

NOTES ON A COLLECTION OF BOLETACEAE.*

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The summer of 1909 was favorable for the development of fleshy fungi on account of the unusually large rainfall. During the first part of August, the writer was at "Beechwood Camp" with a party of students. The month was very wet, and fleshy fungi were brought in and studied in large numbers. The tables were daily covered with an array of Russulae, Lactariae, Amanitae, Boleti, and other forms, which altogether gave an assortment of forms, sizes, and colors seldom seen in these days of depleted forest lands. While students were working on the agarics, the writer gave his attention to the Boletaceae, collecting and making careful notes of each species. The result was fourteen species, some of them not previously reported from Ohio.

"Beechwood Camp" is located in an almost virgin forest, five miles north of Oxford, Ohio. Beech trees form the facies over all the area, except the flood-plain of Tallawanda Creek, where these are replaced by the plane (sycamore) trees. The forest covers 200 acres. Large trees abound, and many trees have been allowed to fall and decay, so that stumps and logs are abundant, on which fungi are plentiful in wet weather.

After the collecting was done at "Beechwood Camp," the last two weeks of August were spent in the foothills of the Cumberland Mountains, east of Berea, Kentucky. The rainfall had been abundant there also, and the fleshy fungi were growing in such size and profusion as we can never hope to see again in Ohio, since the forests are so largely removed. Special attention was again given to the Boletaceae and twenty-four species were collected, several of which were unknown from Kentucky. Some of the species collected contained specimens of unusual size, plants twenty cm. across being collected several times.

Twenty-eight (28) species were collected in the two localities, during the month. This is not a large number; but the Boletaceae are rare plants, and only seventy-five species are given for North America, including the West Indies.

Thanks are due to a number of persons for aid in the work. Mr. Hugh Willard Fink was a companion and efficient aid in nearly all of the collecting, and acted as scribe in the note-taking. Indeed, without the help that he was able to give, the work done could not have been accomplished in the time at hand. Professor G. D. Smith, of Richmond, Kentucky, was present during the study in the Kentucky locality, and aided in the collecting and photographing and in becoming acquainted with the plants.

* Reported at the meeting of the Ohio Academy of Science, Akron, Nov. 25, 1910.

Mr. W. G. Stover aided considerably in the collecting and study at "Beechwood Camp." After the plants were collected, described in the field, preserved and studied, duplicates were sent to Dr. W. A. Murrill, who helped with verifications, corrections and determinations.

Full sets of the plants may be found in the herbarium of the writer, and in that of the New York Botanical Garden.

Professor Smith found the rather rare *Fistulina pallida* on an oak stump in the Kentucky locality

All of the specimens were collected on soil, unless otherwise stated.

LIST OF SPECIES.

Gyroporus castaneus (Bull.) Quel. Ench. Fung. 161. 1886.

Boletus castaneus Bull. Herb. Fr. pl. 328. 1786.

In beech woods, Oxford, O. No. 2.

Tyloporus felleus (Bull.) P. Karst. Rev. Myc. **39**: 16. 1881.

Boletus felleus Bull. Herb. Fr. pl. 379. 1787.

Usually along edges of woods. Big Hill, Ky. Nos. 19, 24, 39, 40, 40a and 41. Also collected in woods near Oxford, O., during the summer of 1910. Some of the specimens were very large, the largest reaching 20 cm. across the pileus.

Tyloporus indecisus (Peck) Murrill, Mycologia **1**:15. 1909.

Boletus indecisus Peck, Ann. Rep. N. Y. State Mus. **41**:76. 1888.

In woods, Oxford, O. Nos. 3, 3a, 7 and 17. Big Hill, Ky. Nos. 17 and 31. Not common in either locality.

Ceriumyces russellii (Frost) Murrill, Mycologia **1**:144. 1909.

Boletus russellii Frost, Bull. Buffalo Soc. Nat. Sci. **2**:104. 1874.

