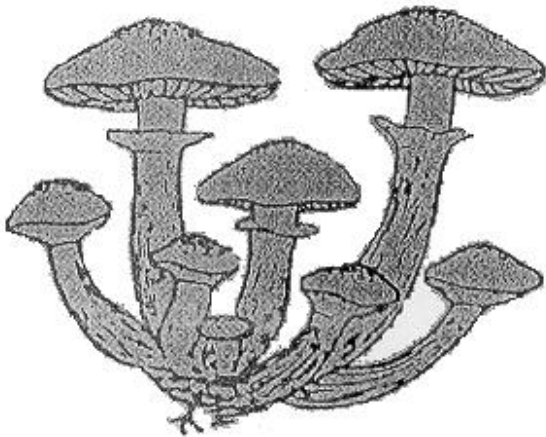


A Nomenclatural Study of Armillaria and Armillariella species

(Basidiomycotina, Tricholomataceae)

by

Thomas J. Volk & Harold H. Burdsall, Jr.



Synopsis Fungorum 8

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ABSTRACT

Once a taxonomic refugium for nearly any white-spored agaric with an annulus and attached gills, the concept of the genus *Armillaria* has been clarified with the neotypification of *Armillaria mellea* (Vahl:Fr.) Kummer and its acceptance as type species of *Armillaria* (Fr.:Fr.) Staude. Due to recognition of different type species over the years and an extremely variable generic concept, at least 274 species and varieties have been placed in *Armillaria* (or in *Armillariella* Karst., its obligate synonym). Only about forty species belong in *the* genus *Armillaria sensu stricto*, while the rest can be placed in forty-three other modern genera.

This study is based on original descriptions in the literature, as well as studies of type specimens and generic and species concepts by other authors. This publication consists of an alphabetical listing of all epithets used in *Armillaria* or *Armillariella*, with their basionyms, currently accepted names, and other obligate and facultative synonyms. We propose the new combinations:

Armillaria affinis (Singer) Volk & Burdsall
Armillaria cumerunensis (Henn.) Volk & Burdsall
Armillaria tigrens (Singer) Volk & Burdsall
Armillaria viridiflava (Singer) Volk & Burdsall
Amanita subcaligata (A.H. Smith & P.M. Rea) A.H. Smith ex Tulloss in Volk & Burds.

Nomenclatural problems with *Tricholoma subannulatum* (Batsch) Ricken (1914) vs. *Tricholoma subannulatum* (Peck) Zeller (1922) are also discussed.

Key Words: *Armillaria*, *Armillariella*, nomenclature, Tricholomataceae

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The delimitation, application and typification of the "genus" *Armillaria* has been controversial for more than 170 years. Fries (1819) introduced the name as *Agarcus* tribus *Armillaria*, and later treated it in the *Systema Mycologicum* (Fries, 1821). In subsequent publications, Fries was uncertain as to which species to include, or even whether to consider *Armillaria* as a tribe. In 1825, Fries abandoned the tribe *Armillaria*, placing most of the species in the tribe *Lepiota* of *Agaricus*. In 1838, Fries again recognized the tribe *Armillaria* of *Agaricus*, including 24 species. However, in 1854 and 1857 Fries again abandoned tribe *Armillaria* and distributed the species in tribes *Tricholoma* and *Clitocybe* and stated that "[...if the subgenera of *Agaricus* were to be recognized as distinct genera, *Armillaria* would be totally dissolved and distributed among other genera.] " (translation TJV). Nevertheless, in 1874 Fries again recognized the tribe *Armillaria*, including 30 species, even after several authors had accepted *Armillaria* as a distinct genus. Singer (1949) stated that "This genus *Armillaria* was one of the most notoriously artificial genera of the Agaricales in the older classification."

Generic typification

For many years modern authors assumed that Quélet (1872) was the first to assign generic rank to *Armillaria*; for example, it was listed as "*Armillaria* (Fr.) Quélet." in Singer's first edition of "Agaricales in Modern Taxonomy" (Singer, 1949). However two earlier authors had accepted *Armillaria* of Fries at the generic level, namely Staude (1857) and Kummer (1871). In the second (and subsequent) editions of "Agaricales in Modern Taxonomy," Singer (1962) accepted "*Armillaria* Kummer" as correct, but Donk (1962) argued for "*Armillaria* (Fr.) Staude." The fact that Staude (1857) did not actually transfer any species epithets to *Armillaria* or make any combinations in *Armillaria* has been used as a reason to reject the validity of the 1857 status of the generic name (Singer 1962, 1986). Nomenclatural problems and confusion have arisen out of the variously accepted validations of *Armillaria* at the generic level and the inter-related typifications of the names. For details on the nomenclatural arguments about the genus we refer to Donk (1962), Singer (1962, 1986), Herink (1973), and Watling, Kile and Gregory (1982). We accept the arguments forwarded by Watling *et al.* (1982) that *Armillaria* (Fr.:Fr.) Staude is valid and that *Armillaria mellea* (Vahl:Fr.) Kummer [= *Agaricus melleus* Vahl] is the type species for the genus.

The genus *Armillariella* (Karst.) Karst. (Karsten 1881) was used for these fungi for many years by a significant number of authors. Karsten (1879) probably did not know of Staude's (1857) or Quélet's (1872) publications when he made several new combinations in "*Armillaria* Fr." and also erected the subgenus

Armillariella. Later, Karsten (1881) raised *Armillariella* to generic rank and transferred several species there, with the type species presumably being *Armillariella mellea* (Vahl:Fr.) Karsten. The genus *Armillariella* gained wide acceptance in Europe (Patouillard, 1887; Kühner and Romagnesi, 1953, and others) and to some extent in the Americas (e.g. Singer 1949, 1962, 1986; Pomerleau 1980; Baroni 1981). With the almost universal acceptance of *Agaricus melleus* Vahl as the type species of *Armillaria* among agaricologists and pathologists (Watling *et al.* 1982), *Armillariella* Karsten has become an obligate synonym (typonym, nomenclatural synonym) of *Armillaria* (Fr.:Fr.) Staude, because both are based on the same type species (Greuter 1988: International Code of Botanical Nomenclature [ICBN] Art. 14.4). During the height of acceptance of the genus *Armillariella*, Herink (1973) had already recognized the problems with using *Armillariella* for these fungi and made many new combinations in the genus *Armillaria*. Another typonym of *Armillaria* is *Polymyces* Earle (1909). *Rhizomorpha* Roth (1791), based on vegetative rhizomorphs of these fungi is apparently a name for the anamorph of *Armillaria* (Dank 1962), although it is not possible at this time to correlate species of *Rhizomorpha* with particular *Armillaria* species. Although *Rhizomorpha* is apparently an older name for the anamorph of the genus, it may not be used for the teleomorph (ICBN Art. 59.1).

Singer (1962, 1986) rejected the validity of *Armillaria* (Fr.:Fr.) Staude and accepted *Armillaria* Kummer (1871), contending that Kummer intended to erect a new genus. However, as Donk (1962) and Watling *et al.* (1982) have stated, a careful reading of Kummer's introductory material indicates that he intended to "...[follow Fries as much as possible]" (translation Donk 1962). *Armillaria* Kummer, as recognized by Singer (with type species *Agaricus luteovirens* Alb. & Schw.:Fr.), consisted of a genus of mycorrhizal species with amyloid spores and a divergent lamellar trama. Accepting *Armillaria* (Fr.:Fr.) Staude left the taxon recognized by Singer nameless until Pouzar (1957) erected the genus *Floccularia* to accommodate *Agaricus luteovirens* Alb. & Schw.:Fr., as pointed out by Redhead (1987) and Bon (1990). It should be noted here that the *Armillaria* vs. *Armillariella* controversy involved only what the names of the genera should be and not the circumscription of the generic concepts.

Thus the modern concept of the genus *Armillaria* (Fr.:Fr.) Staude includes tricholomatoid Basidiomycotina with basidiomata usually emerging from black rhizomorphs, with adnate to decurrent gills bearing basidia with pale, non-amyloid, non-dextrinoid basidiospores. The nutritional status is saprophytic to parasitic (wood decay or root rot fungi) and generally not mycorrhizal. The genus is placed by most authors in the Tricholomataceae Roze (1876) although

Roze himself included *Armillaria* in the Armillariaceae Roze (1876), as accepted by Jülich (1981), who also included *Tricholomopsis* Singer.

Historic variability in the generic concept of *Armillaria*

Several authors have made combinations in *Armillaria*. Not knowing of Kummer's (1871) work, Quélet (1872) made the combination *Armillaria mellea* (Vahl:Fr.) Quélet, and the species was cited this way for many years until Kummer's earlier paper was rediscovered. Gillet (1874) also made many new combinations and proposed several new species in *Armillaria*, but his work was largely ignored and apparently unavailable to many researchers for many years. There are no extant Gillet type specimens, so his new species are best considered *nomina ambigua* (Marxmüller, 1992). Saccardo (1887, 1891, 1895) accepted into the genus *Armillaria* most species that Fries placed in tribe *Armillaria* at various times, transcribing Fries' descriptions, usually verbatim, into his *Sylloge Fungorum*.

Before the acceptance of nutritional status as a character for consideration in delimiting genera of the Agaricales, the major distinction between *Armillaria* and *Tricholoma*, for many authors, was the presence of an annulus in *Armillaria*. However, Quélet (1872) did not consider the annulus to be an important character at the generic level and moved several species of *Armillaria* into the genus *Tricholoma*. Ricken (1914, 1915) also moved many *Armillaria* species to *Tricholoma*. Ricken contended that *Armillaria* had no good grounds for existence and distributed the species among other genera. Notably, he removed the present-day type species, making the combination "*Clitocybe mellea* (Fr.) Ricken." Lange (1915) also discarded *Armillaria* as a genus, distributing the species among other genera, moving the type species to "*Lepiota mellea* (Fr.) Lange." Lange (1935) later accepted *Armillaria* as a genus.

In North America, Peck (1874, 1878, 1892, 1893, 1897, 1900, 1909) described a large number of species and varieties in *Armillaria* from the eastern United States. Murrill (1914) listed 14 species in *Armillaria* in North America, including only three of Peck's species. Kauffman (1918) included 6 species in the Agaricaceae of Michigan, but stated that there were "twelve additional species possible in the eastern United States." In his monograph of the genus *Armillaria* in the United States, Kauffman (1923) included thirty species in his key, plus ten as extralimital. Murrill (1912, 1914, 1943, 1944, 1945) described many new *Armillaria* species from Florida, none of which belong in *Armillaria* as presently conceived. Many of these belong in the genera *Limacella*, *Ripartitella*, and *Tricholoma*.

Emel's concept of *Armillaria*

Emel's (1921) thesis on *Armillaria* poses some interesting nomenclatural problems. Although this was a thesis, the names contained in it are validly published (ICBN Art. 29.1), because the thesis was "offered in exchange," at least to Harvard University (FH), where it was received March 1922, according to the stamp on the overleaf of the thesis. To ensure its availability, photocopies of Emel's entire thesis have been sent to DAOM (Ottawa, Ontario), NY (New York Botanical Garden) BPI (National Fungus Collection, Beltsville MD) and WTI (University of Washington Botany Dept.). We know of no other copies, but assume there is a copy at Université de Strasbourg in France, where Emel earned his degree.

Emel promoted the idea that the genus *Armillaria* was artificial and should be abandoned, that it consisted of species better placed in *Tricholoma*, *Collybia*, *Clitocybe*, and *Pleurotus*. He even went so far as to erect or accept four sections, one in each of these genera, for the annulate species of *Armillaria*. But nowhere does he say *Armillaria* is rejected. In fact, he described a new species, *Armillaria gilvidula* Emel. His key, although qualified, is a key to the genus *Armillaria*, and all the species are named in the key as *Armillaria* species.

The final section of his thesis could be interpreted as moving the species into other genera. This section could also be interpreted as "alternative classification," allowed before 1953 (ICBN Art. 34.2), as was the case in some of Murrill's publications (e.g. Murrill 1913, 1914). However, a strict translation and interpretation of the French (S. Redhead, Y. Dalpé, and M. Lefebvre, DAOM, Pers. Comm.) reveals that Emel apparently lacked the conviction to actually do away with the genus *Armillaria* and thought the species "[. . . should be placed at some future time]" (" a ranger dans"; future tense) into these other genera, and did not actually intend to place them in these other genera. Therefore these names are not validly published, since ICBN Art. 34.1 says, "A name is not validly published (a) when it is not accepted by the author in the original publication; . . ." Furthermore, Art. 34.1 (b) states, "A name is not validly published....(b) when it is merely proposed in anticipation of the future acceptance of the group concerned, or of a particular circumscription, position, or rank of the group...." The names in these other genera should be considered provisional combinations and are not validly published. In the following nomenclatural treatment, these invalidly published combinations are listed under the appropriate epithet and are labeled as invalid. Fortunately for nomenclatural purposes, none of the combinations that might be interpreted as new (if "alternative classification" were to be accepted) creates nomenclatural problems of which we are aware, since none of these generic placements are currently accepted.

Another consequence of Emel's apparent *acceptance of the genus Armillaria* is that Emel's combinations in *Armillaria* [e.g. *Armillaria tabescens* (Swp.) Emel, *Armillaria ectypa* (Fr.) Emel, *Armillaria gymnopodia* (Bull.) Emel, and *Armillaria deroda* (Schulz.) Emel] are valid, although *A. gymnopodia* is now considered a synonym of *A. tabescens*, and *A. derodus* is probably a *Pleurotus* species.

Other concepts of *Armillaria*

Several authors have moved large numbers of species into the genus *Armillaria*, based on various interpretations of the limits of the genus. Kauffman (1923) moved many species now considered to be in the genus *Cystoderma* to *Armillaria* because of their superficial resemblance to members of the *Armillaria mellea* complex. Singer (1949) moved several *Hygrophorus* species to *Armillariella*, but Healer and Smith (1963) remarked that all of these species belong in *Hygrophorus* as they accepted it in their monograph of that genus. Locquin (1952), who considered the amyloid-spored *Armillaria luteovirens* as the type of *Armillaria*, moved many *Lepidella* species to *Armillaria*; Bas (1969), in his monograph of *Amanita* section *Lepidella*, accepted a broader concept of *Amanita* to include *Lepidella*, which we accept here.

The species that have at one time been placed in *Armillaria* or *Armillariella* now belong in a total of forty-four genera (Table 1). In addition to the *Tricholoma* and *Floccularia* species included in *Armillaria* until relatively recently, it is interesting to note that some of these (*Agrocybe*, *Inocybe*, *Gymnopilus*, *Flammulaster*, *Stropharia* and *Psathyrella*) are genera characterized by brown basidiospores.

The Biological Species Concept in *Armillaria*

At the same time that the changes in the circumscription of the genus *Armillaria* resulted in the expulsion of many species from the genus, the morphologically and ecologically diverse *Armillaria mellea* was being split up into several species based on incompatibility (mating) reactions and capabilities. This has led to the widespread acceptance of the Biological Species concept in *Armillaria*.

Until the late 1970's *Armillaria mellea* (Vahl:Fr.) Kummer was considered by most researchers to be a pleiomorphic species with a wide host range and distribution. The pathology literature on *A. mellea* was extremely confusing. The fungus was considered by different researchers to be either a virulent pathogen or an opportunistic pathogen, and its host range was one of the broadest known for

fungi (Raabe, 1962; Farr *et al.*, 1989). Velenovský (1920, 1927, 1939, 1947) recognized these differences and described several new species of *Armillaria* from Central Europe, long before a biological species concept was accepted. Herink (1973) recognized most of Velenovský's species and also made many new combinations in *Armillaria* based on geographically and morphologically distinct species described by other authors. Some of Velenovský's names have been linked with present-day biological species (Termorshuizen and Arnolds, 1987; Marxmüller 1992). Velenovský's *Armillaria* type specimens are extant and have been studied by Antonín (1986,1990).

Because of the difficulty with studying the basidiomata using traditional characters, other methods of study were employed. Hintikka (1973) developed a technique that allowed determination of mating (incompatibility) types in *Armillaria* based on culture morphology of single spored (haploid) pairings. Using a modification of this method, Korhonen (1978) distinguished five European Biological Species (EBS). Anderson and Ullrich (1979) demonstrated that what had been considered as *Armillaria mellea* in North America was actually 10 genetically isolated biological species (North American Biological Species or NABS). To distinguish these from EBS A through E, they were designated with Roman numerals (I through X). Anderson, Korhonen, and Ullrich (1980) demonstrated the genetic compatibility of four EBS with certain NABS. Only *Armillaria borealis* Marxmüller & Korhonen (EBS A) was found to be genetically isolated from (i.e. incompatible with) all the NABS, while a number of NABS were unique to North America. Anderson (1986) determined that two of the NABS delimited in 1979 were superfluous. However, by this time another, apparently rare, biological species, NABS XI had been recognized by Morrison *et al.* (1985). In a search for names for these biological species, Termorshuizen and Arnolds (1987) have studied the literature and many of the type specimens or paintings of species that have been considered part of the *Armillaria mellea* complex from Europe. In other words, they studied specimens and names that researchers have listed over the years as being synonymous with *Armillaria mellea sensu lato*. Their conclusion was that most of the older names could not be applied to modern-day biological species with certainty, especially in those cases where there was no extant type specimen.

All of the EBS and most of the NABS have now been given names [Table 2. See also Bérubé and Dessureault (1988, 1989)]. NABS IX is in the process of being named (Volk and Burdsall, in preparation) and NABS X and XI have yet to be described. In addition, there are a number of enigmatic collections of *Armillaria* (with cultures) from North America that cannot be placed in any of the known biological species. Thus it is possible, if not likely, that there are

additional unnamed species of *Armillaria* in North America and on other continents.

Even before the advent of the biological species concept in Europe and North America, workers had described what we now know to be true *Armillaria* species from other continents; Spegazzini (1889, 1899) and Rick (1906, 1907, 1920, 1937, 1961) described several new species or varieties of *Armillaria* from South America, and Singer (1956, 1969, 1970, 1989) described several species of *Armillariella* from South and Central America. Berkeley and Curtis (1869) described several new species from Cuba. Hennings (1895), Patouillard (1895), Petch (1909) and Beeli (1927) described species or varieties from Africa. Berkeley described a large number of species from the Indian subcontinent (1850) and Ceylon (1847), which were later treated by Chandra and Watling (1982).

The species we presently accept in the genus *Armillaria* (Fr.:Fr.) Staude as circumscribed by Watling *et al.* (1982) are found in Table 2. Some of these species (Kile & Watling 1983, 1988; Cha *et al.*, 1994), have been tested against EBS or NABS have been found to be distinct biological species. In this work we maintain in *Armillaria* those species that have not been tested against known biological species until conclusive testing can be accomplished. It is possible that some of these names will be reduced to synonymy once this testing is done.

Objectives and Methods of this work

The purpose of this work was to bring together all of the nomenclatural literature on past and present members of the genus *Armillaria* as a prelude to a formal monograph of the genus. Since this is a nomenclatural study, we have relied on the reading of original descriptions, as well as subsequent studies of types and concepts by other authors to determine the correct placement of the taxa. We have seen all publications listed herein, except where noted.

The format of this publication is as follows: each epithet that has been used in combination with *Armillaria* or *Armillariella* or as a variety of an *Armillaria* or *Armillariella* species is treated separately, with its combination in ***Armillaria*** listed first. If no combination was made in *Armillaria* then the *Armillariella* combination is listed first. Epithets are listed in alphabetical order; if an epithet has been used by a different author with a different basionym, the epithet is listed more than once and separate paragraphs are devoted to each name. The basionym is listed next; if the basionym is the same as the *Armillaria* or *Armillariella* name in the first line under the epithet, the basionym is not repeated. This is followed by the accepted name. If it is not clear from the literature what the accepted name should be this line is left blank. Known

synonyms then follow; obligate synonyms are preceded by " ≡ " (equivalent sign) and facultative synonyms are preceded by " = " (equal sign). Later authors who accepted a particular placement of a species are listed in the same paragraph, preceded by *fide*, "according to," and the reference (e.g., = *Floccularia luteovirens* (Alb. & Schw.:Fr.) Pouz., Pouzar 1957, Česká Mykol. 11:49; *fide* Singer 1962, Agaricales in Modern Taxonomy p.304). If the accepted name cannot be determined (e.g. if the name has fallen into disuse or if the concept of the species is unclear or controversial) a short explanation follows. Each name is followed by a complete reference to its place of publication. These references are not repeated in the "Literature Cited" section, which includes only those publications cited in this introduction. Each taxon or epithet mentioned in this work that was never combined in *Armillaria*, but is a synonym of an *Amillaria* or *Armillariella* species, is listed by epithet, followed by the *Armillaria* or *Armillariella* specific epithet under which it may be found in this publication.

Abbreviations of authorities follow Kirk and Ansell (1992). Abbreviations of herbaria are as in Holmgren *et al.* (1990). The International Code of Botanical Nomenclature (Greuter, 1988) is abbreviated ICBN, while IF represents the Index of Fungi and IFP represents the Index of Fungi, Petrak's Lists (both from CAB International). IUFRO represents the Proceedings of Conferences on Root and Butt Rot, sponsored by the International Union of Forestry Research Organizations. EBS stands for European Biological Species (Korhonen, 1978; Anderson, Korhonen, & Ullrich, 1980) and NABS stands for North American Biological Species (Anderson & Ullrich, 1979; Anderson, Korhonen, & Ullrich, 1980; Anderson, 1986; Morrison, Chu, & Johnson, 1985; Watling, Kile & Burdsall, 1991).

We hope that this publication will serve to clarify the concept of *Amillaria* and its species and serve as a model for nomenclatural studies of other genera.

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Table 1. Current genera of species once placed in *Armillaria* or *Armillariella*

1 Agrocybe	23 Lepidella
2 Amanita	24 Lepiota
3 Armillaria	25 Leucoagaricus
4 Arthrosporella	26 Leucocortinarius
5 Calocybe	27 Leucopholiota
6 Camarophyllus	28 Limacella
7 Catathelasma	29 Lulesia
8 Chaemaemyces	30 Melanoleuca
9 Chrysomphalina	31 Neolentinus
10 Clitocybe	32 Omphalotus
11 Cyptotrama	33 Oudemansiella
12 Cystoderma	34 Pleurotus
13 Cystolepiota	35 Porpoloma
14 Flammulaster	36 Psathyrella
15 Floccularia	37 Rhodocybe
16 Gerronema	38 Rickenella
17 Gymnopilus	39 Ripartitella
18 Hygrophorus	40 Squamanita
19 Inocybe	41 Stropharia
20 Lampteromyces	42 Termitomyces
21 Lentinula	43 Tricholoma
22 Lentinus	44 Tricholomella

Table 2. Species presently accepted in the genus *Armillaria* (Fr.:Fr.) Staude, with known distributions. Some of these species names may be reduced to synonymy once cultural and mating studies are done. Designations for North American Biological Species (NABS, Anderson & Ullrich, 1979) and European Biological Species (EBS; Korhonen, 1978) are included.

