

**A KEY TO GILLED MUSHROOMS IN THE AUDUBON FIELD  
GUIDE**

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**FROM SUMMER 1985  
*MUSHROOM THE JOURNAL***

# Spores

*White to Cream or Yellow (Otherwise proceed to other three classifications of spore color)*

1. Gills and or flesh exuding white, colored or clear fluid (latex) when cut; gills attached; veils absent; on the ground--*Lactarius* pp. 680-697
1. Gills, etc., not exuding latex when cut--2
  2. Gills brittle, typically flaking when flicked with finger; cap often some shade of red or purple; gills attached; veils absent; on the ground-- *Russula* pp. 697-707
  2. Gills not as above--3
3. A ring of tissue present on stalk or cuplike tissue about stalk base or both--see Key A.
3. Not as above--4
  4. Stalk off-center to lateral or absent; on wood or wood debris--see Key B
  4. Stalk typically central; habitat various--5
5. Mushrooms small; cap less than 2 inches across; stalk short or slender--see Key C.
5. Mushrooms larger--see Key D.

## Key A

1. Gills free (not attached to stalk)--2
1. Gills attached to stalk--13
  2. Ring of tissue (skirtlike or bandlike) present on stalk--3
  2. Ring absent--10
3. Saclike cup of tissue (volva) present about stalk base-- e.g. *Amanita phalloides* p. 543
3. Saclike cup absent--4
  4. Tissue remnants, rows of concentric patches or cuplike rim near stalk base--e.g. *Amanita pantherina* p. 541
  4. Stalk base smooth (or appearing so)--5
5. Cap slimy or sticky when fresh--e.g. *Limacella solidipes* p. 554
5. Cap dry to moist, not slimy--6
  6. Cap usually adorned with patches (removable without tearing cap flesh)--e.g. *Amanita rubescens* p. 546
  6. Cap scaly or smooth but not adorned with removable (veil) patches--7
7. Cap scaly, usually with central nipple, knob or disc; ring usually movable--*Lepiota* pp. 513-523
7. Not as above--8
  8. Cap smooth; mushroom white; ring movable; growing in grass--*Lepiota naucina* p. 519
  8. Not as above--9
9. Mushrooms small to large; cap scaly; in grass or woods; spore print white--*Lepiota* pp. 513-523
9. Mushrooms typically large; cap scaly; in grass; spore print grayish green-- *Chlorophyllum molybdites* p. 509
  10. Saclike cup present about stalk base; cap margin radially lined--e.g. *Amanita fulva* p. 536
  10. Saclike cup absent; cap margin lined or smooth--11
11. Cap slimy or sticky when fresh--e.g. *Limacella glioderma* p. 554
11. Cap dry to moist, not slimy --12
  12. Cap margin radially lined; cap or stalk powdery--e.g. *Amanita farinosa* p. 533
  12. Cap margin radially lined or smooth; cap and stalk smooth --*Amanita* (altered by weather, etc.)
13. Universal veil present (egglike structure encasing entire immature mushroom). (On maturing mushrooms this appears as removable patches or loose powder on the cap and or patches, powder or a saclike cup about stalk base, or a slime layer over cap and on stalk)--14
13. Universal veil absent (or its remnants not observed)--20
  14. Saclike cup present about stalk base; gills mostly or nearly free--*Amanita*

- 14. Not as above--15
- 15. Mushroom large or stout; gills descending stalk; double partial veil present on stalk (may be incorrectly interpreted as a universal and partial veil)--*Catathelasma* pp. 741-742
- 15. Not as above--16
  - 16. Scalelike, patchlike or powdery tissue on cap or about stalk base; mushrooms usually whitish to gray; stalk often "rooting"--e.g. *Amanita cokeri* p. 531
  - 16. Not as above--17
- 17. Scales present on cap and stalk base; ring or ring zone present on upper stalk; rising from underground bulblike structure, rare--*Squamanita* p. 524
- 17. Not as above--18
  - 18. Universal veil granular-warty, leaving patches on cap and encasing stalk--*Dissoderma* p. 512
  - 18. Universal veil slimy, leaving slime layer on cap and stalk --19
- 19. Gills mostly or nearly free-- *Limacella* p. 554
- 19. Gills clearly attached--e.g. *Hygrophorus olivaceoalbus* p. 664.
  - 20. Partial veil double (may be misinterpreted as universal and partial veil)--*Catathelasma* pp. 741-742
  - 20. Not as above--21
- 21. Sleeve-like tissue encasing stalk to near top (with exceptions); on the ground-- 22
- 21. Not as above; mushroom on wood--30
  - 22. Cap dry--23
  - 22. Cap slimy to tacky--27
- 23. Mushroom rising from underground bulblike structure--24
- 23. Not as above--25
  - 24. Scales present on cap and stalk base; ring or zone present on upper stalk--*Squamanita* p. 524
  - 24. Patches on cap; sleeve-like tissue encasing stalk--*Dissoderma* p. 512
- 25. Cap and stalk granular-warty --*Cystoderma* pp. 510-51
- 25. Not as above--26
  - 26. Ring conspicuous, usually atop sheathing stalk covering --*Armillaria* pp. 731-735
  - 26. Ring or ring zone present on upper stalk; stalk smooth or appressed scaly--*Tricholoma cingulatum* (not in Audubon field guide)
- 27. Gills mostly or nearly free--*Limacella* p. 554
- 27. Gills clearly attached--28
  - 28. Ring typically conspicuous and membranous--*Armillaria* pp. 731-735
  - 28. Not as above--29
- 29. Gills notched at stalk; ring zone on upper stalk and appressed scaly below zone --*Tricholoma aurantium* p.799
- 29. Gills attached or slightly descending stalk; ring zone present in a few--e.g. *Hygrophorus olivaceoalbus* p. 664
  - 30. Usually at base of trees, about stumps; clustered; fleshy; honey-colored--*Armillariella mellea* p. 736
  - 30. Not as above--31
- 31. Stalkless; tough; very small; numerous on logs and fallen branches--*Tectella patellaris* p. 798
- 31. Not as above--32
  - 32. On trees; whitish; fleshy-firm; gill edges smooth-- *Pleurotus dryinus* p. 792
  - 32. On railroad ties or plants; toughish; gill edges saw-toothed or uneven--*Lentinus lepideus* p. 766