In woods, Big Hill, Ky. No. 37. Rare.

Ceriumyces betula (Schw.) Murrill, Mycologia **1**:144. 1909.

Boletus betula Schw. Schr. Nat. Ges. Leipzig **1**:90. 1822.

In moist ravines in woods, Big Hill, Ky. No. 38. Infrequent. Said to be the same as *Boletus morgani* Peck, Bull. Torr. Bot. Club **10**:73. 1883. Regarded by some to be the same as *Boletus russellii* Frost, Bull. Buffalo Soc. Nat. Sci. **2**: 104. 1874, but the two are not to be confused in the field.

Ceriumyces auriporus (Peck) Murrill, Mycologia **1**:147. 1909.

Boletus auriporus Peck, Ann. Rep. N. Y. State Cab. **23**:133. 1873.

In beech woods, Oxford, O. No. 16. Rare. In woods, Big Hill, Ky. Nos. 16, 20, 34, 36, 57, and 64. Frequent. No. 36 included some unusually large specimens with the pileus 7 cm. across.

Ceriumyces auriflammeus (Berk. & Curt.) Murrill, Mycologia **1**:147. 1909.

Boletus auriflammeus Berk. & Curt. Grevillea **1**:36. 1872.

In pine woods, Big Hill, Ky. No. 25. Also in mixed woods. Infrequent. The striations of the stipe were much elongated.

- Ceromyces eximius* (Peck) Murrill, *Mycologia* **1**:148. 1909.
Boletus eximius Peck, *Journ. Mycol.* **3**:54. 1887.
In woods, Big Hill, Ky. No. 56. Rare.
- Ceromyces crassus* Batt. *Fung. Hist.* 62. 1755.
In mixed pine woods, Big Hill, Ky. Nos. 32, 32a, 48, 51 and 67. Frequent. The plants under the last number differed considerably and may not belong here. The largest specimens reached 20 cm. across the top of the pileus.
- Ceromyces affinis* (Peck) Murrill, *Mycologia* **1**:149. 1909.
Boletus affinis Peck, *Ann. Rep. N. Y. State Mus.* **25**:81. 1873.
In pine woods, Big Hill, Ky. No. 49. Not common.
- Ceromyces curtisii* (Berk.) Murrill, *Mycologia* **1**:150. 1909.
Boletus curtisii Berk.; *Berk. & Curtis Ann. Mag. Nat. Hist. II.* **12**:429. 1853.
In mixed pine woods, Big Hill, Ky. No. 30. Infrequent.
- Ceromyces inflexus* (Peck) Murrill, *Mycologia* **1**:150. 1909.
Boletus inflexus Peck, *Bull. Torr. Bot. Club* **22**:207. 1895.
In mixed pine woods, Big Hill, Ky. No. 28. Infrequent.
- Ceromyces retipes* (Berk. & Curt.) Murrill, *Mycologia* **1**:151. 1909.
Boletus retipes Berk. & Curt. *Grevillea* **1**:36. 1872.
Open grassy woods, Oxford, O. No. 11. Very rare. In woods Big Hill, Ky. Nos. 23 and 50. Common.
- Ceromyces miniato-olivaceus* (Frost) Murrill, *Mycologia* **1**:152. 1909.
Boletus miniato-olivaceus Frost, *Bull. Buffalo Soc. Nat. Sci.* **2**:101. 1874.
In beech woods, Oxford, O. Nos. 9 and 18. Infrequent.
Both collections were considered uncertain by Dr. Murrill.
- Ceromyces bicolor* (Peck) Murrill, *Mycologia* **1**:152. 1909.
Boletus bicolor Peck, *Ann. Rep. N. Y. State Museum* **24**:78. 1872.
In beech woods, Oxford, O. No. 15. Rare. The plants were only about 3.5 cm. across the pileus. In woods, Big Hill, Ky. Nos. 22, 29, 42, 45 and 53. Common. Plants were larger, often reaching 12 or 15 cm. across the pileus.
- Ceromyces pallidus* (Frost) Murrill, *Mycologia* **1**:152. 1909.
Boletus pallidus Frost, *Bull. Buffalo Soc. Nat. Sci.* **2**:105. 1874.
In woods, Big Hill, Ky. No. 46. Rare.
- Ceromyces subtomentosus* (L.) Murrill, *Mycologia* **1**:153. 1909.
Boletus subtomentosus L. *Sp. Pl.* 1178. 1753.
In woods, Big Hill, Ky. No. 35. Rare.
- Ceromyces fumosipes* (Peck) Murrill, *Mycologia* **1**:154. 1909.
Boletus fumosipes Peck, *Ann. Rep. N. Y. State Mus.* **50**:108. 1897.
In beech woods, Oxford, O., Nos. 5 and 6. Infrequent. In woods, Big Hill, Ky. No. 59. Rare.

