

## TWO NEW SPECIES OF AMANITA FROM CASTANOPSIS FORESTS IN JAPAN

by Tsuguo HONGO

Résumé. — Description de deux Amanites nouvelles récoltées par l'auteur dans les forêts japonaises à *Castanopsis cuspidata* : *Amanita pseudogemmata*, ayant les couleurs d'*A. citrina*, mais s'en distinguant par des spores non amyloïdes, et *Amanita castanopsidis*, blanche, à chapeau écailleux comme *A. solitaria*, à anneau fragile et à spores subcylindriques.

Thanks to the exertions of several authors, the species of *Amanita* in Japan are now comparatively well known, and at present, we can enumerate the number of the species known more than 35. The writer, however, preserves specimens of some more unknown species collected mainly in the vicinities of Kyoto and Otsu during these about ten years. In this paper, two of them found in *Castanopsis* forests are described as new.

### *Amanita pseudogemmata* Hongo nov. sp. (Fig. 1)

*Pileo 7 cm vel ultra lato, e ovoideo convexo, deinde expanso vel ± depresso, sicco, flavo, centro leviter obscuriore, farinaceo, fragmentis volvae subolivaceis, pulveraceo-floccosis consperso, in margine leviter striato; lamellis liberis, confertis, cremeo-albis, acie minute fimbriata; stipite 7-9 cm longo, 5-8 mm crasso, aequali, basi sphaero-bulboso, fibrilloso, pallide flavo, solido; carne alba, sub pellicula flavida, tenui, odore nullo; annulo pallide flavo, membranaceo, striato, supero; volva sordide albida, circumscissa; sporis 7.5-10 x 6-8.5 μ, subglobosis, laevibus, nonamyloideis.*

Pileus 7 cm or more broad, ovoid to convex at first, plane or slightly depressed with age, surface dry, « mustard yellow » (RIDGWAY, 1912), somewhat darker in the center, entirely mealy, decorated with somewhat concentric, fugacious, powdery-floccose patches of olive-ocher to olivaceous gray universal veil, soon becoming glabrous, margin slightly striate. Lamellae free, close, with truncate lamellulae, creamy white, moderately broad (5-6 mm), edge minutely fimbriate. Stipe 7-9 cm long, 5-8 mm thick, equal, with a globose bulb, fibrillose, pale yellow, deeper colored near bulb, solid. Flesh white, yellowish below cuticle of pileus, thin; odor none.

