



**HAL**  
open science

**(2940-2941) Proposals to conserve the name *Amanita fulva* with a conserved type against *Agaricus badius* and *Agaricus trilobus*, and the name *Amanita spadicea* with a conserved type (Basidiomycota)**

Pierre-Arthur Moreau, Jean-Michel Hanss, Boris Assyov, Jean-Michel Bellanger, Jan Borovička, Giovanni Consiglio, Marco Contu, Régis Courtecuisse, Geoffrey Kibby, Michael Loizides, et al.

► **To cite this version:**

Pierre-Arthur Moreau, Jean-Michel Hanss, Boris Assyov, Jean-Michel Bellanger, Jan Borovička, et al.. (2940-2941) Proposals to conserve the name *Amanita fulva* with a conserved type against *Agaricus badius* and *Agaricus trilobus*, and the name *Amanita spadicea* with a conserved type (Basidiomycota). *Taxon*, the journal of the International Association for Plant Taxonomy, 2023, 72 (2), pp.425-427. 10.1002/tax.12916 . hal-04868898

**HAL Id: hal-04868898**











**<https://hal.science/hal-04868898v1>**

Submitted on 6 Jan 2025

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# (2940–2941) Proposals to conserve the name *Amanita fulva* with a conserved type against *Agaricus badius* and *Agaricus trilobus*, and the name *Amanita spadicea* with a conserved type (Basidiomycota)

Pierre-Arthur Moreau,<sup>1</sup>  Jean-Michel Hanss,<sup>2</sup>  Boris Assyov,<sup>3</sup>  Jean-Michel Bellanger,<sup>4</sup>   
Jan Borovička,<sup>5</sup>  Giovanni Consiglio,<sup>6</sup>  Marco Contu,<sup>7</sup> Régis Courtecuisse,<sup>1</sup>  Geoffrey Kibby,<sup>8</sup>  
Michael Loizides,<sup>9</sup> Hana Ševčíková,<sup>10</sup>  Rodham E. Tulloss<sup>11</sup>  & Zhu-Liang Yang<sup>12</sup> 

1 Faculté de Pharmacie, Université de Lille, ULR 4515 – LGCgE, Laboratoire de Génie Civil et géo-Environnement, 3 rue du Pr Laguesse, 59000 Lille, France

2 341, rue de Montjustin, 70200 Montjustin, France

3 Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, 2 Gagarin Str., 1113 Sofia, Bulgaria

4 CEFÉ, CNRS, Université de Montpellier, EPHE, IRD, INSERM, 1919 route de Mende, 34293 Montpellier Cédex 5, France

5 Institute of Geology of the Czech Academy of Sciences, Rozvojová 269, 16500 Prague 6, Czech Republic

6 Via Camillo Ronzani 61, 40033 Casalecchio di Reno, Italy

7 Via Marmilla 12, 07026 Olbia, Italy

8 British Mycological Society, c/o Wolfson Wing: Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB, United Kingdom

9 P.O. Box 58499, 3734 Limassol, Cyprus

10 Moravian Museum, Department of Botany, Zelný trh 6, 65937 Brno, Czech Republic

11 Herbarium Amanitarum Rooseveltensis, P.O. Box 57, Roosevelt, New Jersey 08555-0057, U.S.A.

12 CAS Key Laboratory for Plant Diversity and Biogeography of East Asia, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650201, Yunnan, China

Address for correspondence: Pierre-Arthur Moreau, [pierre-arthur.moreau@univ-lille.fr](mailto:pierre-arthur.moreau@univ-lille.fr)

(2940) *Amanita fulva* Fr., *Observ. Mycol.* 1: 2. 1815, nom. cons. prop.

Typus: Germany, Bavaria, Kohlstadt, near Viehhausen, under *Picea abies*, 20 Jul 2007, Bresinsky (REG No. 26483). MBT 10010486, typ. cons. prop.

(=) *Agaricus badius* Schaeff., *Fung. Bavar. Palat. Nasc.* 4: 63. Apr–Dec 1774, nom. rej. prop.

Lectotypus (hic designatus): [icon in] Schaeffer, *Fung. Bavar. Palat. Nasc.*: t. CCXLV. Sep–Oct 1771. MBT 10008684. Epitypus (hic designatus): Italy, Bologna, Vidiatico, Rio Ri, under *Fagus sylvatica*, *Abies alba* and *Picea abies*, 26 Aug 1992, Consiglio & Spisni GC99172 (AMB No. 19304). MBT 10010660.