<i>Armillaria affinis</i> (Singer) Volk & Burdsall	-----	Central America, Caribbean
<i>Armillaria borealis</i> Marxmüller & Korhonen	-----	Europe, EBS A
<i>Armillaria calvescens</i> Bérubé & Dessur.	-----	Eastern North America, NABS III
<i>Armillaria camerunensis</i> (Henn.) Volk & Burdsall	-----	Africa
<i>Armillaria cepistipes</i> Velen.	-----	Europe, North America?, EBS B, NABS X ?, NABS
<i>Armillaria duplicata</i> (Berk.) Sacc.	-----	India
<i>Armillaria ectypa</i> (Fr.) Emel	-----	Europe
<i>Armillaria fellea</i> (Hongo) Kile & Watling	-----	Australia
<i>Armillaria fumosa</i> Kile & Watling	-----	Australia
<i>Armillaria fuscipes</i> Petch	-----	India, Africa?
<i>Armillaria gallica</i> Marxmüller & Romagn.	-----	North America, Europe, Japan, NABS VII, EBS E
<i>Armillaria gemina</i> Bérubé & Dessur.	-----	Eastern North America, NABS II
<i>Armillaria griseomellea</i> (Singer) Kile & Watling	-----	South America
<i>Armillaria heimii</i> Pegler	-----	Africa
<i>Armillaria hinnulea</i> Kile & Watling	-----	Australia
<i>Armillaria jezoensis</i> Cha & Igarashi	-----	Japan
<i>Armillaria limonea</i> (G.Stev.) Boesewinkel	-----	New Zealand
<i>Armillaria luteobubalina</i> Watling & Kile	-----	Australia
<i>Armillaria mellea</i> (Vahl:Fr.) P.Kumm.	-----	Europe, North America, Asia, NABS VI, EBS D
<i>Armillaria melleo-rubens</i> (Berk. & M.A.Curtis) Sacc.	-----	Central America
<i>Armillaria montagnei</i> (Singer) Herink	-----	South America, Europe
<i>Armillaria nabsnona</i> Volk & Burdsall <i>ined.</i>	-----	Western North America NABS IX

<i>Armillaria novae-zealandiae</i> (G.Stev.) Herink	-----	New Zealand, New Guinea, Australia, S.Amer.
<i>Armillaria omniitens</i> (Berk.) Sacc.	-----	India
<i>Armillaria ostoyae</i> (Romagn.) Herink	-----	North America, Europe, Asia, NABS I, EBS C
<i>Armillaria pallidula</i> Kile & Watling	-----	Australia
<i>Armillaria pelliculata</i> Beeli	-----	Africa
<i>Armillaria procera</i> Speg.	-----	South America
<i>Armillaria puiggarii</i> Speg.	-----	South America
<i>Armillaria sinapina</i> Bérubé & Dessur.	-----	North America, Japan NABS V
<i>Armillaria singula</i> Cha & Igarashi	-----	Japan
<i>Armillaria sparrei</i> (Singer) Herink	-----	South America
<i>Armillaria tabescens</i> (Scop.) Emel	-----	Europe, North America
<i>Armillaria tigrensis</i> (Singer) Volk & Burdsall	-----	South America
<i>Armillaria viridiflava</i> (Singer) Volk & Burdsall	-----	South America, Europe?
<i>Armillaria yungensis</i> (Singer) Herink	-----	South America

NABS X and **NABS XI** are presently undescribed and unnamed. *Armillaria fulgens* (Cooke & Masee) Sacc. [Australia], *Armillaria xaviczii* (Singer) Herink [Byelorussia], *Armillaria umbilicata* (Pat.) Sacc. & Syd. [Guadeloupe] are true members of the genus *Armillaria*, but have not been found or studied since their original description, despite extensive collecting in the areas from which they were described. *Armillaria solidipes* Peck, from Colorado, is also a true *Armillaria* species, but whether it is conspecific with any other *Armillaria* species is unknown.

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Alphabetical listing of epithets in *Armillaria* and *Armillariella* and their current dispositions

adelpha

Armillaria adelpha (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84

basionym: *Agaricus (Armillaria) adelphus* Berk., Berkeley 1850, Decades of Fungi XXV to XXX no. 251 in Hooker's J. Bot. 2:47

accepted name: Because of the controversy surrounding this name and the apparent two type specimens, and the synonymy of this name with a brown spored species by Emel, this name is best considered a *nomen dubium*

= *Stropharia aeruginosa* (M. A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:1013; *fide* Emel 1921, Le genre *Armillaria* p.74

= *Armillaria omnituens* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84; *fide* Singer 1970, Flora Neotropica 3:16; however, *fide* Chandra and Watling 1981, Kavaka 10:65, they are not synonyms. The discrepancy apparently arises over which specimen should be considered the type.

adnatifolia

Armillaria adnatifolia (Peck) Kauffman, Kauffman 1923, Pap. Mich. Acad. Sci. 2:60

basionym: *Lepiota adnatifolia* Peck, Peck 1902, NY State Museum Report of the State Botanist 1901, NY State Museum Bulletin 271:947

accepted name: = *Cystoderma adnatifolium* (Peck) Harmaja, Harmaja 1974, Karstenia 14:122

= *Cystoderma granulorum* (Batsch:Fr.) Fayod var. *adnatifolia* A.H. Smith & Singer, Smith and Singer 1944 (1945), Proc. Mich. Acad. Sci. 30: 90; *fide* Miller and Farr 1975, Bib. Mycol. 44:59

affinis

Armillariella afinis Singer, Singer 1989, Fieldiana 21:12

basionym: *Armillariella afinis* Singer, Singer 1989, Fieldiana 21:12

accepted name: = *Armillaria afinis* (Singer) Volk & Burdsall, *comb. nov.*

The description and photos indicate that this is a true *Armillaria* species. Cultural and mating studies will have to be done to determine its affinities to other *Armillaria* species.

africana

Armillaria mellea (Vahl:Fr.) P.Kumm. subsp. *africana* Mohammed, Guillaumin, Botton, & Intini, Mohammed *et al.* 1994, IUFRO 8:408

accepted name: *nomen nudum*, ICBN Art. 36.1, no Latin diagnosis.

Mohammed *et al.* 1994, *loc. cit.*, have proposed this name for a groups of African homothallic isolates resembling *Armillaria mellea* (Vahl:Fr.) P.Kumm. *sensu stricto*, q.v..

alachuana

Armillaria alachuana Murrill, Murrill 1938, Mimeographed Contr. Herb. U. of Fla. Agr. Exp. Sta. p. 12; invalidly published ICBN Art. 29.1

accepted name: = *Ripartitella* sp.

nomen nudum, *fide* Singer 1946, Lloydia 9:128, name not validly published (ICBN Art. 29.1) Specimen at FLAS indicated as the type by Murrill examined by us, Murrill wrote the name "*A. squamosidisca* Murr. " on the label of the type collection, so this is likely to be the same as that species, placed in synonymy with *Ripartitella brasiliensis* (Speg.) Singer, Singer 1949 (1951), Lilloa 22:452

alachuana

Armillariella alachuana (Murrill) Singer, Singer 1949 (1951), Lilloa 22:216

basionym: *Clitocybe alachuana* Murrill, Murrill 1944, Proc. Fl. Acad. Sci. 7:107

accepted name: = *Rhodocybe mundulata* (Lasch) Singer, Singer 1949 (1951), Lilloa 22:609; *fide* Bigelow 1985, Beih. Nova Hedw. 81: 425; *fide* Baroni 1981, Beih. Nova Hedw. 67:99; see Baroni 1981, *loc. cit.*, for list of other synonyms
 ≡ *Lulesia alachuana* (Murrill) Singer, Singer 1970, Flora Neotropica 3:17
 NOT *Armillaria alachuana* Murrill, Murrill 1938, Mim. Contr. Herb. U. of Fla. Agr. Exp. Sta. p. 12, q.v.; note that Murrill used the epithet *alachuana* many times in naming species.

alba

Armillaria luteovirens (Alb. & Schwein.:Fr.) Sacc. f. *alba* A.H. Smith, Smith 1947, Mycologia 39: 625

accepted name: ≡ *Floccularia luteovirens* (Alb. & Schwein.:Fr.) Pouzar f. *alba* (A.H. Smith) Pilat, Pilat 1969, Česká Mykol. 23:13

alba

Armillaria albolanaripes G.F. Atk. f. *alba* Mitchel & A.H. Smith, Mitchel & A.H. Smith 1976, Mycotaxon 4 (2): 527

accepted name:

If this is a true form of this species, it belongs in the genus *Floccularia*.

alba

Armillaria stmminea (Krombholz) P.Kumm. var. *americana* Mitchel & A.H. Smith f. *alba* (A.H. Smith) Mitchel & Smith, Mitchel & A.H. Smith 1976, Mycotaxon 4 (2): 527

basionym: *Armillaria luteovirens* (Alb. & Schwein.:Fr.) Sacc. f. *alba* A.H. Smith, Smith 1947, Mycologia 39:625

accepted name: = *Floccularia straminea* (Krombh.) Pouzar var. *americana* (Mitchel & Smith) Ron f. *alba* (Mitchel & A.H. Smith) Bon, Bon 1990, Documents Mycologiques 20 (no. 79): 57

= *Armillaria luteovirens* f. *alba* A.H. Smith, Smith 1947, Mycologia 39:625; *fide* Mitchel and Smith 1976, Mycotaxon 4 (2): 527

= *Floccularia luteovirens* (Alb. & Schwein.:Fr.) Pouzar f. *alba* (A.H. Smith) Pilát, Pilát 1969, Česká Mycol. 23:13; *fide* Mitchel and Smith 1976, Mycotaxon 4 (2): 527

albertinii, *Pleurotus* SEE *lepiota*, *pleurotoides*

albida

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *albida* Peck, Peck 1892, NY State Museum Report St. Bot. 44: 134

basionym: *Armillaria mellea* Vahl var. *albida* Peck, Peck 1892, *loc. cit.*

accepted name:

Peck's description indicates only that it is a "white or whitish form of *Armillaria mellea*" s.l.; *fide* Herink 1973, Vysoká Skola Zemědělska V Bmé. Vyznamenaná Rádem Prace BRNO p. 33, this probably represents an albino form of *A. mellea* s.l.

albolanaripes

Armillaria albolanaripes G.F. Atk., Atkinson 1908, Annales Mycologici 6:54

accepted name: = *Floccularia albolanaripes* (G.F. Atk.) Redhead, Redhead 1987, Canad. J. Bot. 65:1556

= *Floccularia albolanaripes* (G.F. Atk.) Walting & S.P. Abraham, Walting and S.P. Abraham 1992, Int'l. J. Lichenol. and Mycol. 5(3):155, superfluous comb.

albo-sericea

Armillaria ah-sericea (Brig.) Sacc., Saccardo 1887, Sylloge Fungorum 5:77

basionym: *Agaricus (Armillaria) albo-sericeus* Brig., Briganti and Briganti 1851 (1852), Neap. t.4, f.1-2

accepted name:

= *Calocybe constricta* (Fr.) Kühner ex Singer, Singer (1961) 1962, Sydowia 15:47; *vide* Bigeard and Guillemin (1909) Flore des Champignons Supérieurs de France p. 72 [as "*Armillaria constricta* (Fr.) Gillet," q.v]

vide Fries 1863, Monogr. II p. 330, this taxon is "inter *A. scruposum* & *constrictum* medius"; Briganti 1851, *loc. cit.*, describes and illustrates this taxon with a tuberous base, unlike an *Armillaria*. The proper disposition of this species is not known.

album, *Tricholoma* SEE *appendiculata*

alphitophylla

Armillaria alphitophylla (Berk. & M.A. Curtis) Murrill, Murrill 1914, N. Amer. Flora 10(1):39; see Murrill 1939, p. 31

basionym: *Agaricus (Mycena) alphitophyllus* Berk. & M.A. Curtis, Berkeley and Curtis 1858, Proc. Amer. Acad. 4:112

accepted name: = *Oudemansiella canarii* (Jungh.) Höhn., Höhnel 1909, Sitz.-ber. Akad. Wiss. Wien 118:276; *fide* Singer 1945, Mycologia 37:436; *fide* Pegler 1977, Kew Bull. addit. ser. 6:152

≡ *Mycena alphitophylla* (Berk. & M.A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:305

≡ *Chamaemyces alphitophyllus* (Berk. & M.A. Curtis) Murrill, Murrill 1911, Mycologia 3:91

≡ *Oudemansiella alphitophylla* (Berk. & M.A. Curtis) Boedijn, Boedijn 1940, Bull. Jard. bot. Buitenz., Sér. III, xvi, p. 398; *fide* IF 1:27

≡ *Collybia alphitophylla* (Berk. & M.A. Curtis) S.Ito & S.Imai, Ito and Imai 1939, Trans. Sopporo Nat. Hist. Soc. 16:15. Original not seen, cited by Petrak 1936-1939, p.23

≡ *Collybia mucida* (Schrad.:Fr.) Bicken f. *alphitophylla* (Berk. & M.A. Curtis) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid ICBN Art. 34.1(b)

= *Agaricus (Amanita) cubensis* Berk. & M.A. Curtis, Berkeley and Curtis 1869, J. Linn. Soc. 10:282; *fide* Murrill 1914, N. Amer. Flora 10:39; *fide* Emel 1921, Le genre *Armillaria* p.56; *fide* Pegler 1977, Kew Bull. addit. ser. 6:150

= *Agaricus (Mycena) leucoconis* Berk. & M.A. Curtis, Berkeley and Curtis, 1858, Proc. Amer. Acad. 4:113 [= *Mycena leucoconis* (Berk. & M.A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:273]; *fide* Murrill 1914, N. Amer. Flora 10:39; *fide* Emel 1921, Le genre *Armillaria* p.56

= *Armillaria cheimonophylla* (Berk. & M.A. Curtis) Sacc. q.v.; *fide* Singer 1945, Mycologia 37:436; *fide* Emel 1921, Le genre *Armillaria* p.56

ambiguus, *Agaricus* SEE *ramentacea*

ambrosii

Armillaria ambrosii Bres., Bresadola 1883, Fungi Tridentini 1:27

accepted name: ≡ *Cystoderma ambrosii* (Bres.) Singer, Singer 1943, Ann. Mycol. Berlin 41:170 [Moser 1983, Keys to Agarics and Boleti, p. 253, incorrectly attributes the combination to Smith & Singer]

≡ *Tricholoma ambrosii* (Bres.) Ricken, Ricken 1914, Die Blätterpilze p. 330

ameghinoi

Armillaria ameghinoi Speg., Spegazzini 1899, Anales del Museo Nacional de Buenos Aires 6:97; *Spegazzini* indicates this taxon as "*Armillaria* ?"

accepted name: ≡ *Amanita ameghinoi* (Speg.) Singer, Singer 1952, Sydowia 6 (5/6):344; *fide* Bas 1969, Persoonia 5:358

americana

Armillaria straminea (Krombh.) P.Kumm. var. *americana* Mitchel & A.H. Smith f. *americana* Mitchelk A.H. Smith, Mitchel and A.H. Smith 1976, Mycotaxon 4(2):522

accepted name: ≡ *Floccularia straminea* (Krombh.) Pouzar var. *americana* (Mitchel & A.H. Smith) Bon, Bon 1990, Documents Mycologiques 20 (no. 79): 57

If *A. straminea* (q.v.) is accepted as a synonym of *A. luteovirens*, this taxon should be *Floccularia luteovirens* var. *americana* f. *americana*; see discussion under *straminea*.

amianthina

Armillaria amianthina (Scop.:Fr.) Kauffman, Kauffman 1923, Pap. Mich. Acad. Sci. 2:60

basionym: *Agaricus amianthinus* Scop., Scopoli 1772, Flora Carniolica Plantas Camiolae Indigenas II 434

accepted name: ≡ *Cystoderma amianthinum* (Scop.:Fr.) Fayod, Fayod 1889, Prodrome, Ann. Sci. Nat. Bot. VII 9:351

NOT *Cystoderma amianthinum* (Scop. :Fr.) Fayod var. *longisporum* Kühner, Kühner 1969, Bull. mens. Soc. Linn. Lyon 38(6):184 [= *Crystoderma jasonis* (Cooke & Masee) Harmaja, Harmaja 1978, Karstenia 18(1): 291

≡ *Lepiota amianthinum* (Scop.:Fr.) Wünsche, Wünsche 1877, Die Pilze p. 205; *fide* Dank 1960, Beih. Nova Hedwigia 5:80

≡ *Lepiota amianthinum* (Scop.) Ricken, Ricken 1914, Die Blätterpilze p. 327, superfluous comb.

annularius, *Agaricus* SEE *mellea*

apalosclerus

Armillaria apalosclerus (Berk.) A. Chandra & Watling, Chandra and Watling 1981, Kavaka 10:65

basionym: *Agaricus (Pleurotus) apalosclerius* Berk., Berkeley 1850, Hook. J. Bot. & Kew Gdn. Miscellany 2:82

accepted name: = *Oudemanniella canarii* (Jungh.) Höhn., Höhnel 1909, Sitzber. Akad. Wiss. Wien 118:276; *fide* Singer 1945, Mycologia 37:436; *fide* Pegler 1977, Kew Bull. addit. ser. 6:152

≡ *Pleurotus hapalosclerus* (Berk.) Sacc. (≡ *apalosclerus* Berk), Saccardo 1887, Sylloge Fungorum 5:351

fide Chandra and Watling 1981, Kavaka 10:65, this species is exannulate and near *Armillaria tabescens* and *A. ectypa*. note numerous spelling changes in the epithet.

appendiculata

Armillaria appendiculata Peck, Peck 1897, Bull. Torr. Bot. Club 24:140

accepted name:

fide Peck 1897, *loc. cit.*, "suggestive of *Tricholoma album*" but with a veil. Mycorrhizal fungus, not an *Armillaria*. Its proper disposition is not known.

aquatica, *Clitocybe* SEE *tabescens*

arenicola

Armillaria arenicola Murrill, Murrill 1912, Mycologia 4:212

accepted name: = *Tricholoma magnivelare* (Peck) Redhead, Redhead 1984, Trans. Mycol. Soc. Japan 256; *fide* Redhead 1984, *loc. cit.*

≡ *Tricholoma murrillianum* Singer, Singer 1942, Lloydia 5: 113; *nomen novum* for *Armillaria arenicola* Murrill, Murrill 1912, *loc. cit.*

NOT *Tricholoma arenicola* (Murrill) Murrill, Murrill 1913, Mycologia 5:223 [= *Melanoleuca arenicola* Murrill, Murrill 1913, Mycologia 5:214, alternative name in same publication; = *Tricholoma focale* (Fr.) Ricken, q.v.; *fide* Ovrebo, 1980, Ph.D. thesis Univ. of Toronto, p. 177]

argentina

Armillaria argentina Speg., Spegazzini 1899, Anales del Museo Nacional de Buenos Aires 6:99

accepted name:

No further information is available about this species. Spegazzini's description suggests a mycorrhizal species, not an *Armillaria*.

armeniaca

Armillariella armeniaca (Montagne) Raithelhuber, Raithelhuber 1990, Metrodiana 18(1-2): 37 [as "(Mont. ss. Rick)"]

basionym: *Agaricus armeniacus* Montagne, Montagne 1856, CENT. VII:22. Original not seen, cited by Raithelhuber 1990, *loc. cit.*

accepted name:

Raithelhuber's description indicates no annulus, hyphae with clamps. If an *Armillaria* its closest relative would be *A. tabescens*, but this species is probably not an *Armillaria*.

asprata

Armillaria asprata (Berk.) Petch, Petch 1910, Ann. Roy. Bot. Gdn. Peradeniya 4:386

basionym: *Agaricus (Lepiota) aspratus* Berk., Berkeley 1847, Hook. Lond. Jour. Bot. 6:481; Petch 1910, *loc. cit.*, cites basionym as "*Agaricus (Armillaria) aspratus* Berk., " as do Chandra and Watling 1981, Kavaka 10:80

accepted name: = *Cyptotrama asprata* (Berk.) Redhead & Ginns, Redhead and Ginns 1979, Can. J. Bot. 58:732; *fide* Chandra and Watling 1981, Kavaka 10:65
= *Lepiota asprata* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:48
= *Xerula chryopepla* (Berk. & M.A. Curtis) Singer, Singer 1953, Lilloa 26:156; *fide* Redhead and Ginns 1977, *loc. cit.*
= *Armillaria carneogelatinosa* Rick, Rick 1920, Brot. Ser. Bot. 18(2): 52; *fide* Redhead and Ginns 1977, *loc. cit.*

atkinsoniana

Armillaria atkinsoniana (Coker) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68: 167. no description or indication of new sp. or comb.

basionym: *Amanita atkinsoniana* Coker, Coker 1917, J. Elisha Mitchell Sci. Soc. 33:84

accepted name: = *Amanita atkinsoniana* Coker, Coker 1917, J. Elisha Mitchell Sci. Soc. 33:84 pls. 58-59; *fide* Bas 1969, Persoonia 5:427
= *Lepidella atkinsoniana* (Coker) E.J. Gilbert & Kühner, Gilbert and Kühner 1928, Bull. Soc. Mycol. France 44:151

aurantia

Armillaria aurantia (Schaeff.:Fr.) Quélet, Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:231

basionym: *Agaricus aurantius* Schaeff., Schaeffer 1762 t.37 (not seen); redescribed by Schaeffer 1774, Fungi qui.. Bavaria t. 32 and Schaeffer 1780, Fung. qui... Bavaria t. 37 .

accepted name: = *Tricholoma aurantium* (Schaeff.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.332

= *Agaricus (Tricholoma) aurantius* Schaeff.:Fr., Fries 1821, Syst. Mycol. I: 39

= *Melanoleuca aurantia* (Schaeff.:Fr.) Murrill, Murrill 1914, N. Amer. Flora 10:23

= *Agaricus (Tricholoma) peckii* Howe, Howe 1875, Bull. Torr. Bot. Club 6:66;

fide Kauffmau 1918, Agaricaceae of Michigan p.651; *fide* Murrill 1914, *loc. cit.*

australis

Armillaria australis Murrill, Murrill 1945, J. Fl. Acad. Sci. 8(2):175

accepted name: = *Ripartitella* sp. We examined the type of this species from FLAS. The spores are ornamented, non-amyloid and it appears to be a *Ripartitella* sp.

NOT *Armillaria colossa* (Fr.) Boud. var. *australis* Cleland, Cleland 1927, No. 6 No. 457, Trans. Proc. Royal Soc. S. Australia 51:299, *q. v.*

NOT *Tricholoma australe* (Murrill) Murrill, Murrill 1944 (1945), Lloydia 7:327 [= *Melanoleuca australis* Murrill, *loc. cit.* p. 306, alternative name in same publication]

NOT *Clitocybe australis* Murrill, Murrill 1944 (1945), Lloydia 7:327

[= *Clitocybe gibba* (Fr.) P.Kumm., Kummer 1871, Führ. Pilzkunde p. 123; *fide* Bigelow 1985, Beih. Nova Hedw. 81:291]

Note that Murrill used this epithet for a large number of taxa.

australis

Armillaria colossa (Fr.) Boud. var. *australis* Cleland, Cleland 1927, Trans. Proc. Royal Soc. S. Australia 51:299

basionym: *Armillaria colossa* (Fr.) Boud. var. *australis* Cleland, Cleland 1927, *loc. cit.*

accepted name: = *Tricholoma coarctatum* (Cooke & Massee) Sacc., Saccardo 1891, Sylloge Fungorum 9: 13 (= *Agaricus (Tricholoma) coarctatus* Cooke & Massee 1889, Grev. 18:2); *fide* Singer 1949 (1951), Lilloa 22:227 (as var. *australiensis*); *fide* Singer 1943, Ann. Mycol. 41:77

azalearum

Armillariella azalearum (Murrill) Singer, Singer 1949 (1951), Lilloa 22:216

basionym: *Clitocybe azalearum* Murrill, Murrill 1942, Llyodia 5:137

accepted name: = *Rhodocybe azalearum* (Murrill) T.J. Baroni, Baroni 1981, Beih. Nov. Hedwigia 67: 44; *fide* Bigelow 1985, Beih. Nova Hedw. 81:425
NOT *Cortinellus azalearum* Murrill, Murrill 1942, Lloydia 5:137 [= *Tricholoma azalearum* (Murrill) Murrill, Murrill 1942, Lloydia 5:156, alternative name in same publication]; Note that Murrill used the epithet *azalearum* in many different genera

badicephala

Armillaria badicephala Zeller, Zeller 1935, Mycologia 27:459

accepted name:

Zeller 1935, *loc. cit.*, describes it as "*near Tricholoma subpessundatum* Murr." suggesting a placement in *Tricholoma*; "with the general appearance of a *Tricholoma*", *fide* Hotson 1940, Mycologia 32: 786. It is apparently not a species of *Armillaria*.

baccata, *Amanita* SEE *beillii*

batschii, *Tricholoma* SEE *subannulata*, *fracticia*

beillii

Armillaria beillii (Beauseign.) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68:167. no description or indication of new sp. or comb.

basionym: *Lepidella beillii* Beauseign., Beauseigneur 1926, Bull. Soc. Mycol. France XLII p.465

accepted name:

fide Bas 1969, Persoonia 5:285-379, not an *Armillaria*, "probably an ecological form of *Amanita baccata*, maybe a *clamped* form of *Amanita gracilor*"

borealis

Armillaria borealis Marxmüller & Korhonen, Marxmüller and Korhonen 1982, Bull. Soc. Myco. Fr. 98(1):122

accepted name: = *Armillaria borealis* Marxmüller & Korhonen, Marxmüller and Korhonen 1982, *loc. cit.*
Korhonen species A (EBS A)

boryana

Armillaria boryana (Berk. & Mont.) Murrill, Murrill 1939, Bull. Torr. Bot. Club 66:31

basionym: *Agaricus (Collybia) boryanus* Berk. & Mont., Berkeley & Montagne 1849, Ann. Sci. Nat. Bot. sér. 3, 11:235; basionym cited in "Cent. VI n.61 & Mont. Syll. Crypt n. 346" in Saccardo 1887, Sylloge Fungorum 5:240

accepted name: = *Lentinula boryana* (Berk. & Mont.) Pegler, Pegler 1975, Kavaka 3:19; *vide* Pegler 1983, World Monogr. *Lentinus* p. 224

= *Collybia boryana* (Berk. & Mont.) Sacc., Saccardo 1887, Sylloge Fungorum 5:240, as "(Bory. & Mont.) Sacc."

