

# Glossary<sup>1</sup>

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Acrid – a sharp, peppery, burning taste.

Acute – an edge that forms a sharp angle.

Adnate – hymenophore broadly attached to the stipe by the entire width of the lamellae or length of the tubes.

Adnexed – hymenophore with narrow attachment to the stipe by only a portion of the width of the lamellae or length of the tubes.

Agaric – anglicized term used to refer generally to any mushroom.

Allantoid – sausage shaped and somewhat curved.

Alliaceous – onion or garlic-like odor or taste.

Alveolate – with cavities, pits or depressions; pitted like a honeycomb.

Amygdaliform – almond shaped.

Amyloid – a blue to blue-black reaction of tissues or basidiospores in the presence of Melzer's reagent .

Anastomose – fusion of, or network of connections between, adjacent parts, e.g., lamellae.

Angular – a structure that is not rounded, but forms angles.

Annular – ring-shaped.

Annulus – fragments of the ruptured partial veil that remain attached to the stipe.

Apex – top of the structure (as the stipe) or of a specific basidioma.

Apical – refers to the top, apex.

Appendiculate – a condition in which, after rupture, remnants of the partial veil or universal veil remain attached to, or hanging from, the pileus margin.

Applanate – becoming flattened or flattened out.

Appressed – scales, fibers or hairs that lay flat against the surface of the pileus or stipe.

Aqueous – watery consistency.

Arachnoid – cobweb-like. See 'cortinate.'

Arcuate – curved like a bow or curved in an arching manner.

Areolate – marked out in little areas, usually patches or plates demarcated by shallow cracks or crevices.

Atomate – covered with minute, shining, point-like particles.

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Background – surface lying underneath any ornamentation.

Base – the bottom (basal) portion of a structure (e.g., stipe).

Basidioma – technical term for a “fruiting body” or the sporocarp of an entire mushroom.

Basidiomycetes – subclass of fungi that produces basidia.

Basidiospores – microscopic reproductive propagules (meiospores) of mushrooms and other Basidiomycete fungi. Dispersed primarily by wind or water and germinate to form a new individual.

Basidium – club-shaped cell that produces the basidiospores; the hallmark cell characteristic of Basidiomycetes.

Bilateral – diverging downward from the flesh toward the edge of the hymenophore, away from a central strand; referring to hyphal arrangement in a bolete hymenophore (compare ‘divergent’).

Bolete – anglicized term to refer to members of the Boletaceae family; mushrooms with a sponge like/poroid hymenophore.

Boletinoid – derived from ‘Boletinus;’ a hymenophoral arrangement in which the pores are elongated radially (radial walls are longer than tangential walls).

Broom cells – clavate cells with digitate or finger-like outgrowths arising from the enlarged apex.

Bulbous – a broad, expanded region (e.g., base of the stipe).

Campanulate – bell-shaped.

Canescent – covered with a hoary down or sheen, often giving a grayish frosty appearance.

Cartilaginous – having the consistency of animal cartilage.

Catenulate – arranged in chains.

Cavity – empty space or hollow.

Cerebriform – resembling a brain.

Cespitose – basidiomata that grow in close clusters or groups, but with stipes not joined together.

Chlamydospores – asexually produced spores occurring in the hymenophoral trama of *Asterophora* species.

Clamp connection – a buckle- or u-shaped bump that occurs at septa or cross walls of adjacent hyphae.

Clavate – club shaped; broader at one end as opposed to the other.

Close – lamellae arranged very near one another with a small amount of space between them.

Clustered – habit of basidiomata growing very close together.

Columnar – shaped like a pillar or column.

Concave – rounded, lower in the middle than at the margin.

Concentric – having rings or zones within each other.

Concolorous – two or more objects having the same color.

Conic – cone-shaped (e.g., a pileus that is taller than its width and often pointed).

Context – interior flesh of a mushroom.

Convex – rounded, higher in the middle than at the margin.

Coprophilous – occurring on dung.

Cortina – a cobweb-like veil covering the hymenophore in young mushrooms that typically collapses onto the stipe as an annular zone.

Cortinate – provided with a cortina.

Costate – ribbed.

Cotton Blue – an aniline based, blue dye dissolved in lactic acid used to test for cyanophyly.

Crowded – lamellae spaced very close together.

Cyanescent – turning blue or blue green.

Cyanophilous – a positive, deep blue reaction of spore walls in the presence of Cotton Blue.

Cylindric – cylinder-shaped; a stipe that has the same diameter from apex to base.

Cutis – a layer of filamentous hyphae that is repent and either radially oriented or interwoven.

