

NOTES ON ILLINOIS MUSHROOMS

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CREPIDOTUS CINNABARINUS

This pretty little species has a bright scarlet or cinnabar-red, nearly sessile, cap which is usually only from $\frac{1}{2}$ to 2 cm. broad. The gills are rather broad, not close together, cinnabar-red in color and brighter red or scarlet on the edge. The stem when present at all is very short, only 1 or 2 mm. long, and lateral. The plant grows on decaying logs in woods but seems to be very rare. It was first collected near Ann Arbor, Michigan, by an instructor in the University of Michigan, and sent to Peck about 1895. Peck (4) described it and named it, and it was not heard of again until it was rediscovered at Ann Arbor by Professor Kauffman some twenty years later. Kauffman's collection was made in November and the cold weather delayed the ripening of the spores to such an extent that he was unable to obtain a spore print. He found, however, that under the microscope the spores showed a slight tinge of red, and for this reason he expressed a doubt as to whether the plant really is a crepidotus or whether it should be placed in the genus *Claudopus* which is a pink spored genus. (2).

On June 7, 1919, I was fortunate enough to find a nice collection of this species in a woods near Urbana, Illinois. The specimens obtained were in very good condition and I succeeded in making satisfactory spore prints. Under the microscope the spores do have a pinkish tinge as Kauffman found, but in mass they are distinctly pale ochre or almost clay color. This proves that Peck was right, as likewise was Kauffman, in placing the species in the genus *Crepidotus*.

PLEUROTUS SUBPALMATUS (FIGS. 1 AND 2)

Kauffman's (2) description of this fungus is as follows:

"Pileus 3-5 cm, broad, fleshy, convex-plane, obtuse, the cuticle gelatinous, coarsely reticulated and separable,

brick-red to flesh color, glabrous. Flesh rufescent, thick except at margin. Gills adnate, moderately broad, sub-ventricose close, thin, a few forked at times or interspaces venose, becoming salmon color. Stem coriaceous-fleshy, confluent with pileus, 2-3 cm. long, 5-6 mm. thick, equal, somewhat eccentric, curved, fibrillose, fibrous-stuffed, reddish within and without. Spores globose, echinulate, whitish, flesh color in mass. On prostrate maple trunk, cut timber, etc. August-September. Rare."

This rare and interesting plant has been reported from Michigan, Ohio, Kansas and Minnesota. The specimen shown in figures 1 and 2 was collected in the University Woods near Urbana, Illinois, in September, 1921, and is, I believe, the first collection reported from Illinois. The plant was flesh colored throughout and agreed closely with Kauffman's description.

This species is not closely related to other species of *Pleurotus*. It differs from all of them in having echinulate spores and a gelatinous reticulated cuticle on the surface of the pileus. Moreover, *Pleurotus* is a white spored genus and our plant has flesh-colored spores, but, of course, that is true also of *Pleurotus sapidus*. Spore color does not seem to be always a dependable generic or even specific character. The genus *Lepiota*, for instance, is another white spored genus which has members that are not always white spored. The spores of *L. naucina* are sometimes white and sometimes flesh-color, while *L. Morgani*, which is usually classified with the *Lepiotas*, though perhaps it ought not to be, has green spores which become ochre color after exposure to light but which are never white. The other characters mentioned, however, do seem to separate *Pleurotus subpal-matus* from the other species of the genus, and Kauffman suggests that it is closely related to *Heliomyces* and perhaps should be placed in that genus.

SECOTIUM AGARICOIDES. (FIG. 3)

I have collected *Secotium agaricoides* several times in Champaign and Vermilion Counties, Illinois, and I have no doubt that many others have collected it in various

parts of the state for it is not a rare plant. So far as I know, however, no report of its occurrence in the state of Illinois has ever been published, and it is such a unique and interesting species that the mere fact that it occurs in the state is worth reporting.

The fruit body looks like a puffball and is usually from $\frac{1}{2}$ in. to 2 in. in diameter. It varies from spherical to top shaped and is whitish or gray in color. It has a short stem which continues clear through the plant as a columella. It grows in pastures and other grassy places and may be looked for throughout the summer from May to October, though it is most likely to be found in August and September. It appears to be widely distributed, collections having been made on all continents with the possible exception of South America. There seems to be no report as to its edibility though I have no doubt that it is perfectly wholesome at any stage before the spores begin to ripen.