= *Lentinus boryanus* (Berk. & Mont.) Singer, Singer 1955, Sydowia Ann. Mycol. 9: 379

= *Gymnopus boryanus* (Berk. & Mont.) Murrill, Murrill 1916, N. Amer. Flora 9:74

= *Lentinus cubensis* Berk. & M.A. Curtis, Berkeley and Curtis 1869, J. Linn. Soc. 10:302; *vide* Pegler 1983, *loc. cit.*

= *Armillaria raphanica* Murrill, Murrill 1943, Mycologia 35: 422 q.v.

brasiliensis, *Ripartitella* SEE *alachuana*, *floridana*, *rhagadiosa*, and *squamosidisca*

bresadolae

Armillaria bresadolae Rick, Rick 1907, Broteria 6(2):71

accepted name: = *Lepiota crassor* Singer, Singer 1953, Lilloa 26:64, *nomen novum* for Rick's species since *Lepiota bresadolae* (Rick) Singer would be invalid as a later homonym of *Lepiota bresadolae* (Schulzer), Sacc. 1887, see below.

= *Amanita bresadolae* (Rick) Rick, Rick 1937, Lilloa 1:308

NOT *Lepiota bresadolae* (Schulzer) Sacc., Saccardo 1887, Sylloge Fungorum 5:33; [= *Agaricus (Lepiota) bresadolue* Schulzer, Schulzer 1885, Hedwigia

24: 132]; note that Schulzer used the epithet *bresadolae* for many different species

NOT *Agaricus (Amanita) bresadolae* Schulzer, Schulzer 1885, Hedwigia 24: 132

NOT *Tricholoma bresadolae* Cléménçon, Cléménçon 1977, Nova Hedwigia 28

(1):32 [= *nomen novum* for *Tricholoma murinaceum* Bull. sensu *Bresadola* 1927; = *Tricholoma bresadolianum* Cléménçon, Cléménçon 1977, Documents Mycologiques 7 (27-28): 54; see IF 4:486]

bruchi

Armillaria bruchi Speg., Spegazzini 1925 (1926), Bol. Acad. Nat. Cienc. Córdoba, 28:276

accepted name: *nomen ambiguum*; *fide* Singer 1952, Sydowia 6:345; *fide* Bas 1969, Persoonia 5:285-379, not an *Armillaria*

NOT *Agaricus bruchi* Speg., Spegazzini 1925 (1926), Bol. Acad. Nat. de Cienc. Córdoba 28:327

brunneus, *Agaricus* SEE *spongiosa*

bulbiger

Armillaria bulbiger (Alb. & Schwein.:Fr.) P.Kumm., Kummer 1871, Führ. Pilz. p.135

basionym: *Agaricus bulbiger* Alb. & Schwein., Albertini and Schweinitz 1805, Conspectus Fungorum p. 150

accepted name: ≡ *Leucocortinarius bulbiger* (Alb. & Schwein.:Fr.) Singer, Singer 1945, Lilloa 8: 141, see this reference for other synonyms.

≡ *Agaricus (Armillaria) bulbiger* Alb. & Schwein.:Fr., Fries 1821, Syst. Myc.I p.27

≡ *Tricholoma bulbigerum* (Alb. & Schwein.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.331 [as "(Schwein.) Ricken"]

≡ *Cortinarius bulbiger* (Alb. & Schwein.:Fr.) Lange, Lange 1933, Dansk Bot. Ark. 8(7): 6 [as "(Fr.) Lange"]

≡ *Cortinellus bulbiger* (Alb. & Schwein.:Fr.) Pat., Patouillard --reference not found, cited in Singer 1943, Ann. Mycol. 41:67

bulbosa

Armillaria bulbosa Velenovský, Velenovský 1927, Mykologia (Praha) 4:116 [as "(Barla) Velen. "]

basionym: *Armillaria bulbosa* Velenovský, Velenovský 1927, Mykologia (Praha) 4:116 { *nomen novum* based on *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *bulbosa* Barla, Barla 1887, Bull. Soc. Mycol. France 3:143 (*nom. rej.* ICBN Art. 64.1, later homonym of *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *bulbosa* P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.21, q.v.) }

accepted name: = *Armillaria cepistipes* Velen., Velenovský 1920, České Houby, Dil II:283; *fide* Marxmüller 1992, Mywtaxon 44:270, *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *bulbosa* Barla, q.v. is probably identical with *Armillaria cepistipes* Velen. based on the habitat, occurrence under conifers, and examination of Barla's type specimen and color plate. *Armillaria cepistipes* Velen. 1920 is an older name than *Armillaria bulbosa* Velen. 1927. See additional discussion under *gallica*.

≡ *Armillariella bulbosa* (Velen.) Romagn., Romagnesi 1973, Bull. trimest. Soc. Mycol. France 89 (2): 199 [as "(Barla) Romagn., " treated here as a bibliographic error]; *fide* Marxmüller 1992, Mycotaxon 44:270, this name has been misapplied, and the species described and collected by Romagnesi is identical to *Armillaria gallica* Marxmüller & Romagn., Marxmüller & Romagnesi 1987, Bull. Soc. Mycol. France 103:152.

≡ *Armillaria bulbosa* (Barla) Kile & Watling, Kile and Watling 1983, Trans. Brit. Mycol. Soc. 81 (1): 131, superfluous comb.

= *Armillaria lutea* sensu Termorshuizen and Arnolds 1987, Mycotaxon 30:108; *fide* Marxmüller 1992, Mycotaxon 44:270

NOT *Armillaria mellea* (Vahl:Fr.) P.Kumtn. var. *bulbosa* P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.21; this name has priority over Barla's, q.v.

NOT *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *bulbosa* Peck, Peck 1893, NY State Mus. Rept. 46: 133, q.v.; illegitimate as later homonym of both Barla's and Karsten's names (ICBN ART. 64.1)

If the name *Armillaria bulbosa* were to be used, it would have to be cited as "*Armillaria bulbosa* Velen. " (ICBN Art. 72), since Barla's name is illegitimate as a later homonym of Karsten's 1879 name. (ICBN Art. 64.1).

bulbosa

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *bulbosa* P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.21

accepted name:

This taxon has not been addressed since Karsten's description. It is a *nomen dubium*.

bulbosa

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *bulbosa* Peck, Peck 1893, NY State Mus. Rept. 46:133

accepted name:

No further information is available regarding this taxon. It is illegitimate (ICBN Art. 64.1) as a later homonym of both Barla's and Karsten's *Armillaria mellea* var. *bulbosa*. q.v.

butryaceus, *Agaricus* SEE *spongiosa*

canarii, *Oudemansiella* SEE *alphitophylla*, *apalosclerus*, *cheimonophylla*, *favacea*, *mucida*, and *platensis*

caeruleo-viridis

Armillaria caeruleo-viridis (Brig.) Sacc., Saccardo 1887, Sylloge Fungorum 5:77

basionym: *Agaricus* (*Armillaria*) *caeruleo-viridis* Brig., Briganti 1837 (1839), Jun. Neap. p. 9 t.3. f.1-2, Comes F. Napoli p.9

accepted name:

doubtful whether an *Armillaria* species, *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 105

caespitosus, *Lentinus* (also *Agaricus*, *Pleurotus*, *Monadelphus*) SEE *tabescens*

californicum, *Tricholoma* SEE *subannulatum*

caligata

Armillaria caligata (Viv.) Gillet, Gillet 1874, Les Hym. p. 79

basionym: *Agaricus caligatus* Viv., Viviani 1834, Funghi d'Italia I t.35

accepted name: = *Tricholoma caligatum* (Viv.) Ricken, Ricken 1914, Die Blätterpilze p.331; Sometimes incorrectly cited as "*Tricholoma caligatum* (Viv.:Fr.) Ricken"

= *Tricholoma caligatum* (Viv.) Bres., cited in Lindau and Ulbrich 1928, Kryptogamenflora für Anfänger p. 351. We were unable to find this combination in any of Bresadola's works.

= *Tricholoma caligatum* (Viv.) Maire, Maire 1933, Publ. Junta Cienc. Nat. Barcelona, Treb. Mus. Cienc. Nat. Barcelona XV nr. 2 p.80, original not seen, cited in IFP 1932-35, p. 238, superfluous comb.

= *Armillaria caligata* (Xv.) Sacc., Saccardo 1887, Sylloge Fungorum 5:75, superfluous comb.

NOT *Armillaria caligata* (Viv.) Gillet sensu Hariot & Pat., Hariot and Patouillard 1902, Bull. Mus. Hist. Nat. 8:132; *fide* Scott Redhead (Pers. Comm.) this is a misapplied name, as Hariot and Patouillard apparently based their description on a matsutake purchased in the market; = *Armillaria matsutake* S.Ito & S.Imai, q.v., *fide* Ito and Imai 1925, Bot. Mag. Tokyo 39:327, who cited this as "*Armillaria caligata* Har. & Pat.," as did Kytövuori 1988 (1989), Karstenia 28(2):69. Thus the synonymy of *T.matsutake* with *T.caligatum* is based on a misapplication of the name *T.caligatum*.

fide Bon 1984, Encyclopedia Mycologique 36: 275; *fide* Riva 1988, Fungi Europaei: *Tricholoma* p. 400, *Tricholoma matsutake* q.v. is the same as *T.caligatum*, but the basis for the synonymy as proposed by these authors is not known.

calvescens

Armillaria calvescens Bérubé & Dessur., Bérubé and Dessurealt 1989, Mycologia 81(2):220

accepted name: = *Armillaria calvescens* Bérubé & Dessur., Bérubé and Dessurealt 1989, *loc. cit.*

North American Biological Species III

calyptrata

Armillaria calyptrata (Lindbl.) P.Karst., Karsten, 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.23

basionym: *Agaricus (Pleurotus) calyptratus* Lindbl., Lindblad in Fries 1857, Monograph. I p. 238

accepted name: ≡ *Pleurotus calyptratus* (Lindbl.) Sacc., Saccardo 1887, Sylloge Fungorum 5: 341

The description indicates a subsessile basidioma with laterally attached stipe. It is likely a *Pleurotus* species.

camerunensis

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *camerunensis* Henn., Hennings 1895, Fungi Camerun. I in Engl. Jahrb. 22: 107

basionym: *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *camerunensis* Henn., Hennings 1895, *loc. cit.*

accepted name: ≡ *Armillaria camerunensis* (Henn.) Volk & Burdsall, *comb. nov.* Mohammed *et al.* 1989, IUFRO 7:447-457 provide preliminary evidence that this is a distinct species of *Armillaria*. We maintain it here as a separate until definitive mating and cultural studies can be done. Since this name is being used we provide a validly published combination.

fide Roy Walting (Pers. Comm.) possibly = *Armillaria fuscipes* Petch, q.v.

≡ *Armillariella camerunensis* (Henn.) Singer, Singer 1986, Agaricales in Modern Tax. p. 263

carcharius

Armillaria carcharia (Pers.) Kauffman, Kauffman 1924, Pap. Mich. Acad. Sci. 4:317 [mis-cited as "(Fr.) Kauffman", bibliographic error]

basionym: *Agaricus carcharias* Pers., Persoon 1797, Disp. Meth. Fung. 16 p. 18

accepted name: ≡ *Cystoderma carcharios* (Pers.) Fayod, Fayod 1889, Prodrome, Ann. Sc. Nat. Bot. VII 9:351; note spelling change to -os; *fide* Singer 1961, Persoonia 2: 13

≡ *Lepiota carcharias* (Pers.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 14 [as "(Pers.) Fr.," but Fries 1874, Hym. Eur. p. 36, treated this as "*Agaricus (Lepiota) carcharias*"]

≡ *Lepiota carcharias* (Pers.) Ricken, Ricken 1914, Die Blätterpilze p. 327, superfluous comb.

≡ *Lepiota granulosa* (Batsch:Fr.) Quéf. var. *carcharias* (Pers.) Gillet, Gillet 1874, Les Hym. p. 71

= *Armillaria pinetorum* Gillet, Gillet 1874, Les Hym. p. 79; *fide* Bresadola 1920, Ann. Mycol. 18:65

carneogelatinosa

Armillaria carneogelatinosa Rick, Rick 1920, Brot. Ser. Bot. 18(2): 52

accepted name: = *Cyptotrama asprata* (Berk.) Redhead & Ginns, Redhead and Ginns 1979, Can. J. Bot. 58:732

casimiri

Armillaria casimiri Velen., Velenovský 1920, České Houby, Dil II:283.

accepted name: *nomen dubium*, *fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75: 129

Termorshuizen and Arnolds 1987, Mycotaxon 30:105, suggest this species may be synonymous with *Cathelasma imperiale* (Fr.) Singer because of double annulus; *fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75: 130 (who studied the type) it is not *C. imperiale*.

castulifera

Armillariella castulifera Romagn., Romagnesi 1978, Bull. trimest. Mycol. Soc. Fr. 94 (2): 100

accepted name: = *Leucocortinarius castulifer* (Romagn.) Romagn., Romagnesi 1980, Bull. Soc. Mycol. France 96 (2):150

causetta

Armillaria causetta (Barla) Emel, Emel 1921, Le genre *Armillaria* p.27., published as a provisional combination, invalid, ICBN Art. 34.1(b)

basionym: *Agaricus (Armillaria) causetta* Barla, Barla 1859, Champ. Nice. p. 16 t. 9 & 10 f. 4-7

accepted name: = *Tricholoma robustum* (Alb. & Schwein.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.332; *fide* Kytövuori 1988 (1989), Karstenia 28(2):69; *fide* Moser 1983, Keys to Agarics and Boleti (as *T.robustum*)

≡ *Tricholoma focale* (Fr.) Ricken var. *causetta* (Barla) Bon, Bon 1976, Documents Mycologique 6:273

= *Armillaria rufa* Quéf., Quélet 1881, Jura Suppl. 10, in C.R. Ass. Fr. Av. Sci. 9:661; *fide* Quélet 1881, *loc. cit.* ; but see discussion under *focalis*

cepistipes

Armillaria cepistipes Velen., Velenovský 1920, Česká Houby, Dil II:283

accepted name: = *Armillaria cepistipes* Velen., Velenovský 1920, *loc. cit.*; *fide* Antonín 1986, Česká Mykol. 40(1):38

= *Armillaria cepistipes* Vel. f. *pseudobulbosa* Romagn. & Marxmüller, Romagnesi and Marxmüller 1983, Bull. Soc. Mycol. France 99(3):310; *fide* Marxmüller 1992, Mycotaxon 44:269 (form designations abandoned, forms intergrade)

= *Armillaria mellea* (VahlFr.) P.Kumm. var. *bulbosa* Barla, Barla 1887, Bull. Soc. Mycol. France 3:143; *fide* Marxmüller 1992, Mycotaxon 44:270-- see discussion under *bulbosa*.

Korhonen Species B (EBS B), partially compatible with North American Biological Species X and XI

fide Marxmüller 1992, Mycotaxon 44:269-270, *cepistipes* should be the accepted spelling of this name-- orthographic variants include *cepaestipes* and *cepestipes*

cerasi

Armillaria cerasi Vel., Velenovský 1920, Česká Houby, Dil II:282

accepted name: = *Armillaria mellea* (VahlFr.) P.Kumm. q.v.; *fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75:130; *fide* Termomhuizen and Arnolds 1987, Mycotaxon 30: 105-106, "possibly *A.mellea*"

cheimonophylla

Armillaria cheimonophylla (Berk. & M.A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:86

basionym: *Agaricus* (*Armillaria*) *cheimonophyllus* Berk. & M.A. Curtis, Berkeley and Curtis 1869, J. Linn. Soc. 10:284

accepted name: = *Oudemansiella canarii* (Jungh.) Höhn., Höhnel 1909, Sitzber. Akad. Wiss. Wien 118:276; *fide* Singer 1945, Mycologia 37:437; *fide* Pegler 1977, Kew Bull. addit. ser. 6:152

= *Mucidula cheimonophylla* (Berk. & M.A. Curtis) Pat., Patouillard 1899, Bull. Soc. Mycol. France 15:192

chlorina

Armillaria mellea (VahlFr.) P.Kumm. var. *chlorina* Rick, Rick 1906, Blotéria 5:24

accepted name: = *Armillaria puiggarii* Speg., Spegazzini 1889, Bol. Acad. Nat. Cienc. Córdoba 11: 384; *fide* Singer 1952, Sydowia 6:344; *fide* Singer 1953, Lilloa 26:66; *fide* Singer 1970, Flora Neotropica 3:7

chrysopepla, *Xerula* SEE *asprata*

chrysophylla

Armillariella chrysophylla (Fr.) Singer, Singer 1943, Annales Mycol.(Berlin) 41:20

basionym: *Agaricus (Omphalia) chrysophyllus* Fr., Fries 1821, Syst. Mycol. 1:167

accepted name: ≡ *Chrysomphalina chrysophylla* (Fr.) Cléménçon, Cléménçon 1982, Zeit. Mykol. 48:203; *fide* Norvel, Redhead and Ammirati 1994, Mycotaxon 50:390.

≡ *Gerronema chrysophyllum* (Fr.) Singer, Singer 1959, Mycologia 51:380

≡ *Omphalia chrysophylla* (Fr.) Gillet, Gillet 1874, Les Hym. p.296

≡ *Omphalina chrysophylla* (Fr.) Murrill, Murrill 1916, N. Amer. Flora 9: 346
= *Clitocybe luteophylla* Bigelow & Healer, Bigelow and Healer 1960, J. Elisha Mitchell Sci. Soc. 76: 160, *nomen novum* for *Agaricus chrysophyllus* non *Clitocybe chrysophylla* Hruby, Hruby 1930, Hedwigia 70: 243.

cinereoconia

Armillaria cinereoconia (G.F. Atk.) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68:167. no description or indication of new sp. or comb.

basionym: *Amanita cinereoconia* G.F. Atk., Atkinson 1909, Ann. Mycol. (Berlin) 7:366

accepted name: ≡ *Amanita cinereoconia* G.F. Atk., Atkinson 1909, *loc. cit.* ; *fide* Bas 1969, Persoonia 5463

cingulata

Armillaria cingulata (Almfelt in Fr.) Quélet, Quélet 1872, Quélet Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:74

basionym: *Agaricus (Lepiota) cingulatus* Almfelt in Fr., Fries 1830, Linnaea 5:507 tab. 10 [Eclogae Fungorum p. 5071

accepted name: ≡ *Tricholoma cingulatum* (Fr.) Jacobasch, Jacobasch 1892, Verh. Bot. Ver. Prov. Brand. 33:59

= *Armillaria ramentaceu* ss. Gillet, Gillet 1874, Les Hym. p. 78; *fide* Bon 1984, Encyclopédia Mycologique 36: 155; *fide* Riva 1988, Fungi Europaei: *Tricholoma* p. 244 [as "*Tricholoma ramentaceum sensu* Gillet"]

cinnabarina

Armillaria cinnabarina (Alb. & Schwein.) Kauffman, Kauffman 1923, Pap. Mich. Acad. Sci. 2:60

basionym: *Agaricus granulosis* Batsch var. *cinnabarinus* Alb. & Schwein., Albertini and Schweinitz 1805, Conspectus Fungorum p. 147

accepted name: = *Cystoderma terreii* (Berk. & Broome) Harmaja, Harmaja 1978, *Karstenia* 18:29-30

≡ *Agaricus (Lepiota) cinnabarinus* Alb. & Schwein. ex Fr., Fries 1874, Hym. Eur. p.36. Fries did not mention this species until 1874 and should not be included as an authority for combinations.

≡ *Cystoderma cinnabarinum* (Alb. & Schwein.) Fayod, Fayod 1889, *Prodrome*, Ann. Sc. Nat. Bot. VII 9:351

≡ *Agaricus granulosis cinnabarinus* Secr., Secretan 1833, *Mycogr. Suisse* 1:60; *nomen invalidum*, Secretan names not accepted, ICBN Art. 23.6(c) Ex. 10

≡ *Lepiota cinnabarina* (Alb. & Schwein.) Ricken, Ricken 1914, *Die Blätterpilze* p. 327 [cited as "Schwein." instead of "Alb. & Schwein."]

≡ *Lepiota granulosa* (Batsch:Fr.) Quél. var. *cinnabarina* (Alb. & Schwein.) Gillet, Gillet 1874, *Les Hym.* p. 71

citri

Armillaria citri (Inzenga) Sacc., Saccardo 1887, *Sylloge Fungorum* 5:83

basionym: *Agaricus citri* Inzenga, Inzenga 1865, *Funghi. Sic.* I p.33 t.3 f.1 (cited as "*Agaricus (Armillaria) citri* Inzenga" by Fries 1874, Hym. Eur. p. 460)

accepted name: = *Armillaria mellea* (Vahl:Fr.) P.Kumm., q.v.; *fide* Termorshuizen and Arnolds 1987, *Mycotaxon* 30:106.

≡ *Collybia mellea* (Vahl:Fr.) Emel f. *citri* (Inzenga) Emel, Emel 1921, *Le genre Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

fide Singer 1951, *Sydowia* 5:445-475, studied type and believed it belonged to *Armillariella mellea* s.l.

clavuligera

Armillariella clavuligera Singer, Singer 1951, *Lilloa* 25:70

accepted name: = *Gerronema clavuligera* (Singer) Singer, Singer 1961 (1962), *Sydowia* 15:50

coarctatum, *Tricholoma* SEE *australis*

codinae

Armillaria codinae (Maire) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68:167. no description or indication of new sp. or comb.

basionym: *Lepidella codinae* Maire, Maire 1933, Fungi Catal. I. in Mus. Barcin. Scient. nat. Op. (bot.2) 15: 85 pl. I

accepted name: = *Amanita codinae* (Maire) Singer, Singer 1949 (1951), Lilloa 22: 388; *fide* Bas 1969, Persoonia 5:352

colossa

Armillaria colossa (Fr.) Boudier, Boudier 1900, Bull. Soc. Mycol. France 16:18

basionym: *Agaricus (Tricholoma) colossus* Fr., Fries 1838, Epicr. p. 38, Monogr. p. 15

accepted name: = *Tricholoma colossus* (Fr.) Quéél., Quélet 1872, Quélet Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:76

= *Tricholoma colossus* (Fr.) Ricken, Ricken 1914, Die Blätterpilze p.333, superfluous comb.

= *Tricholoma guernisaci* Crouan in Gillet, Gillet 1874, Les Hym. p. 95, q.v.; *fide* Bigeard and Guillemin (1909) Flore des Champignons Supérieurs de France p. 71

compressipes

Armillariella compressipes (Murrill) Singer, Singer 1942, Lloydia 5: 103

basionym:

Singer 1942, Lloydia 5:103, cited as the basionym "*Clitocybe compressipes* Murrill, Murrill 1914, N. Amer. Flora 10:19." This taxon does not exist. However, on that page, Murrill treated *Melanoleuca compressipes* Murrill [= *Tricholoma compressipes* (Murrill) Murrill, Murrill 1914, Mycologia 6:269]. Murrill 1916, N. Amer. Flora 9:47, accepted *Clitocybe compressipes* (Peck) Sacc. q.v.; This should be treated as a bibliographic error (ICBN Art. 33.2 Ex.4), Singer apparently intended "*Melanoleuca compressipes* Murrill" as the basionym for his combination.

accepted name:

Singer 1942, Lloydia 5: 103 description indicates affinity with *A. tabescens* and *A. nigropunctata*, which Singer considered exannulate species of *Armillariella*. The true disposition of this taxon is not known.