Cystidia (hymenial) – sterile cells located on either lamellae or tubes, typically projecting above the level of the basidia; those on faces or sides are ‘pleurocystidia’ and those on the edges or pores are ‘cheilocystidia.’

Decurrent – hymenophore is descending or extending down the stipe and is broader in attachment than the width of the lamellae or the length of the tubes.

Decurved – refers to a pileus margin that appears to curved downward.

Deliquescent – melting in to a liquid; occurs when lamellae on certain basidiomata digest themselves at maturity.

Depressed – same as adnexed but often used to describe attachment of a bolete hymenophore. OR, a pileus that has the middle area (disc) lower than the edge.

Detersile – removable and coming off cleanly.

Dextrinoid – a bright rusty brown or orange brown qualitative chemical reaction of tissues or basidiospores in the presence of Melzer’s reagent.

Dichotomous – branching or forking into matched pairs.

Disc – central region of the pileus.

Distant – lamellae which are spaced well apart with obvious space between adjacent pairs.

Divergent – hyphal arrangement in the hymenophore when viewed in cross-section where ends of hyphae or hyphal filaments nearest the pileus flesh are in close contact near the center of the hymenophore and the other ends descend toward the edge of the hymenophore and terminate near the base of the basidia (compare ‘bilateral’).

Eccentric – a stipe attached off-center of the pileus.

Echinate – decorated with sharp spines.

Ectomycorrhiza – intimate, frequently obligate, symbiotic association between fungal hyphae and feeder roots of particular trees or shrubs (e.g., oaks). A fungal sheath from the mushroom mycelium is formed around these roots and enters the plant root where they form a network between the cells. The association works to bring water and nutrients to the plant, while the mushroom obtains sugar from the plant.

Ellipsoid – elliptical in outline.

Elongate – shape in which a structure is much longer than its width.

Emarginate – hymenophore is abruptly notched near the stipe.

Entire – a pileus margin that is smooth and uninterrupted.

Epithelium – a layer formed of isodiametric cells.

Equal – a stipe having the same diameter throughout its length.

Eroded – pileus or lamellae with irregular or jagged edges.

Evanescient – soon disappearing.

Family – a classification group within the taxonomic system, made up of one or more related genera.

Farinaceous – mealy, or approaching the odor/taste of cucumbers or green plantains.

Fertile surface – the part of the basidioma where the reproductive structures or spores are produced; also called the hymenium.

Fetid – a foul, rotten odor or taste.

Fibrillose – surface has filaments which are thin and threadlike and arranged more or less parallel with one another; may be pigmented or not.

Fimbriate – finely torn, fringed or uneven. Often indicative of the presence of cystidia on the lamellar edge.

Flabelliform – fan-shaped.

Flesh – the interior, sterile part of the pileus or stipe.

Floccose – loosely cottony or downy woolly and more or less tufted like cotton.

Forked – divided into two branches.

Free – hymenophore (lamellae or tubes) is not attached to the apex of the stipe.

Fugacious – disappearing early or quickly.

Fulvous – a reddish cinnamon brown color.

Furfuraceous – covered with bran like particles resembling dandruff.

Fusoid – spindle shaped, tapering at both ends.

Genus – a group of closely related species.

Germ pore – a thin, usually hyaline area at the apex of a spore.

Gills – see ‘Lamellae’.

Glabrous – smooth, without ornamentation of any kind.

Globose – round in outline.

Glutinous – covered by slime or gluten.

Granulose – appearing to be covered with salt-like granules.

Gregarious – basidiomata occurring in close groups in a small area.

Habit – the characteristic external appearance of mushrooms and the manner in which they grow.

Habitat – the environment in which a population grows and develops naturally.

Hirsute – covered with rather long fibers or hairs.

Hispid – covered with stiff, bristle-like hairs usually visible to the naked eye.

Hyaline – clear and transparent.

Hygrophanous – a condition in which a color fades, changes, or disappears with loss of moisture.

Hymeniform – made up of erect, clavate, isodiametric, or pyriform cells arranged more or less in a uniform layer.

Hymenium – the fertile layer where basidiospores are produced from basidia. It may be in the form of true lamellae or tubes or is sometimes smooth or shallowly folded and intervenose.

Hymenophore – the region where lamellae or tubes are formed, i.e., where the hymenium is located.

Hyphae – plural of hypha. Cells of fungi; typically elongate and tube-shaped.

Hypodermium – a layer of hyphae beneath the outermost layer of the pileipellis.

Imbricate – shingled, such that one pileus grows above another.

Inamyloid – no chemical reaction or color change of tissues or spore walls in the presence of Melzer’s reagent.

