

THE BOLETOID FUNGUS, *XEROCOMUS PULVERULENTUS*, IN ILLINOIS

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Xerocomus pulverulentus is one of the best documented, most named and least known of the classically described boletes. It is not common, but it is by no means rare, for it has been reported from all parts of Europe and from Ohio, Florida, Idaho and Tennessee in the United States. Specimens collected in Iowa in 1936, 1941 and 1948 were reported on at a meeting of the Iowa Academy of Science in 1950. In the autumn of 1961 Helen Miecik, collecting mushrooms near McHenry, Illinois, found a specimen that she had not seen before. She sent it to me, and I found it to be a slightly weathered but completely recognizable sporophore of *Xerocomus pulverulentus*.

TAXONOMIC DISCUSSION

The first post-Friesian and therefore valid description of *Xerocomus pulverulentus* appears to be that of Opatowski, published in 1836. In 1884 Morgan described a fungus from Ohio to which he gave the name *Boletus mutabilis*. Snell (1934) identified this as *B. pulverulentus*. In 1944 Slipp and Snell published an account of this fungus based upon several collections made in the Kaniksu National Forest in western Idaho. Snell, who did the taxonomic work for this paper, was uncertain as to the most suitable generic name, but in 1951, in describing a reticulate

form of *X. pulverulentus* from Tennessee, committed himself to the name *Boletus*. Singer presenting his Florida collections in 1947 also used the generic name *Boletus*.

Eighteen different names have been ascribed to the fungus. This is due in part at least to the many generic changes that have been made in the group. Publication in local journals and confusing descriptions have subjected us to the usual superfluity of specific epithets. Although the original description is rarely seen, it is clear, and accompanied by a colored plate. Kallenbach's illustrations (plate 6, 1926) are excellent and well known. Slipp made colored slides of his collections, and the description that Snell wrote for the paper is fine. Singer also has written a detailed description. There is now no reason for misidentification. Because the pores near the stipe become somewhat irregular and meandering, and because they are adnate; also because the trama seems in our specimens to be not truly bilateral I have chosen to retain Gilbert's name — *Xerocomus pulverulentus* (Opatowski) Gilbert.

DESCRIPTION

This species is distinguished from other species by the fact that the entire sporophore — tubes, pileus, trama and stipe, within and with-

out, turn a vivid and arresting blue when they are touched or broken. The fungus is small, the cap rarely exceeding eight or nine centimeters in diameter. The color is dull and inconspicuous. Our specimens are brown, with a slightly purplish cast (close to 8-C-8 of Maerz and Paul, 1950); the dried specimens are somewhat darker, (about 16-C-6). The tubes are wax yellow, (11-L-4) to old gold, (14-K-5). In drying they darken to approximately the color of the pileus. The stipe is dark brown at the base, sometimes showing a little red. It is lighter above, becoming a pale yellow-brown in the middle, and at the top, yellow like the tubes. Both cap and stem are somewhat pulverulent to the touch, but when rubbed they become smooth. The center of the cap may be depressed. It does not crack; however, it may become diffract or areolate, showing the lighter sub-surface. The stem is sulcate and subequal.

The context is considered to be bright yellow, but I have found it almost impossible to see the true color of the flesh. Any attempt to cut, to break, or in any way to handle the fungus produces the blue stain so deep and pervading that the normal color is completely obscured. When the blue fades the color of the context is dull yellow, and the dried specimens have a pale tan flesh. The pores are delicate, small (about 0.50-0.80 mm. in diameter), and irregular. Near the stipe they become larger, coarser and somewhat meandering. The flesh is soft and rather thick, with little or no odor. The taste is mild. Singer says it is edible. Others say it may be poison-

ous, but I have not found it to be so

The spores are fusiform, about 12-15 x 4.6 μ in size. The cystidia are often clustered, pale yellow in color and occasionally granular at the tip. They are more numerous at the mouths of the tubes. Singer reports the trama to be bilateral. That is to say, there is a distinguishable denser and slightly colored central portion, while the outer parts are hyaline and relatively loose in organization. This does not seem to be evident in the specimens I have examined.

The habit is gregarious, occasionally caespitose. Single specimens are rarely found. The Iowa specimens were collected in a pasture. I do not know where the specimen found near McHenry was growing. According to Singer, the species is collected near oaks in Florida, usually near *Quercus laurifolia*. Slipp believed that the western forms are typically associated with *Tsuga*, but a sandy or clayey soil that has been disturbed to a depth of a foot or more seems to be more significant. No mycorrhizal associations have been recorded.

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