

# Key to the Milk Mushrooms of the Northeast and North Central United States

Arleen & Alan Bessette

- 1a Color of the latex immediately on exposure orange, purplish red, pale pinkish brown, pale to dark brown, or blue.....2
- 1b Color of the latex immediately on exposure watery, whey-like, white to creamy white, or pinkish buff.....7
  - 2a Latex blue, slowly becoming dark green, mild-tasting.....*Lactarius indigo* var. *indigo*
  - 2b Latex orange, purplish red, pale pinkish brown, or pale to dark brown.....3
- 3a Latex orange.....4
- 3b Latex purplish red, pale pinkish brown, or pale to dark brown.....5
  - 4a Stalk scrobiculate; flesh quickly staining orange then slowly coral to wine-red; fruitbody typically not developing green spots.....*Lactarius salmonicolor*
  - 4b Stalk not scrobiculate; flesh slowly staining grayish red to reddish brown; fruitbody typically developing green spots.....*Lactarius deliciosus-deterrimus* complex
- 5a Latex purplish red; cap and gills reddish pink, sometimes spotted with emerald green.....*Lactarius subpurpureus*
- 5b Latex pale pinkish brown, yellow-brown or dingy brown.....6
  - 6a Latex pale pinkish brown; cap and stalk smoky yellowish brown; gills white to creamy white, staining brownish where bruised; flesh white, not staining when

- exposed.....*Lactifluus petersenii*
- 6b Latex yellow-brown to dingy brown; cap color variable, grayish green, grayish yellow, yellow-brown with bluish green tints, or dingy azure blue; gills grayish yellow to olive-buff, staining green.....*Lactarius chelidonium*
- 7a Latex color changing to some shade of yellow **within 5 minutes**; latex may stain tissues a different color.....8
- 7b Latex color unchanging **within 5 minutes**; latex may stain tissues a different color.....16
- 8a Latex staining gills or flesh.....9
- 8b Latex not staining gills or flesh.....15
- 9a Stalk distinctly scrobiculate; cap yellowish; margin often bearded on young specimens....*Lactarius scrobiculatus* complex
- 9b Stalk not distinctly scrobiculate.....10
- 10a Cap bright orange to yellow-orange, viscid when wet, shiny when dry; flesh and gills stain sulfur yellow when cut or bruised.....*Lactarius croceus*
- 10b Cap differently colored.....11
- 11a Cap pinkish cinnamon; flesh quickly staining bright sulfur-yellow when exposed.....*Lactarius vinaceorufescens*
- 11b Cap or flesh not as above.....12
- 12a Cap yellowish brown with paler zones toward the margin; striate on the margin when moist; flesh pale vinaceous, slowly staining pale yellow-brown..*Lactarius frustratus*
- 12b Cap or flesh not as above.....13
- 13a Gills close to subdistant, adnate to slightly decurrent; becoming distant with age, white, becoming yellowish, staining brownish to pinkish where injured; cap white, with

- grayish or yellowish tinges.....*Lactarius subvellereus*
- 13b Gills crowded, decurrent.....14
- 14a Cap margin not bearded at any stage, inrolled at first; gills white when young, soon becoming pinkish buff; cap white.....*Lactarius neuhoffii*
- 14b Cap margin bearded with coarse, stiff hairs at least when young, inrolled at first; gills white when young, soon becoming pinkish buff; cap white overall or sometimes with ochraceous zones.....*Lactarius resimus*
- 15a Stalk developing brownish red to dull brown stains in age; cap 2-5 cm wide, whitish to pallid when young, becoming brownish orange to brownish red.....*Lactarius colorascens*
- 15b Stalk not developing brownish red to dull brown stains in age; cap 3-9 cm wide, whitish to pale yellowish cinnamon with darker spots when young, fading to nearly whitish overall in age.....*Lactarius chrysorrhoeus*
- 16a Latex staining gills.....17
- 16b Latex not staining gills.....45
- 17a Latex staining gills lilac to dull lilac, purple or dark violet.....18
- 17b Latex staining gills some other color.....24
- 18a Cap light yellow to orange-yellow.....19
- 18b Cap some other color.....20
- 19a Cap 6-18 cm wide, dry to somewhat viscid; margin conspicuously bearded on young specimens; stalk viscid or dry, scrobiculate.....*Lactarius repraesentaneus*
- 19b Cap 3-8 cm wide, slimy-viscid; margin not bearded; stalk slimy-viscid, not scrobiculate.....*Lactarius aspideoides*
- 20a Cap margin inrolled and bearded with coarse hairs at

