

= *Mycena galericulata* =

*Mycena galericulata* is a mushroom species commonly known as the common bonnet , the toque mycena , or the rosy @-@ gill fairy helmet . The type species of the genus *Mycena* was first described scientifically in 1772 , but was not considered a *Mycena* until 1821 . It is quite variable in color , size , and shape , which makes it somewhat difficult to reliably identify in the field . The mushrooms have caps with distinct radial grooves , particularly at the margin . The cap 's color varies from grayish @-@ brown to dark brown and the shape ranges from bell @-@ like to bluntly conical to flattened with an umbo . The stem is hollow , white , tough and thin , without a ring and often roots deeply into the wood on which it grows . The gills are white to grayish or even pinkish when mature and are connected by distinct cross @-@ veins . The caps can reach 4 cm ( 1 @. @ 6 in ) in diameter , and have a mealy odor and taste . The spore print is white and the gills are pink at maturity , which can lead to possible confusion with species of the *Pluteus* genus . *M. galericulata* mushrooms grow mostly in clusters on the well @-@ decayed stumps of deciduous and coniferous trees from spring to autumn . The species can generally be considered inedible . It is common and widespread in the entire temperate zone of the Northern Hemisphere , but it has also been reported from Africa .

= = Taxonomy , classification , and naming = =

The fungus was first described scientifically as *Agaricus galericulatus* by Italian mycologist Giovanni Antonio Scopoli in 1772 , and sanctioned under this name by Elias Magnus Fries in his 1821 *Systema Mycologicum* . That same year , Samuel Frederick Gray transferred the species to the genus *Mycena* . Synonyms for the species include *Agaricus conicus* named by William Hudson in 1778 , *Agaricus crispus* described by August Johann Georg Karl Batsch in 1893 , *Stereopodium galericulatum* by Franklin Sumner Earle in 1909 , and *Prunulus galericulatus* by William Alphonso Murrill in 1916 .

*Mycena galericulata* is the type species of the genus *Mycena* . It is classified in section *Mycena* of *Mycena* in the infrageneric scheme of Rudolph Arnold Maas Geesteranus . In the older ( 1947 ) classification of Alexander H. Smith , he placed it in the subgenus *Eumycena* , section *Typicae* ? " a most monotonous series of blackish , brown , gray , bluish @-@ gray , or brownish @-@ gray species mostly with ascending gills and generally large to moderate stature . "

The specific epithet *galericulata* is derived from the Latin *galer* , and means " with a small hat " . Gray called it the " helmeted high @-@ stool " . It is commonly known as the " common bonnet " , the " toque mycena " , or the " rosy @-@ gill fairy helmet " .

= = Description = =

The cap of *M. galericulata* is roughly conical when young , and eventually becomes broadly bell @-@ shaped or with a broad umbo that can reach diameters of 2 ? 4 cm ( 0 @. @ 8 ? 1 @. @ 6 in ) . The cap margin is initially somewhat curved inward , but soon evens out or even becomes uplifted , and often splits radially in age . The surface has radial grooves that extend nearly to the center , and feels greasy but not sticky . The color is somewhat buff @-@ brown on the margin , and fades gradually to pale dirty tan to dirty cinnamon @-@ brown . The flesh is thick in the center of the cap and tapers evenly to the margin , and is watery gray , with a cartilage @-@ like texture . The odor and taste are mildly to strongly farinaceous ( similar to the smell of freshly ground flour ) , to radish @-@ like .

The gills are narrowly attached ( adnexed ) to broadly attached or sinuate . The gill spacing ranges from close to somewhat distantly spaced , with 26 ? 36 gills reaching the stem ; there are additionally three or four tiers of lamellulae ( short gills that do not extend completely from the cap margin to the stem ) . The gills are strongly intervenose ( possessing cross @-@ veins ) , moderately broad ( 5 ? 7 mm ) , white or grayish white , soon flushed with pale pink , with even edges . The stem is 5 ? 9 cm ( 2 @. @ 0 ? 3 @. @ 5 in ) long , 2 ? 4 mm ( 0 @. @ 08 ? 0 @. @ 16 in )

thick , equal in width throughout , and with a cartilaginous texture . It is hollow , not hairy , either smooth or twisted with longitudinal striations , often with a long pseudorrhiza ( a subterranean elongation of the stem ) at the base . The stem color is pale grayish @-@ white on the upper portion , and pale grayish @-@ black below ; the base becomes somewhat dirty brown in age , but does not develop reddish stains .

