= Lactifluus deceptivus =

Lactifluus deceptivus (synonym Lactarius deceptivus) , commonly known as the deceiving milkcap , is a common species of fungus in the Russulaceae family . It is found throughout eastern North America on the ground in coniferous forests near hemlock or deciduous forests near oak , and in oak @-@ dominated forests of Costa Rica . It produces large mushrooms with funnel @-@ shaped caps reaching up to 25 cm (9 @.@ 8 in) in diameter , on top of hard white stems that may reach 4 ? 10 cm (1 @.@ 6 ? 3 @.@ 9 in) long and up to 3 cm (1 @.@ 2 in) thick . The gills are closely spaced together and yellowish @-@ cream in color . When young , the cap is white in all parts , but the depressed center becomes dull brownish in age and breaks up into scales . The edge of the cap has a roll of cottony tissue that collapses as the cap expands . The surface of the stem ? especially near the base ? has a velvety texture . The mushroom " bleeds " a milky white acrid latex when it is cut or injured . The fruit bodies are edible , but have a bitter taste that can be removed with cooking . Similar milk @-@ cap species with which L. deceptivus might be confused include Lactifluus piperatus , L. pseudodeceptivus , L. caeruleitinctus , L. subvellereus , Lactarius arcuatus and Lactarius parvulus .

= = Taxonomy = =

The species was first described in the scientific literature by American mycologist Charles Horton Peck in 1885 . The specific epithet deceptivus is derived from the Latin word for " deceptive " . The name may allude to the contrasting appearance of young and old fruit bodies . It is commonly known as the " deceptive lactarius " , the " deceiving lactarius " , or the " deceptive milkcap " . In the state of Puebla , Mexico , it is known as oreja de chivo , or " kid ear " .

Following the split @-@ off of the phylogenetically distinct genus Lactifluus from the other milk @-@ caps in the genus Lactarius , the correct combination for the species is the one made by Otto Kuntze in 1891 , Lactifluus deceptivus . Within the genus Lactifluus , L. deceptivus is classified in the subgenus Lactifluus , section Albati . Characteristics of species in this section include a white or whitish immature cap that may later turn yellow @-@ brown to cinnamon @-@ color ; white to cream @-@ colored latex that typically has an acrid taste ; a velvet @-@ textured stem due to a cuticle made of long narrow , thick @-@ walled hairs . Other species in this section include L. vellereus (the type species) , L. subvellereus , and L. caeruleitinctus .

Based on a morphological study published in 2005 , Lactarius tomentosomarginatus is considered synonymous with Lactifluus deceptivus . L. tomentosomarginatus , described by Hesler and Smith in their 1979 monograph of North American milk @-@ caps , was considered by them to be a " satellite species " , differing from L. deceptivus on the basis of smaller spores , smaller ornamentations on the surface of the spores , crowded and forked narrow gills , and differences in the micro @-@ structure of the cap cuticle .

= = Description = =

The cap is 7 @.@ 5 ? 25 @.@ 5 cm (3 @.@ 0 ? 10 @.@ 0 in) in diameter , initially convex , but becomes funnel @-@ shaped in age . The margin (cap edge) is rolled inwards and cottony when young , concealing the immature gills . The cap surface is dry , smooth and whitish when young , often with yellowish or brownish stains , but becomes coarsely scaly and darkens to dull brownish @-@ ochre with age . The gills have an adnate to decurrent attachment to the stem , close to subdistant , white at first then cream to pale ochre . They are 5 ? 65 mm (0 @.@ 2 ? 2 @.@ 6 in) long and 1 ? 7 mm (0 @.@ 04 ? 0 @.@ 3 in) deep . The stem is 4 ? 10 cm (1 @.@ 6 ? 3 @.@ 9 in) long , up to 3 cm (1 @.@ 2 in) thick , nearly equal in width throughout or tapered downward . It is dry , scurfy to nearly smooth and white , staining brown with age . It is initially stuffed (as if filled with cotton) , but later becomes hollow . The flesh is thick and white , and between 3 and 15 mm (0 @.@ 1 and 0 @.@ 6 in) thick . The latex produced by the mushroom is white , and does not change color upon exposure to air , although it stains the mushroom flesh a yellowish @-@ brown

color .