NOT *Agaricus (Clitocybe) compressipes* Peck, Peck 1880, NY State Mus. Rept. State Botanist 33:18 [= *Clitocybe compressipes* (Peck) Sacc., Saccardo 1887, Sylloge Fungorum 5: 184; *fide* Bigelow 1982 Beih. Nov. Hedw. 72: 137; = *Clitocybula compressipes* (Peck) Raithelhuber, Raithelhuber 1979, Metrodiana 8:29, = *Pseudomphalina compressipes* (Peck) Singer, Singer 1962, Agaricales ed 2 p. 287]

congregatus, *Agaricus* SEE *ostoyae*

constricta

Armillaria constricta (Fr.) Gillet, Gillet 1874, Les Hym. p. 78

basionym: *Agaricus (Armillaria) constrictus* Fr., Fries 1821, Syst. Myc. 1: 28

accepted name: = *Calocybe constricta* (Fr.) Kühner in Singer, Singer 1961 (1962), Sydowia 15:47; *fide* Watling *et al.* 1991, *Armillaria* Root Disease p. 6

≡ *Lyophyllum constrictum* (Fr.) Singer, Singer 1943, Ann. Mycol. 41:100

≡ *Calocybe constricta* (Fr.) Kühner ex Bon & Courtec., Bon & Courtecuisse 1986, Documents Mycologiques 16 (62) :66, superfluous comb.

≡ *Armillaria constricta* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:77, superfluous comb.

≡ *Tricholoma constrictum* (Fr.) Ricken, Ricken 1914, Die Blätterpilze p.329

≡ *Tricholoma constrictum* (Fr.) Lange, Lange 1933, Dansk. Bot. Ark. 8 (3): 28; IF 5: 316, superfluous comb.

≡ *Tricholomella constricta* (Fr.) Zerova, Zerova 1974, Atlas Grib. Ukr. 84, and Zerova 1979, Vozn. Grib. Ukr. 5 (2):178 (*nomen nudum*, ICBN Art. 36.1; in both references the genus name was published without a Latin diagnosis)

≡ *Tricholomella constricta* (Fr.) Zerova ex Kalaméés, Zerova ex Kalaméés 1992, Persoonia 14(4) :446

contorticystis

Armillaria contorticystis A.H. Smith, Smith 1979, Beih. Sydowia 8:370

accepted name:

Not an *Armillaria*, a mycorrhizal fungus. Smith described the spores as being "not amyloid, or very weakly so (possibly)"

corticata

Armillaria corticata (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.22

basionym: *Agaricus (Pleurotus) corticatus* Fr., Fries 1815, Obs. I. p. 92

accepted name: = *Pleurotus dryinus* (Pers.:Fr.) P.Kumm., Kummer 1871, Führ. Pilz. p.135; *fide* Atkinson 1900, Stud. Amer. Fungi.; *fide* Kauffman 1918, Agar. p.655

≡ *Agaricus (Pleurotus) corticatus* Fr.:Fr., Fries 1821, Syst. Myc. I p. 179

≡ *Armillariella corticata* (Fr.) P.Karst., Karsten 1881, Hymenomycetes Fennicae p.4

≡ *Pleurotus corticatus* (Fr.) P.Kumm., Kummer 1871, Führ. Pilz. p.104

≡ *Pleurotus corticatus* (Fr.) Quélet, Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:111, superfluous comb.

crassor, *Lepiota* SEE *bresadokae*

crouanii

Armillaria crouanii de Guern., deGuernisac in Gillet 1874, Les Hymenomycetes p.80

accepted name:

≡ *Clitocybe crouani* (deGuern.) Emel, Emel 1921, Le genre *Armillaria* p.75, published as a provisional combination, invalid, ICBN Art. 34.1(h)

Mycorrhizal fungus, not an *Armillaria*. No further information is available regarding this taxon.

cubensis, *Agaricus* SEE *alphitophylla*

cubensis, *Lentinus* SEE *boryana*

dactyliophora

Armillaria dactyliophora (Lév.) Beeli, Beeli 1927, Bull. Soc. Roy. Bot. Belg. 59: 110

basionym: *Lentinus dactyliophorus* Lév., Lévillé 1844, Champ. Exot. Ann. Sci. Nat., Bot. sév. 3, 2:174

accepted name: = *Lentinus sajor-caju* (Fr.) Fr., Fries 1838, Epicrisis p. 393; *vide* Pegler 1983, World Monogr. *Lentinus* p. 81

cumulatus, *Agaricus* SEE *mellea*

darjeelingensis

Armillariella darjeelingensis Sarwal & Locq., Sarwal and Locquin 1983, Compte rendus du 108e Congres national des Societes savantes, Grenoble 1983 Section des Sciences 1; Sciences de la terre 2:196

accepted name:

According to the description, this fungus is a mycorrhizal former and does not belong in the genus *Armillaria*. Its proper placement is unknown.

dasypepla

Armillaria dasypepla (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:78

basionym: *Agaricus (Armillaria) dasypeplus* Berk., Berkeley 1847, Decades of Fungi no. 145, Land J. Bot. 6:482

accepted name: *nomen dubium*, not an *Armillaria*; *vide* Chandra and Watling 1981, Kavaka 10:81

Emel 1921, Le genre *Armillaria* p.74 spells this "*Armillaria Dasypila* (Berck.) Sacc., p.78," citing the correct page in Sylloge Fungorum. Treated as an orthographic error.

dasypila

Armillaria Dasypila (Berk.) Sacc. [as "(Berck.) Sacc."], Saccardo 1889, Sylloge Fungorum 5:78, as cited by Emel 1921, Le genre *Armillaria* p.74.

Emel apparently meant to cite *Armillaria dasypepla* (Berk) Sacc., q.v. Treated here as an orthographic variant of *Armillaria dasypepla*, as no taxon with the epithet *dasypila* exists in Sylloge Fungorum.

deceptiva

Armillariella deceptiva (A.H. Smith & Hesler) Singer, Singer 1949 (1951), Lilloa 22:216

basionym: *Hygrophorus deceptivus* A.H. Smith & Hesler, Smith and Hesler 1942, Lloydia 5:45

accepted name: ≡ *Hygrophorus deceptivus* A.H. Smith & Hesler, Smith and Hesler 1942, *loc. cit.* ; *vide* Hesler and Smith 1963, North American species of *Hygrophorus* p. 174

decorosa

Armillaria decorosa (Peck) A.H. Smith & M.B. Walters, Smith and Walters 1947, Mycologia 39:622

basionym: *Agaricus (Tricholoma) decorosus* Peck, Peck 1873, Bull. Buff. Soc. Sc. Nat. 1:42

accepted name: This species will be placed in the genus *Leucopholiota* by O.K. Miller, Volk, & Bessette in a future publication; *Leucopholiota* is not a validly published genus.

≡ *Floccularia decorosa* (Peck) Bon & Courtec., Bon and Courtecuisse 1987, Documents Mycologiques 18(69):38.

≡ *Tricholoma decorosum* (Peck) Sacc., Saccardo 1887, Sylloge Fungorum 5: 111

≡ *Tricholoma decorosum* (Peck) Farl., Farlow 1929, Icones Farlowiae p. 19 pl. 17, superfluous comb.

≡ *Cortinellus decorosus* (Peck) Murrill, Murrill 1914, N. Amer. Flora 10: 32

≡ *Tricholomopsis decorosa* (Peck) Singer, Singer 1943, Mycologia 35:152

Remarks: Romagnesi 1980, Bull. Soc. Mycol. France 96:145, erected the subgenus *Leucopholiota* of *Armillaria* ss. Fries (*Armillariella* P.Karst) to accommodate this species, which causes a wood decay and has amyloid spores.

dehiscens

Armillaria dehiscens (Viv.) Sacc., Saccardo 1887, Sylloge Fungorum 5:76

basionym: *Agaricus dehiscens* Viv., Viviani 1834, Funghi d'Italia p.60

accepted name:

No further information is available regarding this taxon.

delicata

Armillaria delicata (Fr.) Boud., Boudier 1904, Icones Mycologicae t. 1 pl. 23 No. 574, text publ. 1911 in Icones Mycologicae 4: 12

basionym: *Agaricus (Lepiota) delicatus* Fr., Fries 1821, Syst. Myc. I: 20

accepted name: ≡ *Limacella delicata* (Fr.) Earle, Earle 1909, Bull. NY Bot. Garden 5:447

≡ *Lepiota delicata* (Fr.) Gillet, Gillet 1874, Les Hym. p. 73

≡ *Lepiota delicata* (Fr.) Lindau and Ulbrich, Lindau and Ulbrich 1928,

Kryptogamenflora für Anfänger 1:355, superfluous comb.

≡ *Armillaria delicata* (Fr.) Bigeard & Guillemin, Bigcard & Guillemin 1913, Flore des Champignons Supérieurs de France 2: 34, superfluous comb.

denigrata

Armillaria denigrata (Pers.:Fr.) Gillet, Gillet 1874, Les Hym. p. 82

basionym: *Agaricus denigratus* Pers., Persoon 1801, Synopsis Methodica Fungorum no. 16 p. 267

accepted name: = *Agrocybe erebia* (Fr.) Fayod ex Konrad & Maubl., in Konrad and Maublanc, 1948, Les Agaricales, Encyclopédia Mycologique 14:160; *vide* Watling *et al.* 1991, Armillaria Root Disease p. 6; *vide* P.M. Rea 1922 Brit. Basidiomycetae p. 100; *vide* Watling *et al.* 1982, Trans. Brit. Mycol. Soc.

78:272; *vide* Gilbert 1928, Bull. Mycol. Soc. Fr. 44:166 (as *Pholiota erebia*)

= *Agrocybe erebia* (Fr.) Kühner, Kühner 1953, Flora Analytique des Champignons Supérieurs p.342.) superfluous and illegitimate combination, no basionym or citation as required beginning Jan 1953

≡ *Agaricus (Armillaria) denigratus* Pers.:Fr., Fries 1821, p. 30

≡ *Agrocybe denigrata* (Pers.:Fr.) Singer, Singer 1943, Ann. Mycol. 41:21

≡ *Armillaria denigrata* (Pers.:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:81, superfluous comb.

≡ *Clitocybe denigrata* (Pers.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p. 363

densifolia

Armillariella densifolia Singer in Singer & Digilio, Singer 1951 (1953), Lilloa 25:72

accepted name: ≡ *Lulesia densifolia* (Singer) Singer, Singer 1970, Flora Neotropica 3: 16

derodus

Armillaria deroda (Schulzer) Emel, Emel 1921, Le genre *Armillaria* p.74

basionym: *Agaricus (Armillaria) derodus* Schulzer, Schulzer 1878, Myc. Beit. Wien; Champ de Slavonie sp. no 67, p.112.

accepted name:

No further information is available regarding this taxon. From the description it is likely a *Pleurotus* species.

dichupella

Armillaria dichupella (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:83

basionym: *Agaricus (Armillaria) dicupellus* Berk., Berkeley 1850, Hook. J. Bot. Kew Gdn. Misc. 2:45

accepted name:

fide Chandra and Watling 1981, Kavaka 10:67, this is probably identical with *Armillaria vara* (Berk) Sacc.,q.v., which they considered a *nomen dubium* in the same publication p. 76

fide Singer 1970, Flora Neotropica 3: 16, this is a synonym of *Armillaria omnituens* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84
note spelling differences in epithet.

dimidiata

Armillaria dimidiata (Schaeff.) J.Schröt. in E.Cohn, Cohn 1889, Kryptogamen-Flora von Schliesen 3 (1):667

basionym: *Agaricus dimidiatus* Schaeff., Schaeffer 1774, Fung. qui... Bavaria 4:57 nr. 121; Schaeffer 1774 cites Schaeffer 1770, Fung. qui... Bavaria v. 3 t. 233, but this is only a drawing of the species, without a binomial.

accepted name: = *Pleurotus dryinus* (Pers.:Fr.) P.Kumm., Kummer 1871, Führ. Pilz. p. 135; *fide* Bigeard and Guillemin 1909, Flore des Champignons Supérieurs de France p. 154; *fide* Saccardo 1887, Sylloge Fungorum 5:340; *fide* Murrill 1914, N. Amer. Flora 10:35; Fries 1821, Syst. Myc. 1:180 under *A.dryinus* lists as a synonym "*A.dimidiat.* Schaeff t.233 (non bene.)"
= *Pleurotus dimidiatus* (Schaeff.) Murrill, Murrill 1914, N. Amer. Flora 10:35

distans

Armillaria distans (Pat.) Sacc. & Syd., Saccardo and Sydow 1899, Sylloge Fungorum 14:70

basionym: *Armillariella distans* Pat., Patouillard 1895, Bull. Soc. Mycol. France 11:85

accepted name:

From the description, this species has a very small basidiome (0.5-1.5 cm diameter pileus, 3 cm long 6 mm wide stipe) and decurrent gills. In addition the drawing does not look like an *Armillaria*. No further information is available regarding this taxon.

ditopa

Armillariella ditopa Singer, Singer 1950, Schweiz. Zeits. Pilz. 28: 191

accepted name: ≡ *Arthrosporella ditopa* (Singer) Singer, Singer 1970, Flora Neotropica 3:17

Singer 1962 Agaricales in Modern Taxonomy p. 257 says "with clavarioid conidial carpophores, otherwise much like a *Clitocybe* (except for clampless hyphae)"

dryina

Armillaria dryina (Pers.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.22

basionym: *Agaricus dryinus* Pers., Persoon 1801, Synopsis Methodica Fungorum p. 478 nr. 427; Persoon cites Schaeffer t.233, but Schaeffer 1744 did not name the fungus, only numbered it

accepted name: ≡ *Pleurotus dryinus* (Pers.:Fr.) P.Kumm., Kummer 1871, Führ. Pilz. p.135

≡ *Agaricus (Pleurotus) dryinus* Pers.:Fr., Fries 1821, Syst. Myc. I p. 180

≡ *Armillariella dryina* (Pers.) P.Karst., Karsten 1881, Hymenomycetes Fennicae p.4

= *Armillaria dimidiata* (Schaeff.) J.Schröt. in E.Cohn, Cohn 1889, Kryptogamen-Flora von Schliesen 3 (1):667 q.v.

= *Armillaria corticata* (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.22 q.v.

dulciolens, Tricholoma SEE *occidentalis*

duplicitia

Armillaria duplicata (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:83

basionym: *Agaricus (Armillaria) duplicatus* Berk., Berkeley 1850, Hooker's J. Bot. 2:45

accepted name: ≡ *Armillaria duplicata* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:83; *fide* Chandra and Watling 1981, Kavaka 10:68; *fide* Singer 1970, Flora Neotropica 3: 16, this is a synonym of *Armillaria omniuens* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84

echinocephala

Armillaria echinocephala (Vittad.) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68:167. no description or indication of new sp. or comb.

basionym: *Agaricus (Amanita) echinocephalus* Vittad., Vittadini 1835, Descr. Funghi Mang. 346

accepted name: = *Amanita solitaria* (Bull.:Fr.) Mérat, Mérat 1836, Nouv. Fl. Envir. Paris 4e Ed. I: 121; *fide* Bas 1969, Persoonia 5:394--see Bas for other synonyms

≡ *Amanita echinocephala* (Vittad.) Quél., Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5: 321

≡ *Lepidella echinocephala* (Vittad.) E.J. Gilbert, Gilbert 1925, Bull. Mycol. Soc. France 41:1925

≡ *Lepiota echinocephala* (Vittad.) Gillet, Gillet 1874, Les Hym. p.69

≡ *Amanita solitaria* (Bull.:Fr.) Mérat var. *echinocephala* (Vittad.) Costantin & Dufour, Costantin and Dufour 1891, Nouvelle Flore des Champignons ed. 1 (Paris, France: P.Dupont) p.3

ectypa

Armillaria ectypa (Fr.) Emel, Emel 1921, Le genre *Armillaria* p. 59

basionym: *Agaricus (Clitocybe) ectypus* Fr., Fries 1821, Syst. Myc 1:108

accepted name: = *Armillaria ectypa* (Fr.) Emel, Emel 1921, Le genre *Armillaria* p. 59

≡ *Armillaria ectypa* (Fr.) Lamoure, Lamoure 1965, C.R. Hebd. Séanc. Acad. Sci. Paris 260: 4562, superfluous comb.

≡ *Armillaria ectypa* (Fr.) Herink, Herink 1973, Vysoká Škola Zemědělská v Brně. Vyznamenání Rádem Práce BRNO p. 44, superfluous comb.

≡ *Armillariella ectypa* (Fr.) Singer, Singer 1943, Ann. Mycol. (Berlin) 41:20

≡ *Clitocybe ectypa* (Fr.) Gillet, Gillet 1874, Les Hym. p. 172

≡ *Clitocybe ectypa* (Fr.) Bigeard and Guillemin, Bigeard and Guillemin 1909, Flore des Champignons Supérieurs de France p. 120, superfluous comb.

≡ *Collybia ectypa* (Fr.) Quél., Quélet 1888, Flore Mycologique p. 236

Type not available from UPS. Until definitive cultural and mating studies are accomplished on this bog-inhabiting exannulate species, we must consider this as a separate species from *Armillaria tabescens* (Scop.) Emel, q.v.

edodes

Armillaria edodes (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:79

basionym: *Agaricus edodes* Berk., Berkeley 1878, J. Linn. Soc., Bot. 16:50

accepted name: ≡ *Lentinula edodes* (Berk.) Pegler, Pegler 1975, Kavaka 3:20; *vide* Pegler 1983, World Monogr. *Lentinus* p. 232; see Pegler for other synonyms.

≡ *Lentinus edodes* (Rerk.) Singer, Singer 1933, Mycologia 33:451

NOT *Armillaria edodes* ss. J.Schröt. non Berk. ≡ *Cortinellus edodes* (J.Schröt.

non Berk.) Henn., Hennings 1900 [as "(Berk.) P. Henn."] ; *nomen rej. fide*

Imai 1938, J. Fan. Agr., Hokkaido Imperial University 43:57-- Hennings

"erroneously used [shiitake's] name for 'matsutake' owing to the misidentification by Schröter putting too much weight on the incomplete brief diagnosis of Berkeley without examining the type specimen.. . "

elaeodes

Armillariella sparrei Singer var. *elaeodes* Singer, Singer 1969, Beih. Nov. Hedw. 29:45

accepted name:

No further information is available regarding this taxon, but from the description this taxon probably belongs in *Armillaria*. Whether it is contaxic with any other *Armillaria* is unknown.

elegans

Armillaria elegans Beeli, Beeli 1927, Bull. Soc. R. Belgique 59:111

accepted name: ≡ *Cystoderma elegans* (Beeli) Thoen, Thoen 1969, Bull. Jard. Bot. Belg. 39:188; *vide* Pegler 1977, Kew Bull. addit. ser. 6:383;

vide Chandra and Watling 1981, Kavaka 10:69, this is a *Cystoderma* sp.

NOT *Clitocybe* (*Armillariella*) *elegans* R.Heim, Heim 1963, Revue de Mycologie 28(2):94, q.v.

elegans

Armillariella elegans (R.Heim) J.B.Taylor, Hawkins & McLaren, Taylor *et al.* 1974, Orchard New Zealand 47 (2):56, invalid combination, (ICBN Art. 33.2, no basionym cited)

basionym: *Clitocybe* (*Armillariella*) *elegans* R.Heim, Heim 1963, Revue de Mycologie 28(2):94

accepted name: = *Armillaria heimii* Pegler, Pegler 1977, Kew Bull. addit. ser. 6:92; *nomen novum* for this species since *Armillaria elegans* Beeli 1927 q.v. has nomenclatural priority.

= *Armillaria fuscipes* Petch, q.v.; *fide* Chandra and Watling 1981, Kavaka 10:69; *fide* Kile and Watling 1988, Trans. Brit. Mycol. Soc. 91: 311; *fide* Watling *et al.*, 1992, Armillaria Root Disease p.5, but *fide* Kile *et al.* 1994, IUFRO 8:419 these are separate species; We are maintaining *Armillaria heimii* Pegler as a separate species until cultural and mating studies can be done with *Armillaria fuscipes* Petch.

epigoea

Armillaria epigoea Gillet, Gillet 1874, Les. Hym. p. 75

accepted name: = *Oudemansiella laqueata* (Fr.) C.L. Alessio, Alessio 1985, Micol. Ital. 14(1):19; *fide* Bigeard and Guillemin 1909, Flore des Champignons Supérieurs de France p. 73.

erebia, *Agrocybe* SEE *denigrata*

eurhiza

Armillaria eurhiza (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:85 (as *A. eurhiza*)

basionym: *Agaricus* (*Armillaria*) *eurrhizus* Berk., Berkeley 1847, Land. J. Bot. 6:483

accepted name: = *Termitomyces eurrhizus* (Berk.) R.Heim, Heim 1942, Arch. Mus. Nat. Hist. Nat. VI, 18:140; *fide* Pegler 1977, Kew Bull. addit. ser. 6:290; *fide* Chandra and Watling 1981, Kavaka 10:80; see Pegler 1977, *loc. cit.* for list of other synonyms.

evanescens

Armillaria evanescens (Lovejoy) Murrill, Murrill 1914, N. Amer. Flora 10:37

basionym: *Catathelasma evanescens* Lovejoy, Lovejoy 1910, Bot. Gazette 50:384

accepted name: = *Catathelasma evanescens* Lovejoy, Lovejoy 1910, *loc. cit.* = *Catathelasma macrospora* (Peck) Singer, Singer 1940, Rev. Mycol. 5:9; *fide* Kauffman 1923, Pap. Mich. Acad. Sci. 2: 61 [as "*Armillaria macrospora*"] ; however, we prefer to maintain these as separate species for the time being, until type specimens can be examined together.

exannulata

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *exannulata* Peck, Peck 1893, no indication of new var. or comb. NY State Mus. Rept. State Botanist 46:134

accepted name: = *Armillaria tabescens* (Scop.) Emel q.v.; *fide* Singer 1970, Flora Neotropica 3:13; *fide* Herink 1973, Vysoká Skola Zemědělska V Brně Vyznamenaná Rádem Práce BRNO p. 32"probably identical to *Armillaria socialis*"

exannulata

Armillaria mucida (Schrad.:Fr.) Quél. var. *exannulata* Cleland & Cheel, Cleland and Cheel 1919, Trans. Proc. Roy. Soc. S. Australia 43:266

accepted name:

probably belongs in the genus *Oudemansiella*, with *O. mucida*, q.v.

favacea

Armillaria mucida (Schrad.:Fr.) Quél. var. *favacea* Rick, Rick 1937, Lilloa 1:316; see Rick 1961

accepted name: = *Oudemansiella canarii* (Jungh.) Höhn., Höhnel 1909, Sitzber. Akad. Wiss. Wien 118:276; *fide* Singer 1953, Lilloa 26:67, Rick's variety is a polyporoid-favoloid form of this species; *fide* Singer 1945, Mycologia 37:436

fellea

Armillaria fellea (Hongo) Kile & Watling, Kile and Watling 1983, Trans. Brit. Mycol. Soc. 81 (1): 131

basionym: *Armillariella fellea* Hongo, Hongo 1976, Rept. Tottori Mycol. Inst. 14:97

accepted name: = *Armillaria fellea* (Hongo) Kile & Watling, Kile and Watling 1983, *loc. cit.*

fici

Armillaria fici (Bernard) Bigeard & Guillemin, Bigeard and Guillemin 1913, Flore des Champignons Supérieurs de France 2: 32

basionym: *Omphalia fici* Bernard, Bernard 1882, Champignons de LaRoche, original not seen.

accepted name:

From the description this appears to be a *Pleurotus* species.

flava

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *flava* Gillet, Gillet 1874, Les Hym. p. 84

accepted name: *nomen dubium*; No further information is available regarding this taxon. There is no available type specimen and the description is too vague to be certain of which taxon is represented.

floridana

Armillaria caligata (Viv.) Saw. var. *floridana* Murrill, Murrill 1945, J. Fl. Acad. Sci. 8(2):176

accepted name:

We examined the type specimen, along with Murrill's associated notes and Murrill's correspondence with A.H. Smith, which reveals that this taxon is mycorrhizal and not an *Armillaria* species. Both researchers considered this a smaller-spored southern variety of *Tricholoma caligatum* (Viv.) Ricken, q.v. [as "*Armillaria caligata* (Viv.) Saw. "]

floridana

Armillaria floridana Murrill, Murrill 1943, Mycologia 35:422

accepted name: = *Limacella floridana* (Murrill) H.V. Smith, H.V. Smith 1944 (1945), Pap. Mich. Acad. Sci. 30: 134

NOT *Tricholoma floridanum* (Murrill) Murrill, Murrill 1944 (1945), Lloydia 7:327 [= *Melanoleuca floridana* Murrill, loc. cit. p.306, alternative name in same publication]

NOT *Lentodium floridanum* Murrill, Murrill 1943, Mycologia 35: 426 [= *Lentinus floridanus* (Murrill) Murrill, alternative name in same publication], Murrill 1943, Mycologia 35: 426; = *Ripartitella brasiliensis* (Speg.) Singer, Singer 1949 (1951), Lilloa 22:452]; *vide* Pegler 1983, World Monogr. *Lentinus* p.235

Note that Murrill used the epithet *floridana* in many other genera.

focalis

Armillaria focalis (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 18

basionym: *Agaricus (Armillaria) focalis* Fr., Fries 1838, Epicr. p. 20; Hym. Eur. p.40 (based on *Sphaerocephalus rufus* Battara, Battara 1755, t. 8 F, but Battara names are not accepted. ICBN Art.23.6(c) Ex. 10)

accepted name: ≡ *Tricholoma focale* (Fr.) Ricken, Ricken 1914, Die Blätterpilze p. 332

= *Armillaria zelleri* Stuntz & A.H. Smith, Smith 1949, Mush. in their Natural Habitats p. 351; *fide* Clark Ovrebo (Pers. Comm) and Ovrebo 1980, A taxonomic study of the genus *Tricholoma* (Agaricales) in the Great Lakes region, Ph.D. thesis, University of Toronto, p. 177. see discussion under *zelleri*.

