

## *Mushroom the Journal's*

*Key to the most of the named North American Amanitas*

*by Leon Shernoff*

## Key to Sections

- 1a. Spores amyloid – gills turn black when touched with iodine, 3  
1b. Spores inamyloid – gills do not turn black when touched with iodine; cap often striate 2
2. Subgenus *Amanita*:
- 2a. Cap with prominent striations at maturity; ring often absent  
Section *Vaginatae*, p. 2
- 2b. Cap striations short if present; ring present Section *Amanita*, p. 1
- 2c. Ring and striations both absent; limited to eastern NA 3
- 3a. Cap pale yellow to white; stalk base caligiate *A. albocreata*  
Belongs with the Eastern *Gemmatas* (#7 under Section *Amanita*)
- 3b. Stalk base a small rounded bulb or slightly swollen; cap, stem and stalk dusted or encrusted with powder 4
- 4a. Cap bright red when young, fading to orange around the edges; gills yellowish; powder yellow *A. parviovata*  
Limited to the SE and very common there; belongs in Subsection *Amanita*, p. 1
- 4b. Not as above  
See Subsection *Crenulata*, #8 under Section *Amanita*, p. 2
3. Subgenus *Lepidella*
- 3a. Stalk with a clear cup at the base 4
- 3b. Stalk lacking a clear cup at the base 5
- 4a. Stalk with a persistent skirt-like ring Section *Phalloideae*, p. 4
- 4b. Stalk lacking a persistent skirt-like ring Section *Amidella*, p. 2
- 5a. Stalk often with a large, hard, scaly rooting bulb at the base; entire mushroom often covered with powder or shreds; cap often with pointy warts or tufts  
Section *Lepidella*, p. 3
- 5b. Cap never tufted or with pointy warts – sometimes with flat flakes that peel off easily; basal swelling small if any, and often rounded; if slightly rooting, then mushroom stains red  
Section *Validae*, p. 4

## Subgenus Amanita

## Section Amanita

1. Cap some shade of bright red, orange or yellow; base of stalk with a stack of hard toothed ridges; ring with a jagged edge 2
1. Cap not brightly colored; base of stalk with hard, round caligate bulb 3
1. Stalk base a small rounded bulb or just swollen slightly; cap, stem and stalk dusted or encrusted with powder 8
2. Subsection Amanita – the Muscaria group
- 2a. Cap persistently bright red, not fading; cap patches white originally *A. muscaria v. muscaria*  
Limited to arctic/sub-arctic regions
- 2b. Cap bright red at first, fading to orange; cap patches yellow at first, fading to white *A. muscaria v. flavivolvata*  
More common in the western states
- 2c. Cap orange-yellow *A. muscaria v. formosa*  
More common in the eastern states
3. The Caligate Amanitas
- 3a. Mushroom large (usually over 4” across and 4” high); cap usually some shade of brown 4
- 3b. Mushroom smallish (usually less than 4” across and 4” high); cap usually some shade of yellow 5
4. Subsection Pantherina – the Panther group
- All three of these “species” are considered varieties of *A. pantherina* by some authors.
- 4a. Cap dark brown; usually about 6” across and 6” high at maturity *A. pantherina*
- 4b. Cap brown or reddish brown with yellowish tones; usually about 8” across and 8” high at maturity *A. velatipes*
- 4c. Cap light brown to tan in center, paler towards the edges; usually about 4” across and 5” high at maturity *A. cothurnata*

## 5. Subsection Gemmata – the gemmata group

5a. Stature husky; round west of the Rockies 6

5b. Stature slender; round east of the Rockies 7

## 6. Western Gemmatas

6a. Cap dull yellow *A. gemmata*

There are many of these on the west coast; they resemble the European *A. gemmata* closely, but are probably not the same thing

6b. Cap bright yellow to yellowish orange *A. aprica*

Synonym: *A. junquillea*

## 7. Eastern Gemmatas

7a. Cap pale yellow; cap patches white *A. russuloides*

7b. Cap bright yellow; cap patches yellow *A. frostiana*

## 8. Subsection Crenulata

8a. Cap grey, very powdery *A. farinosa*

8b. Cap peachy maroon when young, lightening to a pale yellow in maturity; cap sticky; powder greyish brown *A. crenulata*

8c. Cap pinkish yellow, cap never sticky; powder yellow *A. wellsii*

8d. Cap very pale pink, with greyish pink warts when very young; powder rusty pink, often peels away in sheets; known from the southeast *A. roseitincta*

## Section Vaginatae

1a. Mushroom larger than an inch across 2

1b. Mushroom at most an inch across, 2" high 3

2a. Ring absent 4

2b. Ring present 10

## 3. Subsection Virginianae – the Tiny Vaginatae

3a. Gills tinged orange or pink; rest of the mushroom completely white *A. ristichii*