## Key B

### (Stalk Off-Center to Lateral or Absent)

- 1. Mushrooms tough to leathery or woody--2
- 1. Mushrooms fleshy to firm-- 10
  - 2. Mushrooms tough--3
  - 2. Mushrooms leathery to woody -- 7
- 3. Gill edges saw-toothed or uneven--4

3. Gill edges smooth--5
  4. Stalkless or funnel shaped--*Lentinellus* p. 765
  4. Stalk off-center or central--*Lentinus* pp. 766-767
5. Veil present over gills--*Tectella patellaris* pp. 798-799
5. Veil absent--6
  6. Mushroom often densely, coarsely hairy--*Panus* p. 791
  6. Mushroom somewhat hairy; gills often brownish; taste sharply acrid--*Panellus stipticus* p. 790
7. Mushroom fanlike; "gills" irregular, fleshy--8
7. Mushroom shelflike; "gills" regular, leathery--9
  8. Cap white-hairy; "gills" split lengthwise--*Schizophyllum commune* pp. 493-494
  8. Cap tan to brownish; "gills" crisped-curly and veined--*Plicaturopsis crispa* p. 493
9. Multizoned cap; white "gills"; usually on deciduous wood--*Lenzites betulinus* pp. 469-470
9. Yellow-red to brown cap; brownish "gills", usually on conifer wood--*Gloeophyllum sepiarium* p. 463
  10. Very small (less than one inch across)--11
  10. Medium to large--14
11. Mushroom white--12
11. Mushroom blackish-- *Resupinatus applicatus* p. 795
  12. Stalk distinct; on berry canes --*Marasmiellus albuscorticis* p. 770
  12. Stalk stublike or absent; on wood--13
13. Mushroom dry, fleshy--*Cheimonophyllum candidissimus* p. 743
13. Mushroom dry, but with gelatinized flesh; only on conifers--*Panellus mitis* (see p. 744)
  14. Mushroom reddish to orange yellow with conspicuously netted cap--*Rhodotus palmatus* p. 795
  14. Not as above--15
15. Mushroom yellowish green to violet with yellowish gills--*Panellus serotinus* pp. 789-790
15. Not as above--16
  16. Stalk typically off-center and conspicuous--17
  16. Stalk typically lateral and very short, or absent--19
17. Mushroom yellowish--*Tricholomopsis sulfureoides*. p. 809
17. Mushroom white to buff or tan-18
  18. Typically single and often high on trees; cap cracking in age--*Hypsizygus tessulatus* p. 761
  18. Typically clustered at base of trees; long slender stalked--*Hypsizygus elongatipes* (see p. 761)
19. Mushroom vase shaped--20
19. Mushroom shelflike--21
  20. Gill edges smooth--*Hohenbuehelia* pp. 760-761
  20. Gill edges saw-toothed or uneven--*Lentinellus* p. 764
21. Gill edges saw-toothed or uneven--*Lentinellus* p. 765
21. Not as above--22
  22. Thin-fleshed; white; on decaying conifer wood--*Pleurocybella porrigens* p. 792
  22. Thick fleshed; white to gray or tan (or darker); typically on deciduous wood--*Pleurotus* pp. 793-794

## Key C

(Small, Fragile Mushrooms; Cap Less Than 2 Inches Across, Stalk Slender)

1. Mushroom on cones of conifers or on fallen magnolia fruits--2
  1. Not as above--3
    2. Cap smooth; moist; tan but fading on drying; only on conifer cones--*Baeospora myosura* p 738
    2. Cap smooth to wrinkled and minutely hairy; dry; on both cones and magnolia fruits--*Strobilurus* pp. 797-798
3. On rotting mushrooms--4
  3. Not as above--5