= *Tricholoma arenicola* (Murrill) Murrill, Murrill 1912, Mycologia 4:223

[= *Melanoleuca arenicola* Murrill, Murrill 1912, Mycologia 4:214, alternative name in same publication]; *fide* Ovrebo, 1980, Ph.D. thesis Univ. of Toronto, p. 177; NOT *Armillaria arenicola* Murrill, Murrill 1912, Mycologia 4:212, q.v.

= *Armillaria rufa* Quélet, Quélet 1881, Jura Suppl. 10, in C.R. Ass. Fr. Av. Sci. 9:661; *fide* Ricken 1914, Die Blätterpilze p. 332; *fide* Lindau and Ulbrich 1928, Kryptogamenflora für Anfänger p. 351; *fide* Riva 1988, Fungi Europaei:

Tricholoma p. 403.

fomosana

Armillaria matsutake S.Ito & S.Imai var. *formosana* Sawada, Sawada 1931, Descript. Cat. Formosa Fungi V in Dept Agricult. Gor. Res. Inst. Formosa Rept. nr. 51 p. 90 [as "*A.matsudake*"]

accepted name:

No further information is available regarding this taxon. If it is a true variety of *Tricholoma matsutake*, q.v., it belongs in the genus *Tricholoma*.

fracida

Armillaria fracida (Fr.) Gillet, Gillet 1874, Les Hym. p. 77

basionym: *Agaricus (Armillaria) fracidus* Fr., Fries 1838, Epicr. p. 25; [based on *Chamaemyces odoratus* Battara, Battara 1755, t.7 E, but Battara names not accepted, see ICBN art.23.6(c) Ex. 10; *fide* Donk 1962 Beih. Nova Hedwigia 5:48, Fries 1838, *loc. cit.*, cited this species as the basis for his species, but never saw the species himself; *fide* Donk 1962 *loc. cit.* this is a *nomen novum* for *Agaricus mucidus* sensu Secr.]

accepted name: = *Chaemaemyces fracidus* (Fr.) Donk, Donk 1962, Beih. Nova Hedw. 5:48

≡ *Collybia mucida* (Schrad.:Fr.) Ricken f. *fracida* (Fr.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

≡ *Armillaria fracida* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:54, superfluous comb.

= *Lepiota irrorata* Quél., Quélet 1882, C.r. Ass. Franc. Av. Sci. 11:387, q.v.; *fide* Moser 1983, Keys to Agarics and Boleti; *fide* Donk 1962 Beih. Nova Hedwigia 5:48

fracticia

Armillaria fracticia (Britzelm.) Sacc., Saccardo 1895, Sylloge Fungorum 21:22

basionym: *Agaricus (Armillaria) fracticus* Britzelm., Britzelmayer 1893; Hym. Südbayrn tab 111 fig. 568

accepted name: = *Tricholoma subannulatum* (Batsch) Ricken, Ricken 1914, Die Blätterpilze p.333; *fide* Gulden 1992, Nordic Macromycetes 2: 186.; *fide* Kreisel 1984, Feddes. Repert. 95 (9-10): 700; *fide* Stangl and Bresinsky, 1967, Zeits. Pilz. 33:33; see discussion under *subannulatum*.

≡ *Tricholoma fracticum* (Britzelm.) H. Kreisel, Kreisel 1984, Feddes. Repert. 95 (9-10): 700

= *Tricholoma batschii* Gulden, Gulden 1969, Musseronflora Slekten. *Tricholoma* (Fr. ex Fr.) Kummer sensu lato (Agaricales) Oslo-Bergen-Tromse; see discussion under *subannulatum*

NOT *Tricholoma subannulatum* (Murrill) Keller, Keller 1922, Mycologia 19: 187; see discussion under *subannulatum*.

fulgens

Armillaria fulgens (Cooke & Masee) Sacc., Saccardo 1891, Sylloge Fungorum 9:12

basionym: *Agaricus (Armillaria) fulgens* Cooke & Masee, Cooke & Masee 1889, Grev. 18:2

accepted name:

No further information is available regarding this taxon. Described from Australia, but Kile and Watling 1983, Trans. Brit. Mycol. Soc. 81:129-140, do not treat this species.

fumosa

Armillaria fumosa Kile & Watling, Kile and Watling 1983, Trans. Brit. Mycol. Soc. 81 (1): 129

accepted name: = *Armillaria fumosa* Kile & Watling, Kile and Watling 1983, *loc. cit.*

furnacea, *Limacella* SEE *irreperta*, *megalopus*, and *scruposa*

fusca

Armillaria fusca Mitchel & A.H. Smith, Mitchel and Smith 1976, Mycotaxon 4 (2): 527

accepted name: = *Flocculuria fusca* (Mitchel & A.H. Smith) Bon, Bon 1990, Documents Mycologiques 20 (79): 57

fuscipes

Armillaria fuscipes Petch, Petch 1909, Ann. Roy. Bot. Gdn. Peradeniya 4:299

accepted name: = *Armillaria fuscipes* Petch, Petch 1909, *loc. cit.*

= *Armillaria heimii* Pegler, Pegler 1977, Kew Bull. addit. ser. 6: 92; *fide* Watling *et al.*, 1992, *Armillaria* Root Disease p.5, but see comments under *A.heimii*

= *Armillariella fuscipes* (Petch) Singer, Singer 1943, Ann. Mycol. 41:20 *fide* R. Watling (Pers. Comm.) *A.fuscipes* is possibly the same as *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *camerunensis* Henn., Hennings 1895, Fungi camerun. I in Engl. Jahrb. 22: 107, but we prefer to maintain them as separate species until cultural and mating studies can be done. See additional discussion under *camerunensis*.

fuscopallidus, *Agaricus* SEE *mellea*

gallica

Armillaria gallica Marxmüller & Romagn., Marxmüller and Romagnesi 1987, Bull. Soc. Mycol. France 103:152

accepted name: = *Armillaria gallica* Marxmüller & Romagn., Marxmüller and Romagnesi 1987, *loc. cit.* ; *vide* Marxmüller 1992, Mycotaxon 44:272, *Armillaria gallica* Marxmüller & Romagn. is the only name that can unequivocally be assigned to European Biological Species E and NABS VII. See Marxmüller 1992, Mycotaxon 44:270-272 for an extensive discussion of this problem.

= *Armillaria bulbosa* sensu Romagnesi; *vide* Marxmüller 1992, Mycotaxon 44:270, this name has been misapplied, and the species described and collected by Romagnesi is identical to *Armillaria gallica* Marxmüller & Romagn., Marxmüller & Romagnesi 1987, *loc. cit.*

= *Agaricus melleus* Vahl sensu Bolton 1791, History Fung. Halifax plate 141; *vide* Watling *et al.* 1982 Trans. Brit. Mycol. Soc. 78:271-285, this is a non-yellow form of *A.gallica* [as "*A.bulbosa* sensu Romagnesi" q.v.]

Korhonen Species E (EBS E), North American Biological Species VII

Armillaria lutea Gillet, Gillet 1874, Les Hym. p. 83, is a name adopted for EBS E and NABS VII by Termorshuizen and Arnolds 1987, Mycotaxon 30: 108; *vide* Marxmüller 1992, Mycotaxon 44:270, it is unclear which *Armillaria* species is represented by Gillet's description and *Armillaria lutea* should be considered a *nomen ambiguum*. See also discussion under *lutea*.

gemina

Armillaria gemina Bérubé & Dessur., Bérubé & Dessurealt 1989, Mycologia 81(2):217

accepted name: = *Armillaria gemina* Bérubé & Dessur., Bérubé & Dessurealt 1989, *loc. cit.*

North American Biological Species II

gibba, *Clitocybe* SEE *australis*

gigantea

Armillaria gigantea Yasuda, Yasuda 1918, Bot. Mag. Tokyo 32:204 in Japanese; redescribed in Yasuda 1922, Bot. Mag. Tokyo 36:90

accepted name: = *Catathelasma ventricosa* (Peck) Singer, Singer 1940, Rev. Mycologic 5:9; *vide* Imai 1938, Jour. Fac. Agric. Hokkaido Univ 43:53

gigantea

Armillariella mellea (Vahl:Fr.) P.Karst. f. *gigantea* Wichanský, Wichanský 1963, C.C.H. mykol. Sborn. 40:71

accepted name:

No further information is available regarding this taxon.

gilvidula

Armillaria gilvidula Emel, Emel 1921, Le genre *Armillaria* p. 25.

accepted name:

≡ *Tricholoma gilvidulum* (Emel) Emel, Emel 1921, Le genre *Armillaria* p.75, published as a provisional combination, invalid, ICBN Art. 34.1(b)

From the description, this does not appear to be an *Armillaria* because of its spherical spores and half-free lamellae. Emel placed it in the group of *Armillaria* species now in *Tricholoma*, i.e. with *T. robustum*, *T. caligatum*, etc. at the end of the same work in which he described the species as new. No further information is available regarding this taxon.

glabra

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *glabra* Gillet, Gillet 1874, Les Hym. p. 84

accepted name: *nomen dubium*. There is no available type specimen and the description is too vague to be certain of which taxon is represented. Herink 1973, Vysoká škola zemědělská v Brně. Vyznamenání Rádem Práce BRNO p. 32, indicates that Gillet's description probably represents one or more of the other taxa in which scales, fibrils etc. have been washed off by rain.

glaucescens

Armillaria caligata (Viv.) Sacc. var. *glaucescens* A.H. Smith, Smith 1979, Beih. Sydowia 8:372

accepted name:

A mycorrhizal former, unlike *Armillaria* species, not a wood rotter. If this is a true variety of *Tricholoma caligatum* (Viv.) Ricken, q.v., it belongs in the genus *Tricholoma*

glioderma

Armillaria glioderma (Fr.) Quél., Quél. 1875, Quél. Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:541

basionym: *Agaricus (Lepiota) gliodermus* Fr., Fries 1852, Fr. Vet. Ac. Förhandl. p. ?? (blank in Monogr.); Original not seen, cited in Fries 1857, Monogr. I p. 15 not orig descr.

accepted name: = *Limacella glioderma* (Fr.) Maire, R. Maire 1924, Bull. Soc. Mycol. France 40 (4): 294.

fide H.V. Smith 1944 (1945), Pap. Mich. Acad. Sci. 30:143, the combination is *Limacella glioderma* (Fr.) Earle, Earle 1909, Bull. NY Bot. Garden 5447; but Earle did not make this combination.

≡ *Armillaria glioderma* (Fr.) Lange, Lange 1935, Flora Agaricina Danica I:41, superfluous comb.

≡ *Lepiota glioderma* (Fr.) Gillet, Gillet 1874, Les Hym. p. 73

≡ *Lepiota glioderma* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:70, superfluous comb.

= *Armillaria graveolens* Murrill, Murrill 1943, Mycologia 35:422; *fide* H.V. Smith 1944 (1945), Pap. Mich. Acad. Sci. 30:143; see this reference for other synonyms.

goliath

Armillaria goliath (Fr.) S.Lundell & Nannf., Lundell and Nannfeldt 1949, Fungi Exsiccati Suec. nr. 1706

basionym: *Agaricus (Tricholoma) focalis* Fr. var. *goliath* Fr., Fries 1854, Mon. Armill. Suec. p.4

accepted name: = *Tricholoma nauseosum* (A.Blytt) Kytöv., Kytövuori 1988 (1989), Karstenia 28(2):69; *fide* Kytövuori 1988 (1989) *loc. cit.*

≡ *Armillaria focalis* (Fr.) P.Karst. var. *goliath* (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 19

≡ *Tricholoma focale* (Fr.) Ricken var. *goliath* (Fr.) Bon, Bon 1976, Documents Mycologique 6:273

= *Tricholoma focale* (Fr.) Ricken var. *pseudocaligatum* Bon, Bon 1984, Encyclopédia Mycologique 36: 274; *fide* Kytövuori 1988 (1989), Karstenia 28(2):69

gracilor, *Amanita* SEE *beillii*

granosa

Armillaria granosa (Morgan) Kauffman, Kauffman 1923, Pap. Mich. Acad. Sci. 2:60

basionym: *Agaricus granosus* Morgan, Morgan 1883, J. Cincinnati Soc. Nat. Hist. 6:63

accepted name: = *Cystoderma granosum* (Morgan) A.H. Smith & Singer, Smith and Singer 1944 (1945), Pap. Mich. Acad. Sci. 30: 118
= *Lepiota granosa* (Morgan) Sacc., Saccardo 1887, Sylloge Fungorum 5:48

granulosa

Armillaria granulosa (Batsch:Fr.) Kauffman, Kauffman 1923, Pap. Mich. Acad. Sci. 2:60

basionym: *Agaricus granulosis* Batsch, Batsch 1783, Elenchus Fungorum p.79

accepted name: = *Cystoderma granulosa* (Batsch:Fr.) Fayod, Fayod 1889, Prodrome, Amt. SC. Nat. Bot. VII 9:351

= *Agaricus granulosis* Batsch:Fr., Fries 1821, Syst. Myc. 1:24

= *Lepiota granulosa* (Batsch:Fr.) Quélet, Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:73

= *Lepiota granulosa* (Batsch:Fr.) McIlvaine & Macadam, McIlvaine and Macadam 1900, One-thousand American fungi p.49, superfluous comb.

= *Lepiota granulosa* (Batsch:Fr.) Ricken, Ricken 1914, Die Blätterpilze p. 327, superfluous comb.

NOT *Armillaria granulosa* Velen., Velenovský 1947, Novitates Mycol. 4: 57, q.v.

granulosa

Armillaria granulosa Velen., Velenovský 1947, Novitates Mycol. 4: 57; illegitimate ICBN Art. 64.1, later homonym of *Armillaria granulosa* (Batsch:Fr.) Kauffman q.v.

accepted name: = *Cystoderma terreii* (Berk. & Broome) Harmaja, Harmaja 1978, Karstenia 18:29-30 [= *Cystoderma cinnabarinum* (Alb. & Schwein.) Fayod, q.v.]; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:107; *fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75:130

NOT *Armillaria granulosa* (Batsch:Fr.) Kauffman, Kauffman 1923, Pap. Mich. Acad. Sci. 2:60, q.v.

granulosoides

Armillaria granulosoides Zeller, Zeller 1933, Mycologia 25:377

accepted name: probably a *Cystoderma* (see below)

≡ *Lepiota granulosoides* (Zeller) Zeller, Zeller 1933, Mycologia 25:377

Zeller 1933, *loc. cit.*, says "with close affinities to *A. granulosa* Fr. ", so this species probably belongs in the genus *Cystoderma* with that species.

graveolens

Armillaria graveolens Murrill, Murrill 1943, Mycologia 35:422

accepted name: = *Limacella glioderma* (Fr.) Maire, Maire 1924, Bull. Soc.

Mycol. France 40 (4): 294; *fide* H.V. Smith 1944 (1945), Pap. Mich. Acad. Sci. 30:143

griseofusca

Armillaria griseofusca (DC:Fr.) Gillet, Gillet 1874, Les. Hym. p.82

basionym: *Agaricus griseofuscus* DC, deCandolle 1815, Flore Francais 6:52

accepted name: *nomen dubium fide* Watling *et al.* 1991, *Armillaria* Root Disease p. 6; = *Armillaria mori* (Paulet:Fr.) Sacc. q.v.; *fide* Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 42

≡ *Agaricus griseofuscus* DC:Fr., Fries 1821, Syst. Mycol. I p. 29

≡ *Armillaria griseofusca* (DC:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:82, superfluous comb.

≡ *Armillaria griseofusca* (DC:Fr.) Herink, Herink 1973, Vysoká Skola

Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 42, superfluous comb.

griseomellea

Armillaria griseomellea (Singer) Kile & Watling, Kile and Watling 1983, Trans.

Brit. Mycol. Soc. 81 (1):131

basionym: *Armillariella griseomellea* Singer, Singer 1969, Beih. Nova Hedwigia 29:40

accepted name: ≡ *Armillaria griseomellea* (Singer) Kile & Watling, Kile and Watling 1983, *loc. cit.*

guernisaci

Armillaria guernisaci (Crouan in Gillet) Emel, Emel 1921, Le genre *Armillaria* p.35

basionym: *Tricholoma guernisaci* Crouan in Gillet, Gillet 1874, Les Hym. p. 95
accepted name:

Probably belongs in the genus *Tricholoma*; *fide* Emel 1921, Le genre *Armillaria* p.35 this species is closely related to *Tricholoma colossum*, q.v.; *fide* Bigeard and Guillemain (1909) Flore des Champignons Supérieurs de France p. 71, this species is identical to *Tricholoma colossum* (Fr.) Quélet, Quélet 1872, Quélet Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:76 [as "*Armillaria colossa* (Fr.) Boud.," q.v.]

guttata

Armillaria causetta (Barla) Emel var. *guttata* (Fr.) Emel, Emel 1921, Le genre *Armillaria* p.27.

basionym: *Agaricus (Armillaria) guttatus* Fr., Fries 1821, Syst. Myc. I p. 27
accepted name: = *Limacella lenticularis* (Lasch) Maire, Maire 1924, Bull. Soc. Mycol. France 40: 294; *fide* H.V. Smith 1944 (1945), Pap. Mich. Acad. Sci. 30: 140, this combination is indicated as "*Limacella lenticularis* (Lasch) Earle," Earle 1909, Bull. NY Bot. Garden 5:447, but Earle did not make this combination.

≡ *Agaricus (Armillaria) guttatus* Fr., Fries 1821, Syst. Myc. I p. 27

≡ *Limacella guttata* (Fr.) Konrad & Maubl., Konrad and Maublanc 1924, Icones Selectae fungorum I pl. 9. See also the epithet *causetta* above.

≡ *Lepiota guttata* (Pem.:Fr.) Quélet., Quélet 1876 (1877), Bull. Soc. Mycol. France 23:325

gymnopia

Armillaria gymnopia (Bull.) Emel, Emel 1921, Le genre *Armillaria* p.52

basionym: *Agaricus gymnopodius* Bull., Bulliard 1809, t. 601 f. I

accepted name: = *Armillaria tabescens* (Scop.) Emel, Emel 1921, Le genre *Armillaria* p.50; *fide* Emel 1921, Le genre *Armillaria* p.52; *fide* Bresadola 1900, Fungi Tridentini II fast. 14 p. 251.

≡ *Clitocybe gymnopia* (Bull.) Gillet, Gillet 1874, Les. Hym. p. 162

haematites

Armillaria haematites (Berk. & Broome) Sacc., Saccardo 1887, Sylloge Fungorum 5:77

basionym: *Agaricus (Armillaria) haematites* Berk. & Broome, Berkeley & Broome 1878, Ann. & Mag. Nat. Hist. Ser. 5, 1:18

accepted name: ≡ *Cystoderma haematites* (Berk. & Broome) Kühner & Maire, Kühner & Maire 1924, Icones selectae fungorum v. 3 pl. 237; *vide* Wasser 1979, Fungorum rariorum icones coloratae 10; *vide* Walter J. Sundberg, SIU, Pers. Comm.

≡ *Lepiota haematites* (Berk. & Broome) Ricken, Ricken 1914, Die Blätterpilze p. 328 ; Ricken cites this as "Berk.--Bres.", but Bresadola left this species in *Armillaria* (Bresadola 1892, Fungi Tridentini 2: tab. 107)

≡ *Lepiota haematites* (Berk. & Broome) Pearson & Dennis, Pearson and Dennis 1948, Trans. Brit. Mycol. Soc. 31:149, superthous comb.

vide Kauffman 1924, Pap. Mich. Acad. Sci. 4:317, this is *Armillaria haematites* (Berk.) Bres., but Saccardo's (1887) combination was earlier than Bresadola's (1892)

hapalosclerus, *Pleurotus* SEE *apalosclerus*

heimii

Armillaria heimii Pegler, Pegler 1977, Kew Bull. Addit. Ser. 6:92

accepted name: = *Armillaria heimii* Pegler, Pegler 1977, *loc. cit.*; *vide* Kile *et al.* 1994, IUFRO 8:419

≡ *nomen novum* for *Clitocybe elegans* R.Heim, Heim 1963, Rev. Mycol. 28:94 q.v., since *Armillaria elegans* Beeli 1927, q.v., has nomenclatural priority.

= *Armillaria fuscipes* Petch, Petch 1909, Ann. Roy. Bot. Gdn. Peradeniya 4:299; *vide* Kile and Watling 1988, Trans. Brit. Mycol. Soc. 91: 311; *vide* Watling *et al.* 1991, *Armillaria* Root Disease p. 5; however, we maintain these as separate species until cultural and mating studies can be done with the two species. see also Kile *et al.* 1994, IUFRO 8:419

hinnulea

Armillaria hinnulea Kile & Watling, Kile and Watling 1983, Trans. Brit. Mycol. Soc. 81 (1): 131

accepted name: ≡ *Armillaria hinnulea* Kile & Watling, Kile and Watling 1983, *loc. cit.*

horrens

Armillaria horrens (Berk.) Sacc, Saccardo 1887, Sylloge Fungorum 5:82

basionym: *Agaricus (Armillaria) horrens* Berk., Berkeley 1850, Hook. J. Bot. Kew Gdn. Misc. 2:44

accepted name: *nomen rej. fide* Chandra and Watling 1981, Kavaka 10:70, single specimen too badly preserved

hymenocephala

Armillariella hymenocephala (A.H. Smith & Hesler) Singer, Singer 1949 (1951), Lilloa 22:217

basionym: *Hygrophorus hymenocephalus* A.H. Smith & Hesler, Smith and Hesler 1940, J. Elisha. Mitch. Soc. 56:311

accepted name: ≡ *Hygrophorus hymenocephalus* A.H. Smith & Hesler., Smith and Hesler 1940, J. Elisha. Mitch. Soc. 56:311; *fide* Hesler and Smith 1963, North American Species of *Hygrophorus* p. 103

≡ *Camarophyllus hymenocephalus* (A.H. Smith & Hesler) M.Lange, Lange 1950, Friesia 4: 1-2

≡ *Hygrotrama hymenocephalum* (A.H. Smith & Hesler) Singer, Singer 1959, Sydowia 12:222

imperialis

Armillaria imperialis (Fr. in Lund) Qué!., Quélet 1872, Qué!., Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:75

basionym: *Agaricus imperialis* Fr. in Lund, Lund 1846, Conspectus Hymen. Holmiam p. 5

accepted name: = *Catathelasma imperialis* (Fr.) Singer, Singer 1940, Rev. Mycol. 5:10

= *Biannularia imperialis* (Fr. in Lund) G. Beck, Beck 1922, Pilz- und Kräuterfreund 5:231

= *Armillaria imperialis* (Fr. in Lund) Sacc., Saccardo 1887, superfluous comb.