This plant has usually been classified along with the puffballs, but Conard (1) has shown that its relationships are rather with the Agaricaceae. Its early developmental stages are similar to those of various members of the genus *Psaliota* which have been studied, and the mature fruit body is simply an Agaric that has failed to expand. Conard suggests that *Secotium agaricoides* should be classified in the Agaricaceae close to the genus *Psaliota*.

AMANITOPSIS ADNATA VAR. ALBA.

Late in September, 1921, Mr. Harold V. Scott of Monmouth, Illinois, sent me some specimens of *Amanitopsis* that differed in certain respects from any I had seen before. The cap was 4 to 6 cm. broad, white, smooth, but often with patches of the universal veil clinging to it, and had an even margin. The flesh was fairly thick and firm. The gills were adnate and rather close. The stem was from 5 to 6 cm. long, about 1 cm. thick and nearly smooth, but somewhat fibrilose below. The volva was very conspicuous and similar to that of *Amanita verna*. There was no sign of an inner veil so that there

seemed to be no question as to the genus to which it belonged. However, it must be admitted that we know so little about the natural relationships of the mushrooms that we do not know how dependable certain characters, such as the presence or absence of an annulus, are and there is a question in my mind as to whether this plant may be an exannulate form of *Amanita verna*. I was influenced to think of this by the fact that Mr. Scott wrote that this plant grew in very sandy soil in oak woods along with *Amanita verna*. However, on our present basis of classification, this plant seems to belong unquestionably to the genus *Amanitopsis*.

The only species of *Amanitopsis* that I know of with adnate gills is *A. adnata* Smith. Our plant agrees with this species in many respects but differs from it in certain particulars. The cap of *A. adnata* is pale yellow and the volva is more lax and not so conspicuous as in our plant. Furthermore, the spores of our plant are narrower than those of *A. adnata*. The measurements given by Moffatt (3) for the spores of *A. adnata* are 10 by 8 microns while those in our plant measure 8 to 12 by 2 to 5 microns. In order to have a designation for the plant I am tentatively calling it *Amanitopsis adnata* var. *alba*.

PHALLUS IMPUDICUS. (FIG. 4)

Phallus (or *Ithyphallus*) *impudicus*, the common stink-horn fungus, usually grows about 12 cm. tall, has a stalk about 2 cm. in diameter and a volva about 4 cm. in diameter. Early in July, 1921, after a series of rainy days there came several warm, clear days. During this time a large number of fruit bodies of *Phallus impudicus* appeared on a lawn in Urbana, Illinois, and these showed a greater variation in size than any I had seen before. The largest fully expanded fruit body was 15 cm. tall by $2\frac{1}{2}$ cm. in diameter of its stalk, and its volva was 4 cm. in diameter, while the smallest specimen was $7\frac{1}{2}$ cm. tall, its stalk 1 cm. in diameter and its volva 2 cm. in diameter. The eggs likewise varied greatly in size, the largest measuring $4\frac{1}{2}$ by $6\frac{1}{2}$ cm. and the smallest

3 by 3½ cm. The explanation of this great variation in size is undoubtedly that the fruit bodies started developing during the rainy weather, and that with the coming of the clear days transpiration of water became more rapid than absorption and many of the fruits were unable to develop to normal size.

LITERATURE CITED.

1. Conard, H. S. The structure and development of *Secotium agaricoides*. *Mycologia*. 7:94-104. 1915.
2. Kauffman, C. H. The Agaricaceae of Michigan. *Michigan Geol. and Biol. Surv. Pub. 26. Biol. Series 5. Vol. 1. 924 pp. vol. 2. 172 Pls.* 1918.
3. Moffatt, W. S. The higher fungi of the Chicago region, Part 1. The Hymenomycetes. *Chicago Acad. Sci. Nat. Hist. Surv. Bull. 7. Part 1. 156 pp. 24 Pls.* 1918.
4. Peck, C. H. New species of fungi. *Bull. Torrey Bot. Club.* 22:485-493, 1895.