- 4. Cap smooth; gills crowded; rising from tuberlike structure--*Collybia* p. 757
- 4. Cap smooth or powdery; gills distant and malformed; not rising from tuber--*Asterophora* p. 738
- 5. On moss; gills descending stalk--6
- 5. Habitat otherwise--9
  - 6. Gills branching or forked--7
  - 6. Gills not branching or forked--8
- 7. Cap grayish, knobbed; gills white to creamy--*Cantharellula umbonata* p. 741
- 7. Mushrooms yellow to orange or reddish, or brownish with violet gills--*Cantharellus* pp. 387-393
  - 8. Cap and stalk orange to ochre-orange; gills whitish--*Rickenella fibula* p. 796
  - 8. Cap and stalk brownish to yellowish, dull; usually with lichen--*Omphalina ericetorum* p. 787
- 9. Growing with lichen-- *Omphalina ericetorum* p. 787
- 9. Not as above--10
  - 10. Growing on burn sites, on ground in conifer areas--*Myxomphalia maura* p. 786
  - 10. Not as above--11
- 11. Growing in rows on *Rubus* (e.g., blackberry) canes--*Marasmiellus albuscorticis* p. 770
- 11. Not as above--12
  - 12. Growing on wood--13
  - 12. Not as above--36
- 13. Gills descending stalk--14
- 13. Gills not descending stalk--25
  - 14. Gills branching or forked--15
  - 14. Gills not branching or forked--16
- 15. Cap and stalk orange to brownish orange; gills orange--*Hygrophoropsis aurantiaca* p. 669
- 15. Cap and stalk yellowish brown or darker; gills violet, yellowish or brownish--*Cantharellus tubaeformis* p. 392
  - 16. Gill edges saw-toothed or uneven--*Lentinellus* pp. 764-765
  - 16. Gill edges smooth--17
- 17. Mushrooms associated with snowbanks--*Mycena overholtzii* p. 783
- 17. Not as above--18
  - 18. Mushroom associated with lichen--*Omphalina ericetorum* p. 787
  - 18. Not as above--19
- 19. Cap and stalk smoky ochre; gills bright yellow; spore print yellow--*Gerronema chrysophylla* p. 760
- 19. Not as above--20
  - 20. Cap yellowish, with blackish pointed scales; gills yellowish; spore print yellow--*Clitocybe ectypoides* p. 747
  - 20. Not as above--21
- 21. Often covering stumps; cap orange-brown; stalk tough with tawny hairs at base-- *Xeromphalina campanella* p. 809
- 21. Not as above--22
  - 22. Clustered on decomposed wood or on ground (on buried wood); typically large--*Armillariella tabescens* p. 737
  - 22. Not as above--23
- 23. On logs or buried wood; stalk off-center; mushroom often vase shaped--*Hohenbuehelia* pp. 760-761
- 23. Not as above--24
  - 24. Blackish cap and scaly stalk; often large; in Pacific Northwest--*Clitocybula atrialba* p. 751
  - 24. Brownish cap and smooth stalk; typically large; in Pacific Northwest--*Clitocybe avellaneialba* p. 744
- 25. Stalk usually "bendable," rubbery, or wiry thin--26
- 25. Not as above--29
  - 26. Bruised mushroom with distinctive odor--27
  - 26. Not as above--28
- 27. Odor garliclike--*Marasmius scorodoni* pp. 774-775
- 27. Odor strongly fetid--*Micromphale foetidum* p. 778
  - 28. Gills distant and forked or veined, attached or descending stalk--*Marasmiellus nigripes* pp. 770-771

