucous, pedicellate, dull brown. Gleba chocolate brown. Spores verrucose, globose, 3.5-4.2 u.

Solitary on humus in wooded ravine, September. RLS No. 575.

Lycoperdaceae

Key to Genera

1. Peridium dehiscent as a whole, exposing gleba . . Calvatia
1. Peridium dehiscent by an apical pore Lycoperdon

Calvatia Fries

1. Calvatia craniformis (Schweinitz) Fries.

Fructification 6-11 cm. high, 4-6 cm. broad, turbinate, with a prominent sterile base, yellowish brown; surface deeply wrinkled, furfuraceous; peridium breaking into small pieces and falling away at maturity. Gleba yellowish olivaceous. Spores smooth, globose, 2.5-3.5 u. Capillitial threads with circular pits.

Solitary to scattered in lowland woods and wooded ravines, July-September. Common. RLS Nos. 335, 411, 415, 541, 542, 549, 557.

2. Calvatia cyathiformis (Bosc) Morgan.

Fructification 5 cm. high, 7-9 cm. broad, with a sterile base, turbinate, faintly areolate, brown; peridium falling away at maturity. Gleba purplish brown. Spores echinulate, globose, 4.5-6.2 u. Capillitial threads with small pits.

Solitary in lawn, August. RLS No. 486.

3. Calvatia rubro-flava (Cragin) Lloyd.

Fructification 3-4 cm. high, 5-6 cm. broad, subglobose with a short stalk, furfuraceous, with single layered peridium, deep orange. Gleba white then yellowish, becoming deep yellow when wounded. Spores rough, globose, 3-4.5 u.

Solitary in lawns, September. RLS No. 489.

Lycoperdon Persoon

1. Lycoperdon marginatum Vittadini.

Fructification 3 cm. broad, subglobose then flattened, with sterile base, with white soft-spiny coating which falls away in large patches. Spore sac furfuraceous then glabrous, dull brown. Gleba grayish brown. Spores punctate, pedicellate, globose, 3.5-4.2 u.

Gregarious to cespitose in lawn, May-June. RLS No. 95.

2. Lycoperdon poekii Morgan.

Fructification 1-3 cm. high, 1-3 cm. broad, subglobose with stalklike base, covered with spines which split at base and slough off at maturity, white (purplish above). Spore sac with circular spots surrounded by tiny granulations, buff.

Spores minutely punctate, globose, 3.6-4.4 u.

Cespitose in humus of lawns and wooded ravines, September-October. RLS Nos. 596, 649.

3. Lycoperdon perlatum Persoon.

Fructification 5 cm. high, 4.5 cm. broad, turbinate with a stemlike base, covered with dull brown spines and warts which leave pale spots upon falling away. Gleba white then olivaceous brown. Spores echinulate, globose, 3.5-4.2 u.

Cespitose on humus in wooded ravine, October. RLS No. 670.

4. Lycoperdon pulcherrimum Berkeley and Curtis.

Fructification 2-3 cm. broad, subglobose above a narrowed base, covered at first by slender white spines which are arranged in cones. Spore sac purplish brown when spines fall away. Gleba white then purplish brown. Spores echinulate, pedicellate, globose, 4-4.5 u.

Scattered in wooded ravines, September. RLS No. 547.

5. Lycoperdon pusillum Persoon.

Fructification 1.5-3 cm. broad, globose or subglobose, pinched off at base, white flocculose. Spore sac spotted, tan to brown after flakelike particles have fallen away. Gleba yellowish then olivaceous brown. Spores echinulate, globose, 3.5-4.5 u.

Gregarious to cespitose in pastures and lawns, July-September. RLS Nos. 328, 490.

6. Lycoperdon pyriforme Persoon.

Fructification 2-3 cm. high, 1-2.5 cm. broad, pyriform

to flattened globose with stalklike base, areolate to granular, tawny brown. Spore sac smooth, yellowish after granules have fallen away. Gleba white becoming olivo brown. Spores smooth, globose, 2.8-3.5 u.

Cespitose on deciduous logs in wooded ravines, September-October. RLS Nos. 573, 664.

7. Lycoperdon umbrinum Persoon.

Fructification 3-7 cm. high, 2.5-4.5 cm. broad, turbinate, with sterile base, furfuraceous and with short spines which are persistent or fall away to expose yellowish to grayish brown endoperidium. Gleba white then grayish brown. Spores verrucose, globose, 3.7-4.7 u.

Solitary to gregarious on humus in wooded ravines, July-September. Fairly common. RLS Nos. 392, 404, 506, 512, 536, 544, 563.