- least on younger specimens; upper surface covered with a thin layer of fibrils, conspicuously zonate, orange-brown or pale cinnamon.....*Lactarius speciosus*
- 20b Cap margin not bearded at any stage.....21
- 21a Stalk scrobiculate.....22
- 21b Stalk not scrobiculate.....23
- 22a Cap concentrically spotted and zonate, grayish buff to grayish lilac or brownish; flesh weakly to distinctly acrid.....*Lactarius maculatus*
- 22b Cap azonate or weakly zoned, dingy pinkish gray with ochraceous tones, with orangey olive to dingy yellow-brown spots; flesh mild.....*Lactarius subpalustris*
- 23a Flesh staining dark violet, taste mild; cap blackish brown to dark yellow-brown, pale dingy yellow-brown in age, often umbonate.....*Lactarius lignyotus* var. *nigroviolascens*
- 23b Flesh staining dull lilac then slowly tan to darker brown; cap pale pinkish lilac to lilac-brown with lilac spots, sometimes with a low, broad umbo.....*Lactarius uvidus*
- 24a Latex staining gills yellowish or dull green to dark grayish green or olive.....25
- 24b Latex staining gills some other color.....27
- 25a Stalk not scrobiculate; cap whitish when young or covered with leaves, becoming pinkish cinnamon and finally dull brick red in age; latex stains gills dull green to olive then slowly dull brown.....*Lactifluus allardii*
- 25b Stalk scrobiculate.....26
- 26a Cap and stalk various shades of green; cap usually zoned with dark green spots arranged concentrically; latex stains gills dark grayish green to greenish

- brown.....*Lactarius atroviridis*
- 26b Cap whitish to creamy yellow, becoming tawny on the disc when older; stalk colored like the cap; latex stains gills yellowish.....*Lactarius maculatipes*
- 27a Latex staining gills pink to rosy salmon or reddish.....28
- 27b Latex staining gills some shade of brown.....33
- 28a Cap margin distinctly sulcate to plicate.....29
- 28b Cap margin not distinctly sulcate or plicate.....31
- 29a Cap yellowish buff to pale tan, becoming brownish yellow in age; not umbonate.....*Lactarius subplinthogalus*
- 29b Cap darker brown.....30
- 30a Cap blackish brown, slowly becoming yellowish brown in age, typically umbonate; gill edges marginate and dark brown at first, fading to white or ochraceous tan as the gills mature....*Lactarius lignyotus* var. *canadensis*
- 30b Cap blackish brown, slowly becoming dingy yellow-brown in age, typically umbonate; gill edges and faces white to pale ochraceous...*Lactarius lignyotus* var. *lignyotus*
- 31a Gills subdistant to distant; cap with or without an umbo, brown to yellow-brown or tan; stalk often plicate at the apex.....*Lactarius gerardii* var. *subrubescens*
- 31b Gills crowded.....32
- 32a Cap 2-6 cm wide, whitish at first, becoming buff-tinged to pale smoky brownish; stalk white, staining pinkish where bruised.....*Lactarius subvernalis* var. *cokeri*
- 32b Cap 3-10 cm wide, pale dingy yellow-brown to whitish with a smoky tinge, sometimes with olive or brown areas; stalk colored like the cap; flesh taste variable.....*Lactarius fumosus* var. *fumosus*

- 33a Cap white, whitish, buff or pale grayish vinaceous,  
sometimes with yellow or brown stains.....34
- 33b Cap differently colored.....38
- 34a Cap surface viscid, pale grayish vinaceous; stalk  
colored like the cap; gills whitish at first, becoming  
pale pinkish cinnamon when mature; gregarious under  
conifers.....*Lactarius vinaceopallidus*
- 34b Cap white, whitish or buff.....35
- 35a Cap margin distinctly inrolled and cottony when young; cap  
up to 25 cm wide, surface whitish, often with yellowish or  
brownish stains, becoming coarsely scaly and darkening to  
dull brownish ocher in age; latex taste strongly acrid,  
staining tissues brown.....*Lactifluus deceptivus*
- 35b Cap margin and surface not as above.....36
- 36a Cap up to 9 cm wide, surface white at first, becoming  
flushed dull grayish pink and finally pale, dingy  
orange-brown; cap margin incurved and remaining so well  
into maturity; latex scant, acrid, staining tissues  
cinnamon buff.....*Lactarius tomentosomarginatus*
- 36b Cap and latex not as above.....37
- 37a Flesh odor not distinctive in young specimens, soon becoming  
fishy and resembling spoiled crab; latex copious, mild,  
watery white; gills close.....*Lactifluus luteolus*
- 37b Flesh odor not distinctive; latex abundant, acrid, whitish  
to pale creamy white, staining gills tawny; gills  
crowded.....*Lactifluus subvellerius* var. *subvellerius*
- 38a Stalk scrobiculate; cap and stalk pale brownish yellow  
or olive-brown.....*Lactarius turpis*
- 38b Stalk not scrobiculate.....39