- 28. Gills attached to or free from stalk; cap usually radially lined--*Marasmius* pp. 771-776
- 29. Cap usually bell-shaped; cap and stalk fleshy--*Mycena* pp. 778-786
- 29. Cap convex; cap fleshy and stalk tough to fibrous or brittle--30
  - 30. Cap, gills, and stalk lavender, aging somewhat brownish, gills crowded--*Baeospora myriadophylla* pp. 739-740
  - 30. Gills distant, colored--31
  - 30. Not as above--32
- 31. Cap, gills and stalk dark brown; about stumps; spore print white--*Collybia alkalivirens* pp. 753-754
- 31. Cap and gills violet; stalk whitish; on the ground; spore print white--*Collybia iocephala* pp. 755-756
  - 32. Mushroom covered with golden granules; gills distant, whitish--*Cyptotrama chrysopeplum* pp. 758-759
  - 32. Not as above--33
- 33. Cap covered with long, coarse hairs and often zoned; stalk often hairy--*Crinipellis* p. 758
- 33. Not as above--34
  - 34. Cap slimy-sticky; stalk covered with dark brown "velvet;" often clustered-- *Flammulina velutipes* p. 759
  - 34. Not as above--35
- 35. Cap and stalk reddish brown; fading on drying; densely clustered--*Collybia acervata* p. 753
- 35. Grayish buff cap with grayish-white stalk; densely clustered--*Clitocybula familia* p. 752
  - 36. Gills descending stalk--37
  - 36. Gills not descending stalk-- 47
- 37. Gills, when cut, exuding a white, colored or clear fluid--*Lactarius* pp. 680-696
- 37. Not as above--38
  - 38. Gills brittle, typically flaking when flicked with finger-- *Russula* pp. 697-707
  - 38. Not as above--39
- 39. Gills branching or forked-- 40
- 39. Gills not branching or forked--42
  - 40. Mushrooms yellow to orange or reddish; gills thick-edged and cross-veined--*Cantharellus* pp. 387-393
  - 40. Not as above--41
- 41. Mushroom dark orange to orange-brown; usually on or near conifer debris--*Hygrophoropsis aurantiaca* p. 669
- 41. Mushroom pinkish to buff; odor spicy fragrant; under conifers--*Hygrophoropsis olida* pp. 669-670.
  - 42. Gill edges saw-toothed or uneven--*Lentinellus* pp. 764-765
  - 42. Gill edges smooth--43
- 43. Gills waxy in look or feel--44
- 43. Gills not waxy--45
  - 44. Mushrooms white, yellow, orange, red or green; gills often distant--*Hygrophorus* pp. 654-667
  - 44. Mushrooms pinkish brown or purplish with pinkish to bright purplish gills--*Laccaria* pp. 762-763
- 45. Stalk central--46
- 45. Stalk off-center to lateral, usually very short--*Hohenbuehelia* pp. 760-761
  - 46. Gills typically long-descending stalk--47
  - 46. Gills only slightly descending stalk, if at all--*Calocybe* p. 740
- 47. Cup sunken in middle; usually associated with lichen --*Omphalina ericetorum* p. 787
- 47. Cap seldom sunken; usually large; a few spicy fragrant--*Clitocybe* pp. 744-751

## Key D

**(Larger Mushrooms; Cap at Least 2 inches Across; Stalk Usually One-Half Inch Thick or More)**

- 1. Gills descending stalk--2
- 1. Gills not descending stalk-- 35
  - 2. Gills when cut exuding a white, colored or clear fluid--*Lactarius* pp. 680 696
  - 2. Not as above--3
- 3. Gills brittle, typically flaking when flicked with a finger--*Russula* pp. 697-707

3. Not as above--4
  4. Gills branching or forked--5
  4. Gills not branching or forked --10
5. Gills more or less well defined--6
5. Gills incomplete or foldlike or veinlike--7
  6. Cap, gills and stalk whitish or yellowish--*Cantharellus* pp. 387-393
  6. Cap and stalk orange to orange-brown; gills orange--*Hygrophoropsis aurantiaca* p. 669
7. Cap, gills and stalk yellowish to orange--8
7. Cap, gills and stalk with blue or purple tones--9
  8. Cap well-formed; gills well-formed, foldlike or smooth--*Cantharellus* pp. 387-393
  8. Mushroom funnel-shaped; gills mostly foldlike or veinlike--*Gomphus floccosus* pp. 396-397
9. Violet to ochre-buff mushroom; "gills" wrinkled or ridged; typically single--*Gomphus clavatus* p. 396
9. Blue to purplish mushroom in large clusters; "gills" variously shaped, indistinct--*Polyozellus multiplex* pp. 397-398
  10. Gill edges saw-toothed or uneven or becoming so in old age--11
  10. Gill edges smooth--12
11. Stalk long or short, but distinct and central to off-center--*Lentinus* pp. 766-76
11. Stalk usually short or indistinct, and lateral, with gills often extending to base--*Lentinellus* pp. 764-765
  12. Growing on wood or on the ground on buried wood--13
  12. Not as above--24
13. Usually growing in large clusters--14
13. Not as above--15
  14. Cap, gills and stalk bright orange (green tinged in California); often at the base of trees--*Omphalotus* pp. 787-788
  14. Caps yellowish brown with blackish hairlike scales; near trees; on buried wood--*Armillariella tabescens* p. 737
15. Mushrooms orange to yellowish--16
15. Not as above--18
  16. Cap, gills and stalk bright orange (green tinged in California); often at base of trees--*Omphalotus* pp. 787-788
  16. Not as above--17
17. Cap, gills and stalk yellowish, usually overlaid with blackish to reddish scales--*Tricholomopsis* pp. 807-809
17. Caps yellowish brown with blackish hairlike scales; usually in large clusters--*Armillariella tabescens* p. 737
  18. Mushrooms blackish, brownish or brownish gray--19
  18. Mushrooms whitish to grayish or buff--21
19. Brownish gray cap streaked with dark fibrils; gills whitish, very broad--*Tricholomopsis platyphylla* pp. 807-808
19. Not as above--20
  20. Blackish cap and scaly stalk; in Pacific Northwest--*Clitocybula atrialba* pp. 751 -752
  20. Brownish cap and smooth stalk; in Pacific Northwest--*Clitocybe avellaneialba* p. 744
21. Usually single on standing trees; cap cracking and whitish becoming buff--*Hypsizygus tessulatus* p. 761
21. Not as above--22
  22. Usually clustered on fallen trees or at base; long stalked; creamy buff--*Hypsizygus elongatipes* (see p. 761)
  22. Not as above--23
23. Mushroom usually shelflike; stalk absent or short; gills long-descending; cap white, gray or brownish; spore print white or lilac-gray--*Pleurotus* pp. 793-794
23. Mushroom usually fanlike; flesh with gelatinous feel--*Hohenbuehelia* pp. 760-761
  24. Usually growing in large clusters of fairy rings--25
  24. Not as above--28
25. Caps grayish yellow to yellowish brown, smooth; in grassy areas--*Lyophyllum decastes* pp. 768-769
25. Not as above--26