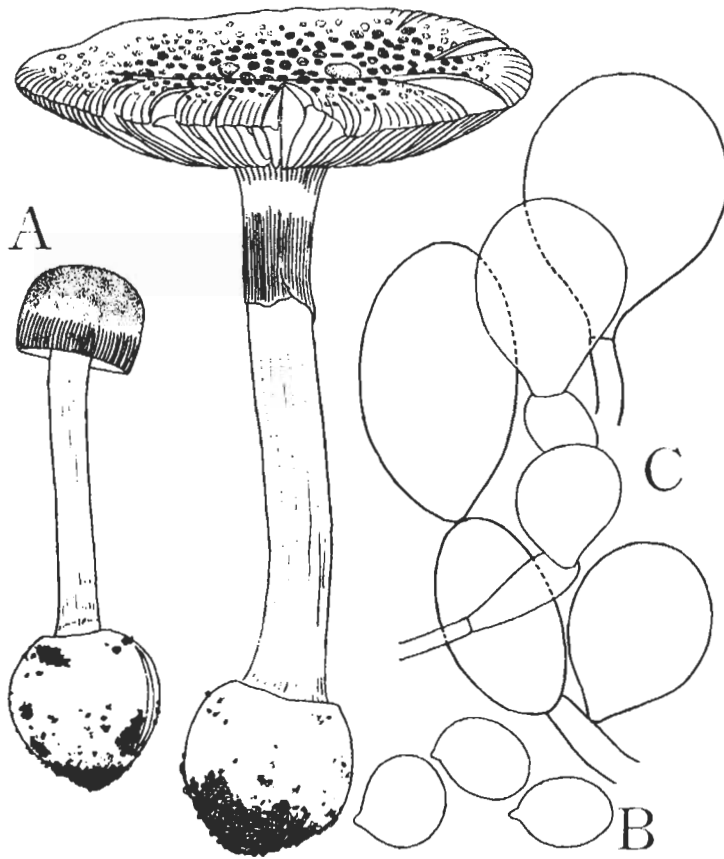


Fig. 1. — *Amanita pseudogemmata*. A Fruitbodies ( $\times 1$ ). B. Spores ( $\times 1500$ ). C Elements of volval remnants from pileus ( $\times 600$ ).

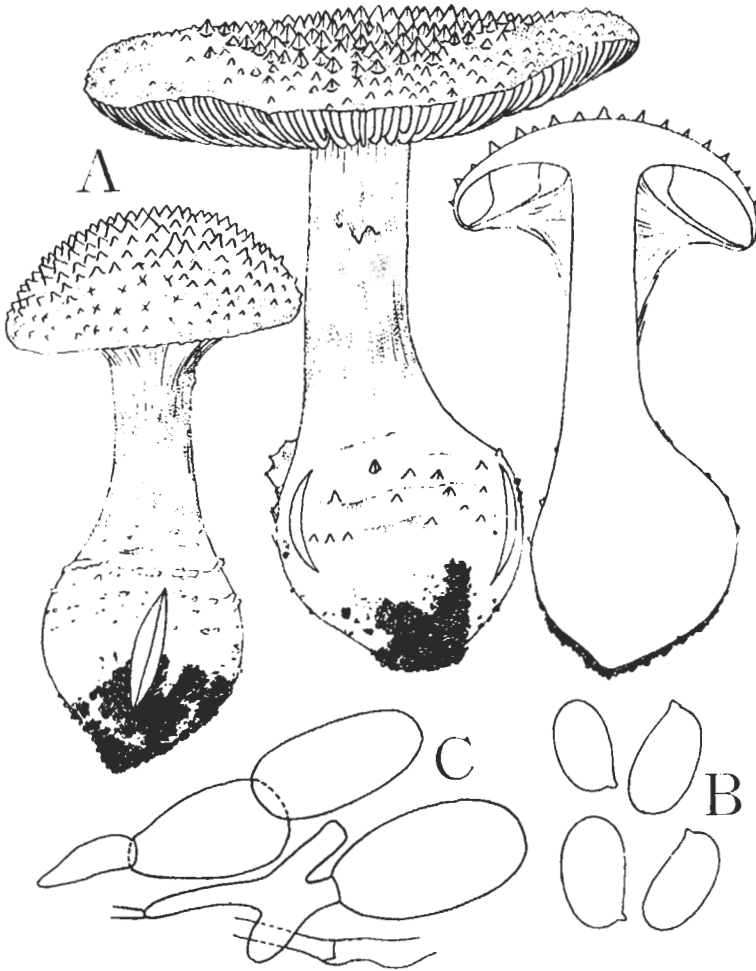


Fig. 2. — *Amanita castanopsidis*. A. Fruitbodies ( $\times 1$ ). B. Spores ( $\times 1500$ ). C. Elements of volval warts from pileus ( $\times 600$ ).

Ring « pinard yellow » (RIDGWAY, 1912) or paler, membranous, striate above, superior. Volva sordid whitish, thick, adnate to the soft bulb but usually separable at the margin, occasionally exceeding the bulb margin slightly. Spores hyaline, subglobose,  $7.5-10 \times 6-8.5 \mu$ , smooth, nonamyloid. Basidia four-spored. Marginal cells  $29-35 \times 13-24 \mu$ , ellipsoid, piriform or clavate, thin-walled. Remnants of volva on pileus composed of loosely interwoven,  $2.5-8.5 \mu$  thick hyphae and ellipsoid, piriform or globose cells  $28-80 \times 28-54 \mu$ , terminal or in short chains and with pale umbrinous sap.