8. Lycoperdon umbrinum Persoon var. atropurpureum (Vittadini) Hollos.

Fructification 4-6.5 cm. high, 2.5-5.5 cm. broad, subpuriform, with sterile base, covered with granules and thick hairs which slough off at maturity, dull light brown. Gleba whitish then purplish brown. Spores as above.

Scattered in wooded ravines, October. RLS Nos. 650, 680, 681.

NEW RECORDS FOR KANSAS

Of the species included in this paper, several were apparently new records for Kansas. Following is a list of those species. Those which references cited as being present throughout a region which included Kansas but did not mention Kansas specifically are also included in this list.

<u>Dacrymyces deliquescens</u>	<u>Inocybe repanda</u>
<u>Dacrymyces ellisii</u>	<u>Inocybe sororia</u>
<u>Dacryopinax elegans</u>	<u>Inocybe subochracea</u>
<u>Eridia recisa</u>	<u>Letinus ursinus</u>
<u>Sebacina incrustans</u>	<u>Lepiota cepaestipes</u>
<u>Tremellodendron schweinitzii</u>	<u>Lepiota clypeolaria</u>
<u>Clavaria cretacea</u>	<u>Lepiota juniperina</u>
<u>Clavaria fumosa</u>	<u>Lepiota pratensis</u>
<u>Ramaria stricta</u> var. <u>concolor</u>	<u>Leucopaxillus albissimus</u>
<u>Pterula plumosa</u>	<u>Leucopaxillus laterarius</u>
<u>Auriscalpium vulgare</u>	<u>Marasmius dichrous</u>
<u>Mycocacia fragillissima</u>	<u>Marasmius fuscopurpurens</u>
<u>Odontia stipata</u>	<u>Marasmius glabellus</u>
<u>Steccherinum septentrionale</u>	<u>Marasmius minutissimus</u>
<u>Agaricus bisporus</u>	<u>Marasmius nigripes</u>
<u>Agaricus micromegethus</u>	<u>Marasmius rubrophyllus</u>
<u>Agaricus rutilescens</u>	<u>Marasmius siccus</u>
<u>Agrocybe acericola</u>	<u>Marasmius squamula</u>
<u>Amanita cothurnata</u>	<u>Marasmius tomentosipes</u>
<u>Armillariella tabescens</u>	<u>Mycena flavoalba</u>
<u>Claudopus subindulans</u>	<u>Mycena hemisphaerica</u>
<u>Clitocybe eccentrica</u>	<u>Mycena inclinata</u>
<u>Clitocybe nebularis</u>	<u>Mycena pseudoinclinata</u>
<u>Collybia alcalinolens</u>	<u>Mycena radicatella</u>
<u>Collybia familia</u>	<u>Panaeolus semiovatus</u>
<u>Collybia maculata</u>	<u>Pholiota erinaceella</u>
<u>Coprinus quadrifidus</u>	<u>Pholiota marginata</u>
<u>Coprinus radiatus</u>	<u>Pleurotus approximans</u>
<u>Cortinarius argentatus</u>	<u>Pluteus chrysophaeus</u>
<u>Cortinarius atkinsonianus</u>	<u>Pluteus nanus</u>
<u>Cortinarius bolaris</u>	<u>Rhodophyllum byssisedus</u>
<u>Cortinarius coloratus</u>	<u>Rhodophyllum clypeatus</u>
<u>Cortinarius infractus</u>	<u>Rhodophyllum sericeus</u>
<u>Cortinarius juberinus</u>	<u>Russula aeruginea</u>
<u>Cortinarius praepallens</u>	<u>Russula albida</u>
<u>Crepidotus nephroides</u>	<u>Russula mariae</u>
<u>Hebeloma gregarium</u>	<u>Russula pectinatoides</u>
<u>Inocybe albodisca</u>	<u>Russula uncialis</u>

<u>Inocybe asterospora</u>	<u>Russula sanguinea</u>
<u>Inocybe caesariata</u>	<u>Russula subdepallens</u>
<u>Inocybe calospora</u>	<u>Stropharia semiglobata</u>
<u>Inocybe fastigiata</u>	<u>Tricholoma flavobrunneum</u>
<u>Inocybe flocculosa</u>	<u>Tricholoma rimosum</u>
<u>Inocybe hirtella</u>	<u>Tricholoma sordidum</u>
<u>Inocybe jurana</u>	<u>Tubaria furfuracea</u>
<u>Inocybe lilacina</u>	<u>Boletus atkinsonianus</u>
<u>Inocybe lorillardiana</u>	<u>Boletus badius</u>
<u>Inocybe pyriodora</u>	<u>Boletus cokeri</u>
<u>Boletus fraternus</u>	<u>Scleroderma geaster</u>
<u>Boletus subglabripes</u>	<u>Scleroderma lycoperdoides</u>
<u>Hymenogaster citrinus</u>	<u>Cyathus striatus</u>
<u>Mutinus elegans</u>	<u>Sphaerobolus stellatus</u>
<u>Pisolithus tinctorius</u>	<u>Geastrum coronatum</u>
<u>Scleroderma arenicola</u>	<u>Lycoperdon peckii</u>
<u>Scleroderma flavidum</u>	

