Tabular Key to

Rubescent Species of *Amanita* Section *Validae*

species epithet	pileus color pre-staining	pre-staining volva color	L'	W'	Q'	[*m*/*n*/*p*]
novinupta	white	white	9.3	6.3	1.48	[1477/73/42]
species AZ10	tan	pallid	9.2	6.0	1.53	[120/6/5]
rubescens var. *rubescens*	brown	pallid	9.2	6.3	1.48	[290/12/7]
flavorubens	yellow	yellow	9.0	6.0	1.51	[160/8/7]
brunneolocularis	?	gray - black	8.6	6.7	1.32	[258/10/6]
rubescens sensu eastern U.S. authors	cream-tan	yellow at first	8.5	6.5	1.31	[40/2/2]
rubescens var. *alba*	white	yellow at first	8.3	5.9	1.41	[141/7/6]
orsonii	pallid	pallid	8.2	6.2	1.31	[153/7/5]
rubescens var. *congolensis*	white	pallid, then dark brownish gray	8.6	5.3	1.65	[120/6/5]
species M11	brown	pallid				

1. **L'** = 9.0 - 9.3 mm; **Q'** = 1.48 - 1.53; not mycorrhizally associated with *Caesalpinaceae*.
   2. Pileus yellow with bronze, brown, or wine-colored stains, pigment washing out in rain; volva yellow; spores with **Q** = (1.34-) 1.37 - 1.61 and **Q'** = 1.51; known from eastern USA, southern Arizona, USA; and central volcanic zone of Mexico .....
   sp 1. *Amanita flavorubens* (Berk. & Mont.) Sacc.
   2. Pileus not yellow at first.
      3. Pileus white at first, with initial staining seeming to be below a translucent surface layer; spores with **Q** = (1.34-) 1.39 - 1.58 (-1.72) and **Q'** = 1.48; known from western USA and western Canada and (probably imported material) from the Canary Islands .....
      sp 2. *Amanita novinupta* Tulloss & J. Lindgren.
      3. Pileus not white at first.
         4. Pileus cream to pale tan at first; spores with **Q** = 1.43 - 1.61 and **Q'** = 1.53; known from southern Arizona and central volcanic zone of Mexico.....
         sp 3. *Amanita species AZ10*.
         4. Pileus brown at first; annulus white or cream or yellow before bruising; spores with **Q** = 1.37 - 1.56 (-1.58) and **Q'** = 1.48; known from Europe and eastern Asia and sometimes appearing with imported plants in S. Africa .....
         sp 4. *Amanita rubescens* (Pers.:Fr.) Pers. f. *rubescens s. str.*

1. **L'** = 8.2 - 8.6 mm; **Q'** < 1.45 or, in *A. rubescens* var. *congolensis* only, > 1.60; predominantly associated with Fagaceae or Pinaceae or, in *A. rubescens* var. *congolensis* only, associated with Caesalpinaceae.

5. Pileus white or pallid at first; universal veil pallid, white, or yellow at first.

6. Pileus known to be white at first; staining lacks distinct orange component; stipe proportionately slender with distinct basal bulb; universal veil sometimes yellow at first; partial veil sometimes yellow on under surface only; spores with **Q** = 1.34 - 1.49 (-1.50) and **Q'** = 1.41; associated with Fagaceae and Pinaceae; known from eastern U.S.A. .....
sp 5. *Amanita rubescens* var. *alba* Coker.

6. Pileus white or pallid at first; staining with distinct orange component; universal veil never yellow; partial veil never yellow in any part; stipe proportionately stocky, in one species broadest well above base and lacking a distinct basal bulb.

7. Pileus white at first; stipe often widest well above base and lacking a distinct basal bulb; known from sub-Saharan Africa; spores with **Q** = 1.44 - 1.81 and **Q'** = 1.67; associated with Caesalpinaceae .....
sp 6. *Amanita rubescens* var. *congolensis* Beeli.

7. Pileus white or pallid at first; known from India, Pakistan, and (possibly) Japan; spores with **Q** = 1.23 - 1.34 (-1.39) and **Q'** = 1.31; associated with Fagaceae and Pinaceae .....
sp 7. *Amanita orsonii* A. Kumar & T. N. Lakh.
?=*Amanita rubescens sensu Japanese authors*.

5. Pileus not white at first.

8. Universal veil gray to nearly black; stipe often with dark gray or blackish fibrils on surface (sometimes densely placed) below annulus; underside of annulus sometimes gray; spores with **Q** = 1.27 - 1.34 (-1.36) and **Q'** = 1.31; associated with *Quercus*; known from Central America and Colombia .....
sp 8. *Amanita brunneolocularis* Tulloss, Ovrebo & Halling.

8. Universal veil pallid at first; stipe lacking dark gray or blackish fibrils on surface; pileus pale or pale yellowish tan at first, possibly turning bronze if dried *in situ*; underside of annulus sometimes yellow; spores with **Q** = 1.23 - 1.38 and **Q'** = 1.31; associated with Fagaceae and Pinaceae; known from eastern Canada and eastern U.S.A. .....
sp 9. *Amanita rubescens sensu eastern U.S. authors*.
sp 10.