- 39a Flesh odor distinctly fishy as the mushroom matures.....40
- 39b Flesh odor not fishy at any stage.....41
- 40a Cap dark orange-brown to cinnamon brown on the disc,  
paler orange-brown toward the margin, smooth to finely  
wrinkled.....*Lactifluus volemus* var. *volemus*
- 40b Cap reddish brown to vinaceous brown, paler and  
sometimes orange brown on the margin, distinctly  
wrinkled to finely corrugated.....*Lactifluus corrugis*
- 41a Fruitbody typically growing on decaying wood; cap dark  
brown, fading to pinkish brown or lilac-gray; latex changing  
to or drying olive-gray, gills staining brown when  
bruised.....*Lactarius vietus*
- 41b Fruitbody not growing on wood.....42
- 42a Latex watery on exposure; stalk with orangey cinnamon  
hairs on the base; gills yellowish, soon stained  
vinaceous cinnamon to orange-cinnamon; with broadleaf  
trees, especially oak.....*Lactarius subserifluus*
- 42b Latex white to creamy white on exposure.....43
- 43a Fruitbody small, 1-4 cm wide, brick-red when young, fading  
to dull brownish orange; margin often finely scalloped and  
deeply grooved.....*Lactarius carbonicola*
- 43b Fruitbody medium to large, 4-18 cm wide.....44
- 44a Gills broad, close to subdistant; gills cream-colored  
when young, flushed dull brownish orange with age;  
latex creamy white on exposure, taste mild to slightly  
acid.....*Lactarius argillaceifolius*
- 44b Gills narrow, close; white to buff; latex white on  
exposure, taste slowly acid.....*Lactarius fumeacolor*
- 45a Cap surface covered with wooly hairs, margin often bearded,

	especially when young.....	46
45b	Cap surface not covered with wooly hairs and margin not bearded.....	48
46a	Cap vinaceous cinnamon to light pinkish cinnamon, sometimes rosy pink in areas; gills crowded, adnate to short-decurrent.....	<i>Lactarius torminosus</i>
46b	Cap differently colored.....	47
47a	Cap conspicuously zonate, with ochraceous orange and ochraceous buff zones; gills close, decurrent, sometimes forked near the stalk... <i>Lactarius psammicola</i> var. <i>psammicola</i>	
47b	Cap azonate, whitish to buff; gills close or crowded, adnate or decurrent, seldom forked.....	<i>Lactarius pubescens</i>
48a	Odor of the crushed flesh distinctive.....	49
48b	Odor of the crushed flesh not distinctive.....	57
49a	Flesh odor like raw pumpkin; cap ochraceous buff to ochraceous orange; latex acrid.....	<i>Lactarius agglutinatus</i>
49b	Flesh odor not like raw pumpkin.....	50
50a	Flesh odor pungent and very unpleasant, staining pale reddish cinnamon; cap olive-buff to pale smoky brown, paler at the margin; latex scant, white; gills crowded, decurrent.....	<i>Lactarius fumosus</i> var. <i>fumosoides</i>
50b	Flesh odor not unpleasant.....	51
51a	Flesh odor like anise or coconut.....	52
51b	Flesh odor fragrant, often like maple sugar or burnt sugar; latex acrid, unpleasant, or not distinctive.....	53
52a	Cap pale vinaceous gray to pale lilac-gray or whitish; latex slowly and slightly acrid....	<i>Lactarius glyciosmus</i>
52b	Cap dark pinkish brown to dark pinkish gray; latex quickly acrid.....	<i>Lactarius hibbardae</i>