- Ceratomyces communis* (Bull.) Murrill, *Mycologia* 1:155. 1909.
Boletus communis Bull. Herb. Fr. pl. 393, A. C. 1788.
 In beech woods, Oxford, O. Nos. 4, 12 and 13. In woods, Big Hill, Ky. Common and most often found where logs have rotted.
- Suillellus luridus* (Schaeff.) Murrill, *Mycologia* 1:17. 1909.
Boletus luridus Schaeff. Fung. Bavar. 3:pl. 107. 1770.
 In woods, Oxford, O. Nos. 1 and 14. Infrequent. Big Hill, Ky. Nos. 26, 43, 44, 54, 60, 61 and 65. Frequent and variable. No. 44 is a peculiar form with pileus of a dull olivaceous brown color, and the mouths of the tubes a dark maroon, even in young specimens, and blackening where bruised. This has a very different appearance from the others, but was placed here by Dr. Murrill. In No. 65 the mouths are a pale pink. In No. 61 the pileus was reddish pink. Some of these forms have been commonly placed under *Boletus purpureus* Ach. Bol. 11. 1835.
- Suillellus frostii* (Russell) Murrill, *Mycologia* 1:17. 1909.
Boletus frostii Russell; Frost, Bull. Buffalo Soc. Nat. Sci. 2:102. 1874.
 In woods, Big Hill, Ky. No. 27. Common at all elevations.
- Suillellus rubinellus* (Peck) Murrill, *N. Am. Fl.* 9:152. 1910.
Boletus rubinellus Peck, Ann. Rep. N. Y. State Mus. 32:33. 1880.
 In young pine woods, Big Hill, Ky. No. 33. Very numerous.
- Suillellus morrisii* (Peck) Murrill, *N. Am. Fl.* 9:153. 1910.
Boletus morrisii Peck, Bull. Torr. Bot. Club 36:154. 1909.
 In mixed pine woods, Big Hill, Ky. No. 66. Rare.
- Rostkovites granulatus* (L.) P. Karst. Rev. Myc. 39:16. 1881.
Boletus granulatus L. Sp. Pl. 1177. 1753.
 In woods, Big Hill, Ky. Nos. 62 and 68. Rare.
- Strobilomyces strobilaceus* (Scop.) Berk. Outl. Brit. Fungol. 236. 1860.
Boletus strobilaceus Scop. Anni. Hist. Nat. 4:148. 1770.
 In woods, Oxford, O. No. 8. Big Hill, Ky. No. 70. Common in both localities.
- Boletinellus merulioides* (Schw.) Murrill, *Mycologia* 1:7. 1909.
Daedalea merulioides Schw. Trans. Am. Phil. Soc. II. 4:160. 1832.
 In beech woods, Oxford, O. No. 10. On or about decaying sticks or roots. Rare. About two dozen plants were collected on the campus of Miami University in July, 1910.
- Boletinus berkeleyi* Murrill, *Mycologia* 1:6. 1909.
 In oak woods, Big Hill, Ky. Nos. 21 and 55. Rare.