Incurved – a pileus margin that is curved inward forming a concave shape on the inner side.

Infundibuliform – funnel-shaped.

Inrolled – a pileus margin that rolls inward, pointing toward the lamellae.

Instititious – insertion of the stipe base on a substrate without any visible basal mycelium.

Intervenose – connected by anastomoses or ridges between adjacent parts (e.g., in lamellae).

Isodiametric – of equal diameter in two or more dimensions.

Ixocutis – long and usually multi-celled elements that are radially oriented or interwoven and parallel to the pileus surface embedded in a gelatinous matrix; surfaces appear viscid or glutinous to the naked eye.

Ixotrichodermium - long and usually multi-celled, erect to suberect hyphae embedded in a gelatinous matrix; surfaces appear viscid or glutinous to the naked eye.

Lacerate – irregularly torn texture.

Lacrymoid – tear drop shaped.

Lamellae – vertically oriented, plate-like structures (under the pileus and flesh) forming the hymenophore; composed of spore-producing and other types of cells. Also called gills.

Lamellulae – short lamellae that do not reach the stipe.

Lateral – a condition in which the stipe is attached at the edge of the pileus

Latex – a milky or watery substance that is exuded when fresh mushroom tissues are cut, bruised, or broken and exposed to air.

Lignicolous – growing on wood.

Limbate – with a free limb or edge.

Limoniform – lemon-shaped.

Lobes – with rounded divisions on the margin.

Margin – edge of the pileus or lamellae.

Melzer's – reagent composed of potassium iodide, iodine, and chloral hydrate. Used in qualitative chemical reactions to produce a color change: amyloid (blue black), dextrinoid (bright rusty brown), or inamyloid (non-reactive).

Membranous – thin and pliant, like a membrane.

Mucronate – pointed at the tip. A 'mucro' is a pointed tip, either acute or blunt.

Mycelium – visible mass of hyphae growing through a substrate. Frequently present at base of the stipe.

Oblong – more or less twice as long as broad with sides nearly parallel.

Ovoid – egg-shaped in outline.

Palisade – an arrangement of elongated, perpendicular cells in close proximity to each other.

Papilla – a small bump on a surface.

Papillate – having a papilla or papillae on a surface.

Parasite - mode of nutrient acquisition in which an organism acquires carbon and other elements, compounds, or minerals from living organisms.

Partial veil – Sterile tissue that covers the hymenophore before maturation and is continuous from stipe to pileus margin. Ruptures with maturity and frequently forms a ring or annulus around the upper portion of the stipe. Can also form appendiculate remnants from pileus margin.

Pathogen – organism that causes disease in another organism.

Peronate – sheathing the stipe from the base toward the apex like a sock.

Petaloid – shaped like the petal of a flower.

Pileipellis – the structural unit that forms the surface or skin of the pileus. Anatomical configuration may be characteristic for a taxon.

Pileocystidia – cystidia (sterile cells) located in the pileipellis.

Pileus – the cap or top of a mushroom.

Pilose – covered with long, soft, hairy, compactly arranged filaments, like plush pile; distinguishable from ‘velutinous.’

Plane – a flat surface.

Plicate – folded like a fan.

Pores – the opening or bottom edges of the tubes exposed to the environment through which basidiospores are released into the air.

Pruinose – a surface ornamentation which appears finely powdered.

Pseudocystidia – sterile elements with pigmented cytoplasmic content and an origin in the hymenophoral trama.

Pseudoparenchymatous – resembling parenchyma of green plants (i.e., two or more layers of subisodiametric, hyaline cells).

Pubescent – a covering of short, soft, downy hairs.

Pulverulent – powdery, but more so than that defined by ‘pruinose.’

Punctate – decorated with small points, dots, spots, scales or glands.

Pungent – strong and penetrating (e.g., an odor).

Pyriform – pear shaped.

Q (mean) – average length/width ratio of basidiospore size.

Radicating – rooting into the soil or substrate.

Raphanoid – odor or taste recalling radishes.

Recurved – curved or bent back.

Reniform – kidney-shaped.

Repent – reclined and/or parallel to a surface.

Reticulate – a network of fine lines or ridges.

Reticulum – a small network.

Revolvute – refers to a pileus margin that is curved back on itself.

Rhizomorphs – thick strands of hyphae forming visible, cord-like structures.

Rufescent – pinkish to reddish in color.

Rugose – coarsely wrinkled.

Rugulose – finely wrinkled.

Saccate – sack-like.

Saprotroph – mode of nutrient acquisition in which an organism acquires carbon and other elements, compounds, or minerals from dead organic matter.