= *Clitocybe imperialis* (Fr. in Lund) Ricken, Ricken 1914, Die Blätterpilze p.361

= *Armillariella imperialis* (Fr. in Lund) P.Karst., Karsten 1893, Kritisk Öfersigt af Finlands Basidsvampar Tillägg II, 2virg p.4

= *Armillaria imperialis* (Fr. in Lund) P.Karst., Karsten 1879, Hattsv. I p.20, superfluous comb.

= *Mastoleucomyces imperialis* (Fr. in Lund) O. Kuntze, Kuntze 1891, Rev. Gen. 2:861

= *Armillaria nobilis* Murrill, Murrill 1914, N. Amer. Flora 10:38; *fide* Kauffman 1923, Pap. Mich. Acad. Sci. 2:59

imperialis

Armillaria imperialis Peck, cited in Hay 1907, Bull. Nat. Hist. Soc. New Brunswick 5:115 as "A.imperialis (?) Peck" ; no ind. of new sp. or comb;

basionym:

accepted name: *nomen dubium*. Taxon does not exist-- Peck never proposed this species, *fide* Partha Bannerjee (NY State Museum, pers. comm.)

impolitus, *Agaricus* SEE *rhacophora*

inflata

Armillaria inflata Velen., Velenovský 1920, České Houby, Dil II:283

accepted name: *nomen ambiguum fide* Marxmüller 1992 Mycotaxon 44:271; *nomen ambiguum fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75:130

inodora

Armillaria caligata (Viv.) Gillet var. *inodora* A.H. Smith, Smith 1934, Pap. Mich. Acad. Sci. 19:206

accepted name:

mycorrhizal, not an *Armillaria*; If this is a true variety of the species, it belongs in the genus *Tricholoma*.

irreperta

Armillaria irreperta Bernard, Bernard 1919, Annales Soc. Hist. Nat. La Rochelle, 1919, suppl.

accepted name: = *Limacella furnacea* (Letell.) E.J. Gilbert, La Spore Champ. p. 96; *fide* Gilbert 1928, Bull. Soc. Mycol. France 44:165

irrorata

Armillaria irrorata (Quél.) Lange, Lange 1935, Flora Agaricina Danica I:41

basionym: *Lepiota irrorata* Quél., Quélet 1882, C.r. Ass. Franc. Av. Sci. 11:387

accepted name: = *Chaemaemyces fracidus* (Fr.) Donk, Donk 1962, Beih. Nova Hedw. 5: 48; *fide* Moser 1983, Keys to Agarics and Boleti p. 239; *fide* Singer 1986, Agaricales p. 502.

≡ *Drosella irrorata* (Quél.) Kühner & Maire, Kühner & Maire 1934, Bull. trimest. Soc. Mycol. France 50:15

≡ *Lepiotella irrorata* (Quél.) Singer [as "(Fr.) Gilb."], Singer 1936, Ann. Mycol. Berlin 34:338.

japonica

Armillaria japonica (Kawam.) S.Imai, Imai 1938, Jour. Fac. Agric Hokkaido Univ XLIII p. 52

basionym: *Pleurotus japonicus* Kawam., Kawamura 1915, Jour. Sci. Coll. Tokyo Imp. Univ. Vol. 35 (3):2

accepted name: ≡ *Lampteromyces japonicus* (Kawam.) Singer, Singer 1947, Mycologia 39: 79.

jasonis

Armillaria jasonis (Cooke & Massee) Sacc., Saccardo 1891, Sylloge Fungorum 9: 12

basionym: *Agaricus (Armillaria) jasonis* Cooke & Massee, Cooke & Massee 1887, Grev. 16:77

accepted name: ≡ *Cystoderma jasonis* (Cooke & Massee) Harmaja, Harmaja 1978, Karstenia 18(1): 29
= *Cystoderma amianthinum* (Scop.:Fr.) Fayod var. *longisporum* Kühner ex Kühner; *vide* Harmaja 1978, Harmaja 1978, Bull. Soc. Linn. Lyon 38:185

javanica

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *javanica* Henn., Hennings 1899, Monsunia I:20

accepted name:

According to Hennings' description this is a small form of *A.mellea* s.l. No further information is available regarding this taxon.

jezoensis

Armillaria jezoensis Cha & Igarashi, *in* Cha, Sung and Igarashi 1994, Mycoscience **35**: 42

accepted name: ≡ *Armillaria jezoensis* Cha & Igarashi, *in* Cha, Sung and Igarashi 1994, *loc. cit.*

kuraiana

Armillaria kuraiana Pilát, Pilát 1933 (1934), Bull. trimest Soc. Mycol. France 49:279

accepted name:

Pilát 1933, *loc. cit.* says related to "*Armillaria robusta*", but lamellae serrated like a *Lentinus*, type specimen sterile.

Description indicates affinities with *Tricholoma* or *Lentinus*, not an *Armillaria*.

laqueata

Armillaria laqueata (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.23

basionym: = *Agaricus (Armillaria) laqueatus* Fr., Fries 1838, Epicr. p.24 [based on *Leucomyces pileolodeorsum luxuriante* Battara, Battara 1755 t. 10 C, but Battara names are not accepted. ICBN Art.23.6(c) Ex. 10]

accepted name: = *Oudemansiella laqueata* (Fr.) Alessio, Alessio 1985, Micol. Ital. 14(1):19; *fide* IF 5:443, unaccepted basionym cited, but treated as bibliographic error, ICBN Art. 33.2

≡ *Collybia laqueata* Fr. ex Quél., Quélet 1886, Enchiridion 1886: 27, not seen: as cited in Alessio *loc. cit.*

≡ *Collybia laqueata* (Fr.) Ricken, Ricken 1915, Die Blätterpilze p.401, superfluous comb.

≡ *Armillaria laqueata* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:85, superfluous comb.

laricina

Armillaria laricina (Bolton:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:81

basionym: *Agaricus luricinus* Bolton, Bolton 1788, History Fung. Halifax t.19

accepted name: *nomen ambiguum fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 108. They say the plate looks like abnormal, misshapen basidiocarps, and it is unclear which taxon is represented; *fide* Emel 1921, Le genre *Armillaria* p. 47, Bolton's plate represents a monstrosity of *Armillaria mellea* s.l.

≡ *Agaricus (Armillaria) laricinus* Bolton:Fr., Fries 1874, Hym. Eur. p. 44

≡ *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *laricina* (Bolton) Barla, Barla 1887, Bull. Soc. Mycol. France 2:143

≡ *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *laricina* (Bolton) W.G. Smith, Smith 1908, Synopsis British Basidiomycetes p. 30, superfluous comb.

≡ *Collybia mellea* (Vahl:Fr.) Emel f. *laricina* (Bolton:Fr.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

laschi

Amillaria laschi (Fr.) Gillet, Gillet 1874, Les Hym. p. 82

basionym: *Agaricus (Armillaria) laschii* Fr., Fries 1838, Epicr. p. 22

accepted name: ≡ *Clitocybe laschii* (Fr.) Ricken, Ricken 1914, Die Blätterpilze p.362 ; *fide* Fries 1838, *loc. cit.*, this species has "affinities to *Agaricus nebularis* and *A. geotropus*," both of which are now considered members of the genus *Clitocybe*. *C.laschii* was not treated by Bigelow (1982, 1985).

≡ *Armillaria laschi* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:79, superfluous comb.

Note spelling change in number of i's

Fries 1838, Epicr p. 22 apparently described this species from material sent to him by Lasch.

lenticularis, *Limacella* SEE *guttatus*

lepideus, *Neolentinus* (or *Lentinus*) SEE *rhagadiosa*

lepiota

Armillaria lepiota (Alb. & Schwein.) J.Schröt. in E.Cohn, Cohn 1889, Kryptogamen-Flora von Schliesen 3 (1):667

basionym: *Agaricus (Pleurotus) lepiota* Alb. & Schwein., Albertini and Schweinitz 1805, Conspectus Fungorum p. 229

accepted name:

= *Agaricus Pleurotus* L.; *fide* J.Schröt. in E.Cohn 1889, *loc. cit.*

= *Pleurotus albertinii* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:340; *fide* Saccardo 1887, *loc. cit.*; *fide* J.Schröt. in Cohn 1889, *loc. cit.* (as *Agaricus albertinii* Fr.)

No further information is available regarding this taxon.

limonea

Armillaria limonea (G.Stev.) Boesew., Boesewinkel 1977, N.Z. J. agric. Res. 20 (4): 585

basionym: *Armillariella limonea* G.Siev., Stevenson 1964, Kew Bull. 19(1):13

accepted name: ≡ *Armillaria limonea* (G.Stev.) Boesew., Boesewinkel 1977, *loc. cit.*

longisporium, *Cystoderma amianthinum* var. SEE *amianthinum*, *jasonis*

lutea

Armillaria lutea Gillet, Gillet 1874, Les Hym. p. 83

accepted name: *nomen ambiguum fide* Marxmüller 1992, Mycotaxon 44:272, there is no type specimen and the taxon described could represent a number of *Armillaria* species; In addition, Bigeard and Guillemin 1909, Flore des Champignons Supérieurs de France p. 72 considered *Armillaria lutea* Gillet a synonym of *Armillaria luteovirens*, q.v.. Since they probably were acquainted with the tradition of Gillet's name, this provides further reason for considering this a *nomen ambiguum*.

≡ *Armillariella mellea* (Vahl:Fr.) P.Karst. var. *lutea* (Gillet) Konrad & Maubl., Konrad and Maublanc 1933, Icones Selectae Fungorum pl. 279; Konrad and Maublanc 1933, *loc. cit.*, cite both *Agaricus annularius luteus* Secr. (Secretan 1833, Mycogr. Suisse 1:50) and *Armillaria lutea* Gillet (mis-cited as Gillet 1878, Champ. Fr. p. 88) as synonyms. In any case, the fungus pictured by Konrad and Maublanc, *loc. cit.* appears to match very well with *Armillaria mellea* sensu stricto.

NOT *Agaricus annularius luteus* Secr., Secretan 1833, Mycogr. Suisse 1:50; Gillet 1874, *loc. cit.*, did not mention Secretan's species, but later (1884, *loc. cit.*) cited Secretan as the authority for the epithet *lutea*. see below.

NOT *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *lutea* (Secr.) Gillet, Gillet 1884, Tableaux Anal. des Hym. p. 13; note that Gillet did not consider *Armillaria lutea* as a separate species in this publication; in Gillet's key this variety has a yellow veil while the typical form has a white veil.

Curiously, Emel 1921, Le genre *Armillaria*, did not mention *Armillaria lutea* Gillet, although he cited, described, and accepted most of Gillet's other species in *Armillaria*.

luteobubalina

Armillaria luteobubalina Watling & Kile, in Podger, Kile, Watling and Fryer 1978, Trans. Brit. Mycol. Soc. 71 (1): 79

accepted name: ≡ *Armillaria luteobubalina* Watling & Kile, in Podger, Kile, Watling and Fryer 1978, *loc. cit.*

luteovirens

Armillaria luteovirens (Alb. & Schwein.: Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:75

basionym: *Agaricus (Gymnopodes) luteovirens* Alb. & Schwein., Albertini and Schweinitz 1805, Conspectus Fungorum p. 168 (as *luteo-virens*)

accepted name: ≡ *Flocularia luteovirens* (Alb. & Schwein.:Fr.) Pouzar, Pouzar 1957, Česká Mykol. 11: 49; *vide* Bas 1969, Persoonia 5:567

≡ *Agaricus (Tricholoma) luteovirens* Alb. & Schwein.:Fr., Fries 1821, Syst. Mycol. I: 41

= *Agaricus stramineus* Krombh., Krombholz 1836, Naturget. Abb. Schwämme Taf. 25, Bild 8-14, p. 12-13; *vide* Saccardo 1887, Sylloge Fungorum 5:75

≡ *Gyrophila luteovirens* (Alb. & Schwein.:Fr.) Quéf., Quélet 1887, C.R. Ass. Fr. Av. Sci. 15(2):484

≡ *Amanita luteovirens* (Alb. & Schwein.:Fr.) Moser in Gams, Gams 1955, Kl. Kryptogfl. Iib 2. Aufl., 128 (not validly published), *vide* Bar 1969, Persoonia 5:567

≡ *Cortinellus luteovirens* (Alb. & Schwein.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 26

= *Armillaria lutea* Gillet, sensu Bigeard and Guillemin 1909, Flore des Champignons Supérieurs de France p. 72. see discussion under *lutea*

≡ *Tricholoma luteovirens* (Alb. & Schwein.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.330 (later homonym of *Tricholoma luteovirens* Gillet, Gillet 1874, Les Hym. p. 110, q.v.)

NOT *Tricholoma luteovirens* Gillet, Gillet 1874, Les Hymen. p. 110

Remarks: This species is commonly cited as "*Armillaria luteovirens* (Alb. & Schwein.:Fr.) Gillet, Gillet 1874" (e.g. Singer 1962, Agaricales p. 304; Chandra 1989, Elsevier's Dictionary of Edible Mushrooms p. 16) but this combination was never made by Gillet; he described *Tricholoma luteovirens* Gillet, Gillet 1874, Les Hym. p. 110, with no reference to Fries's species, although other Friesian species are indicated on that page.

lutinicola

Armillaria lutinicola (Lasch) Sacc. & Trotter, Saccardo and Trotter 1912, Sylloge Fungorum 21: 864

basionym: *Agaricus lutinicolus* Lasch, Lasch 1853, Kl. Herb. Viv. Myc. nr. 1707, Flora 1855, p.200. Klotzsch 1853-4-5 TL-2:570

accepted name:

Saccardo and Trotter 1912, *loc. cit.* cite this in their Appendix as "? *Armillaria lutinicola* Lasch" --No further information is available regarding this taxon.

macrorhiza

Armillaria macrorhiza (Sacc.) Jacobasch, Jacobasch 1896, Verh. Bot. Ver. Prov. Brand. 38:LXI

basionym: *Tricholoma macrorhizum* Sacc., Saccardo 1887, Sylloge Fungorum 5:105, treated as *nomen novum*; based on *Agaricus macrorhizus* Lasch, see below; see discussion in Bon 1985, Documents Mycologique 15:42.

accepted name: ≡ *Porpoloma macrorhizum* (Sacc.) Bon, Bon 1990, Documents Mycologiques 20 (78):38 [as "(Lasch --> Sacc.) Bon"]

≡ *Agaricus macrorhizus* Lasch, Lasch 1828, Linnaea 3: 396 nr. 240. Illegitimate ICBN Art. 64.1, later homonym of *Agaricus macrorhizus* Pers., Persoon 1796, Obs. Myc. 1:47

≡ *Agaricus macrorhizus* Lasch ex. Fr., Fries 1874, Hym. Eur. p.58, illegitimate ICBN Art. 64.1, later homonym of *Agaricus macrorhizus* Pers. Persoon 1796, Obs. Myc. 1:47

≡ *Leucopaxillus macrorhizus* (Sacc.) Sacconi & Lazzari, Sacconi and Lazzari 1980, Boll. Gruppo mic. 'G.Bresadola' Trento 23:(5-6) 114. original not seen. cited in IF 5:488. [cited as "(Lasch) Sacconi and Lazzari," treated as bibliographic error]

≡ *Leucopaxillus macrorhizus* (Sacc.) Bon, Bon 1985, Documents Mycologiques 15:42, superfluous comb.

basionym often cited as "*Tricholoma macrorhizum* (Lasch) Fr. ," a taxon that does not exist, treated as a bibliographic error; see discussion in Bon 1985, Documents Mycologique 15:42.

macrospora

Armillaria macrospora Peck, Peck 1900, Bull. Torr. Bot. Club 27:610

accepted name: ≡ *Catathelasma macrospora* (Peck) Singer, Singer 1940, Rev. Mycol. 5:9; We examined the type specimen from FH and concur with Singer's combination.

≡ *Armillariella macrospora* (Peck) T.J. Baroni, Baroni 1981, Mycologia 73:187 = *Catathelasma evanescens* Lovejoy, Lovejoy 1910, Bot. Gazette 50:384; *fide* Kauffman 1923, Pap. Mich. Acad. Sci. 2: 61; however, we prefer to maintain these as separate species for the time being, until type specimens can be examined together.

magnivelaris

Armillaria magnivelaris (Peck) Murrill, Murrill 1912, Mycologia 4:212

basionym: *Agaricus magnivelaris* Peck, Peck 1878, Rept. NY State Museum 29:66 (*nomen novum* for *Agaricus ponderosus* Peck 1874, Report NY State Museum 26:50)

accepted name: = *Tricholoma magnivelare* (Peck) Redhead, Redhead 1984, Trans. Mycol. Soc. Japan 256 ; see also *A. ponderosa* below for other synonyms. See Redhead 1984, *loc. cit.*, for discussion of this name.

= *Armillaria magnivelaris* (Peck) Murrill, Murrill 1914, N. Amer. Flora 10:37, superfluous comb.

= *Tricholoma ponderosum* (Sacc.) Singer, [as "(Peck) Singer", bibliographical error], Singer 1949 (1951), Lilloa 22:227; *fide* Redhead 1984, *loc. cit.*

We examined an isotype of *Agaricus magnivelaris* Peck at OSC, Corvallis Oregon and concur with Redhead 1984, *loc. cit.*

major

Armillaria robusta (Alb. & Schwein.:Fr.) Gillet var. *major* Sacc., Saccardo 1887, Sylloge Fungorum 575

accepted name:

No further information is available regarding this taxon. If this is a true variety of this species, it belongs in the genus *Tricholoma*

matsutake

Armillaria matsutake S.Ito & S.Imai, Ito & Imai 1925, Bot. Mag. Tokyo 39:327

accepted name: = *Tricholoma matsutake* (S.Ito & S.Imai) Singer, Singer 1943, Ann. Mycol. 41:77

= *Tricholoma nauseosum* (A.Blytt) Kytöv., Kytövuori 1988 (1989), Karstenia 28(2):69. *fide* Kytövuori, *loc. cit.* ; see notes under *A. nauseosum*. We question synonymizing these species as proposed by Kytövuori until type specimens of both species can be compared. If these two species are found to be conspecific, we would suggest that *Tricholoma matsutake* be conserved over *Tricholoma nauseosum*

= *Agaricus* (*Armillaria*) *edodes* sensu J.Schröt. See discussion under *edodes*

= *Armillaria caligata* (Viv.) Gillet sensu Hariot & Pat., Hariot and Patouillard

1902, Bull. Mus. Hist. Nat. 8:132; *fide* Kytövuori 1988 (1989), Karstenia 28(2):69, where this species is mis-cited as "*Armillaria caligata* Har. & Pat."

see *caligata* for additional discussion; *fide* Bon 1984, Encyclopedia Mycologique 36: 275; *fide* Riva 1988, Fungi Europaei: *Tricholoma* p. 400, *Tricholoma caligatum* (Viv.) Ricken is the same species, but the basis for the synonymy as

proposed by these authors is not known.

maxima

Armillaria mellea (VahkFr.) P.Kumm. var. *maxima* (Fr.) Barla, Barla 1887, Bull. Soc. Mycol. France 2:143

basionym: *Agaricus (Clitocybe) maximus* Fr., Fries 1838, Epicr. p.67

accepted name: = *Clitocybe maxima* (Fr.) P.Kumm., Kummer 1871, Führ. Pilzkunde p. 123; *vide* Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 32

megalopus

Armillaria megalopus Bres., Bresadola 1881, Fungi Trid. 1:43 t. XLVII

accepted name: = *Limacella furnacea* (Letell.) E.J. Gilbert, La Spore Champ. p. 96; *vide* Nonis 1986, Micol. Ital. 15:43

≡ *Limacella megalopus* (Bres.) Maire, Maire 1924, Bull. Soc. Mycol. France 40:293 [as "*Limacella megalopoda*"]

≡ *Collybia megalopus* (Bres.) Ricken, Ricken 1915, Die Blätterpilze p.400; Petrak 1922-28 p. 477

mellea

Armillaria mellea (Vahl:Fr.) P.Kumm., Kummer 1871, Führ. Pilz. p. 135
basionym: *Agaricus melleus* Vahl, Vahl 1787, Flora Danica 6:9, tab. 1013
accepted name: = *Armillaria mellea* (Vahl:Fr.) P.Kumm., Kummer 1871, *loc. cit.* (see Watling *et al.*, 1982, Trans. Brit. Mycol. Soc. 78:271-285)
 = *Agaricus (Armillaria) melleus* VahlFr., Fries 1821, Syst. Myc. I 30
 = *Armillariella mellea* (Vahl:Fr.) P.Karst., Karsten 1881, Hymenomyces Fennicae p.4 [earlier accepted by Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.21 as "*Armillaria mellea* (Vahl) Fr."]
 = *Clitocybe mellea* (Vahl:Fr.) Ricken, Ricken 1914, Die Blätterpilze p. 362
 = *Lepiota mellea* (Vahl:Fr.) Lange, Lange 1915, Dansk. Bot. Arkiv 2:31
 = *Omphalia mellea* (Fr.) Quél., Quélet 1886, Emichiridion: 20
 = *Collybia mellea* (Vahl:Fr.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)
 Korhonen species D (EBS D), North American Biological Species VI

Fries 1821, Syst. Myc. 1:30, also listed the following names as synonyms of *Agaricus (Armillaria) melleus*; these names were treated extensively by Termorshuizen and Arnolds 1987, Mycotaxon 30:101-116, in their search for useable epithets for European Biological Species of *Armillaria*:

= *Agaricus annularius* Bull., Bulliard 1788, Historie Champ. France p. 626 t. 377, Gillet (1874, Les Hym. p. 84) considered this to be a synonym of *A.mellea* sensu lato; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:104, the three plates cited as *Agaricus annularius* by Bulliard represent at least two species of *Armillaria* and possibly a *Pholiota*. In any case, this name cannot be used because it is a later homonym of *Agaricus annularius* Schaeff., Schaeffer 1762 now considered a synonym of *Suillus luteus* (L.:Fr.) Gray; *fide* Petersen, 1977, Mycotaxon 6:127-166

= *Agaricus congregatus* Bolton, Bolton 1792, see *ostoyae*

= *Agaricus cumulutus* With., Withering 1796, Arr. Brit. Plants ed. 3 vol. 4 p. 164; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:106, this "is a superfluous name, since Withering quoted Bulliard plate 377 (*A.annularius*) and Bolton plate 140 (*A. congregatus*), reducing his name to a synonym. " It is clearly an *Armillaria* species, but its exact identity is unknown.

= *Agaricus furcopallidus* Bolton, Bolton 1789, History of funguses growing about Halifax 3:136; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:107, this is a member of the *A.mellea* aggregate, but the identity of this species is uncertain.

= *Agaricus obscurus* Schaeff., Schaeffer 1774, q.v.

= *Agaricus occultans* Batsch, Batsch 1783, Elenchus Fungorum p.55; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 111, this is a superfluous name since Batsch cited *Agaricus obscurus* Schaeff. (q.v.) as a synonym.

= *Agaricus pistillaris* Batsch, Batsch 1783, Elenchus Fungorum p.55; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 111, this is probably not an *Armillaria*, but the description is too short and vague to be sure.

