= Lactarius vietus =

Lactarius vietus (commonly known as the grey milkcap) is a species of fungus in the family Russulaceae , first described by Elias Magnus Fries . It produces moderately sized and brittle mushrooms , which grow on the forest floor or on rotting wood . The flattened @-@ convex cap can vary in shape , sometimes forming the shape of a wide funnel . It is typically grey , but the colour varies . The species has crowded , light @-@ coloured gills , which produce white milk . The spore print is typically whitish , but also varies considerably . The mushrooms typically have a strong , acrid taste and have been described as inedible , but other authors have described them as consumable after boiling . L. vietus feeds by forming an ectomycorrhizal relationship with surrounding trees , and it favours birch . It grows in autumn months and is fairly common in Europe , North America and eastern Asia .

= = Taxonomy = =

Lactarius vietus was first described by Elias Magnus Fries in 1821 as Agaricus vietus in his Systema Mycologicum . In his 1838 work Epicrisis systematis mycologici , Fries reclassified the species as a Lactarius , giving it its current name . Subsequent attempts to reclassify the species have been unsuccessful . In his 1871 work Der Führer in die Pilzkunde , Paul Kummer reclassified the species as a member of Galorrheus , and in Otto Kuntze 's 1891 Revisio generum plantarum , the species was placed in the genus Lactifluus . Both Galorrheus vietus and Lactifluus vietus are now considered obligate synonyms (different names for the same species based on one type) of Lactarius vietus . The specific epithet is from the Latin vietus , meaning shrunken . It is commonly known as the grey milkcap .

= = Description = =

Lactarius vietus typically has a cap of 2 @.@ 5 to 7 @.@ 5 centimetres (1 to 3 in) across , with a flattened @-@ convex shape . At times , the cap becomes widely funnel @-@ shaped , and sometimes features a broad or pointed umbo , though the centre of the cap is typically depressed . The cap is coloured grey , sometimes with violet , flesh @-@ coloured , pale yellowish @-@ brown or red tints , though it is paler towards the cap margin in young mushrooms . Very pale specimens have also been recorded in the United States , though they are not true albinos . The cap 's margin is curved inwards in younger specimens , and wavey . The cap surface is smooth , and can be slimey or sticky when wet . The stem measures 2 @.@ 5 to 8 centimetres (1 to 3 in) by 2 to 7 centimetres (0 @.@ 8 to 3 in) , and is generally cylindrical in shape . Sometimes the stem narrows downwards , or is club @-@ shaped . In colour , the stem whitish or greyish , paler at the top , and is rather weak and easily broken . The flesh is a whitish @-@ buff colour , and is often absent in the stem , leaving it hollow . The crowded gills are can be decurrent (with the gill running down the stem) or adnate (with the entire depth of the gill connecting to the stem) , and in colour are whitish to a dirty buff . They are thin and flaccid , and there are three to four tiers of lamellulae (short gills that do not reach the stem from the cap margin) . The gills produce white milk , which dries a brownish or greenish grey after about 20 minutes . The mushroom flesh will slowly stain a greyish colour if a drop of FeSO4 solution is applied to it as a chemical colour test .

= = = Microscopic features = = =

The spore print is typically a creamy white , with a slight salmon tinge , but it has been observed to vary from white to yellow depending on the density , meaning that it is not a useful means of identification . Individual spores are a buff @-@ white , amyloid (staining blue in Melzer 's reagent) and hyaline . In shape , the spores are elliptic , with a moderately well @-@ developed network of ridges , measuring between 8 and 9 @.@ 5 by 6 @.@ 5 to 7 @.@ 5 micrometres (?m) . The pleurocystidia (cystidia on the face of the gills) are shaped like narrow spindles , typically

measuring between 40 and 75 ?m long , but sometimes reaching 86 ?m in length , by 6 and 11 ?m wide at the widest point . The cheilocystidia (cystidia on the edge of the gills) are leaf or spindle shaped , measuring between 30 and 52 ?m long by 4 to 7 ?m wide . The basidia are four @-@ spored and club @-@ shaped , measuring between 36 and 42 ?m in length by 8 and 12 ?m wide .

= = = Similar species = = =

Lactarius uvidus is similar in appearance . In colour , it is a pale pink @-@ buff , and its flesh turns a violet @-@ lilac colour when cut . The white milk has a mild taste . Lactarius mammosus , a species described by Fries but not often mentioned by the mycological community for some time after his death , is also similar . Meinhard Moser , examining the identity of L. mammosus , concluded that it " is certainly more closely related to L. vietus than to L. fuscus , but differs in habit and colour . The spores are slightly longer and the sculptures are less pronounced in L. vietus . "

= = Edibility = =

Lactarius vietus milk has a very hot taste , and the mushroom lacks a distinctive smell . Although described by many mycologists as inedible , David Pegler claims that its acrid taste can be removed after boiling , allowing it to be consumed . Though the strong , acrid taste is a defining feature of the species , it is weaker or even absent in some older mushrooms , which is not unusual for Lactarius species . Occasionally , however , mushrooms of the species have been collected which have a mild taste ; this has also been observed in other species with typically acrid tastes .

= = Distribution , habitat and ecology = =

Lactarius vietus is fairly common , and can be found growing in moist areas under trees in autumn , often among Sphagnum moss . Though it strongly favours beech , it has also been found under oak . It forms an ectomycorrhizal relationship with the trees under which it grows . It can also be found growing on rotting wood or other hard surfaces ; specimens have been observed on both conifer and hardwood logs . These are typically smaller specimens , and it is possible that they represent a dwarf variety . Despite growing on rotting wood , the species is not saprotrophic ; instead , the mycelia of the species are linking with tree roots growing through or near the wood . This is a particularly useful adaptation when the soil is either wet or nutrient @-@ poor . Mushrooms can sometimes grow in large numbers , but they can also be found growing in tight clumps , or solitarily when growing out of season . The species can be found in Europe , with collections in Scandinavia , the British Isles Bulgaria , Germany , and northern Turkey ; in North America , it has been recorded as common in Canada and both the northern and southern United States ; in northern Asia , it was found in regions near both the Oka River and the central Angara River in Siberia ; and in eastern Asia , it has been collected in China .