*Mycena galericulata* produces a white spore print . The spores are ellipsoid , 8 ? 10 by 5 @.@ 5 ? 7 ?m , and amyloid ? which means they will turn blue @-@ black to black when stained with Melzer 's reagent . The basidia ( spore @-@ bearing cells ) have stout sterigmata , and measure 34 ? 40 by 7 ? 9 ?m . They may be either two @-@ spored or four @-@ spored . There are numerous club @-@ shaped to rounded cheilocystidia ( cystidia on the gill edge ) , that measure 32 ? 40 by 8 ? 12 ?m ; their apices or the entire enlarged portion bear rodlike projections that become increasingly elongated and branched in age . There are no pleurocystidia ( cystidia on the gill face ) . The gill tissue has a very thin cuticle , under which is a narrow hypoderm , while the remainder of the tissue comprises densely matted tufts of mycelia , and stains deep vinaceous @-@ brown in iodine . Clamp connections are present in the hyphae of the four @-@ spored forms .

== Edibility ==

Opinions on the edibility of the mushroom vary . One source considers them to have a " delicate flavor and texture " , and suggests that they are good when " stewed gently in their own juice and then seasoned with salt , pepper and butter . " Others list the species as inedible , and notes that they have a " mildly rancid " smell , and with a taste ranging from rancid to farinaceous . Another says " unknown , but not recommended . " At any rate , the species falls into the general category of brownish *Mycenas* that are generally unappetizing as food due to their small size and delicate consistency .

== Similar species ==

The winter bonnet ( *M. tintinnabulum* ) is a northern European species that is much smaller ( cap diameter up to 2 @.@ 6 cm ( 1 @.@ 0 in ) across ) and has a brown cap , and has ragged hairs at the base . It generally appears in late autumn to early winter on the stumps of deciduous trees , especially beech . It has pip @-@ shaped spores that are smaller than *M. galericulata* , around 4 @.@ 5 ? 5 @.@ 5 by 2 @.@ 5 ? 2 @.@ 8 µm . *M. maculata* develops pink stains on its gills as it matures ; its spores are 7 ? 9 by 4 ? 5 ?m . Another similar species is *M. inclinata* , which can be distinguished by gills bearing reddish spots , which may become entirely red with age . It also has whitish , slender , threadlike flecks on the stalk . *M. parabolica* is thinner , and more fragile . Another *Mycena* that grows in clusters on decaying hardwoods is *M. haematopus* , but this species has a vinaceous @-@ brown cap with a scalloped margin , and a stem that bleeds reddish @-@ brown juice when injured . *M. excisa* closely resembles *M. galericulata* , but can be distinguished microscopically by the presence of both smooth and roughened cystidia ( bearing finger @-@ like projections ) .

== Ecology , habitat and distribution ==

*Mycena galericulata* is saprobic , and grows on decaying hardwood and softwood sticks , chips , logs , and stumps . It can also grow from submerged wood , which may give it a terrestrial appearance . It typically grows in small clusters or sometimes singly . The fungus fruits from late spring to early winter . A study of litter @-@ decomposing fungi in a coniferous forest in Finland showed that *M. galericulata* produces extracellular hydrolytic enzymes in the humus and eluvial soil , including ? @-@ glucosidase , ? @-@ xylosidase , ? @-@ glucosidase , butyrate esterase and sulphatase . The enzymes form complexes with inorganic and organic particles in the soil and break down ( depolymerize ) biopolymers such as cellulose , hemicellulose , and starch , which contributes to the cycling of carbon and nutrients . The presence of lead contamination in the soil decreases

both the growth and the extracellular hydrolytic enzyme activity of *M. galericulata* .

*Mycena galericulata* is a very common and widely distributed species , found throughout the entire temperate zone of the Northern Hemisphere . In the United States , it occurs throughout eastern North America and also along the Pacific Coast . It has also been collected in Edo State , Nigeria . Although the mushroom has occasionally been reported from Australia , these collections are probably based on misidentifications , and " Australian records of *Mycena galericulata* are best regarded as erroneous " .

= = = Cited literature = = =

Smith AH . ( 1947 ) . North American species of *Mycena* . Ann Arbor , Michigan : University of Michigan Press .