Hab. On the ground in forest of *Castanopsis cuspidata*, Ginkakuji, Sakyo-ku, Kyoto-city, Aug. 9, 1970 (no. 4201, coll. H. Noro-type, in Hongo Herb.).

Somewhat resembles *A. citrina* S. F. Gray in colors and character of volva, but is clearly distinguished by the nonamyloid spores. Its nearest relationship is with *A. gemmata* (Fr.) Gill., but it can be distinguished by somewhat dark colored, not white, patches on pileus, rather persistent, yellow ring, and more or less smaller spores.

***Amanita castanopsidis* Hongo nov. sp. (Fig. 2)**

*Pileo 3.5-7.5 cm lato, convexo, dein expanso, sicco, albo, verrucis floccosis, conicis vel pyramidalibus, acutis, apice subcinerescens vel subbrunnescentibus dense obtecto, margine appendiculata, haud striata; lamellis liberis, subdistantibus, albis, acie flocculosa; stipite 7-8 cm longo, apice 1-1.5 cm, basi 2.5-3.5 cm crasso, clavato-bulboso vel ventricoso, albo, floccoso-pruinoso, deorsum verrucis parvis volvae concentricè ornato, solido vel farcto; carne alba, moderate crassa, sapore odoresque nullo; annulo crasso, albo, floccoso-arachnoideo, friabili; sporis  $8.5-12 \times 5.5-7 \mu$ , elongato-subcylindraceis, laevibus, amyloideis.*

Pileus 3.5-7.5 cm broad, convex, then plane, surface dry, pure white, densely set with adnate, floccose, conical or pyramidal, acute warts 1-4 mm wide and 1-3 mm high, decreasing in size toward margin, tips of warts often becoming somewhat grayish or brownish, margin not striate and appendiculate with remnants of partial veil. Lamellae free, with a decurrent line, subdistant, white,  $\pm 6$  mm wide, edge white-flocculose from remnants of partial veil. Stipe 7-8 cm long, 1-1.5 cm thick at apex, 2.5-3.5 cm at base, clavately bulbous or conspicuously ventricose with pointed base, white, floccose-pruinose, with fragments of partial veil, enlarged portion more or less concentrically decorated with small floccose granules or subconical warts, rather firm, solid or stuffed. Flesh white, moderately thick; taste and odor none. Ring thick, white, floccose-cobwebby, friable, mostly

disappearing on expansion of pileus. Spores hyaline, elongate to subcylindric, rarely ellipsoid,  $8.5-12 \times 5.5-7 \mu$ , smooth, thin-walled, amyloid. Basidia four-spored,  $42-53 \times 9.5-10 \mu$ . Remnants of volva on pileus consisting of branching hyphae  $3.6-7.7 \mu$  thick and clavate, ellipsoid or subglobose cells  $20-70 \times 15-43 \mu$ , terminal or in short rows. Clamp connections present.

Hab. On bare red clay along road cuts in forest of *Castanopsis cuspidata*, Kokubu, Otsu-city, Aug. 6, 1970 (no. 4198); Aug. 7, 1971 (no. 4493); July 28, 1972 (no. 4684); Sept. 18, 1972 (no. 4753-type, in Hongo Herb.).

Recognized by the dense, floccose, conical warts on pileus, clavate-bulbous stipe, thick, floccose-cobwebby, friable ring and the elongate to subcylindrical spores. From *A. virginea* Mass., *A. virgineoides* Bas, etc., it differs mainly in spore shape. *A. solitaria* (Fr.) Mérat (= *A. echinocephala* (Vitt.) Quél.) is white, grayish or yellowish in color and has membranous, striate ring and somewhat broader spores (Bas, 1969).

#### LITERATURE CITED

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