(=) *Agaricus trilobus* Bolton, *Hist. Fung. Halifax*: 38. Mai 1788, nom. rej. prop.

Lectotypus (hic designatus): [icon in] Bolton, *Hist. Fung. Halifax*: t. XXXVIII, fig. 2. Mai 1788. MBT 10010719. Epitypus (hic designatus): Great Britain, Scotland, Carrbridge, Sluggan Bridge, in open *Betula pendula* and *Pinus sylvestris* woodland, 28 Aug 2022, Kibby & Tortelli (K (M) 001435713). MBT 10011768.

Jacob Christian Schaeffer was the first author to document the so-called “ringless Amanitas”; he provided detailed illustrations representing four new species: *Agaricus plumbeus* Schaeff. (*Fung. Bavar. Palat. Nasc.* 4: 37. 1774, illustrated as t. LXXXV [85] & LXXXVI

[86] in 1762), *Ag. hyalinus* Schaeff. (l.c. 4: 63, illustrated as t. CCXLIV [244] in 1771), *Ag. badius* Schaeff. (l.c. 4: 63, illustrated as t. CCXLV [245] in 1771) and finally the illegitimately named *Ag. fulvus* Schaeff. (l.c. 4: 41, illustrated as t. XCV [95] in 1762) (non *Ag. fulvus* Retz., 1769). As sanctioning author, Fries (*Syst. Mycol.* 1: 14. 1821) did not give much credit to the morphological differences observed by Schaeffer, and lumped all these taxa into a single species for which he selected the name *Ag. vaginatus* Bull., nom. sanct. However, before opting for Bulliard’s name, Fries (*Observ. Mycol.* 1: 2. 1815) had adopted Schaeffer’s basionym *Ag. fulvus*, and validly published it as what we now interpret as the replacement name, *Amanita fulva* Fr.; however, Fries seemed to ignore the fact that *Ag. fulvus* Schaeff. was a later homonym and also cited in synonymy *Ag. trilobus* Bolton (*Hist. Fung. Halifax*: 38. 1788, illustrated as t. XXXVIII [38] fig. 2) making it an earlier name for this species, homotypic under Art. 7.5 of the ICN (Turland & al. in *Regnum Veg.* 159. 2018), a fact ignored by all later authors. Persoon (*Tent. Disp. Meth. Fung.*: 66. 1797) considered *Ag. badius* and *Ag. fulvus* conspecific, and created a new (superfluous) name, *Am. spadicea* Pers., encompassing both of them (Gilbert in Bresadola, *Icon. Mycol.* 27: 211. 1940). None of Schaeffer’s or Persoon’s epithets were sanctioned at species rank in Fries’s sanctioning publications (Art. F.3.1).

Since then, *Amanita fulva* has been univocally applied to one of the most common species in temperate and northern Europe (Boudier, *Icon. Mycol.* 1: t. 7. 1904; Fraiture in *Opera Bot. Belg.* 5: 74. 1993; Massart in *Boll. Gruppo Micol. G. Bresadola* 43: 249.

2000; Tulloss & Yang, [www.amanitaceae.org](http://www.amanitaceae.org), continuously updated; etc.). This species is well-characterized by a hardly mistakable combination of features: membranous volva with reddish orange spots, white smooth stipe, and an umbonate, small to medium-sized (3–6 cm diam.) pileus, typically fawn to reddish orange coloured (but occasionally orange-yellow to vinaceous buff and dark fawn). Courtecuisse (in *Miscell. Mycol.* 14: 8. 1986) described an albinotic form as *Amanitopsis fulva* f. *alba* Courtec., and Traverso (*Genere Amanita Italia*: 50. 1999) described *A. fulva* f. *xylophila* M. Traverso for basidiomata fruiting on decaying trunks. Of the 137 bibliographic mentions compiled and checked by us, all available illustrations or descriptions of a species under this name in the European literature are considered representative of the taxon as typified by the proposed conserved type. Recent phylogenetic reconstructions based on ITS sequences (Malysheva & Kovalenko in *Mikol. Fitopatol.* 149: 151–163. 2015; Hanss & Moreau in *Bull. Soc. Mycol. France* 133: 67–141. 2020; Tulloss, unpub. data) show that the species has a paleartic distribution, with geographically related colour variations without taxonomic value. As the name is automatically typified by the type of *Agaricus trilobus* (see below), we propose here a conserved type for *Amanita fulva* based on a recent collection from Regensburg, Germany (J.C. Schaeffer's prospecting region). Sequence data from the proposed conserved type are deposited in GenBank: OP663322 (ITS), OP647100 (LSU), OP653882 (RPB2).