- 53a Cap margin marked out into small areas by very fine cracks; cap rusty brown to pinkish cinnamon, typically papillate or umbonate at maturity; latex watery to whey-like, not staining tissues, taste mild.....*Lactarius rimosellus*
- 53b Cap margin not marked out into small areas.....54
- 54a Cap 1.5-5 cm wide, red-brown fading to vinaceous pink in age; latex taste disagreeable to bitter, but not acrid.....*Lactarius camphoratus*
- 54b Cap and latex not as above.....55
- 55a Cap 3-15 cm wide, orange-brown to pale cinnamon brown; latex watery on exposure, mild.....*Lactarius helvus*
- 55b Cap and latex not as above.....56
- 56a Flesh taste mild then slowly becoming weakly acrid; cap purplish brown with a paler pinkish brown to pinkish buff margin; stalk whitish at first, becoming like the cap, darkening progressively toward the apex as the specimen matures.....*Lactarius quietus*
- 56b Flesh taste mild; cap purplish brown with pinkish brown interzonal areas when the cap is zonate; stalk colored like the cap or paler.....*Lactarius mutabilis*
- 57a Cap vinaceous to dull grayish purple or brownish purple, dry, with erect fascicles of dark scales; gills whitish at first, soon vinaceous buff.....*Lactarius purpureoechinatus*
- 57b Cap differently colored.....58
- 58a Cap yellow to orange or tawny orange.....59
- 58b Cap differently colored.....62
- 59a Growing among sphagnum mosses in bogs or wet woodlands; cap viscid, shiny, bright orange to pinkish orange; latex scant, mild.....*Lactarius splendens*

- 59b Growing in woodlands or grassy areas.....60
- 60a Cap zonate with alternating zones of buff and pale tan to darker dull orange; flesh taste very strongly burning acrid.....*Lactarius psammicola* f. *glaber*
- 60b Cap azonate.....61
- 61a Cap with conspicuous concentric wrinkles near the margin, dull yellow to dull orange at first, becoming brownish orange; latex mild....*Lactifluus hygrophoroides* var. *rugatus*
- 61b Cap lacking concentric wrinkles, orange to dull orange; latex mild....*Lactifluus hygrophoroides* var. *hygrophoroides*
- 62a Cap white, whitish, creamy white or buff.....63
- 62b Cap differently colored.....66
- 63a Growing on the ground with willow or poplar trees; white to whitish, sometimes with stains varying in color from pinkish to lavender or brownish, usually with indistinct, narrow, darker zones near the margin.....*Lactarius controversus*
- 63b Growing on the ground with various conifers or broadleaf trees, but usually not with willows or poplars.....64
- 64a Gills close to crowded, white at first, soon creamy yellow then bright ocher-yellow, latex taste slowly and distinctly acrid.....*Lactarius zonarius* var. *riparius*
- 64b Gills crowded to very crowded, whitish to dull creamy white.....65
- 65a Latex drying pale bluish green, not staining tissues, taste quickly and strongly acrid.....*Lactifluus glaucescens*
- 65b Latex drying yellowish, not staining tissues or sometimes slowly staining gills yellowish, taste quickly and strongly acrid.....*Lactifluus piperatus*
- 66a Cap some shade of gray.....67

- 66b Cap pinkish buff, to pinkish cinnamon, ocher, orange-cinnamon, reddish brown, brick red, dark brownish red to bay red or dark brown.....70
- 67a Gills subdistant to distant, pale yellowish at first, becoming ocher-yellow; cap zonate with gray and brown zones; latex whitish, extremely acrid.....*Lactarius pyrogalus*
- 67b Gills and cap not as above.....68
- 68a Gills close to subdistant, pale pinkish buff at first, becoming pale pinkish cinnamon; cap faintly to distinctly zonate, pinkish gray to pale gray with gray-brown spots and streaks; latex dull creamy buff, taste very acrid.....*Lactarius pseudoflexuosus*
- 68b Gills, cap and latex not as above.....69
- 69a Gills close, white, not staining when bruised; spore print white.....*Lactarius cinereus* var. *cinereus*
- 69b Gills crowded, white to cream, spotting brownish in age; spore print pale yellow....*Lactarius cinereus* var. *fagetorum*
- 70a Cap small, sometimes with a depressed center, usually with an umbo, margin scalloped and radially grooved when mature, distinctly wrinkled, especially toward the center, brown; latex scant, watery....*Lactarius louisii*
- 70b Cap not with the above combination of features.....71
- 71a Taste of the latex mild after two minutes.....72
- 71b Taste of the latex slightly to extremely acrid within two minutes.....77
- 72a Gills distant; cap 4-5.5 cm wide, brown on the disc, paler and grayer toward the margin; growing on the ground with broadleaf trees, especially beech; flesh staining brownish.....*Lactarius gerardii* var. *fagicola*

