

The first record of *Amyloflagellula inflata* from Benin, West Africa

VLADIMÍR ANTONÍN

Moravian Museum, Department of Botany, Zelný trh 6, CZ-659 37 Brno, Czech Republic; e-mail: vantonin@mzm.cz

Antonín V. (2003): The first record of *Amyloflagellula inflata* from Benin, West Africa. – Czech Mycol. 54: 235–238

A collection of *Amyloflagellula inflata* Agerer et Boidin from Benin, West Africa, with a detailed description, drawings of microscopic features and a discussion is given. It represents the first record from Benin and the fourth one from West Africa.

Key words: *Amyloflagellula*, Tricholomataceae, Basidiomycota, Africa

Antonín V. (2003): První nález druhu *Amyloflagellula inflata* v Beninu (západní Afrika). – Czech Mycol. 54: 235–238

Je publikován nález druhu *Amyloflagellula inflata* Agerer et Boidin z Beninu v západní Africe. Je podán jeho detailní popis s kresbami mikroskopických znaků. Publikovaný nález představuje první nález v Beninu a čtvrtý v západní Africe.

The small genus *Amyloflagellula* Singer was proposed by Singer (1966), and contains small cyphelloid or marasmioid fungi known from tropical regions of South America, Africa and Asia (Agerer and Boidin 1981, Dennis and Reid 1959, Petch 1924, Singer 1966). It is characterised (Singer 1966) in having stipitate or non-stipitate carpophores and white rhizomorphs, and terminal cells of the subiculum (hypotrachium) are dextrinoid with flagelliform projections. In other features it is similar to the genera *Crinipellis* Pat. and *Chaetocalathus* Singer but has narrow, sometimes absent lamellae and a very short and curved stipe (if present). The type species is *Amyloflagellula pulchra* (Berk. et Broome) Singer (= *Cyphella pulchra* Berk. et Broome).

During my excursion to Benin, West Africa, an interesting small marasmioid-cyphelloid fungus growing on dead twigs in a marshy forest with *Raffia* was found. Its microscopical study and a comparison with literature showed that it belongs to the genus *Amyloflagellula* Singer, and represents *A. inflata* Agerer et Boidin.

A macroscopical description is given according to the author's personal notes. Microscopical features are described from the material examined, mounted in Melzer's reagent, Congo-Red and KOH. For the basidiospores the following factors are used: E (quotient of length and width in any one spore); Q (mean of E-values). Authors of fungal names are cited according to Kirk and Ansell (1992).

DESCRIPTION OF THE COLLECTION FROM BENIN:

***Amyloflagellula inflata* Agerer et Boidin**

Carpophores single. Pileus 0.5-2 mm broad, attached to the substrate laterally, rarely on top, rounded flabelliform, reniform to convex, almost cyphelloid when young, broadly convex in old specimens, with straight to slightly involute, non-striate margin, entirely pruinose-tomentose, smooth or finely rugulose, white to whitish. Lamellae absent; hymenium smooth to slightly rugulose, rarely veined, white to whitish. Stipe absent. A greyish-ochraceous mycelial layer (subiculum) covers large parts of the substrate.

Basidiospores (7.0-)7.5-9.0(-9.5) \times (3.5-)4.0-4.5(-5.0) μm , $E = 1.7-2.2$, $Q = 2.0$, ellipsoid, sublacrymiform, ellipsoid-fusoid, thin-walled, inamyloid, hyaline. Basidia collapsed. Basidioles 14-28 \times 4.0-8.0 μm , clavate, subfusoid, subcylindrical. Hyphae \pm cylindrical, \pm smooth and thin-walled to incrustated ("zebred") and slightly thick-walled, branched, hyaline, non-dextrinoid, up to 5.0(-6.0) μm wide; hyphae near attachment to the substrate thin- to slightly thick-walled, cylindrical to sometimes inflated (up to 10 μm broad), smooth to incrustated. Hymenial cystidia 13-27 \times 4.5-10.0 μm , clavate, broadly clavate, (sub)utriform, lobate, irregular to subcoralloid, thin-walled, hyaline. Pileipellis a hymeniderm, consisting of broom-cells of the Siccus-type, 10.0-17 \times 5.5-9.0 μm , clavate to (sub)cylindrical, thin-walled at base, slightly thick-walled above, sometimes branched in upper part, hyaline in KOH, slightly yellow-brown in Melzer's reagent in thick-walled parts; projections up to 15 \times 1 μm , rather numerous (10-20), acute, slightly thick-walled, yellow-brown in Melzer's reagent. Pileus margin with flagelliform broom-cells of the Siccus-type, 8.0-20 \times 3.5-7.0 μm , cylindrical, \pm clavate, \pm thin-walled at base, slightly to distinctly thick-walled at apex; projections up to 10.0 \times 2.0 μm , rather numerous (3-15), subacute to acute, rarely obtuse, slightly to distinctly thick-walled. Subiculum of thick-walled, up to 5.0 μm wide hyphae and broom-cells of the Siccus-type (flagelliform) almost without bodies (star-shaped), dextrinoid. Clamp-connections present in all tissues.

Ecology: on dead twigs in a marshy forest with *Raffia*.

Locality: Benin, Province Oueme, Agongo, coordinates: 6°23.361' N, 2°37.416' E, 17 Aug. 1997 leg. V. Antonín B97.42 (BR 101096-22).

Amyloflagellula inflata Agerer et Boidin was described in 1981 from Gabon (Agerer and Boidin 1981). It is characterised in having densely crowded carpophores growing on a distinct subiculum, and moreover by the presence of inflated hyphae in the base of the carpophores, which represents a unique feature among the known *Amyloflagellula* species.

