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Notes on Iowa Fungi. X

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NOTES ON IOWA FUNGI. X

G. W. MARTIN

PILOBOLUS UMBONATUS Buller

This distinctive species, first reported by Buller (Res. on Fungi 6: 178. 1938) from Manitoba and noted by him as having been observed, but not described, by Thaxter many years previously in Massachusetts, has since been recorded by Christenberry (Jour. Elisha Mitchell Soc. 56: 349. 1940) from North Carolina. It has developed repeatedly on rabbit dung collected in various localities in and near Iowa City and placed in moist chambers and is probably common and widespread but confused with other species. The umbonate sporangium is distinctive.

SYNCEPHALIS DEPRESSA Van Tieg. & Le Monn.

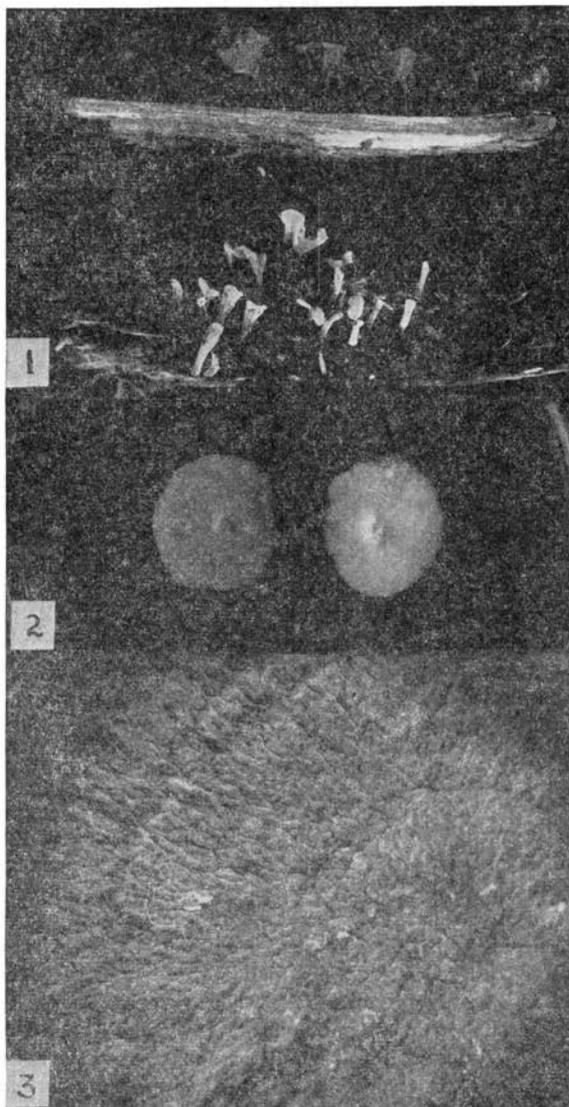
Originally reported from France (Ann. Sci. Nat. Bot. V. 17: 375. 1873) and later noted by Zycha (Mucorineae 183. 1935) as occurring in Holland, the only previous American report of this species that I have noted is that of Christenberry (l. c., p. 356), who found it parasitizing a species of *Mucor* from various localities in North Carolina. He found it to be heterothallic and secured zygosporangia. The fungus was noted growing on bark in a moist chamber in Iowa City in the fall of 1942, attached to an extremely tenuous mucoraceous mycelium. It and its host, which proved to be *Mucor Ramannianus* Möll., were readily obtained in culture.

GUEPINIA SPATHULARIA Fries, f. ALBA f. nov. Figs. 1, 2.

A typo differt pileo et stipe griseo-albo, hymenio albo.