3b. Cap deep brown in the center, lightening towards the margin *A. virginiana*

3c. Cap uniformly grey *A. pachysperma*

## 4. Subsection Vaginatae – the Grisettes

4a. Cap yellow, orange, pink, or some shade of brown 5

4b. Cap charcoal grey, often with a metallic sheen 10

## 5. The bright Grisettes

5a. Cap yellowish brown or orange, fading to yellow at the edges 6

5b. Cap pinkish apricot; cup at base white, quite deep; known only from central California *A. velosa*

6a. Cap more on the orange side

6b. Cap yellowish brown or dark brown

7a. Stalk with prominent orange bands; cup at base white, persistent *A. crocea*

7a. Stalk lacking prominent orange bands; cup at base grey, extremely fragile *A. sinicoflava*

8a. Cap tawny brown to yellowish brown; mostly known from eastern NA

*A. fulva*

8b. Cap dark brown, prominently zoned in a bulls-eye pattern 10

9a. Known only from the west coast *A. pachycolea*

9a. Known only from eastern NA *A. umbrinolutea*

## 10. The true Grisettes

10a. Basal cup collapsed tightly against the stem; cap patches and cup grey *A. inaurata*

Synonyms: *A. strangulata*, *A. ceciliae*

10b. Basal cup free-standing, sac-like; cap patches and cup white *A. vaginata*

## 11. Subsection Caesareae – the Caesar's mushrooms

11a. Cap bright red or orange; gills bright yellow 12

11b. Cap orange to yellowish brown; gills yellowish; known only from central California *A. calyptrata*

11c. Cap yellowish brown, lighter at the edges; gills white; known only from south-eastern NA

*A. arkansana* or *A. murrilliana*

12a. Red fibrils present on stalk, coloring the yellow stalk orange *A. jacksonii*

Synonyms: *A. umbonata*, *A. hemibapha*

12b. No red fibrils; stalk pure yellow *A. caesarea*

## Subgenus Lepidella

## Section Amidella

1a. Cap white, perhaps with some darker powder on it 2

1b. Cap brown, grey, or greenish grey 3

## 2. White Amidellas

2a. Mushroom entirely white *A. volvata*

2b. Cap encrusted with pinkish brown powder *A. peckiana*

### 3. Unnamed Amidellas

At present, there are no names available for any of these taxa except for one.

Except as noted, they are only about 2-3" across and high. Brown Amidellas of this size can be collected all across the country.

3a. Cap brown; up to 6" high and across; known from Minnesota *unnamed*

3b. Cap dark brown; known from southern California *unnamed*

## Section Lepidella

1. Mushroom entirely white 2

1. Mushroom with some coloring 9

### 2. White Lepidellas

2a. Cap covered with pointy warts or basal bulb large 3

2a. Cap lacking pointy warts; basal bulb small; ring absent, or present only as a few shreds 4

2c. Cap shaggy; grows in grass; smells bad; known from the Gulf Coast through central Illinois *A. thiersii*

### 3. Scaly White Lepidellas

3a. Scales on cap flat; mushroom and bulb extremely large

*A. rhopalopus v. turbinata*

3b. Scales on cap pointy; bulb moderate, sloping, often cleft *A. cokeri*

There are several American mushrooms passing under this name. In the northeast, the most common version bruises pink and smells of cedar. In California, this name is used for something without a ring.

3c. Scales pointy; bulb rounded, caligate; ring often disappears in age

*A. mutabilis*

3d. Scales pointy, huge (often more than a cm across); known only from California *A. magniverrucata*

4a. Stem and cap with powdery stuff that gets all over your hands 5

4b. Stem and cap not powdery; cap and swollen base often with a few flat scales 7

### 5. Powdery White Lepidellas

5a. Mushroom often quite large (more than 6" tall) and husky; basal bulb rounded, smooth *A. polypyramis*

The "powder" is actually tiny pointy scales

5b. Mushroom moderate-sized, slender; basal bulb scaly 4

6a. Basal bulb deeply rooted, often curved or crooked; no smell *A. longipes*

6b. Basal bulb not deeply rooted, smell (sometimes faint) of chlorine or rotting

ham

*A. chlorinosma*

### 7. Smooth White Lepidellas

7a. Basal bulb rounded, not deeply rooting; entire mushroom quite smooth and large *A. polypyramis*

7b. Stem base deeply rooting, pointed; stem base and cap often with a few flat (and perhaps brownish) scales; known only from west coast 4

8a. Moderately sized; no smell

*A. silvicola*

8b. Usually quite large; sometimes smells of rotting ham *A. smithiana*

### 9. Colorful Lepidellas

9a. Mushroom pinkish or salmon to rusty pink or yellow 10

9b. Cap grey to olive 11

9b. Cap some shade of brown 13

10a. Cap rough or powdery; basal bulb (and whole mushroom) extremely large *A. daucipes*