The odor of the flesh and latex may range from indistinct to pungent or turnip @-@ like in age ; the taste is strongly acrid ? so much that it may have an anesthetizing effect in the throat . In his original description of the species , Peck reported " An experiment of its edible qualities was made without any evil consequences . " Thorough cooking removes the bitter taste , but the mushroom is not highly regarded as an edible , and as Hesler and Smith have noted " ... but even with this compensating feature some of our acquaintances have found it rather undesirable (and indigestible) . " The mushroom is sold at traditional markets in Puebla , Mexico .

= = = Microscopic characteristics = = =

The spore print , freshly made , is white to whitish ; after drying out the spores in mass are pale yellowish . The spores are broadly ellipsoid , hyaline (translucent) and measure 9 ? 13 by 7 ? 9 µm . An apiculus is prominent . The spores are ornamented with warts and spines that do not form a reticulum (a system of raised , net @-@ like ridges) on the surface . The prominences are up to 1 @.@ 5 µm high , and amyloid , meaning they absorb iodine when stained with Melzer 's reagent . The basidia (spore @-@ bearing cells) are four @-@ spored , and measure 46 ? 58 by 7 ? 9 µm . The pleurocystidia (cystidia found on the face of a gill) are very abundant , roughly club @-@ shaped to ventricose (swollen in the middle) , with apices often tapering ; their dimensions are 48 ? 96 x 6 ? 10 µm . The cheilocystidia (cystidia on the edge of the gills) are 40 ? 58 x 5 ? 7 µm , and more or less similar in appearance to the pleurocystidia . The cap cuticle is made of a layer of somewhat uplifted hyphae . The stem cuticle is a layer of bent @-@ over hyphae bearing thick @-@ walled , filamentous caulocystidia (cystidia on the stem) , and it lacks a gelatinous layer .

= = = Similar species = = =

The fungus Lactifluus pseudodeceptivus is very similar to L. deceptivus in its external appearance , but it has spore ornamentation that forms a reticulum , and its stem is an ixocutis (a gelatinous layer of hyphae lying parallel to the surface) . L. caeruleitinctus is also similar in appearance , but it has a milky @-@ white stem with blue tints that develops more intense blue coloration after handling , and it lacks a cottony , inrolled margin . Other lookalike species include Lactarius arcuatus , which has a much smaller cap and smaller spores , and Lactarius parvulus , which has a small , zonate cap . Russula brevipes and R. angustispora are also somewhat similar in appearance , but they do not produce latex when cut or injured . Lactifluus subvellereus var. subdistans has more widely spaced gills , and an even cap margin . Lactifluus piperatus has densely crowded gills , a firm rather than soft and cottony cap margin , and exceedingly acrid latex .

= = Habitat and distribution = =

Like all milk @-@ caps (Lactarius and Lactifluus) , L. deceptivus is mycorrhizal , meaning the fungus forms a mutualistic association with certain trees and shrubs . The subterranean mycelium of the fungus forms an intimate association with tree roots , enveloping them in a sheath of tissue that allows both organisms to exchange nutrients they would otherwise be unable to obtain . The fruit bodies of the fungus grow solitarily , scattered , or in groups on the ground in conifer or hardwood forests , often under oak (Quercus) or hemlock (Tsuga) . Smith has noted a preference for bogs and the edges of woodland pools in hardwood forests , and in oak stands that have an understory of blueberry bushes (Vaccinium species) . It is widely distributed in eastern North America , and has also been reported from southern and western Canada . It is a fairly common species , and fruits from June to October . The mushroom has also been reported from Mexico (in Puebla and in Veracruz) from oak and pine forests , at altitudes slightly over 2 @,@ 000 meters (1 @.@ 2 mi) , and from Costa Rica , where it is abundant in oak forests .