= *Agaricus polymyces* Pers., Persoon 1797, q.v. also see *ostoyae*

= *Agaricus stipitis* Sowerby, Sowerby 1797, Coloured Figures of English Fungi 1, based on *Agaricus stipitis* With., Withering 1796, Arr. Brit. Plants ed. 3 vol. 4 p.191; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:113, the description is "too incomplete to identify the species of *Armillaria*," and the "author apparently intended to include the entire *A. mellea* complex." In any case the name is superfluous because of Withering's references to *A.fuscopallidus*, *A. melleus*, *A.obscurus*, and *A.elasticus*.

Note: Streinz 1861, Fungal Nomenclator p. 68-69 also listed forty synonyms for *Agaricus melleus* Vahl, many of which have never been treated in modern times.

melleo-rubens

Armillaria melleo-rubens (Berk. & M.A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:81

basionym: *Agaricus (Armillaria) melleorubens* Berk. & M.A. Curtis, Berkeley & Curtis 1869, J. Linn. Soc. 10:283

accepted name: ≡ *Armillaria melleo-rubens* (Berk. & M.A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:81. Type examined. This species is a member of the genus *Armillaria*, but it is not known whether it is conspecific with any other *Armillaria* species.

= *Armillaria putrida* (Scop.) Murrill; *fide* Murrill 1914, N. Amer. Flora 10(1):39; see discussion under this epithet

≡ *Armillariella melleorubens* (Berk. & M.A. Curtis) Singer, Singer 1973, Beih. Sydowia 7:17

fide Pegler 1987, Kew Bull. 42(3):523, this is "probably identical with *Armillaria puiggarii*", but until definitive culture and mating studies are done, we must consider these as separate species.

microspila, *Lepiota* SEE *omphra*

microspora

Armillariella microspora (A.H. Smith & Hesler) Singer, Singer 1949 (1951), Lilloa 22:216. no description or indication of new sp. or comb.

basionym: *Hygrophorus microsporus* A.H. Smith & Healer, Smith and Healer 1942, Lloydia 5:11

accepted name: = *Hygrophorus microspora* A.H. Smith & Hesler, Smith and Hesler 1942, Lloydia 5:11; *fide* Hesler and Smith 1963, North American Species of *Hygrophorus* p. 89

≡ *Hygrotrama microsporum* (A.H. Smith & Hesler) Singer, Singer 1958 (1959), Sydowia 12:223

millus

Armillaria millus (Sowerby:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:81

basionym: *Agaricus millus* Sowerby, Sowerby 1799, Coloured figures of English fungi p. 78 t.184

accepted name: *nomen dubium*, *fide* Termomhuizen and Arnolds 1987, Mycotaxon 30: 109.

≡ *Agaricus (Armillaria) millus* Sowerby:Fr., Fries 1874, Hym. Eur. p.44

≡ *Tricholoma millum* (Sowerby:Fr.) Emel, Emel 1921, Le genre *Armillaria* p.75, published as a provisional combination, invalid, ICBN Art. 34.1(b)

minor

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *minor* Barla, Barla 1887, Bull. Mycol. Soc. France 3:143

accepted name: ≡ *Armillaria mellea* (Vahl:Fr.) P.Kumm., q.v.; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:109, it is a small form of *A. mellea*; *fide* Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 33 it is a small form of "some *Armillaria* species."

minor

Armillaria robusta (Alb. & Schwein.:Fr.) Gillet var. *minor* (Krombh.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.19

basionym: *Agaricus robustus* Alb. & Schwein.:Fr. var. *minor* Krombh., Krombholz 1831, t. 25 f. 15-20

accepted name:

No further information is available regarding this tazon. If this is a true variety of the species it belongs in the genus *Tricholoma*.

minor

Agaricus (Armillaria) melleus Vahl:Fr. var. *minor* Berk., Berkeley 1878, J. Linnean Soc. 16:38

accepted name:

No further information is available regarding this taxon. A formal combination has not been made in the genus *Armillaria*.

minuta

Armillariella minuta Singer & Digilio in Singer, Singer 1954, Sydowia 8: 106

accepted name: = *Rickenella minuta* (Singer & Digilio) Raithelth., Raithelhuber 1980, Metrodiana 9 (2):48

= *Rickenella minuta* (Singer & Digilio) Raithelth., Raithelhuber 1977, Hongos Argentinos (Buenos Aires) 2:23; *fide* IF 4:574 invalid comb., ICBN Art. 33, no full reference to basionym.

= *Rickenella minuta* (Singer & Digilio) Raithelth., Raithelhuber 1983, Metrodiana Sonderheft 2:11, indicated as comb. *nov.* but a superfluous comb.

monadelpha

Armillaria monadelpha (Morgan) Guillaumin & Mohammed, in Kile *et al.* 1994, IUFRO 8:414 (Illegitimate comb. ICBN Art. 33.2, no basionym cited)

basionym: *Agaricus monadelphus* Morgan, Morgan 1883, J. Cincinnati Soc. Nat. Hist. 6:69

accepted name: = *Armillaria tabescens* (Scop.) Emel q.v.; *fide* Singer 1970, Flora Neotropica 3: 13

= *Clitocybe monadelpha* (Morgan) Sacc., Saccardo 1887, Sylloge Fungorum 5:164; see *tabescens* for additional synonyms.

Kile *et al.* 1994, IUFRO 8:414 have proposed the name *Armillaria monadelpha*

(Morgan) Guillaumin & Mohammed (q.v.) for the North American form of *Armillaria tabescens* (Scop.) Emel, q.v. The combination is illegitimate (ICBN Art. 33.2, no basionym cited). Moreover, Darmono, Burdsall, and Volk, 1993, Sydowia 44: 115, provide evidence that European and North American forms of *A. tabescens* are compatible, forming clamp connections in matings of monobasidiosporous progeny, subsequently producing fertile basidiomata and are conspecific. If new information is found that indicates the North American species is different, *Lentinus caespitosus* Berk., Berkeley 1847, Lond. J. Bot. 6:317 (type from Ohio) may be an older name; *fide* Pegler 1983, World Monogr. *Lentinus*, p. 224., who examined the type, *Lentinus caespitosus* Berk. is identical with *A. tabescens*

montagnei

Armillaria montagnei (Singer) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 41

basionym: *Armillariella montagnei* Singer, Singer 1956, Lloydia 19:182

accepted name: = *Armillaria montagnei* (Singer) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.41

≡ *Armillaria montagnei* (Singer) Kile & Watling, Kile & Watling 1983, Trans. Brit. Mycol. Soc. 81(1):131, superfluous comb.

see also discussion by Termorshuizen and Arnolds 1987, Mycotaxon 30:109-110

mori

Armillaria mori (Paulet: Fr.) Gillet, Gillet 1874, Les Hym. p. 77

basionym: *Hypophyllum mori* Paulet, Paulet 1812, Champ p.300, t. 144

accepted name: = *Armillaria griseofusca* (DC:Fr.) Gillet, Gillet 1874, Les.

Hym. p.82; *fide* Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 42

≡ *Agaricus (Armillaria) morio* Paulet:Fr., Fries 1838, Epicr. p.23

≡ *Armillaria mori* (Paulet: Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:81, superfluous comb.

≡ *Clitocybe mori* (Paulet:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.363

≡ *Collybia mellea* (Vahl:Fr.) Emel f. *mori* (Paulet:Fr.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

mucida

Armillaria mucida (Schrad.:Fr.) Quél., Quélet 1872, Quél. Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:75

basionym: *Agaricus mucidus* Schrad., Schrader 1794, Spicilegium Fl. Germ. p.116.

accepted name: = *Oudemansiella mucida* (Schrad.:Fr.) Höhn., Höhnel 1909, Sitz.-ber. Akad. Wiss. Wien 118:276; *fide* Singer 1961, Persoonia 2: 162; *fide* Moser 1983, Keys to Agarics and Boleti p. 162; *fide* Watling *et al.* 1991, *Armillaria* Root Disease p. 6

= *Agaricus (Armillaria) mucidus* Schrad.:Fr., Fries 1821, Syst. Mycol. 1:188 ; 1874, Hym. Eur. p. 46

= *Armillaria mucida* (Schrad.:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:85

= *Collybia mucida* (Schrad.:Fr.) Quél., Quélet 1888, Flore Mycologique p.238

= *Collybia mucida* (Schrad.:Fr.) Ricken, Ricken 1915, Die Blätterpilze p.401, superfluous comb.

= *Oudemansiella canarii* (Jungh.) Höhn. *sensu* Rick 1937, Lilloa 1:316; *fide* Singer 1953, Lilloa 26:67

multicolor

Armillaria multicolor Sacc, Saccardo 1887, Sylloge Fungorum 5:84.

basionym: *Armillaria multicolor* Sacc., Saccardo 1887, Sylloge Fungorum 5:84; treated as a *nomen novum* for *Agaricus (Armillaria) multicolorus* Berk., Berkeley 1850, Hooker's J. Bot. 2:46; illegitimate (ICBN Art. 64.1) as a later homonym of *Agaricus multicolor* Pers. q.v.

accepted name: *nomen rej. fide* Chandra and Watling 1981, Kavaka 10:70-- although this name is rejected in the text of this paper, it is nonetheless included in their key in the same paper; *fide* Singer 1970, Flora Neotropica 3: 16, this is a synonym of *Armillaria omnituens* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84

NOT *Agaricus multicolor* Pers., Persoon 1801, Syn. p.350 [= *Agaricus (Tricholoma) multicolor* Pers.:Fr., Fries 1821, Syst. Myc. 1:48]

mundulata, *Rhodocybe* *see* *alachuana*

musvicola

Armillaria musvicola Cleland, Cleland 1927, Trans. Proc. Royal Soc. S. Australia 51:299

accepted name:

The description (small size and association with moss, not trees or wood) indicates that this species does not likely belong in the genus *Armillaria*.

nabsnona

Armillaria nabsnona Volk & Burdsall *ined.*

accepted name: ≡ *Armillaria nabsnona* Volk & Burdsall *ined.*

North American Biological Species IX. We have specimens with cultures that are compatible with tester strains of NABS IX (Anderson & Ullrich 1979). This species will be described in a subsequent publication.

nana

Armillaria nana (Singer) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68: 167. no description or indication of new sp. or comb.

basionym: *Amanita (Lepidella) nana* Singer, Singer 1941, Notul. syst. sect. crypt. Inst. bot. Komarovii Acad. Sci. URSS 5: 85

accepted name: ≡ *Amanita nana* Singer, Singer 1941, Notul. syst. sect. crypt. Inst. bot. Komarovii Acad. Sci. URSS 5: 85. original not seen; *vide* Bas 1969, Persoonia 5: 368

nardosmia

Armillaria nardosmia (Ellis) Sacc., Saccardo 1887, Sylloge Fungorum 5:86

basionym: *Agaricus (Armillaria) nardosmius* Ellis, Ellis 1876, Bull. Torrey Bot. Club 6(14):75

accepted name:

≡ *Armillaria caligata* (Xv.) Gillet f. *nardosmia* (Ellis) A.H. Smith, Smith 1934, Pap. Mich. Acad. Sci. 19:206

≡ *Armillaria caligata* (Viv.) Gillet var. *nardosmia* (Ellis) A.H. Smith, Smith 1979, Beih. Sydowia 8:375

Mycorrhizal fungus, not in the genus *Armillaria*.

nauseosa

Armillaria nauseosa A.Blytt, Blytt 1905, Norg. Hymen. Vid. Selsk. Skrift. 6:22

accepted name: = *Tricholoma nauseosum* (A.Blytt) Kytöv., Kytövuori 1988 (1989), *Karstenia* 28(2):69

= *Tricholoma caligatum* (Xv.) Ricken var. *nauseosum* (A.Blytt) Bon, Bon 1990, *Documents Mycologiques* 20: 38

= *Tricholoma matsutake* (S.Ito & S.Imai) Singer, q.v.; *fide* Kytövuori 1988 (1989), *Karstenia* 28(2):69. We question synonymizing these species as proposed by Kytövuori until type specimens of both species can be compared. If these two species are found to be conspecific, we would suggest that *Tricholoma matsutake* be conserved over *Tricholoma nauseosum*. see additional discussion under *matsutake*.

neuhauserii

Armillaria neuhauserii (Schulzer) Sacc., Saccardo 1887, *Sylloge Fungorum* 5:85

basionym: *Agaricus ? neuhauserii* Schulzer, Schulzer 1884?, *Verhandl Hermann*; original not seen, cited in Saccardo 1887, *loc. cit.*. We are unsure of the genus of the basionym

accepted name:

fide Saccardo 1887, *loc. cit.*, this species is "near *A.mucida* and *A. fracidia*" so it probably belongs with those species in the genus *Oudemansiella*.

nigrescens

Armillaria nigrescens Kawam., Kawamura 1954, *Icones of Japanese Fungi*

4:462; *fide* IF 2:337, not validly published ICBN Art. 36.1, no Latin diagnosis.

accepted name: = *Hygrophorus olivaceoalbus* (Fr.) Fr., Fries 1838, *Epicr.* p. 324; *fide* Imazeki and Hongo 1957, *Coloured illustrations of fungi of Japan* p. 12. Translation by Hisashi Saito (Pers. Comm.)

= *Tricholoma nigrescens* (Kawam.) S.Ito, Ito 1959, *Mycological Flora of Japan* 2 (5): 137

nigritula

Armillaria nigritula P.D. Orton, Orton 1980, *Notes Roy. Bot. Gdn. Edinburgh* 38(3):316

accepted name:

"near *A.mellea*, but with strong smell (of cats or flowering currant) with minor spore differences." Roy Watling (Pers. Comm.) has examined specimens and believes this is identical with *Armillaria mellea* (Vahl:Fr.) P.Kumm..

nigropunctata

Armillaria nigropunctata (Fr.) Herink, Herink 1973, Vysoká Skola Zemědělská V Brně. Vyznamenaná Rádem Prace BRNO p.44 [cited as "(Secr.) Herink," treated here as a bibliographic error 1; *vide* IF 5:869 this must be treated as a *nomen novum*, and *Armillaria nigropunctata* Herink is a *nomen invalidum* as new species, ICBN Art. 36.1, no Latin description.

basionym: *Agaricus (Clitocybe) nigropunctatus* Fr., Fries 1874, Hym. Eur. p. 107; based on *Agaricus nigro-punctatus* Secr., Secretan 1833, Mycogr. Suisse p. 433, nr. 1046, a *nomen invalidum*, Secretan names not accepted, ICBN Art. 23.6(c) Ex. 10

accepted name:

The correct placement of this taxon is not known. The name (as *Clitocybe nigropunctata*) is listed but not treated by Bigelow (1982, 1985).

≡ *Armillariella nigropunctata* (Fr.) Singer, Singer 1943, Annales Mycol. 41:19; [cited as "(Secr.) Singer," treated here as a bibliographic error]

≡ *Clitocybe nigropunctata* (Fr.) Gillet, Gillet 1874, Les Hym. p. 173

nobilis

Armillaria nobilis Murrill, Murrill 1914, N. Amer. Flora 10:38

accepted name: = *Catathelasma imperialis* (Fr.) Singer, Singer 1940, Rev. Mycol. 5: 10; *vide* Pomerleau 1980, Flore des champignons au Québec p. 308; *vide* Kauffman 1923, Pap. Mich. Acad. Sci. 2:59

novae-zealandiae

Armillaria novae-zealandiae (G.Stev.) Herink, Herink 1973, Vysoká Skola Zemědělská V Brně. Vyznamenaná Rádem Prace BRNO p.43

basionym: *Armillariella novae-zealandae* G.Stev., Stevenson 1964, Kew Bull. 19: 14

accepted name: ≡ *Armillaria novae-zealandiae* (G.Stev.) Herink, Herink 1973, *loc. cit.*

≡ *Armillaria novae-zealandiae* (G.Stev.) Boesew., Boesewinkel 1977, N.Z. J. Agric. Res. 20 (4): 585, superfluous comb.

obscura

Armillaria obscura (Schaeff.) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.42

basionym: *Agaricus obscurus* Schaeff., Schaeffer 1762, Fungi qui. . . Bavaria: t. 32

accepted name: *nomen ambiguum*, *fide* Marxmüller 1992, Mycotaxon 44: 269; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 111; *fide* Termorshuizen 1984, Rept. Agr. Univ. Wageningen: 1-103; *fide* Watling 1987, Notes Roy. Bot. Gdn. Edinburgh 44: 116-117

≡ *Armillaria obscura* (Schaeff.) Bon, Bon 1985, Documents Mycologique 15(60):38, superfluous comb.

NOT *Armillariella obscura* (Pers.) Romagn., Romagnesi 1970, Bull. trimest. Soc. Mycol. France 86 (1): 262 q.v.

NOT *Armillaria mellea* (VahkFr.) P.Kumm. var. *obscura* Gillet, Gillet 1874, Lea Hym. p. 84 q.v.

Secretan (1833, Mycog. Suisse. p.47) was the first post-Friesian author to use the name *Agaricus obscurus*. However, Secretan cited both *Agaricus obscurus* Persoon and *Agaricus obscurus* Schaeff. in his description, resulting in confusion over the identity of the name. This is no longer a problem since the nomenclature starting point [ICBN Art. 13.1(d)] was moved back to 1753. See Marxmüller 1992, Mycotaxon 44: 269, for an extended discussion of this epithet.

obscura

Armillariella obscura (Gillet) Romagn., Romagnesi 1970, Bull. trimest. Soc. Mycol. France 86 (1): 262; cited as "(Pers. ex Secr.) Romagn.," treated as a bibliographic error.

basionym: *Inocybe obscura* Gillet, Gillet 1874, Les Hym. p. 515; treated as a *nomen novum* for *Agaricus obscurus* Pers., Persoon 1801, Synopsis Methodica Fungorum no. 163, p. 347, which is illegitimate (ICBN Art. 64.1) as a later homonym of *Agaricus obscurus* Schaeff., q.v.

accepted name: ≡ *Inocybe obscura* Gillet, Gillet 1874, Les Hym. p. 515; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 110-111 [as "(Pers. ex Secr.) Gillet"]

NOT *Armillaria obscura* (Schaeff.) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.42, q.v.

obscura

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *obscura* Gillet, Gillet 1874, Les Hym. p. 84

accepted name: *nomen dubium*; No further information is available regarding this taxon. There is no available type specimen and the description is too vague to be certain of which taxon is represented; *vide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 110

NOT *Armillariella obscura* (Gillet) Romagn., Romagnesi 1970, Bull. trimest. Soc. Mycol. France 86 (1): 262, q.v.

NOT *Armillaria obscura* (Schaeff.) Herink, Herink 1973, Vysoká Škola Zemědělska V Brně. Vyznamenání Rádem Prace BRNO p.42, q.v.

occidentalis

Armillaria caligata (Viv.) Gillet var. *occidentalis* A.H. Smith, Smith 1979, Beih. Sydowia. Ann. Mycol. 8: 373

accepted name:

If this is a true variety of the species, it belongs in the genus *Tricholoma*; In his description of *Tricholoma dulciolens* Kytöv., Kytövuori 1988 (1989), Karstenia 28:73-75, says his new species "greatly resembles" this species and implies it may be identical to *Armillaria caligata* (Viv.) Gillet var. *occidentalis* A.H. Smith, q.v., but he "thought it best to describe the European material as a new species.. ." and indicated that further study of these two species is needed.

ochrolaniatus, *Agaricus* SEE *ramentacea*

occultans, *Agaricus* SEE *mellea*

odorata

Armillaria odorata (Cool) Zerov in Zerov & Peresipkin, Zerov & Peresipkin 1979, Vznachnik Gribiv Ukraini [Guide to the fungi of the Ukraine] 5,

Basidiomycetes (2):288; invalid comb. no full reference given. ICBN Art. 33
basionym: *Lepiota odorata* Cool, Cool 1918, Mededeel. v. de nederlandsech. mycologisch. Vereeniging IX: 47

accepted name: = *Squamanita odorata* (Cool) Bas, Bas 1965, Persoonia 3(3): 342; *fide* Moser 1983, Keys to Agarics and Boleti p.254; *fide* Redhead *et al.* 1994, Canad. J. Bot. 72:1817

= *Squamanita odorata* (Cool) Imbach, Imbach 1946, Pilzflora Luzern p.83; invalid as a *nomen provisorium fide* Bas 1965, Persoonia 3(3): 342

= *Tricholoma odoratum* (Cool) Konrad & Maubl., Konrad and Maublanc 1949, Les Agaricales (Encyclopédie Mycologique 14) p. 346

NOT *Tricholoma odoratum* Konrad & Maubl. sensu Pears. (Trans. Brit. Mycol. Soc. 35:99, 1952) = *Squamanita pearsonii* Bas, Bas 1965, Persoonia 3(3): 345; *fide* Moser 1983, Keys to Agarics and Boleti p. 254

olearia

Armillariella olearia (DC:Fr.) Singer, Singer 1943, Ann. Mycol. 41:19

basionym: *Agaricus olearius* DC, deCandolle 1815, Flora Francaise 6:44

accepted name: = *Omphalotus olearius* (DC:Fr.) Singer, Singer 1946, Pap. Mich. Acad. Sci. 32:133

= *Agaricus (Crepidotus) olearius* DC:Fr., Fries 1821, Syst. Myc. 1:273

= *Agaricus (Pleurotus) olearius* DC:Fr., Fries 1874, Epicr. p.170

See Singer 1962, Agaricales p. 226 and Pegler 1977, Kew Bull. addit. ser. 6:75 for list of other synonyms.

It is not clear whether Singer intended to make this combination in *Armillariella*, but he uses "*A.olearia*" on the page following his discussion of Fayod's genus *Omphalotus* and its relationship with *Clitocybe olearia* and *Armillariella*. Pegler 1977, Kew Bull. addit. ser. 6:75, agrees that Singer made this combination.

olida

Armillaria olida Thiers & Sundb., Thiers & Sundberg 1976, Madroño 23 (8): 451

accepted name:

Not an *Armillaria*. Should be placed in *Tricholoma*, near *T.saponaceum*, but combination will be formally made later (K. Shanks and D. Desjardin, Pers. Comm.)

olivacea

Armillaria olivacea (Rick) Herink, Herink 1973, Vysoká Škola Zemědělská V Brně Vyznamenání Rádem Práce BRNO p.43

basionym: *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *olivacea* Rick, Rick 1937, Broteria 5:24; *nomen nudum*, no Latin diagnosis. invalid ICBN Art. 36.1

accepted name: *nomen invalidum*, fide IF 5:869, ICBN Art. 36.1, based on Rick's name, a *nomen nudum*.

≡ *Armillariella puiggarii* (Speg.) Singer f. *olivacea* (Rick) Singer, Singer 1953, Lilloa 26: 132

≡ *Armillariella olivacea* (Rick) Singer, Singer 1956, Lloydia 19:180

olivaceoalbus, *Hygrophorus* SEE *nigrescens*

olivaceo-fusca

Armillaria mucida (Schrad.:Fr.) Quéf. var. *olivaceo-fusca* (Horn.) Sacc., Saccardo 1887, Sylloge Fungorum 5:85

basionym: *Agaricus olivaceo-fuscus* Horn., Hornemann 1808, Fl. Dan. t. 1372

accepted name:

No further information is available regarding this taxon. If this is a true variety of the species it belongs in the genus *Oudemansiella*.

omnituens

Armillaria omnituens (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84

basionym: *Agaricus (Armillaria) omnituens* Berk., Berkeley 1850, Hooker's J. Bot. 2:46

accepted name: ≡ *Armillaria omnituens* (Berk.) Sacc., Saccardo 1887, Sylloge Fungorum 5:84

≡ *Armillariella omnituens* (Berk.) Singer, Singer (1961) 1962, Sydowia 15:49; fide Singer 1970, Flora Neotropica 3:16 several of Berkeley's species are synonyms of *A.omnituens*: SEE epitheta *adelpha*, *dichupella*, *duplicata*, *multicolor*, and *vara* for discussion of each of these cases.

ompnera

Armillaria ompnera (Berk. & Broome) Sacc, Saccardo 1887, Sylloge Fungorum 5:86

basionym: *Agaricus (Armillaria) ompnerus* Berk. & Broome, Berkeley and Broome 1871, J. Linn. Soc. 11:514

accepted name: = *Lepiota microspila* (Berk.) Sacc., Saccardo 1891, Sylloge Fungorum 9:10; fide Chandra and Watling 1981, Kavaka 10:80

ostoyae

Armillaria ostoyae (Romagn.) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.42

basionym: = *Armillariella ostoyae* Romagn., Romagnesi 1970, Bull. trimest. Soc. Mycol. France 86(1) :265

accepted name: = *Armillaria ostoyae* (Romagn.) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.42

= *Armillariella polymyces* (Pers.) Singer & Cléménçon, Singer & Cléménçon 1972, Nova Hedwigia 23: 311; *fide* Marxmüller 1992 Mycotaxon 44:269; *fide* Watling *et al.* 1991, Armillaria Root Disease p.5 [as "(Secr.) Sing. & Clem."] = *Armillaria montagnei* var. *umbrinobrunnea* Singer, Singer 1956, Lloydia 19: 183 q.v. [as "*Amontagnei* Singer var. *umbrinolutea* Singer," q.v.]; *fide* Watling *et al.* 1991, Armillaria Root Disease p.5
= *Agaricus congregatus* Bolton, Bolton 1791, History Fung. Halifax plate 140; *fide* Watling *et al.* 1982; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:106 this name is superfluous and cannot be used for this fungus because Bolton referred to "*annularius* Bulliard, 377", (= *Amellea sensu lato*) reducing Bolton's name to a synonym of that species q.v.