Only four species have been described or combined in the genus *Amyloflagellula*. *Amyloflagellula pseudoarachnoidea* (Dennis) Singer differs especially in having

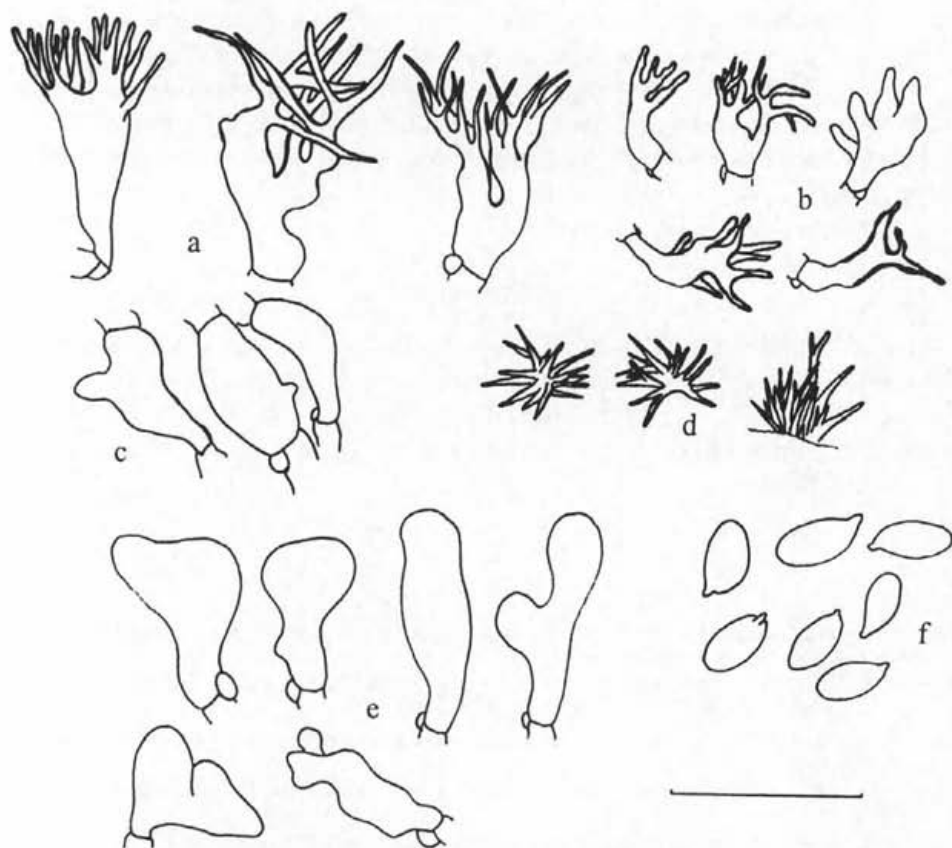


Fig. 1. *Amyloflagellula inflata* (Antonín B97.42). a) pileipellis broom-cells; b) broom-cells at the pileus margin; c) inflated to subinflated hyphae near the base of the carpophore; d) star-shaped broom-cells of the subiculum; e) hymenial cystidia; f) basidiospores. Scale bar = 20 μm .

large spores ($18-19 \times 4 \mu\text{m}$) and growing on prominent white rhizomorphs. Moreover, it has well-developed typical lamellae (therefore, it looks like an agaricoid fungus). All other species have a developed subiculum and are typically cyphelloid. The species *A. verrucosa* Agerer et Boidin also known from West Africa (Gabon) has very small symmetrical cup-shaped carpophores (up to 0.3 mm broad), a white subiculum, slightly larger basidiospores [$(8.5-9-10(-10.5) \times (3.5-4.0-4.5(-5) \mu\text{m})$], \pm warty cells (never with long projections) on the margin of the carpophores, and no inflated hyphae in the carpophore base; *A. pulchra* (Berk. et Broome) Singer forms \pm asymmetric carpophores which seat in a layer of thick-walled hyphae which are absent in *A. inflata*; according to Petch (1924), this

species should have lamellate carpophores while Dennis and Reid (1959) mentioned it as non-lamellate [under the name *Marasmius pulcher* (Berk. et Broome) Petch].

In West Africa, *Amyloflagellula inflata* is known from two records from Gabon and one from Guadeloupe (Agerer and Boidin 1981); therefore, the collection published here represents the first record from Benin and the fourth one from West Africa.

ACKNOWLEDGEMENTS

I wish to thank the "Fondation pour favoriser les recherches scientifiques en Afrique" which enabled excursion trip to Benin, and also Mr. André De Groote for logistics and help during my African stay. The study of this group is part of a larger taxonomic project, supported by the Grant Agency of the Czech Republic No. 206/01/0093.

REFERENCES

- AGERER R. and BOIDIN J. (1981): The genus *Amyloflagellula* in West-Africa (Basidiomycetes, "Cyphellaceae"). - *Sydowia* 34: 1-12.
- DENNIS R. W. G. and REID D. A. (1959): Some marasmioid fungi allegedly parasitic on leaves and twigs in the tropics. - *Kew Bull.* (1957): 287-292.
- KIRK P. M. and ANSELL A. E. (1992): Authors of fungal names. - International Mycological Institute, Kew.
- PETCH T. (1924): Thread blights. - *Ceylon J. Sci. A. Bot. Ann. Roy. Bot. Gard. Peradeniya* 9: 1-45.
- SINGER R. (1966): Notes on cyphellaceous fungi. - *Darwiniana* 14(1): 1-18.