

= Boletus subluridellus =

Boletus subluridellus is a species of bolete fungus in the family Boletaceae . Described as new to science in 1971 by American mycologists , the bolete is found in the eastern United States and Canada . It grows on the ground in coniferous and mixed forests in a mycorrhizal association with deciduous trees , especially oak . The fruit bodies (mushrooms) have orangish @-@ red , broadly convex caps that are up to 10 cm (3 @.@ 9 in) in diameter , with small , dark reddish pores on the underside . The pale yellow stipe measures 4 ? 9 cm (1 @.@ 6 ? 3 @.@ 5 in) long by 1 @.@ 5 ? 2 @.@ 3 cm (0 @.@ 6 ? 0 @.@ 9 in) thick . All parts of the fruit body will quickly stain blue when injured or touched .

= = Taxonomy = =

The species was described by American mycologists Alexander H. Smith and Harry D. Thiers in their 1971 monograph on the bolete fungi of Michigan . The type collection was made by Smith on a golf course near Ypsilanti , Michigan in September 1961 ; it is kept at the University of Michigan herbarium .

Boletus subluridellus is classified in the section *Luridi* of the genus *Boletus* . Section *Luridi* is characterized by boletes that immediately turn blue with cutting or bruising , narrow pores that are usually red , and the occasional presence of toxins in the fruit bodies . According to the scheme proposed by Smith and Thiers , the form of the dermatocystidia (cystidia on the cap cuticle) is important to species delimitation in section *Luridi* . In a 1993 study , however , Roland Treu found no major consistent microscopic differences between *B. subluridellus* , *B. rufocinnamomeus* , and *B. roseobadius* .

The specific epithet *subluridellus* refers to its similarity to *Boletus luridellus* . *Luridellus* means " drab yellow to dirty brown " .

= = Description = =

Fruit bodies of *Boletus subluridellus* have convex caps that measure 5 ? 10 cm (2 ? 4 in) in diameter . The cap surface is dry and slightly sticky , with a somewhat velvety texture . Its color is reddish to reddish @-@ brown to orange @-@ red . The flesh is bright yellow before staining blue where it has been cut . It has no discernible odor , and a slightly metallic taste . On the cap underside , the tubes comprising the pore surface are 6 ? 9 mm (0 @.@ 24 ? 0 @.@ 35 in) long . Near to where the cap attaches to the stipe , they are either unattached , or slightly depressed . The dark reddish pores are small and round , numbering about 2 ? 3 pores per mm . The stipe measures 4 ? 9 cm (1 @.@ 6 ? 3 @.@ 5 in) long by 1 @.@ 5 ? 2 @.@ 3 cm (0 @.@ 6 ? 0 @.@ 9 in) thick . It is solid (i.e. , not hollow or stuffed with a pith) , and roughly the same width throughout its length . The stipe color is pale yellow , grading to reddish in the base , where it has pressed @-@ down yellow hairs . All parts of the fruit body (cap surface , flesh , pores , and stipe) will quickly stain blue when injured or touched .

The spore print is olive @-@ brown . Spores are somewhat fuse @-@ shaped in face view , and inequilateral in profile view . They have a smooth surface , a tiny apical pore , and dimensions of 11 ? 15 by 4 ? 5 @.@ 5 ?m , with walls about 0 @.@ 2 ?m thick . The basidia (spore @-@ bearing cells) are club @-@ shaped , four @-@ spored , and measure 8 ? 12 ?m thick . Pleurocystidia (on the tube walls) are 28 ? 42 by 6 ? 11 ?m with a 3 ? ?m neck , whereas the cheilocystidia (on the pore edges) are narrowly club @-@ shaped and slightly smaller , measuring 26 ? 38 by 4 ? 8 ?m . Pleurocystidia tend to not protrude further than sporulating basidia . The cap cuticle comprises a 150 ?m @-@ thick layer of narrow hyphae measuring 3 ? 5 ?m more or less arranged in a trichodermium (wherein the outermost hyphae emerge roughly parallel , like hairs , perpendicular to the cap surface) . These hyphae stain red when mounted in Melzer 's reagent and yellow in potassium hydroxide . Clamp connections are absent from the hyphae .

== Similar species ==

Boletus roseolateritius , known from Mississippi , has a cap that changes color according to its age : it is initially dark reddish to orangish , later reddish brown at maturity , fading to brownish orange or brownish pink with dull yellow tints , and finally turning dull dingy yellow in age . Its pale yellow stipe lacks the reddish coloration and the hairs found on the base of *B. subluridellus* . Microscopically , it has smaller spores , measuring 8 @. @ 5 ? 12 by 3 @. @ 5 ? 4 @. @ 5 ?m . *Boletus rufocinnamomeus* is also similar in appearance , but can be distinguished by its yellow stipe that is dotted with orange @-@ cinnamon to brownish dots . *Boletus flammans* , another blue @-@ bruising lookalike found in the southeastern United States , grows under conifers . It has a reddish stipe with fine reticulations on its upper half .

== Habitat and distribution ==

Boletus subluridellus is a mycorrhizal fungus , and grows in association with deciduous trees , especially oak (genus *Quercus*) . Fruit bodies grow scattered or in groups on the ground in deciduous or mixed forests , and appear from July to October . An eastern North American species , the mushroom is found from New England west to the Great Lakes , north to Quebec in Canada .