The following species, which are included in this paper, were found in either Kansas or Missouri by Stubbs (Showalter and Stubbs, 1951). Since the locality in which they were found is not given, it is not known whether they are new records.

<u>Agaricus silvaticus</u>	<u>Pholiota polychroa</u>
<u>Amanita verna</u>	<u>Russula purpurina</u>
<u>Collybia confluens</u>	<u>Tricholoma personatum</u>
<u>Clitocybe odora</u>	<u>Boletus castaneus</u>
<u>Lactarius fuliginosus</u>	<u>Strobilomyces floccopus</u>
<u>Lepiota rugulosa</u>	<u>Dictyophora duplicata</u>
<u>Naucoria semiorbicularis</u>	<u>Geastrum schmidelii</u>

SUMMARY

A study of the Basidiomycetes of Kansas (exclusive of the rusts and smuts) was undertaken as a Master's problem at Kansas State College. This group of fungi has not received much attention as far as the State of Kansas is concerned.

All identifications and descriptions were made from specimens collected during 1951. Approximately 800 collections were

made. These represented the following fungous orders: Auriculariales, Dacrymycetales, Tremellales, Polyporales, Agaricales, Hymenogastrales, Phallales, Sclerodermatales, Nidulariales, and Lycoperdales. Methods used in collecting, preserving, and identifying the specimens are given.

A study of the four main types of habitats in the vicinity of Manhattan, Kansas--lawns, prairies, wooded ravines, and lowland woods--showed a correlation between the habitat and the fungous species which were present in it.

An enumeration of the species included in this paper is as follows:

	Genera	Species
AURICULARIALES	1	1
Auriculariaceae	1	1
DACRYMYCETALES	2	4
Dacrymycetaceae	2	4
TREMELLALES	4	7
Tremellaceae	4	7
POLYPORALES	15	27
Cantharellaceae	1	1
Clavariaceae	3	4
Hydnaceae	5	6
Polyporaceae	6	16
AGARICALES	39	147
Agaricaceae	37	140
Boletaceae	2	7
HYMENOGASTRALES	1	1
Hymenogastraceae	1	1
PHALLALES	3	3
Phallaceae	3	3
SCLERODERMATALES	3	6
Astraeaceae	1	1
Pisolithaceae	1	1
Sclerodermataceae	1	4
NIDULARIALES	3	5
Nidulariaceae	2	4
Sphaerobolaceae	1	1
LYCOPERDALES	3	14
Geastraceae	1	3
Lycoperdaceae	2	11
Totals	74	215

One-hundred-nine of these species were new records for Kansas.

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KANSAS BASIDIOMYCETES
(EXCLUSIVE OF THE TELIOSPOREAE)

by

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A general study of the fleshy and woody Basidiomycetes of Kansas was made as a Master's problem at Kansas State College, Manhattan, Kansas.

The work, which was begun in April, 1951, and proceeded until May, 1952, consisted of collecting and identifying members of the following fungous orders: Auriculariales, Dacrymycetales, Tremellales, Polyporales, Agaricales, Hymenogastrales, Phallales, Sclerodermatales, Nidulariales, and Lycoperdales. Approximately 800 collections were made during the growing season. All specimens were deposited in the Mycological Herbarium at Kansas State College.

A review of literature showed that little has been done with the group of fungi treated in this paper as far as the state of Kansas is concerned.

Methods used in collecting, preserving, and identifying the specimens are given in the thesis.

In a study of collecting areas it was found that there was a correlation between the type of habitat and the fungous species which could be found in that habitat. For example, Russula pectinatoides was commonly found in wooded ravines, while R. purpurina seemed to prefer lowland woods. The four main types of habitats discussed are lawns, prairies, wooded ravines, and lowland woods.

The larger portion of the thesis is devoted to descriptions of some of the species found. Two-hundred-fifteen

species are described, 109 of which are apparently new records for Kansas. These species represent seventy-four genera, eighteen families, and ten orders. Keys to orders, families, and genera are also included in the thesis.