26. Cap, gills and stalk whitish; caps misshapen; along roadsides on Pacific Coast-- *Clitocybe dilatata* p. 746  
 26. Not as above--27
27. Whitish to brown cap with chalklike stalk rising from dense white mycelial mat--*Leucopaxillus* pp. 767-768  
 27. Whitish to buff cap; usually very large; often in fairy rings--*Clitocybe gigantea* p. 748  
 28. Gills waxy in look or feel; mushroom usually brightly colored--*Hygrophorus* pp. 654-668  
 28. Not as above--29
29. Gills bruising black; cap white to gray--*Lyophyllum* (not in Audubon field guide)  
 29. Not as above--30  
 30. Large mushroom rising from dense mat of white mycelium; flesh often bitter--*Leucopaxillus* pp. 767-788  
 30. Not as above--31
31. Odor distinctive--32  
 31. Odor not distinctive; cap white to gray or buff--*Clitocybe* pp. 744-751  
 32. Odor anise-like; cap greenish to blue--*Clitocybe odora* p. 750  
 32. Not as above--33
33. Odor spicy; cap orange-brown--*Clitocybe inversa* (not in Audubon field guide)  
 33. Odor fragrant; cap white to light pinkish gray brown--34  
 34. Cap white--*Clitocybe fragrans* (see p. 751)  
 34. Cap light pinkish gray-brown --*Clitocybe suaveolens* p. 751
35. Gills when cut exuding a white, colored or clear fluid--*Lactarius* pp. 680-696  
 35. Not as above--36  
 36. Gills brittle, typically flaking when flicked with finger--*Russula* pp. 697-707  
 36. Not as above--37
37. Gills free or nearly so--38  
 37. Not as above--41  
 38. Cap and or stalk slimy--*Limacella* p. 554  
 38. Not as above--39
39. Cap smooth or powdery or with removable patches; stalk ringless and smooth or powdery or with tissue debris about base of stalk; mostly in woods--*Amanita* (damaged) pp. 525-553  
 39. Not as above--40  
 40. Cap scaly; stalk ringless and smooth--*Lepiota* (damaged)  
 40. Cap smooth, white; stalk ringless and smooth, white; in lawns--*Lepiota naucina* (damaged) p. 719
41. Mushroom rooting, usually deep in ground--42  
 41. Not as above--44  
 42. Cap white to gray, with patches or powder; ring often lost; stalk base scaly--*Amanita* pp. 525-553  
 42. Not as above--43
43. Cap convex to flat, brownish; stalk long, slender, rigid; under deciduous trees-- *Oudemansiella* pp. 788-789 (now *Xerula* in most books)  
 43. Cap conical or knobbed, brownish; deep-rooted; under redwood trees--*Caulorhiza umbonata* p. 743  
 44. Large grayish brown cap; broad whitish gills; stalk attached by whitish cords--*Tricholomopsis platyphylla* pp. 807-808  
 44. Not as above--45
45. Gills yellowish; cap and stalk yellowish with blackish or reddish fibrils--*Tricholomopsis* pp. 807-809  
 45. Not as above--46  
 46. Gills waxy in look or feel-- 47  
 46. Not as above--48
47. Mushrooms white, yellow, orange, red or green; gills often distant--*Hygrophorus* pp. 654-667  
 47. Mushrooms pinkish brown or purplish with pinkish to bright purplish gills--*Laccaria* pp. 762-763  
 48. Cap fleshy; stalk fibrous, often slender--49  
 48. Cap fleshy; stalk fleshy or chalklike, thickish--54
49. Mushroom staining on bruising--50

- 49. Not as above--52
  - 50. Gills bruising blackish; cap white to gray--*Lyophyllum* (not in Audubon field guide)
  - 50. Not as above--51
- 51. Cap whitish, becoming rusty stained or spotted--*Collybia maculata* p. 756
- 51. Cap grayish to grayish brown; flesh bruising reddish--*Porpoloma umbrosum* p. 794
  - 52. Stalk straight, stiff, with outer layer of spiraling fibers--*Melanoleuca* pp. 776-777
  - 52. Not as above--53
- 53. Stalk "bendable" or rubbery; gills nearly free to free and distant--*Marasmius* pp. 771-776
- 53. Stalk fibrous to brittle or tough; gills attached and crowded--*Collybia* pp. 753-757
  - 54. Mushroom usually bitterish; large; rising from white mycelial mat--*Leucopaxillus* pp. 767-768
  - 54. Not as above--55
- 55. Blue to blue-green or greenish mushrooms with anise odor--*Clitocybe odora* p. 750
- 55. Not as above--56
  - 56. Bluish to violet to tan cap; violet to buff gills; fragrant; spore print buff--*Clitocybe nuda* pp. 749-750
  - 56. Cap whitish to yellowish to brown, often scaly or fibril streaked; gills whitish, notched at stalk; spore print white--*Tricholoma* pp. 799-806

## Spores

### *Pink to Salmon, Brownish-Pink, or Reddish*

- 1. Stalk lateral or absent; mushrooms on wood--2
- 1. Stalk typically central, sometimes off-center--3
  - 2. Small to medium sized, hairy, buffy caps; orange-yellow gills; malodorous--*Phyllotopsis nidulans* p. 791
  - 2. Very small mushrooms on logs and wood debris about stump bases--*Claudopus* (not in Audubon field guide)
- 3. Saclike cup present about stalk base; on ground or wood--*Volvariella* pp. 677-679
- 3. Saclike cup absent--4
  - 4. Gills typically free--5
  - 4. Gills attached--7
- 5. Partial veil present--6
- 5. Partial veil absent; typically on wood or wood debris--*Pluteus* pp. 673-676
  - 6. Ring present on stalk--*Chamaeota* (not in Audubon field guide)
  - 6. Ring zone on stalk and partial veil remnants along cap margin--*Melanophyllum echinatum* p. 523
- 7. Gills long-descending stalk--8
- 7. Gills attached but not descending stalk--10
  - 8. Mushroom found with fused clusters of irregular, whitish, lumpish masses--*Entoloma abortivum* pp. 641-642
  - 8. Not as above--9
- 9. Cap dry, feltlike, grayish white; odor redolent of bread dough--*Clitopilus prunulus* p. 641
- 9. Cap dry, concentrically zoned, grayish white to buff; odor cucumberlike--*Rhodocybe mundula* pp. 648-649
  - 10. Cap scaly, dark brown; stalk hairy, brownish; coarse stiff hairs at base--*Pouzarella nodospora* p. 648
  - 10. Not as above--11
- 11. Growing on wood--12
- 11. Growing on the ground--13
  - 12. Cap ridged and pitted, pink to yellow-orange; stalk off-center, short--*Rhodotus palmatus* p. 795
  - 12. Clustered at base of trees and stumps; stalk central, fragile; gills reddish--*Psathyrella conissans* p. 605
- 13. Odor strongly fishy; dark red-brown cap (fading) and stalk--*Macrocystidia cucumis* p. 769
- 13. Not as above--14
  - 14. Cap violet, becoming tannish; gills violet, becoming buff; spore print pinkish buff --*Clitocybe nuda*

pp. 749-750

- 14. Not as above--15
- 15. Cap large and or fleshy; stalk fleshy--16
- 15. Cap small and or thin-fleshed; stalk slender--17
  - 16. Mushrooms mostly whitish to brownish; cap convex to flattish; cap and stalk fleshy--e.g. *Entoloma sinuatum* p. 645
  - 16. Cap and stalk bluish gray, fleshy; gills becoming pinkish--*Entoloma madidum* p. 642
- 17. Cap and stalk brownish, tinged violet, fibrous-scaly; gills becoming pinkish--*Entoloma violaceum* p. 632
- 17. Not as above--18
  - 18. Mushrooms often bluish; cap convex to flattish, thin-fleshed with central depression; gills often bluish, becoming pinkish (also known as *Leptonia*)--e.g. *Entoloma serrulatum* p. 644
  - 18. Mushrooms mostly colorful; cap conical to bell-shaped, thin-fleshed; stalk slender (also known as *Nolanea*)--e.g. *Entoloma salmoneum* p. 644

# Spores

## Ochre to Rust or Chocolate Brown

- 1. Mushroom stalkless or nearly so--2
  - 1. Not as above--3
    - 2. Cap variously colored; gills whitish becoming brownish; thin-fleshed; on wood--*Crepidotus* pp. 636-637
    - 2. Cap and gills yellowish; gills easily separable from cap flesh; fleshy; on wood--*Paxillus panuoides* p. 672
  - 3. Stalk off center to lateral, stout, dark velvet; on wood-- *Paxillus atrotomentosus* p. 670
  - 3. Stalk central or nearly so--4
    - 4. Gills when cut exuding a white, colored or clear liquid --*Lactarius* pp. 680-696
    - 4. Not as above--5
  - 5. Gills brittle, typically flaking when flicked with finger--*Russula* pp. 697-707
  - 5. Not as above--6
    - 6. Gills descending stalk--7
    - 6. Gills not descending stalk--10
  - 7. Medium to large fleshy mushrooms--8
  - 7. Small, fragile mushrooms--9
    - 8. Cap brownish; cap margin inrolled; gills dull yellowish, bruising brown--*Paxillus involutes* p. 671
    - 8. Cap reddish to red-brown; gills bright yellowish--*Phylloporus rhodoxanthus* p. 672
  - 9. Little brown mushroom on wood debris; cap adorned with minute whitish flecks--*Tubaria* pp. 638-640
  - 9. Little whitish mushroom with hairy cap margin--*Ripartites tricholoma* pp. 796-797
    - 10 Gills free--11
    - 10 Gills not free--12
  - 11. Broad-capped mushrooms of lawns and open woods; with ring; dark brown spore print--*Agaricus* pp. 500-509
  - 11. Conical, slimy capped mushrooms of conifer woods; with long rooting stalk--*Phaeocollybia* pp. 634-635
    - 12. On wood--13
    - 12. Not on wood--27
  - 13. Cap scaly to powdery--14
  - 13. Not as above--15
    - 14. Cap and, often, stalk scaly--*Pholiota* pp. 712-718
    - 14. Cap and stalk powdery-scaly; small--*Phaeomarasmius erinaceellus* p. 711
  - 15. Ring present--16
  - 15. Ring absent--23
    - 16. Fleshy mushrooms--17
    - 16. Small, fragile-stalked mushrooms--18

