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## Notes on Fleshy Fungi in Iowa. II

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3. Chandler (8) and Eddy (3) have related rapid growth of *S. acus* to high turbidity. The differences in turbidity readings are not considered significant in this study in that they reflect variation in population density of planktonic organisms rather than changes in the inert particulate matter.

4. Nitrogen and phosphorus are not reported to act as limiting factors, but *S. acus* is usually found in eutrophic habitats where deficiencies of these metabolites would not be expected to exist.

The evidence that a vertical stratification of *S. acus* did exist beneath the ice cover is of interest in view of the findings of Huber-Pestalozzi (4), who found that no stratification of this organism existed in the Swiss cold water lakes.

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## Notes on Fleshy Fungi in Iowa. II<sup>1</sup>

VIRGIL K. HOWE, LOIS H. TIFFANY, AND  
HAROLD S. McNABB, JR.

*Abstract.* Sixty-four sporocarps of fleshy fungi were collected during the summer and fall of 1963. In the collections were seven species, *Cortinarius adustus* Pk., *Cortinarius albidipes* Pk., *Cortinarius praepallens* Pk., *Hygrophorus sordidus* Pk., *Russula aeruginea* Lindb. (non Fr.), *Russula pulverulenta* Pk., and *Russula sororia* Fr. not previously reported for the state of Iowa.

Sporocarps of fleshy fungi have been collected for the past two summers in six widely spaced sites in Iowa. Seven species and one genus not previously recorded for the State of Iowa were reported last year from the 1962 summer collections (1). Sixty-four sporocarps were collected in the same sites during the summer of 1963. Among the 1963 specimens were seven species not previously reported for Iowa. Previous reports

<sup>1</sup> Journal Paper No. J-4853 of the Iowa Agricultural and Home Economics Experiment Station, Ames, Iowa. Project No. 1251. In cooperation with the Central States Forest Experiment Station, United States Forest Service.

of fleshy fungi in Iowa include Gardner (2), Garner (3), Martin (3, 4, 5, 6), and Howe, Tiffany, and McNabb (1). Location and description of the collection sites were reported previously (1).

The fungi reported in the following informational notes were identified by using Kauffman (7), with the exception of *Hygrophorus sordidus* Pk. for which Smith and Hesler (8) was used.

*Cortinarius adustus* Pk. Two specimens were collected in site one on 4 September. At the time of collection the two were not recognized as belonging to the same species. Subsequent examination showed that one was an aged basidiocarp and that the other was not fully matured. Both specimens were solitary.

*Cortinarius albidipes* Pk. A loosely scattered herd of these mushrooms was observed on 4 September at site one. Representatives of several stages of development were collected. It was noted that the specimens varied as to gill color. Some specimens had violet to light purple gills; others had cinnamon-brown gills. Kauffman (7) states that the gills are pale violaceous at first and cinnamon when mature. Some of our plants were obviously cinnamon while still immature, while others remained violaceous to near maturity. Whether this phenomenon is due to individual variation or whether genetic strains are involved is not known. The plants were alike except for gill color.

*Cortinarius praepallens* Pk. This solitary basidiocarp was collected in site one on 28 August. This plant had a strong, disagreeable odor which may have been the result of aging.

*Hygrophorus sordidus* Pk. Specimens of this species were discovered under leaves and litter. They were detected when it was noted that areas of litter were raised above the normal level. The mushrooms never emerged above the litter even though they were large, robust plants. The collections were made on 21 September at site one.

*Russula aeruginea* Lindb. (non Fr.) Two mushrooms of this species were collected at site two on 8 August. The color of the pilei was greyish-green, and the stipes were very pale yellow. These colors differ slightly from the descriptions given by Kauffman (7).

*Russula pulverulenta* Pk. A solitary basidiocarp was taken at site two on 23 July. The pileus was dotted with small, mealy, yellow granules which are characteristic of this species. It also possessed a distinct peppery odor.

*Russula sororia* Fr. A solitary, aging sporocarp was collected on 31 August at site two. Although senescent, it was identifiable and possessed the characteristics of this species.

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## Growth Responses of a Myxomycete to Treatment with Plant Growth Regulating Substances<sup>1</sup>

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SISTER JOSELET MARY OUSEPHPARAMPIL<sup>2</sup>

*Abstract.* Protoplasmodia of *Clastoderma debaryanum* multiply in culture to produce more individual plasmodia, each of which fruits into a single sporangium. After treatment of cultures with 1 ppm kinetin and with 1 ppm, 5 ppm, and 10 ppm aqueous solutions of 3-indoleacetic acid, the number of sporangia produced was consistently greater than in controls. Fewer sporangia, as compared to controls, were produced after treatment with kinetin at 5 ppm and 10 ppm, and no consistent results were obtained after treatment with gibberellic acid at the same concentrations.

Growth regulating substances have been found to influence all phases of plant growth and development: breaking of dormancy, seed germination, shoot inhibition, bud and internode elongation, root growth and inhibition, flower initiation, fruit setting. Both endogenous and externally applied substances have been studied. Those most intensively investigated have been the indole auxins, the gibberellins, and kinetin.

The studies of growth regulator effects on higher plants are very numerous, and effects on fungi have been studied. In the review on auxins and fungi by Gruen (1) there are no reports of studies on myxomycetes. However, in his review on the myxomycetes, Alexopoulos (2) mentions only that the plasmodium of *Didymium nigripes* was found to be positively chemotactic to low concentrations (0.5 mg/l) of indoleacetic acid (IAA) and negatively so to higher concentrations (5 mg/l).

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