10b. Cap covered with very large pointy scales; known from east Texas through southern CA *A. subcaligata*

Synonyms: *A. salmonea*

10c. Cap breaking up into flat colored scales – pinkish yellow when young, getting redder or yellower in age; grows in grass; smells awful *A. nauseosa*  
Synonyms: *A. praegraveolens*

11a. Cap covered with large flat grey to rusty brown scales *A. prairiicola*  
Synonyms: *A. malheurensis*

11b. Cap grey, covered with darker grey very pointy scales; mushroom usually quite small – only 2" or so across; base quite scaly and deeply rooting *A. onusta*

11b. Cap grey to olive, lacking scales but sometimes (along with base of stem) with pale tan or olive shreds or flakes; gills colored like coffee with cream (sometimes tinted with olive or lavender) 12

### 12. The coffee-gilled Lepidellas

12a. Shreds or flakes stain blue green *A. pelioma*

12b. Shreds or flakes do not change color *A. microlepis*

### 13. The scaly Lepidellas

13a. Cap covered with large flat rusty brown scales *A. prairiicola*  
Synonyms: *A. malheurensis*

13b. Cap breaking up into separate chunky brown scales 14

14a. Bruised or cut flesh quickly turns red, then slowly brown and eventually black *A. westii*

14b. Flesh not changing color *A. hesleri*

## Section Phalloideae

- 1b. Cap dark brown to brownish green to dark khaki *A. phalloides* 2  
 1a. Cap white, perhaps brownish in the center 2  
 2a. Mushroom has a smell 3  
 2b. Mushroom grows in sandy soil, almost completely underground; bruises rusty brown on the cup, and sometimes gets similar-colored spots on cap; cap center ages slightly brown or grey *A. cylindrospora*  
 2c. Mushroom has no smell; does not grow in sand 4  
 3a. Mushroom smells of garlic *A. alliacea*  
 3b. Mushroom smells of rotting ham *A. phalloides* v. *alba*  
 4. The Destroying Angels  
 4a. Found on west coast; cap center gets brown or pinkish brown in maturity *A. ocreata*  
 4b. Found east of the Rockies 5  
 5a. Cap turns yellow with KOH *A. bisporigera*  
     Synonyms: *A. virosa*  
 5b. Cap doesn't change color when touched with KOH *A. magnivelaris*  
     Synonyms: *A. verna*, *A. elliptosperma*  
 6a. Cap solid brown; smells of potatoes *A. solaniolens*  
 6b. Cap with greenish tones, with tiny streaks; smells, if anything, of rotting ham *A. phalloides*

## Section Validae

- 1a. Basal bulb large, round, soft/cottony; when scratched, it smells of potatoes; universal veil fragments sometimes with a purplish or lilac tinge 2  
 1b. Basal bulb large, rigid (like stem), vertically cleft; universal veil fragments white 3  
 1c. Basal bulb small, rounded; cap some shade of bright yellow, orange, or red; universal veil fragments yellow 4  
 1d. Stem base at most a slight swelling; mushroom bruises and ages reddish maroon to salmon 5  
 2. The Citrina group  
 2a. Cap pale yellow or pale greenish yellow *A. citrina*  
 2b. Cap brown or purplish brown *A. porphyria*  
 3. The Brunnescens group  
 3a. Cap dark brown, often with white streaks in age *A. brunnescens*  
 3b. Cap white, often with reddish brown streaks *A. aestivalis*

Synonyms: *A. brunnescens* v. *pallida*

4. The Flavoconia group  
 4a. Cap bright pale yellow to egg-yolk yellow to orange *A. flavoconia*  
     This mushroom has two very distinct forms: in the forest it is slim, small and more orange; it also grows in the open, in grass, and then it is larger and quite husky, and pale yellow  
 4b. Cap red *A. flavoconia* var. *inquinata*  
 5. The Blushers  
 5a. Ring absent You have an *Amidella* that lost its cup. Go to Section Amidella, p.2  
 5b. Fruiting body completely white when young 6  
 5c. Cap brown or greyish, usually with yellow tinges 7  
 6. The pale blushers  
 6a. Found in eastern NA; bruises salmon *A. salmoneascent*  
 6b. Found on west coast; bruises reddish maroon *A. novinupta*  
 7. The deep blushers  
 7a. Found in eastern NA; universal veil white; cap greyish, often shiny *A. rubescens*  
 7b. Universal veil yellow; cap brown where not yellow 8  
 8. The yellow blushers  
 Perhaps these two "species" are the same thing  
 8a. Found in eastern NA *A. flavorubens*  
     Synonyms: *A. flavorubescens*  
 8b. Found on west coast *A. franchetii*



**Mushroom**