- 17. Orange to orange-brown mushrooms with orange to orange brown spore print--*Gymnopilus* pp. 623-624
- 17. Whitish to yellowish or light brown mushrooms with dark brown spore print--*Agrocybe* pp. 556-558
  - 18. On logs and or stumps--19
  - 18. On wood chips, wood mulch, decomposed wood (often buried)--21
- 19. Cap covered with minute whitish fibers--*Tubaria confragosa* pp. 638-639
- 19. Cap smooth--20
  - 20. Cap moist, fading on drying; stalk scaly below ring; often massed on stumps--*Pholiota mutabilis* p. 715
  - 20. Cap moist to sticky, fading on drying; stalk not scaly; scattered on logs--*Galerina autumnalis* p. 620
- 21. Cap, stalk and or veil bruising blue; spore print purple-brown--*Psilocybe stuntzii* p. 725
- 21. No part bruising blue; spore print rusty-brown--22
  - 22. Small, thin ring on upper stalk--*Galerina venenata* p. 622
  - 22. Large, conspicuous ring at mid-stalk on long, thin stalk--*Conocybe filaris* p. 559
- 23. Cap bell-shaped, yellowish, slimy; gills reddish brown, "wet;" spore print cinnamon--*Bolbitius* p. 559
- 23. Cap not bell-shaped--24
  - 24. Cap yellowish to orange or orange-brown; stalk fleshy; spore print orange brown--*Gymnopilus* p. 623
  - 24. Not as above--25
- 25. Cap brownish with whitish fibers on cap; stalk fragile; spore print pale brown-- *Tubaria* pp. 638-640
- 25. Not as above--26
  - 26. Cap velvety, greenish brown (rare)--*Simocybe centunculus* p. 638
  - 26. Cap whitish with hairy margin; spore print pale brown--*Ripartites tricholoma* pp. 796-797
- 27. Mushrooms fleshy, often large--28
- 27. Mushrooms small, fragile--40
  - 28. Partial veil present; ring present or absent--29
  - 28. Partial veil absent--38
- 29. Ring present--30
- 29. Ring absent; hairy ring zone may be present on upper stalk; partial veil cobwebby-- 35
  - 30. Cap dry or powdery but not slimy or scaly--31
  - 30. Cap slimy to sticky and or scaly--33
- 31. Mushrooms yellowish brown and granular-powdery; in Pacific Northwest--*Phaeolepiota aurea* pp. 523-524
- 31. Mushrooms not granular-powdery--32
  - 32. Cap with whitish "frosting" over center; ring usually at mid-stalk--*Rozites caperata* pp. 635-636
  - 32. Mushroom off-white to brownish, smooth; in grassy areas--*Agrocybe* pp. 556-558
- 33. Cap and stalk scaly--34
- 33. Cap slimy, smooth; gills gray-brown; distinct ring; stalk rooting--*Hebeloma radicosum* (not in Audubon field guide)
  - 34. Cap slimy, scaly, brownish; distinct ring; usually along roadsides--*Pholiota terrestris* p. 718
  - 34. Cap dry, scaly, golden; indistinct ring on scaly stalk; pungent odor--*Inocybe terrigena* p. 633
- 35. Gills often brightly colored, becoming rusty brown; mushrooms often large--*Cortinarius* pp. 611-620
- 35. Not as above--36
  - 36. Gills pale grayish brown; mushrooms mostly smallish or slender-stalked--37
  - 36. Gills ochre-brown; mushrooms smallish; caps slimy--*Pholiota lenta* (not in Audubon field guide)
- 37. Cap slimy, smooth; gills often radishy in odor; stalk often powdery at top--*Hebeloma* pp. 624-626
- 37. Cap fibrous or radially lined with hairs and often peaked; gills often malodorous--*Inocybe* pp. 626-633
  - 38. Cap fibrous or radially lined with hairs and often peaked; gills often malodorous--*Inocybe* pp. 626-633
  - 38. Cap slimy--39
- 39. Cap rounded; gills often radishy in odor; stalk often powdery at top--*Hebeloma* pp. 624-626
- 39. Cap peaked; stalk rooting; under conifers--*Phaeocollybia* pp. 634-635
  - 40. Cap conical to bell-shaped; gills usually cinnamon--41
  - 40. Cap conical or bell-shaped to convex or flat; gills light to dark brown--44
- 41. Cap slimy, yellowish; gills seem to be "wet" and collapse--*Bolbitius* p. 559