Korhonen Species C (EBS C), North American Biological Species I.

Note: *Armillaria obscura* (Schaeff.) Herink, is another name that has been used for this biological species, but this is a *nomen ambiguum*, *fide* Marxmüller 1992 Mycotaxon 44:269; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 111. See additional discussion under *obscura*

pallidula

Armillaria pallidula Kile & Watling, Kile and Watling 1988, Trans. Brit. Mycol. Soc. 91:307

accepted name: = *Armillaria pallidula* Kile & Watling, Kile and Watling 1988, *loc. cit.*

parasitica, *Clitocybe* SEE *tabescens*

paupertina

Armillariella paupertina (A.H. Smith & Hesler) Singer, Singer 1949 (1951), Lilloa 22:216

basionym: *Hygrophorus paupertinus* A.H. Smith & Hesler, Smith and Hesler 1942, Lloydia 5:13

accepted name: = *Hygrophorus paupertinus* A.H. Smith & Hesler, Smith and Hesler 1942, Lloydia 5:13; *fide* Hesler and Smith 1963, North American Species of *Hgrophorus* p. 84

pearsonii, *Squamanita* SEE *odorata*

peckii, *Agaricus (Tricholoma)* SEE *aurantia*

pelliculata

Armillaria pelliculata Beeli, Beeli 1927, Bull. Soc. R. Belgique 59:111

accepted name: = *Armillaria pelliculata* Beeli, Beeli 1927, *loc. cit.*; *fide* Mohammed *et al.* 1989, IUFRO 7:448

= *Armillaria pelliculosa* Beeli, cited in IFP 1922-28, p. 15. Orthographic variant of the same name.

phoenecia

Armillaria phoenecia (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 18

basionym: *Agaricus (Armillaria) phoeniceus* Fr., Fries 1838, Epicr. p.20

accepted name: = *Tricholoma phoenecium* (Fr.) Singer, Singer 1943, Ann. Mycol. 41:77

= *Armillaria phoenicea* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:73, superfluous comb.

piluliformis

Armillaria piluliformis (Bull.) Gillet, Gillet 1874, Les Hym. p. 80

basionym: *Agaricus piluliformis* Bull., Bulliard 1809, pl. 112; *nomen superfluum* *fide* Petersen 1977, Mycotaxon 6: 127-166, 6:78-126

accepted name: = *Psathyrella piluliformis* (Bull.) P.D. Orton, P.D. Orton 1969, Notes Royal Bot. Gdn. Edinburgh 29 (1): 116

= *Agaricus (Hypholoma) piluliformis* Bull. ex Fr., Fries 1857, Monogr. Hym. Sueciae p. 428

= *Agaricus (Lepiota) piluliformis* Bull. ex Mérat, Mérat 1834, Nouv. Fl. Envir. Paris 3e Ed. I: 100

= *Hypholoma piluliforme* (Bull.) Sacc., Saccardo 1887, Sylloge Fungorum 5:1040

pinetorum

Armillaria pinetorum Gillet, Gillet 1874, Les Hym. p. 79

accepted name: = *Lepiota carcharias* (Pers.) Ricken, Ricken 1914, Die Blätterpilze p. 327; *fide* Bresadola 1920, Ann. Mycol. 18:65

= *Tricholoma pinetorum* (Gillet) Emel, Emel 1921, Le genre *Armillaria* p.75, published as a provisional combination, invalid, ICBN Art. 34.1(b)

piopparello

Agaricus (Armillaria) piopparello Viv., Viviani 1834, Funghi d'Italia p.6 t.6

accepted name:

= *Agaricus (Armillaria) vivianii* Fr., Fries 1874, Hym. Eur. p.45, apparently a *nomen novum* for this species. Fries cites *A. piopparello* Viviani with his description, reducing *A. vivianii* to a synonym. This species was never formally placed in *Armillaria* or *Armillariella*. Its proper disposition is unknown.

pistillaris, *Agaricus* SEE *mellea*

pitkinensis

Armillaria pitkinensis Mitchel A.H. Smith, Mitchel and Smith 1976, Mycotaxon 4 (2): 530

accepted name: = *Floccularia pitkinensis* (Mitchel & A.H. Smith) Bon, Bon 1990, Documents Mycologiques 20 (no. 79): 57

platensis

Armillaria platensis Speg., Spegazzini 1899, Anales de l Museo Nacional de Buenos Aires 6:98

basionym: *Armillaria platensis* Speg., Spegazzini 1899, *loc. cit.*

accepted name: *Leucoagaricus* sp. ("probably"); *fide* Singer 1952, Sydowia 6:345

NOT *Agaricus platensis* Speg., Spegazzini 1925 (1926), Bol. de la Academia Nacional de Ciencias Córdoba 28:329 [= *Oudemansiella platensis* (Speg.) Rick, Rick 1907, Brotéria 6:76; = *Oudemansiella canarii* (Jungh.) v. Höhn; *fide* Pegler 1977, Kew Bull. addit. ser. 6:149]

NOT *Leucoagaricus platensis* (Speg.) Raithelhuber, Raithelhuber 1987, Flora Mycologica Argentina Hongos I (Stuttgart: Mycosur.):298 (= *Lepiota platensis* Speg.); *fide* IF 5:836 published by Baithelhuber 1987 *loc. cit.*, as "(Speg.) Desm. & Wright comb. ined."

pleurotoides

Armillaria pleurotoides (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 22

basionym: *Agaricus (Armillaria) pleurotoides* Fr., Fries 1863, Monogr. Suisse I no. 11c, p.286

accepted name:

≡ *Pleurotus pleurotoides* (Fr.) Ricken, Ricken 1915, Die Blätterpilze p.446; *vide* Emel 1921, Le genre *Armillaria* p.41

≡ *Armillaria pleurotoides* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:82, superfluous comb.

= *Pleurotus albertinii* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:340; *vide* Emel 1921, Le genre *Armillaria* p. 40

Painting in Lucand 1880, Figures Peintes de Champignons de la France t. 25-77, does not appear to be an *Armillaria*. It looks like a *Limacella* or *Lepiota*. No further information is available regarding this taxon.

pleurotus, Agaricus SEE *lepiota*

polymyces

Armillariella polymyces (Pers.) Singer & Cléménçon, Singer and Cléménçon 1972, Nova Hedwigia 23: 311

basionym: *Agaricus polymyces* Pers., Persoon 1797, Disp. Methodicae Fungorum p. 19

accepted name: = *Armillaria ostoyae* (Romagn.) Herink, q.v.; *vide* Watling *et al.*, 1991, *Armillaria* Root Disease p.6; *vide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 112, *Agaricus polymyces* Pers. is a superfluous name because of all the synonyms listed in the description by Persoon. Termorshuizen and Arnolds 1987, *loc. cit.*, also state that Singer and Cléménçon 1972, Nova Hedwigia 23: 311 "adopted this name for a fungus obviously identical with *Armillaria ostoyae*."

≡ *Lepiota polymyces* (Pers.) Gray, Gray 1821, Natural Arrangements of British Plants 1:603

NOT *Agaricus (Lepiota) polymices* Secr., Secretan 1833, Mycographie Suisse 146, illegitimate ICBN Art. 64.1 later homonym of *Agaricus polymyces* Pers., q.v.

ponderosa

Armillaria ponderosa Sacc., Saccardo 1887, Sylloge Fungorum 5:78

basionym: *Armillaria ponderosa* Sacc., Saccardo 1887, Sylloge Fungorum 5:78; treated as *nomen novum* for *Agaricus (Armillaria) ponderosus* Peck, Peck 1874, Bull. Buff. Soc. Nat. Sci. 1:42, illegitimate name, ICBN Art. 64.1, later homonym of *Agaricus ponderosus* Pers., Persoon 1828, Myc. Eur. 3: 116; *fide* Redhead 1984, Trans. Mycol. Soc. Japan 25:6]

accepted name: = *Tricholoma magnivelare* (Peck) Redhead, Redhead 1984, Trans. Mycol. Soc. Japan 25:6; see extensive discussion of this name in Redhead 1984, *loc. cit.*

≡ *Tricholoma ponderosum* (Sacc.) Singer, [as "(Peck) Singer", bibliographical error], Singer 1949 (1951), Lilloa 22:227

see Smith 1979, Beih. Sydowia 8:368-377, for list of other synonyms

praecox

Armillaria praecox Velen., Velenovský 1920, ^vČeské Houby, Dil II:282

accepted name: *nomen ambiguum fide* Marxmüller 1992 Mycotaxon 44:271; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:112; *fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75:130

≡ *Armillariella praecox* (Velen.) Singer, Singer 1976, Kew Bull. 31 (3): 433

procera

Armillaria procera Speg., Spegazzini 1889, Bol. Acad. Nat. Cienc. Córdoba 11: 385

accepted name: ≡ *Armillaria procera* Speg., Spegazzini 1889, *loc. cit.*

≡ *Armillariella procera* (Speg.) Singer, Singer 1970, Flora Neotropica 3:11
see also Saccardo 1891, Sylloge Fungorum 9:12

NOT *Armillaria procera* Speg. sensu Rick [= *Pleurotus rickii* Bres., Bresadola 1920, Ann. Mycol. 18: 27] *fide* Singer (1952) 1953, Sydowia 6:344

= *Armillariella puiggarii* (Speg.) Singer, q.v.: *fide* Singer 1952 (1953), Sydowia 6:344, but after further study Singer 1970, Flora Neotropica 3:11 considered *A.procera* and *A.puiggarii* as separate species.

pseudobulbosa

Armillaria cepistipes Velen. f. *pseudobulbosa* Romagn. & Marxmüller 1983, Romagnesi and Marxmüller 1983, Bull. Soc. Mycol. France 99(3):310

accepted name: = *Armillaria cepistipes* Velen.; form designations abandoned see Marxmüller 1992, Mycotaxon 44:269, because of intergradations between forms.

puellula, *Clitocybe* SEE *verrucipes*

puiggarii

Armillaria puiggarii Speg., Spegazzini 1889, Bol. Acad. Nat. Cienc. Córdoba 11:384

accepted name: = *Armillaria puiggarii* Speg., Spegazzini 1889, Bol. Acad. Nat. Cienc. Córdoba 11: 384

≡ *Armillariella puiggarii* (Speg.) Singer, Singer 1950 (1951), Lilloa 23: 171 this reference indicates comb. nov, but same combination was mentioned by Singer 1949 (1951), Lilloa 22: 216, although there is no description there

= *Armillaria procera* Speg., q.v.; *fide* Singer 1952 (1953), Sydowia 6:344, but after further study Singer 1970, Flora Neotropica 3: 11 considered *A.procera* and *A.puiggarii* as separate species.

pulveracea

Armillaria pulveracea (Peck) Kauffman, Kauffman 1924, Pap. Mich. Acad. Sci. 4:317

basionym: *Lepiota pulveracea* Peck, Peck 1901, NY State Mus Rept. 54: 144

accepted name:

fide Murrill 1914, N. Amer. Flora 10:45, this is a synonym of *Cystoderma amianthinum* (Swp.:Fr.) Fayod, q.v. [as "*Lepiota amianthina* (Scop.) Qué!"], but Murrill listed a number of species here as synonyms now considered to be different species of *Cystoderma*, *fide* Harmaja 1974, Karstenia 14: 122; *fide* Peck 1901, *loc. cit.*, this species is "related to *Lepiota granulosa* (Batsch) Ricken" q.v.; We agree it probably belongs in the genus *Cystoderma* with that species.

pulvinatus, *Agaricus* SEE *spongiosa*

pusillomyces

Armillaria pusillomyces (Peck) Kauffman, Kauffman, cited in Miller and Farr 1975, Bib. Mycologica 44:31; cited in Graham, 1944, Mushrooms of the Great Lakes Region p. 174; We were unable to find the combination *Armillaria pusillomyces* (Peck) Kauffman in any of Kauffman's publications.

basionym: *Agaricus (Lepiota) pusillomyces* Peck, Peck 1876, NY State Mus Rept. 28:48

accepted name: = *Cyscolepiota pusillomyces* (Peck) Redhead, Redhead 1987, Canad J. Bot. 65(8): 1555

≡ *Lepiota pusillomyces* (Peck) Sacc., Saccardo 1887, Sylloge Fungorum 5:48

putrida

Armillaria putrida (Scop.) Murrill, Murrill 1914, N. Amer. Flora 10(1):39

basionym: *Agaricus putridus* Scop., Scopoli 1772, Flora Carniolica Plantas Camiolae Indigenas 2:420

accepted name: *nomen ambiguum*, *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30: 112, who say description is "too vague to be sure" which species is represented

= *Armillaria mellea* sensu lato; *fide* A.H. Smith 1949, Mushrooms in their Natural Habitats p.348

= *Armillaria solidipes* Peck, Peck 1900, q.v.; *fide* Murrill 1914, N. Amer. Flora 10(1):39

= *Agaricus (Armillaria) melleorubens* Berk. & M.A. Curtis, Berkeley and Curtis 1868, J. Linn. Soc. 10:283; *fide* Murrill 1914, N. Amer. Flora 10(1):39

radicata

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *radicata* Peck, Peck 1892, NY State Mus Rept. 44:38

accepted name:

No further information is available regarding this taxon.

radicata

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *radicata* McIlvaine & Macadam. McIlvaine and Macadam 1900, p. 56

accepted name: *nomen invalidum*, ICBN Art. 64.1, later homonym of *Armillaria mellea* Vahl var. *radicata* Peck, Peck 1892, NY State Mus Rept. 44:38; *fide* Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Práce BRNO p. 33, this is a radicating form of *A.mellea* s.l.

Although McIlvaine and Macadam knew of Peck's other varieties (e.g. var. *exannulata*) and cited them, they did not list Peck as authority for this variety, and it must be assumed they intended to publish a new variety.

ramentacea

Armillaria ramentacea (Bull.:Fr.) Quélet., Quélet 1872, Quélet Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:74

basionym: *Agaricus ramentaceus* Bull., Bulliard 1812, Champ. p.640 t. 595 fig 3

accepted name: = *Tricholoma ramentaceum* (Bull.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.338

= *Agaricus (Armillaria) ramentaceus* Bull.:Fr., Fries 1821, Syst. Myc. I p. 21

= *Armillaria ramentacea* (Bull.:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:76, superfluous comb.

= *Agaricus ambiguus* Lasch, Lasch 1828, Linnaea 3 n.36; *fide* Saccardo 1887, Sylloge Fungorum 5:76

= *Agaricus (Lepiota) ochrolaniatus* Secr., Secretan 1833, Mycog. Suisse. nr. 47; *nomen invalidum* Secretan names not accepted, ICBN Art. 23.6(c) Ex. 10; *fide* Saccardo 1887, Sylloge Fungorum 5:76

NOT *Agaricus ramentaceus sensu* Britzelm., Britzelmayr 1891, Hym. Südbayern nr. 402 [= *Tricholoma cingulatum* (Fr.) Jacobasch q.v.; *fide* Stangl and Bresinsky, 1967, Zeits. Pilz. 33:34]

NOT *Armillaria ramentacea sensu* Gillet 1874, Les Hym. p. 78 [= *Tricholoma cingulatum* (Fr.) Jacobasch q.v.; *fide* Bon 1984, Encyclopedia Mycologique 36: 155; *fide* Riva 1988, Fungi Europaei: *Tricholoma* p. 2441

NOT *Tricholoma ramentaceum sensu* Romagn., Romagnesi 1937, original not seen (= *Tricholoma romagnesii* Singer, Singer 1943, Ann. Mycol. 41:82)

NOT *Agaricus rumentaceus* Krombh., Krombholz 1836, Naturget. Abb.

Schwämme Taf. 25, f. 21-25 [= *Cystoderma carcharias* (Pers.) Fayod, q.v.; *fide* Fries 1874, Hym. Eur. p. 36 [as "*Agaricus carcharias*"]; *fide* Saccardo 1887, Sylloge Fungorum 5:46 [as "*Lepiota carcharias*"]

raphanica

Armillaria raphanica Murrill, Murrill 1943, Mycologia 35: 422

accepted name: = *Lentinula boryana* (Berk. & Mont.) Pegler, Pegler 1975, Kavaka 3:19; *fide* Singer 1946, Lloydia 9:124 (as *Lentinus cubensis* Berk. & M.A. Curtis, Berkeley and Curtis 1869, J. Linn. Soc. 10:302, a later name for this species, *fide* Pegler 1983, World Monogr. *Lentinus* p.228)

rhacophora

Armillaria rhacophora (Berk. & Broome) Sacc., Saccardo 1887, Sylloge Fungorum 5:78

basionym: *Agaricus (Tricholoma) rhacophorus* Berk. & Broome, Berkeley and Broome 1871, J. Linn. Soc. 11:514

accepted name:

fide Berkeley and Broom 1871, *loc. cit.*, this species is "allied to *A. impolitus*" now considered a synonym of *Tricholoma sulphurescens* Bres., so this species probably belongs in the genus *Tricholoma*

rhagadiosa

Armillaria rhagadiosa (Fr.) Quél., Quélet 1873, Champ. Jura Vosques supplement 2, in Mém. Soc. Emul. Montbéliard 5: 338

basionym: *Agaricus (Armillaria) rhagadiosus* Fr., Fries 1821, Syst. Mycol. I p. 30

accepted name: = *Neolentinus lepideus* (Fr.:Fr.) Redhead & Ginns, Redhead and Ginns 1985, Trans. Mycol. Soc. Japan 26:357; *fide* Watling *et al.*, 1991 *Armillaria* Root Disease p. 6 (as *Lentinus lepideus*)

≡ *Armillaria rhagadiosa* (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:80, superfluous comb.

≡ *Clitocybe rhagadiosa* (Fr.) Ricken, Ricken 1914, Die Blätterpilze p.363, nr. 1076 (as *rhagadiosa*)

≡ *Collybia mellea* (Vahl:Fr.) Emel ssp. *rhagadiosa* (Fr.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

NOT *Armillaria rhagadiosa* sensu Rick 1920, Broteria Ser. Bot. 18(2):52; *fide* Singer 1953, Lilloa 26:57, the species called this name by Rick is *Ripartitella brasiliensis* (Speg.) Singer, Singer 1949 (1951), Lilloa 22:452

rhizopoda, *Armillaria* SEE *rhizopus*

rhizopus

Armillaria rhizopus (Cooke) Sacc., Saccardo 1887, Sylloge Fungorum 5:79 [as "*Armillaria rhizopoda*"]

basionym: *Agaricus (Armillaria) rhizopus* Cooke, Cooke 1886, Grev. 14:89

accepted name:

fide Cooke 1886, *loc. cit.*, this species has a "pileus 1-2 in., stem 2-3 in. long and 1/4 in. thick, and is mostly attached to roots of grasses, sedges, etc." Its small size and habitat indicate this is not likely a true *Armillaria* species. Its proper disposition is unknown.

rhodomala

Armillaria rhodomala (Berk. & Broome) Sacc., Saccardo 1887, Sylloge Fungorum 5:78

basionym: *Agaricus rhodomalus* Berk. & Broome, Berkeley and Broome 1871, J. Linn. Soc. 11:514

accepted name: = *Gymnopilus* sp.; *fide* Chandra and Watling 1981, Kavaka 10:81

rhombosporum

Armillaria rhombosporum (G.F. Atk.) Kauffman, Kauffman 1924, Pap. Mich. Acad. Sci. 4:317

basionym: *Lepiota rhombospora* G.F. Atk., Atkinson 1918, Proc. Am. Phil. Soc. 57:356

accepted name: = *Flammulaster rhombosporus* (G.F. Atk.) Watling, Watling 1967, Notes Roy. Bot. Gdn. Edinburgh 28: 67; *fide* Scott Redhead (Pers. Comm.)

= *Flammulaster carpophilus* (Fr.) Earle var. *rhombosporus* (G.F. Atk.) Vellinga, Vellinga 1986, Persoonia 13:10

= *Cystoderma rhombosporum* (G.F. Atk.) A.H. Smith & Singer, Smith and Singer (1944) 1945, Pap. Mich. Acad. Sci. 30: 99

= *Phaeomarasmium rhombosporus* (G.F. Atk.) Malloch & Redhead, Malloch and Redhead 1979, Fungi Canadense 142

= *Naucoria rhombospora* (G.F. Atk.) J. Favre, Favre 1948. Mat. Fl. Crypt. Suisse X, 3: 144

= *Flocculina rhombosporum* (G.F. Atk.) P.D. Orton, Orton 1960. Trans. Brit. Mycol. Soc. 43:175

rickenii

Armillaria rickenii Bohus, Bohus 1970, Botanikai Kozlemenyek 57(1):16

accepted name: = *Floccularia rickenii* (Bohus) Wasser ex Bon, Bon 1990, Documents Mycologiques 20 (no. 79): 57

= *Floccularia rickenii* (Bohus) Wasser, Wasser 1974, Nov. Syst. vyssh Rast 1974: 167; *fide* IF 5:83, this species not validly published, no full name of author and orig. publication of basionym (Wasser cited the page numbers incorrectly)

= *Tricholoma luteovirens* ss. Ricken 1914, Die Blätterpilze p. 330; *fide* Moser 1983, Keys to Agarics and Boleti p. 150

Wasser's name has also been transliterated as Vasser.

riousetii

Armillariella riousetii Josserand, Josserand 1977, Kew Bull. 31(3):525.

accepted name:

From the description this appears to be mycorrhizal, not an *Armillaria* species.

roblinensis

Armillaria roblinensis Velen., Velenovský 1939, Novitates Mycol. p. 78

accepted name: = *Armillaria cepistipes* Velen., Velenovský 1920, Česke Houby, Dil II:283; *fide* Antonín 1990, Acta Mus Moraviae Sci. Nat. 75: 131; but *fide* Marxmüller 1992, Mycotaxon 44:271 this is a *nomen ambiguum*

roborosa

Armillaria roborosa (Britzelm.) Sacc. & Syd., Saccardo and Sydow 1899, Sylloge Fungorum 14:70

basionym: *Agaricus (Armillaria) roborosus* Britzelm., Britzelmayr 1895, Hymen. Kunde p.1 f.658

accepted name: = *Tricholoma caligatum* (Viv.) Ricken, Ricken 1914, q.v.; *fide* Stangl and Bresinsky, 1967, Zeits. Pilz. 33:33

robusta

Armillaria robusta (Alb. & Schwein.:Fr.) Gillet, Gillet 1874, Les Hym. p. 81

basionym: *Agaricus robustus* Alb. & Schwein., Albertini and Schweinitz 1805, Conspectus Fungorum no. 415 p. 147

accepted name: = *Tricholoma robustum* (Alb. & Schwein.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.332; *fide* Watling *et al.* 1991, *Armillaria* Root Disease p.6; although Ricken had a different concept of the species than Albertini & Schweinitz (see below), this combination in *Tricholoma* is valid.

= *Agaricus (Armillaria) robustus* Alb. & