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Illustrations of the Fleshy Fungi of Iowa V. The Pink-Spored Agarics

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ILLUSTRATIONS OF THE FLESHY FUNGI OF IOWA

V. The Pink-Spored Agarics

JOSEPH C. GILMAN

This series of illustrations of the fleshy fungi of Iowa was started in 1940 in the Iowa Academy of Science Proceedings. At that time the purple-brown-spored forms were treated. Later the white-spored (1941), black-spored agarics (1942), and the fleshy ascomycetes (1942) have been covered. In this contribution illustration is made of three species of pink-spored agarics, *Volvaria bombycina*, *Entoloma griseum* and *Pluteus cervinus*, and an interesting abnormal form of the last named species.

The three genera represented are the ones most likely to be encountered in Iowa. In both *Pluteus* and *Volvaria* the gills are free, but the latter has a well-developed volva which makes its identification simple. Neither genus shows the presence of an annulus (ring). *Entoloma* lacks the annulus and volva, but the gills are adnate or adnexed; that is, they meet the stem squarely and are attached or not, depending on the species. Usually they are notched near the stem. The spores are usually angular.

As in the previous papers the descriptions follow those of Kauffman.¹



Fig. 1. *Volvaria bombycina*

¹Kauffman, C. H. 1918. The Agaricaceae of Michigan. Michigan Geol. and Biol. Surv. Publ. 26. Biol. Series 5. 924 pp. Lansing, Michigan.

Volvaria bombycina Fr.

Figure 1.

Cap 5-20 cm. broad, globose ovate at first, then campanulate, or convex-expanded, obtuse, white, very silky, in age somewhat squamulose, even on margin, edge floccose. Flesh rather thin, white, soft. Gills free, remote, broad, very ventricose, crowded, flesh-color, edge eroded. Stem 8-20 cm. long, 1-1.5 cm. thick, solid, glabrous, tapering upward, usually curved, white, deeply inserted at the base into the large, thick, loose volva, which splits at the apex and persists as an ample, bag-like or cup-like sheath, sometimes entire, sometimes torn. Spores oval to broadly elliptical, 6-8 x 5.5 microns, smooth, rosy in mass.

Solitary or a few together on trunks of living trees or decayed wood of maple, elm, horse-chestnut, etc., usually from crack or wound. July-September.

Entoloma griseum Pk.

Figures 2 and 3.

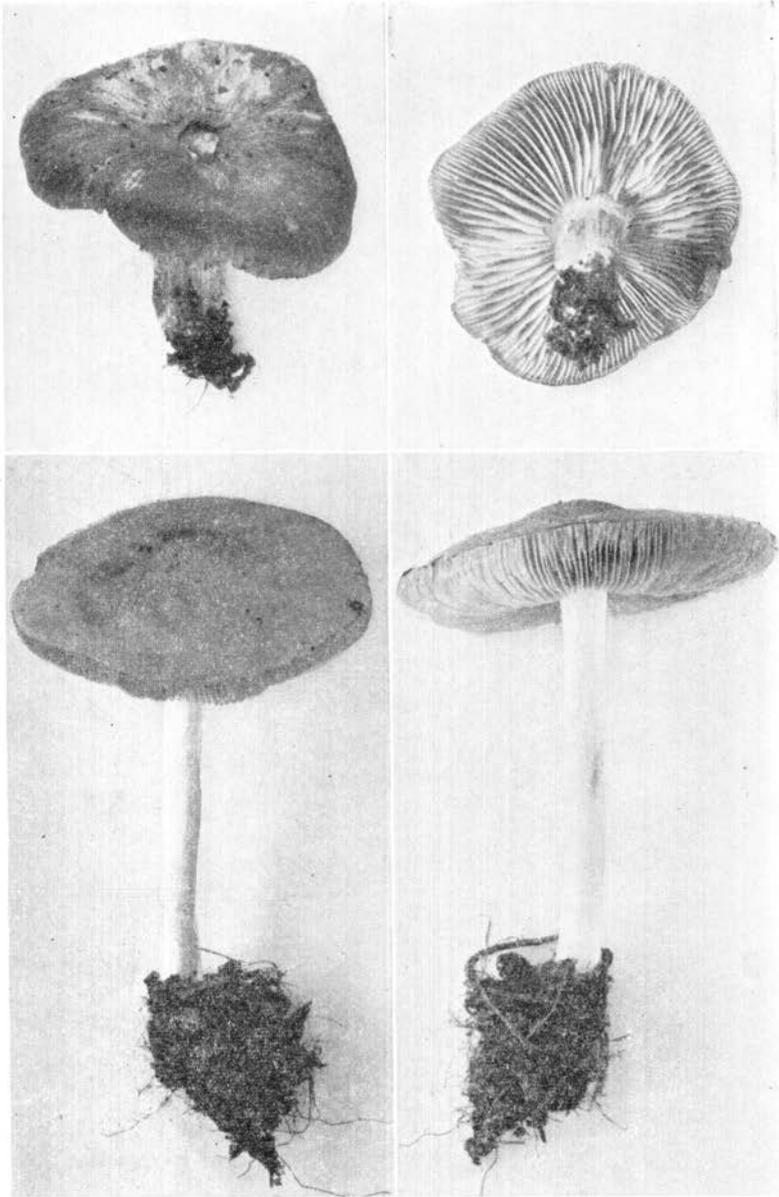
Cap 3-7 cm. broad, campanulate convex, obtuse, firm, then fragile, glabrous, margin even and often wavy at length, subhygrophanous, grayish-brown, sometimes pale umber (moist), scarcely fading, innately silky (dry), cuticle somewhat differentiated forming a thin, separable pellicle, margin decurved. Flesh hygrophanous, layered, moderately thin. Gills adnexed, becoming emarginate, moderately broad, close or slightly subdistant, whitish-gray, slowly flesh-color, sometimes veined. Stem 3-8 cm. long, 4-10 mm. thick, subrigid, equal or attenuated either upwards or downwards, silky-fibrillose, whitish or tinged gray, stuffed to hollow, sometimes solid below, subshining. Spores tuberculate-angular, 7-9 x 6.5-8 microns, sphaeroid, apiculus prominent, pale flesh color in mass. Odor and taste farinaceous, at least when flesh is crushed, rarely lacking this odor.

Gregarious or solitary, on ground in lawns that have been treated with a top-dressing of peat. May to September. To be avoided for table purposes because of the difficulties of distinguishing it from other species of *Entoloma* that are poisonous.

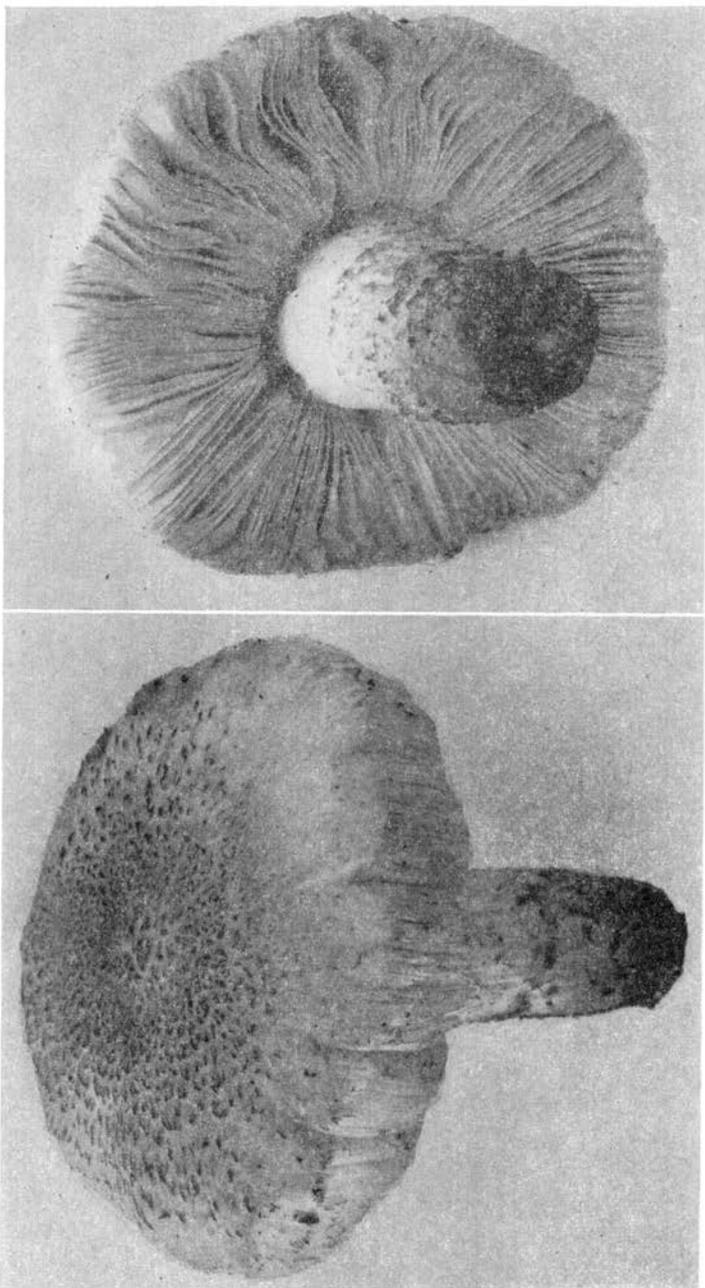
Pluteus cervinus Fr.

Figures 4 and 5

Cap 5-10 cm. broad, rarely smaller, campanulate, then broadly convex to expanded, varying glabrous to fibrillose, fibrils darker, disk sometimes scaly, even on margin, white dingy-tan, grayish-brown or darker, provided with a somewhat separable, sometimes subviscid, pellicle; flesh white. Gills close, free, broad, rounded behind, white then flesh-colored from the spores. Stem equal or slightly tapering upward, 5-15 cm. long, 6-18 mm. thick, firm, solid, dingy white to brown-



Figs. 2 and 3. *Entoloma griseum* (top)
Figs. 4 and 5. *Pluteus cervinus* (bottom)



ish-tan, glabrous or somewhat fibrillose. Spores inconstant in size and shape, short-oblong, oval, broadly elliptical, 5-8 x 4-5 microns, sometimes longer or broader, rarely globular, often nucleate, smooth, flesh-colored in mass. Cystidia abundant, spindle shaped, stout, terminating in 2-4 short, blunt horns. Odor and taste somewhat disagreeable.

Solitary, scattered or, when growing on sawdust, often caespitose. On stumps, logs, from underground roots or wood, on boards, sawdust, etc. June to October. Rather common.

An interesting specimen that appears to be of this species was brought into the laboratory by a student who wished it identified. The mushroom was large and stout, with a thick fleshy pileus. The top (10 cm. in diam.) was white but broken up by fawn-colored scales arranged radiately and approximately zonate. The top was further marked by irregular shallow furrows or cracks at the center of the cap. (Fig. 6) The margin of the pileus was irregularly notched with furrows extending toward the center for a short distance. The gills were broad, (1.5 cm.), white, free and rounded behind, and grouped into sections around the stipe. These sections were indicated by the fact that the space between the sections was wider than the space between the gills within each section. These spaces did not correspond with the notches in the margin of the pileus but were opposite sulcate depressions occurring at the point of juncture between stipe and pileus (Fig. 7.) There were eight sections approximately evenly distributed around the top of the stipe and extending down the stipe about to the width of the gills. The stipe, 3 cm. in diam. by 8 cm. long, was fibrous and tapering downward, the lower half being shaggy with scales very like those on the cap.

Spores were rather scarce but a few were collected and they were flesh-colored, short-oblong 5-7 x 3-4 microns. Cystidia were large, fusoid, and showed the 2-4 short horns that are characteristic of *Pluteus cervinus*.

The spore-color, and the horned cystidia, that are not found in any other pink-spored mushroom to my knowledge, suggest that this specimen is a case of fasciation of a particularly symmetrical kind. The spaces between the sections together with the notches at the top of the stipe indicate the separations between the individual sporophores that are massed together to form this peculiar growth.

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