

Tulloss DRAFT - July 4, 2008 12:17 pm - Tulloss DRAFT

- AMANITA FLAVESCENS* (E.-J. Gilbert & S. Lund.) Contu. 1988. *Pagine Bot.* 12: 12.
- ≡ *Amanitopsis vaginata* var. *flavescens* (E.-J. Gilbert & S. Lund.) E.-J. Gilbert *nom. inval.* 1940. *Iconogr. Mycol. (Milan)* 27, suppl.: 75, tab. 5 (fig. 2). [Lacking Latin diagnosis. ICBN §36.1]
 - ≡ *Amanita vaginata* var. *flavescens* E.-J. Gilbert & S. Lund. in E.-J. Gilbert. 1941. *Iconogr. Mycol. (Milan)* 27, suppl.: 217.
 - ≡ *Amanita adnata sensu* S. Lund. & Nannf. 1936. *Fungi Exsic. Suec. Upsaliensis*: 308.
 - ≡ *Amanita flavescens* (E.-J. Gilbert & S. Lund.) Kuthan in Kuthan & Kotlaba. 1988. *Sborn. Nár. Muz. v Praze, ada B, Prír. Vdy* 44(3-4): 215. [Superfluous combination.]
 - ≡ *Amanita contui* Bon & Courtecuisse in Bon *nom. inval.* 1989. *Doc. Mycol.* 19(fasc. 76): 74. [Superfluous name; avowed replacement for a previously validly published name. ICBN §52.1]
 - non Venenarius flavescens* Murrill *nom. nud.* 1951. *Univ. Florida Agric. Exp. Sta. Tech. Bull.* 478: 24.
 - ≡ *Amanita rhoadsii* var. *flavotingens* Bas. 1969. *Persoonia* 5: 499, figs. 267, 268. [A species of *Amanita* section *Lepidella*.]

Figs. 15-16

PILEUS: 40 - 50 mm wide, *Buff Yellow* (2.5Y 8.0/7.0); *context* thin; *margin* striate [quite short in exsiccata—(0.1R - 0.15R)], nonappendiculate; *universal veil* absent.

LAMELLAE: adnate by line, not very crowded, with edge of varying form; *lamellulae* truncate to rounded truncate, common, of diverse lengths, unevenly distributed.

STIPE: 75 - 100 mm long, white, subcylindric or slightly narrowing upward; *context* not described; *exannulate*; *universal veil* as saccate volva, membranous, white, adhering to stipe base only (up to one quarter of limb height in exsiccata), having two to four lobes sometimes of very different heights, with interior surface in exsiccata roughly concolorous with pileus as opposed to buff to buffy cream or sordid cream exterior surface, with limb reaching up to nearly half of stipe length.

Odor and *taste* not recorded.

MACROCHEMICAL TESTS: none recorded.

PILEIPPELLIS: with suprapellis of partially gelatinized to gelatinized hyphae colorless and 35 - 60 µm thick, with subpellis of ungelatinized elements orangish yellow and 125 - 175 µm thick; overall 170 - 235 µm thick, exuding yellow pigment in 20% NH₄OH; filamentous, undifferentiated hyphae 2.4 - 6.4 µm wide, branching, interwoven, with some having yellowish subrefractive walls; vascular hyphae 3.2 - 19.2 µm wide, branching, sinuous, occasionally tangling locally, scattered to locally common. PILEUS CONTEXT: largely collapsed; filamentous, undifferentiated hyphae 2.4 - 8.0