Unlike the situation with *Amanita fulva*, *Agaricus badius* Schaeff. is rarely cited in literature. Fries (l.c. 1821) mentioned it in his variant "d" of *Ag. vaginatus*, along with *Ag. pulvinatus* Bolton (*Hist. Fung. Halifax*: t. 49. 1788), and defined by "[pileo] spadiceo". In modern literature, *Am. badia* (Schaeff.) Bon & Contu (in *Doc. Mycol.* 15(59): 53. 1985) has been illustrated only in a few specialized publications, with divergent interpretations generally based on robust basidiomata, with brown pileus and thick volva. Traverso (l.c.), Consiglio (in *Boll. Gruppo Micol. G. Bresadola* 43: 215. 2000) and Morini & al. (*Atlas Macromyc. Amanitaceae Bologna*: 62. 2020) present illustrations of *Am. badia* with a smooth stipe and reddish brown pileus corresponding relatively well with Schaeffer's original plate. It must be noticed that Schaeffer described the pileus as being bay colour "demum campanulato, badio, striato". The plate published by him (here designated as lectotype) exists in several copies, all hand-coloured by J.C. Schaeffer himself. The well-preserved copy at the Société Mycologique de France (Paris) has a bay pileus, clearly with reddish shading.

*Amanita badia* was tentatively typified by Consiglio (l.c.), who designated an epitype but this was ineffective due to the lack of citation of a supported type (Art. 9.21). Consiglio's "epitype" could be sequenced though, and was found to be conspecific with the conserved type of *Am. fulva* proposed above. This collection thus represents an unusually stout, brown-coloured form of the species, but with white, smooth stipe, which distinguishes it from related species. This collection also matches adequately Schaeffer's plate of *Agaricus badius*, which shows the white stipe and fox-red spotted volva typical of *Am. fulva* and relatives. We choose (above) to follow Consiglio's proposal and formally designate this collection in the herbarium of the Associazione Micologica Bresadola, Trento, Italy (AMB No. 19304), as epitype of *Ag. badius*. Sequence data from the epitype are deposited in GenBank: OP663323 (ITS).

Finally, *Agaricus trilobus* Bolton (*Hist. Fung. Halifax*: 38. 1778) was published earlier than *Amanita fulva* and *Ag. badius* and was cited by Fries (l.c. 1815) in the synonymy of *Ag. fulvus* Fr., thus making the latter a superfluous illegitimate synonym of *Ag. trilobus*,

automatically typified by the type of *Ag. trilobus* (Art. 7.5). Two original hand-coloured editions of Bolton's plate XXXVIII [38] could be examined. The original edition preserved at the Kew Herbarium (Richmond, U.K.) was coloured with salmon-tinged stipe and lamellae, the volva kept uncoloured. In the Michigan University copy (accessible through Hathi Trust online library) the volva is also flesh-coloured on the external surface, in accordance with the protologue. These elements, especially colours, could first be interpreted as representing the currently recognized *Am. crocea* (Quél.) Singer, *Am. fulva* Fr., or *Am. fulvoides* Neville & Poumarat. A coloured volva excludes *Am. crocea* but fits well the two last. Usually *Am. fulva* displays white lamellae and stipe, although Bolton described "pale cinnamon brown" lamellae. We found several collections which diverge from the canonical *Am. fulva* by such colours on stipe and lamellae, confirmed as conspecific with *Am. fulva* by ITS sequences. We choose as epitype of *Ag. trilobus* a collection from Scotland corresponding to such colouration forms, representative of Bolton's description.

By these typifications, *Agaricus trilobus* and *Amanita badia* are fixed as earlier synonyms of *Am. fulva* (Art. 11.4). However, considering the broad use of the latter name during two centuries, we believe that replacing it by *Am. badia* would introduce much disturbance, as mentions of that name are few and ambiguous (24 bibliographic mentions found, at least 3 of them illustrating *Am. fulvoides*), whereas *Am. fulva* scores at least 137 mentions in European literature, including popular books and identification guides. Furthermore, *Ag. trilobus*, which would take precedence over *Am. fulva* as a homotypic synonym, has never been in use during the last two centuries. For this reason, we think that conservation of *Am. fulva* with the proposed conserved type would contribute to the stability of nomenclature in this group, in contrast to the revival of a name with multiple interpretations and another ("trilobus") having never been in use and with an epithet referring to a feature without taxonomic significance.