Sarcodimitic – hymenophoral trama composed of extremely narrow diameter hyphae mixed with very broad, sausage shaped ones.

Scabers – a specific type of a small pointed scale formed of aggregated hyphae; typically found on stipes.

Scabrous – roughened, such as the stipes of *Leccinum* spp.

Scales – a type of ornamentation on pileus or stipe of a mushroom formed from a surface tear, from hyphae clumping together and becoming uplifted, or from fragments of veils that remain attached to the surface of the pileus or stipe.

Scaly – having scales.

Scattered – basidiomata that are separate and scattered over a single, large area.

Scissurate – cut or split.

Sclerotium – a knot of compact, usually rounded mass of hyphae, firm and hard to the touch and resistant to adverse environmental conditions.

Septa – cross wall between adjacent hyphae.

Sessile – condition in which basidiomata lack a stipe or other extension attaching it to a substrate.

Setae – thick walled, sterile elements located on pileus, hymenium, and/or stipe.

Sinuate – hymenophore has a concave indentation of the edge near the stipe (see ‘emarginate’).

Smooth – same as glabrous; no ornamentation.

Solitary – growth habit in which a mushrooms produces a single basidioma.



Species – the smallest taxonomic group made up of individuals that have a single common ancestor.

Sphaerocysts – enlarged, nearly isodiametric cells found in the pileus flesh and hymenophoral trama.

Spinose – having spines.

Spore deposit – the spore mass formed by placing a mushroom on white paper and letting the spores accumulate. Used to observe spore color for identifying many groups of mushrooms.

Spores – see Basidiospores.

Sporocarp – a basidioma, fruitbody, fruiting body.

Squamules – aggregates or groups of fibrils forming scales.

Squamulose – with small scales.

Squarrose – arranged perpendicular to a surface.

Stipe – the stem or stalk of a mushroom.

Striations – parallel, fine grooves or lines forming a surface ornamentation.

Strict – straight.

Strigose – ornamented with stiff hairs.

Sub- – a suffix indicating a “slight” condition (e.g., subbulbous, subvelutinous, subtomentose, etc.).

Substrate – the material, usually organic, on or from which, a mushroom grows.

Sulcate – shallowly grooved with a definite depression of the groove below the surrounding surface.

Symbiosis (symbiotic association) – an association between two or more different species of organisms, some of which can be mutually beneficial for both partners.

Sympatric – populations occurring in the same local or regional area.

Taxon – a taxonomic unit pertaining to a hierarchical level within a kingdom.

Terrestrial – growing on the ground or on soil.

Tessellate – a surface with a mosaic-like appearance.

Tomentose – covered with long, soft, hairy fibrils, either tangled and upright or matted.

Tomentum – a layer of long, soft, hairs.

Trama (hymenophoral) – the sterile supporting tissue in the center of lamellae or tubes.

Translucent – condition of a surface that transmits light diffusely, through which nothing can be seen clearly.

Trichodermium – erect, long and usually multi-celled elements that makes surfaces appear tomentose or pilose appearance.

Truncate – appearing as if abruptly cut off instead of tapering to a rounded end.

Tuberculate – condition in which small bumps are present on a surface.

Tubes – vertically oriented, sponge-like structure (under the pileus and flesh) forming the hymenophore made up of basidiospore-producing and other types of cells.

Umbonate – having an umbo, a raised up region above the plane of the pileus surface located on the pileus disc.

Undulate-pustulate – wavy ridges with randomly spaced bumps along the ridges.

Ungulate – horseshoe-shaped.

Universal veil – sterile tissue that completely surrounds an immature mushroom. It eventually ruptures in various ways as the mushroom expands often leaving remnants as sterile patches or flaps on the pileus/pileus margin and/or as a volva or squamules on or at the stipe base.

Uplifted – a growth pattern in which the margin of the pileus is turned significantly upward in relation to the center of the pileus.

Veil – partial or universal, that when ruptured can remain as fragments, a volva (universal) or an annulus (partial).

Velutinous – with appearance or consistency of velvet.

Venose – a system of veins, pleats, lines, or ridges on a surface.

Ventricose – an outline in which a structure is conspicuously wider in the middle than at either end.

Verrucose – warty (diminutive: verruculose).

Vinaceous – colored like red wine.

Virgate – striped or streaked with fibrils that are differently colored than the background.

Viscid – sticky, slippery or tacky when moist.

Volva – cup-like or sac-like structure or remnants of the universal veil at stipe base. Remnants also found as patches of tissue on pileus surface or margin.

Zebroid – spore ornamentation which has ridges arranged in a zebra stripe pattern.