μm wide, branching, plentiful, interwoven in open lattice, usually fasciculate, occasionally with yellowish subrefractive walls; acrophysalides clavate, thin-walled, up to $89 \times 24 \mu\text{m}$ and probably larger; vascular hyphae not observed. LAMELLA TRAMA: bilateral; $w_{\text{cs}} = 30 - 40 \mu\text{m}$; subhymenial base comprising divergent intercalary cells [ovoid to clavate, up to $35 \times 16.8 \mu\text{m}$, thin-walled, scattered, some overlapping subhymenium (but not giving rise to basidia), some not arising from central stratum] and plentiful, frequently branching, filamentous, undifferentiated hyphae (often with branches parallel to central stratum), with angle of divergence very variable from shallow to nearly perpendicular to central stratum; central stratum including partially inflated intercalary segments (e.g., fusiform, $87 \times 14.0 \mu\text{m}$); filamentous, undifferentiated hyphae $2.0 - 9.0 \mu\text{m}$ wide, branching; terminal, divergent inflated cells not observed; vascular hyphae $3.2 - 6.4 \mu\text{m}$ wide, sinuous, common. SUBHYMENIUM: $w_{\text{st-near}} = 40 - 50 \mu\text{m}$; $w_{\text{st-far}} = 65 - 80 \mu\text{m}$; sometimes pseudoparenchymatous locally, often including hyphal segments running parallel to central stratum, with basidia arising from sides and ends of uninflated hyphal segments and occasionally from inflated cells. BASIDIA: $40 - 69 \times 10.5 - 15.8 \mu\text{m}$, dominantly 4-sterigmate (even in apparently immature basidiocarp), rarely 1-sterigmate, with sterigmata up to $8.9 \times 2.3^+ \mu\text{m}$; clamps not observed. UNIVERSAL VEIL: On pileus: absent. On stipe base, exterior surface: filamentous, undifferentiated hyphae $1.9 - 14.4 \mu\text{m}$ wide, most under $6.0 \mu\text{m}$ wide, branching, dominantly in fascicles, but also singly, many with sublongitudinal orientation, densely packed, ungelatinized to partially gelatinized, sometimes with yellowish walls; vascular hyphae not observed. On stipe base, interior: filamentous, undifferentiated hyphae $1.6 - 8.0 \mu\text{m}$ wide, branching, dominating, dominantly in fascicles, occasionally singly, interwoven in open lattice, occasionally with yellowish walls, sometimes constricted at septa, with tip cells occasionally slightly expanded; inflated cells clavate to broadly clavate to ovoid, not plentiful, scattered, up to $50 \times 37 \mu\text{m}$, with walls sometimes slightly thickened; vascular hyphae up to $17.6 \mu\text{m}$ wide, scarce. On stipe base, inner surface: partially gelatinized, comprising entirely yellowish filamentous, undifferentiated hyphae. STIPE CONTEXT: longitudinally acrophysalidic; filamentous, undifferentiated hyphae $2.7 - 10.6 \mu\text{m}$ wide, branching, plentiful, often with yellowish walls; acrophysalides plentiful, up to $154 \times 45 \mu\text{m}$, often broad and rounded at base, thin-walled; vascular hyphae $3.5 - 8.0 \mu\text{m}$ wide, infrequent. INFLATED CELLS OF LAMELLA EDGE: region dominated by filamentous, undifferentiated hyphae (even in rather immature basidiocarp); inflated cells somewhat sparsely distributed, clavate to pyriform to subglobose, usually not forming distinct layers, in rare regions of more plentiful cells up to 5 layers present.

BASIDIOSPORES: $[60/3/1]$ (8.4-) $8.6 - 11.6 (-13.6) \times (7.4-) 8.2 - 10.5 (-12.6) \mu\text{m}$, ($\mathbf{L} = 9.6 - 10.7 \mu\text{m}$; $\mathbf{L}' = 10.2 \mu\text{m}$; $\mathbf{W} = 8.6 - 9.4 \mu\text{m}$; $\mathbf{W}' = 9.1 \mu\text{m}$; $\mathbf{Q} = (1.02-) 1.04 - 1.24 (-1.35)$; $\mathbf{Q} = 1.12 - 1.14$; $\mathbf{Q}' = 1.13$), hyaline, colorless, smooth, thin-walled, inamyloid, globose to subglobose to broadly ellipsoid to (infrequently) ellipsoid, adaxially flattened; apiculus sublateral, cylindrical to truncate-conic; contents granular to mono- or multiguttulate; color in deposit not known.

Habitat: In lawn under *Betula* in plantation of frondose trees.

Collection examined: SWEDEN: Upsala, Slottsbacken, ca. Gunnar Wennerberg Monument, 22.vii-3.viii.1936 S. Lundell & K. G. Ridelius [*Fung. Exsicc. Suecici* No 308 as "*Amanitopsis adnata* (W. G. Smith *apud* Saunders & Smith) Sacc."] (holotype, PC).

DISCUSSION: The structure of subhymenium and subhymenial base in *A. flavescens* strongly resembles the comparable structure in the group of taxa including *A. fulva* and *A. crocea*. The relative dominance of filamentous, undifferentiated hyphae over inflated cells on the edge of the lamella suggest a greater affinity to *A. fulva* than to *A. crocea* var. *subnudipes* and var. *crocea*. On the other hand, similarity to the two cited varieties of *A. crocea* can be noted in spore size??, short marginal striations on the pileus; thickness of the pileipellis; **wsubx params**. *Amanita flavescens* differs most notably from *A. fulva* in the pileus color (a rather pale orangish yellow) and differs from all three cited taxa in **the small size of the acrophysalides of the stipe context.** [Must consider possibility that the present species is identical to *A. crocea* var. *subnudipes*...consider my notes on Gulden 87/90 (O).]

In one of several sections of the pileus context of the holotype, curious hyphae 9.6 - 31.2 μm wide with yellowish walls and finely granular contents were observed. The walls of these hyphae were up to 0.5 μm thick. In one case, such an hypha gave rise to a similarly colored terminal cell (77 \times 35 μm). Since I have never seen hyphae of such great breadth in *Amanita* tissue before and since the color and the degree of refractiveness (not strong) did not suggest vascular hyphae, I have not included this information in the above description. There was some mold on the material, and these odd structures might have been foreign to the pileus tissue.

[See discussions of synonymy by Fraiture (1993). There is some material in K from Sweden called "*A. adnata*." Also, need to check the issues of the relevant set of exsiccata in North American herbaria.]

Romagnesi (1992) says the *A. flavescens* (E.-J. Gilbert & S. Lund.) Contu *sensu* Contu is a misapplication (harks back to Boudier's original description of *A. lutescens*).