- 72b Gills close; fruitbody not as above.....73
- 73a Growing under alder in swampy or wet areas; cap 2-7.5 cm wide, dark reddish brown at first, fading to vinaceous-brown then pinkish cinnamon.....*Lactarius alpinus* var. *mitis*
- 73b Growing with different trees or habitats.....74
- 74a Cap rimose-areolate, 2-7 cm wide, pecan brown to orange-red; growing on the ground with oaks; flesh sometimes fragrant.....*Lactarius areolatus*
- 74b Growing with other trees or in different habitats....75
- 75a Growing on the ground with beech or mixed broadleaf trees; cap 3-10 cm wide, dull brownish orange; gills pale vinaceous pink with vinaceous red edges, discoloring vinaceous red overall in age.....*Lactarius badiopallescens*
- 75b Growing on decaying wood or among sphagnum mosses.....76
- 76a Cap 1-4.5 cm wide, translucent-striate, rusty to cinnamon-red or apricot orange, fading to orange-buff; flesh thin, fragile.....*Lactarius neotabidus*
- 76b Cap 1.5-5 cm wide, not translucent-striate, dark purple-brown to purple-gray overall when young, fading to brownish gray or dull gray and remaining darkest on the disc.....*Lactarius griseus*
- 77a Cap viscid to glutinous when fresh, shiny when dry.....78
- 77b Cap dry or moist but not viscid to glutinous.....81
- 78a Cap ocher to pale pinkish cinnamon, lighter toward the margin; latex white, drying white; stalk not scrobiculate.....*Lactarius affinis*
- 78b Cap differently colored.....79
- 79a Stalk scrobiculate; cap dark reddish brown at the center, pinkish cinnamon on the margin.....*Lactarius hysginus*

- 79b Stalk not scrobiculate.....80
- 80a Cap dark dingy chocolate brown on the disc, becoming pinkish buff toward the margin; spore print white; latex drying bluish green to olive....*Lactarius mucidus*
- 80b Cap grayish at first, developing cinnamon to pale brick red tones at maturity, often spotted with cinnamon or brown; spore print pinkish buff.....*Lactarius trivialis*
- 81a Gills subdistant to distant.....82
- 81b Gills close to crowded.....83
- 82a Cap brown to yellow-brown or tan, velvety when dry; stalk dark brown to yellow-brown, paler and often plicate at the apex....*Lactarius gerardii* var. *gerardii*
- 82b Cap pinkish buff to pale pinkish cinnamon; stalk whitish to pinkish buff.....*Lactarius sumstinei*
- 83a Cap distinctly zonate, dull brick red or orange-brown; gills pale cinnamon buff at first, becoming pinkish cinnamon and darkening with age.....*Lactarius peckii*
- 83b Cap azonate or very weakly zoned.....84
- 84a Cap pale cinnamon to pale pinkish cinnamon, typically pitted and stained with darker pinkish cinnamon; stalk pinkish white.....*Lactarius imperceptus*
- 84b Cap more richly colored.....85
- 85a Cap 1-4.5 cm wide, with a small, pointed umbo, dark reddish brown to orange-brown, paler toward the margin, fading to pale orange-brown, but the umbo retaining the darker color and resembling an eyespot.....*Lactarius oculatus*
- 85b Cap not as above.....86
- 86a Cap dark rusty red to dark bay red, dark reddish brown or chestnut brown.....87

- 86b Cap apricot orange to brownish orange, pale gray-brown,  
or pale smoky brown.....88
- 87a Gills attached to slightly decurrent, crowded, not staining  
when bruised; latex taste intensely acrid....*Lactarius rufus*
- 87b Gills decurrent, close, not staining when bruised; latex  
taste slowly acrid.....*Lactarius hepaticus*
- 88a Cap brownish orange to apricot orange or orangey  
cinnamon; stalk base often white and strigose; latex  
taste slowly slightly acrid.....*Lactarius theiogalus*
- 88b Cap pale gray-brown to pale smoky brown, finely  
wrinkled; stalk base often with white mycelium; latex  
quickly acrid.....*Lactarius subgerardii*