(2941) *Amanita spadicea* Pers., *Tent. Disp. Meth. Fung.*: 66. 14 Oct–31 Dec 1797, nom. cons. prop.

Typus: France, Orne, Cerisy, under *Fagus sylvatica*, 17 Sep 2017, herb. DL170917a (LIP 0002285). MBT 10008688, typ. cons. prop.

*Amanita spadicea* was published by Persoon (*Tent. Disp. Meth. Fung.*: 66. 1797) as a collective taxon, based on Schaeffer's *Agaricus badius* and *Ag. fulvus* (see above). Both of Schaeffer's plates are cited in the protologue and constitute the only available original material of *Am. spadicea*. Later, Persoon (*Syn. Meth. Fung.*: 248. 1801) assimilated *Ag. fulvus* (with a "?") into typical *Am. spadicea*, and distinguished three varieties: *Am. spadicea* var. *badia* (based on Schaeffer's *Ag. badius*), var. *fulva* (based on Bulliard's plate 212 "*Ag. vaginatus*" but not Schaeffer's *Ag. fulvus*), and var. *subviscida* Pers. Although Persoon's (l.c. 1801) later description of *Am. spadicea* is mostly based on Schaeffer's description of *Am. badia*, in the protologue (Persoon, l.c. 1797) some elements exist that are obviously not taken from Schaeffer ("in quercetis", "stipite squamuloso fuscescente"), and suggest that Persoon had personal experience with this species. Such a species with squamulose and darkening stipe fits neither *Am. fulva* as interpreted today, nor *Am. badia* considered here a synonym of *Am. fulva*. Therefore, we propose to reject as a possible type both elements of original material cited in the protologue, one of which is the type of *Ag. trilobus* Bolton (see proposal 2940 above), and, instead, by proposing conservation of the name with a conserved type, preserve

the current use of *Am. spadicea* (e.g., Consiglio in *Boll. Gruppo Micol. G. Bresadola* 43: 211–232. 2000; Contu in *Field Mycol.* 4: 128–136. 2003; Contu in *Boll. Assoc. Micol. Ecol. Romana* 72: 3–15. 2007; Kibby, *Genus Amanita Brit.* 2012; Hanss & Moreau in *Bull. Soc. Mycol. France* 133: 67–141. 2020; Tulloss & Yang, [www.amanitaceae.org](http://www.amanitaceae.org). 2020). The proposed type is a collection from northern France, found under *Fagus sylvatica*, i.e., more similar to Persoon's protologue localities ("in quercetis") than most available collections, which were usually found under conifers.

The "neotype" designated by Contu (in *Boll. Assoc. Micol. Ecol. Romana* 46: 16. 1999): Italy, Forca d'Acero, 26 Sep 1999, and deposited at the University of Innsbruck (IB), is not an effective typification due to the existence of original material (Art. 9.8) and, moreover, could not be located at IB (U. Peintner, pers. comm.). Because Contu's photo of his selected specimen does not conform to the current concept of *Amanita spadicea* by the volva having brownish spots (stains of earth?), we do not retain this specimen as a reference for *Am. spadicea*. Amongst the 13 bibliographic references compiled by us which illustrate or describe *Am. spadicea* in European literature, 7 conform to the concept proposed here, whilst 6 are not interpretable by us.

As an alternative to the present proposal, *Amanita spadicea* could be lectotypified by one of the two elements cited by Persoon in the protologue: t. CCXLV of Schaeffer (1771), which is the lectotype of *Agaricus badius*, or by t. CXV (1762), which is referable to *Am. fulva*, making *Am. spadicea* a homotypic synonym of one of the two names. This would force the creation of a new name for a well-defined species currently named *Am. spadicea*. Our aim here is to avoid this unnecessary nomenclatural move, by preserving *Am. spadicea* in an unequivocal interpretation.

#### Author information

P-AM, <https://orcid.org/0000-0003-4783-3643>

J-MH, <https://orcid.org/0000-0001-9390-4284>

BA, <https://orcid.org/0000-0002-7365-2443>

J-MB, <https://orcid.org/0000-0001-9289-2349>

JB, <https://orcid.org/0000-0003-3966-558X>

GC, <https://orcid.org/0000-0001-8788-5195>

RC, <https://orcid.org/0000-0001-7923-1124>

HŠ, <https://orcid.org/0000-0001-8674-0410>

RET, <https://orcid.org/0000-0003-2479-9075>

Z-LY, <https://orcid.org/0000-0001-9745-8453>