- 41. Not as above--42
  - 42. Cap conical or broader; stalk base bruising blue; in moss in bogs--*Conocybe smithii* p. 561
  - 42. Not as above--43
- 43. Cap conical or broader; thin stalk with large ring; in grass, moss, wood chips--*Conocybe filaris* pp. 559-560
- 43. Cap dunce-cap shaped; without ring; commonly in lawns--*Conocybe* pp. 560-562
  - 44. Gills light brown to light gray brown--45
  - 44. Gills becoming rusty brown to dark brown--46
- 45. Cap fibrous or radially lined with hairs and often peaked, gills often malodorous--*Inocybe* pp. 626-633
- 45. Cap brownish with minute whitish fibers; stalk fragile--*Tubaria* pp. 638-640
  - 46. Mushrooms of lawns and grassy areas--47
  - 46. Mushrooms of other habitats--49
- 47. Ring present--*Galerina venenata* p. 622
- 47. Ring absent--48
  - 48. Cap and stalk yellowish to buff; gills becoming rusty- -*Agrocybe pediades* pp. 557-558
  - 48. Cap brownish, fading in bands; gills dark brown--*Psathyrella foenisecii* pp. 606-607
- 49. Cap conical to bell-shaped--50
- 49. Cap convex to flat; mushroom of wet alder areas--*Alnicola melinoides* p. 611
  - 50. Cap moist, smooth, knobbed; partial veil cobwebby; under conifers--*Cortinarius gentilis* pp. 615-616
  - 50. Cap moist, radially lined; partial veil absent; in sphagnum bogs - -*Galerina tibicystis* pp. 621-622

# Spores

## **Purple-Brown to Purple-Black, Smoky Black or Black**

- 1. Cap and/or stalk bruising blue or greenish blue, sometimes very slowly--*Psilocybe* pp. 719-725
  - 1. Not as above--2
    - 2. Cap and stalk greenish blue or bluish green; not bruising blue or green--*Stropharia aeruginosa* p. 725
    - 2. Not as above--3
  - 3. Gills free; ring present; spore print dark brownish or tinged purplish brown--*Agaricus* pp. 500-509
  - 3. Gills attached to stalk or, if free, dissolving at maturity into inky mass--4
    - 4. Gills descending stalk; mushroom fleshy; spore print smoky-gray to blackish--5
    - 4. Gills not descending stalk or mushroom small and fragile--6
  - 5. Mushroom flesh white--*Gomphidius* pp. 652-653
  - 5. Mushroom flesh pinkish to orange--*Chroogomphus* pp. 650-651
    - 6. Gills dissolving at maturity into inky mass--*Coprinus* pp. 596-602
    - 6. Gills not dissolving--7
  - 7. Cap radially lined; spore print black; typically in masses--*Coprinus disseminatus* p. 598
  - 7. Not as above--8
    - 8. Stalk typically whitish and fragile; cap dull brownish, moist; on wood debris-- *Psathyrella* pp. 604-609
    - 8. Not as above--9
  - 9. Cap dingy white; spore print blackish; growing on *Coprinus comatus*--*Psathyrella epimyces* p. 606
  - 9. Not as above--10
    - 10. Cap rusty brown, fading; persistent ring on stalk; on ground in woods--*Psathyrella longistriata* p. 608
    - 10. Not as above--11
  - 11. Mushrooms of lawns and grassy areas--12
  - 11. Not as above--14
    - 12. Cap slimy-sticky, yellow; ring on short white stalk; spore print purple-brown--*Stropharia coronilla* p. 727
    - 12. Not as above--13
  - 13. Brownish scaly-hairy cap and stalk; partial veil present; spore print black-brown--*Psathyrella velutina* p. 609

13. Brownish cap fading in bands; stalk off-white, thin, smooth; spore print dark--*Psathyrella foenisecii* p. 606
  14. Spore print black; gills mottled on maturity; on dung--*Paneolus* pp. 602-604
  14. Spore print purple brown to purple-black; gills not mottled--15
15. Caps colorful; clustered on wood; partial veil present, evanescent--*Naematoloma* pp. 708-710
15. Not all as above--16
  16. Tawny cap; long thin stalk; in troops on wood debris-along roadsides--*Naematoloma dispersum* p. 709
  16. Not as above--17
17. Cap fleshy, often large, usually colorful; stalk with ring; cords at stalk base--*Stropharia* pp. 725-730
17. Usually small, fragile, brownish mushrooms; if ring present, then bruising blue--*Psilocybe* pp. 719-725