Guepinia Spathularia, one of our commonest species of the Dacrymycetaceae, is noteworthy for the conspicuous, bright orange, almost flame-like clusters of basidiocarps occurring in dense masses on dead trunks and limbs. The spore-print, as in the great majority of the Dacrymycetaceae, is bright orange. In August, 1942, this species was observed on a fallen trunk of box elder in Iowa City. Most of the sporophores were entirely typical, but those growing at the end of one of the branches were almost pure white. The color in the Dacrymycetaceae is soluble in water and it is not unusual to find in this and other species old sporophores in which the color has been almost washed out by rain. In the present instance, however, the white forms were young and vigorous, as may be seen by the illustration (Fig. 1). The hymenium was pure white, while the sterile upper portion of the pileus and the stem were pale gray, without a trace of yellow. Macroscopically and microscopically the sporophores were in every other respect alike. Spore prints were secured from both types. That from the yellow form was the usual orange-yellow color characteristic of the species; that from the white form was pure white. Pure cultures were

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EXPLANATIONS OF FIGURES

1. *Guepinia Spathularia*, orange fructifications above, white fructifications below, $\times 4/5$.

2. *Guepinia Spathularia*, culture of orange form at left, of white form at right, grown together on same Petri dish, $\times 4/5$.

3. *Phlebia strigoso-zonata*, hymenial surface, $\times 4$.

readily secured. The white form grew just as vigorously as the yellow, but remained pure white (Fig. 2). The yellow form, while in general deep orange in culture, showed a tendency in old cultures to develop white patches of mycelium here and there. If, as seems probable, the white color is due to a mutation, it may be inferred that the gene concerned is carried in some of the nuclei of the mycelium of the yellow strain.

The white variant seems worthy of a name suggesting its relation to the typical form, and such is here suggested.

PHLEBIA STRIGOSO-ZONATA (Schw.) Lloyd. Fig. 3

This large and conspicuous species is exceedingly common in eastern Iowa on dead standing or fallen trunks of the quaking aspen, *Populus tremuloides*. It occurs occasionally on cottonwood or linden, but has not thus far been noted on the large-toothed aspen, although it would be strange if it should be found not to occur on that species. What appears to be the same species has been reported elsewhere on oak and beech. It serves as an excellent example of the artificial character of the commonly recognized families of Agaricales. Since publication of Fries's *Hymenomycetes Europaei* (1874), most authors have included the genus *Phlebia* in the Hydnaceae, where it is placed by Patouillard in the *Hymenomycetes d'Europe* (1887), by Hennings in the first edition of Engler and Prantl (1898) and by Killermann in the second edition (1926). In the *Essai Taxonomique* (1900), Patouillard placed it in his third group, *Mérules*, of the pore fungi and in this he was followed by Rea (*Brit. Basid.* 1922) and by Bourdot and Galzin (*Hym. France*, 1928). The genus was excluded from the Hydnaceae by Miller (1933) and by Miller and Boyle (1943) in their recent revision of the Iowa species. Certainly, the coarse, blunt folds of the hymenium (Fig. 3) have little in common with the spines of typical representatives of the Hydnaceae, although they suggest the blunt teeth of *Radulum*. Even in configuration of the hymenium, however, the resemblance is closer to *Merulius*, while in texture of hymenophore and character of basidia the similarity to the more fleshy species of *Merulius* and to certain species of *Corticium*, *C. cremoricolor* for example, is still more marked. Atkinson (*Mushrooms*, eds. 2 and 3, pls. 75, 76) presents a beautiful photograph of *Phlebia merismatoides* which show admirably the typical hymenium of the genus. Lloyd (*Myc. Writ.* 4. Letter 46: 6. 1913) discusses the species at length and cites a number of synonyms. He regards the common species of temperate North America as identical with a widely-distributed and much-named tropical form first described by Lévillé as *Phlebia rugosissima*. Bresadola believed the two species distinct and transferred them to *Auricularia*. Burt (*Ann. Missouri Bot. Gard.* 8: 394. 1921) emphasizes the clavate, unseptate basidia of the common form of temperate America and lists the species as a *Phlebia*, but by implication accepts the tropical form as a member of the Auriculariaceae. There can be no question but that the species occurring in Iowa is homobasidiate and that Bresadola was in error in

referring it to *Auricularia*. The synonymy of the species, so far as I have been able to assemble it, is as follows:

Phlebia strigoso-zonata (Schw.) Lloyd, Myc. Writ. 4. Letter 46: 6. 1913; *Merulius strigoso-zonatus* Schw. Trans. Am. Phil. Soc. n. s. 4: 160. 1832 (based on a specimen from New England); *Plebia orbicularis* Berk. & Curt. Jour. Bot. & Kew Misc. 1:237. 1849 (South Carolina, on oak; reference not seen and based on Bresadola's statement. Burt regards it as questionable because the substratum was oak, but lists *P. rubiginosa*, also on oak, as a synonym); *Phlebia zonata* Berk. & Curt. Grevillea 1: 146. 1872 (South Carolina, on oak; not included by Burt); *Phlebia rubiginosa* Berk. & Rav. Grevillea 1: 146. 1872 (South Carolina, on oak; Burt cites Ravenel, Fungi Car. 3: 22. 1855 but Berkeley says these names were "published without characters" which would seem to eliminate the earlier reference as a nomen nudum); *Phlebia pileata* Peck, Ann. Rept. N. Y. State Mus. 29: 45. 1878 (on beech); *Auricularia strigoso-zonata* (Schw.) Bres. Ann. Myc. 18: 70. 1920.

In the mycological collections of the State University of Iowa the tropical form is represented by four specimens, one from the Philippines, determined by Patouillard as *Auricularia reflexa*, and three from China, determined by S. C. Teng as *Auricularia rugosissima*. None of them shows any evidence of transversely septate basidia, and one of the Teng collections (No. 2200) shows homobasidiate, 4-sterigmate basidia. They all clearly represent the same species, very close to if not identical with *P. strigoso-zonata*, but I have not seen a sufficient range of tropical material to feel sure that they should be combined with it. Teng (Sinensia 5: 469. 1934), in his treatment of the Chinese Tremellales, includes *A. rugosissima* as a species of doubtful affinity, stating that he has not seen the basidia but that on the basis of texture the species seems more akin to the Thelephoraceae than to *Auricularia*. The synonymy of the tropical form, based on the statements of Bresadola and Lloyd and checked by reference to the original publications so far as these have been available to me, is as follows:

Phlebia rugosissima Lev. Ann. Sci. Nat. Bot. III. 2: 214. 1844 (based on specimen from Java); *Phlebia reflexa* Berk. Lond. Jour. Bot. vol. 4, 1845 (Australia, reference not seen); *Phlebia hispidula* Berk. Jour. Linn. Soc. Bot. 13: 167. 1873 (Australia); *Stereum lugubris* Cooke, Grevillea 12: 85. 1884 (New Zealand; corrected to *S. lugubre* by Saccardo); *Auricularia Butleri* Massee, Kew Bull. 1906: 94 (India; reference not seen); *Auricularia sordescens* Ces. Mycog. born. 10 (Borneo; reference not seen, cited by Bresadola without date); *Auricularia reflexa* (Berk.) Bres. Ann. Myc. 9: 273. 1911 (Congo); *Auricularia rugosissima* (Lev.) Bres. Hedwigia 53: 78. 1912 (Philippines).

PLEUROTUS SAPIDUS Kalchbr.

This large and common agaric is notable for its lilac spore print. It is much softer and more fragile than the closely related *P. ulmarius* and tends to grow in larger and more densely imbricated clusters. The

largest fruiting which has yet come to my attention appeared on a lawn in Iowa City in October, 1942. A large elm had been cut down a few years previously and the mycelium was evidently growing on the completely buried roots and base. The cluster comprised about twenty closely imbricated pilei, the largest about 13½ inches broad, arising from a thick, stem-like, central base. The entire cluster measured 23 x 19 inches and after being kept in the laboratory for two days weighed 10 lbs. 6 oz.

AMANITA ABRUPTA Peck

This handsome, pure white species has heretofore been regarded as eastern and southern in its distribution. Coker (Jour. Elisha Mitchell Soc. 33: 71-73. 1917) gives a full description and illustrations and notes that it is rather plentiful in North Carolina. He refers to other records and collections from New Jersey and Pennsylvania to Alabama. A single group of seven or eight sporophores, of which only five were in condition to collect, was found in dry, open oak woods within the city limits of Iowa City in September, 1942. I am indebted to Dr. Alexander H. Smith for the determination.

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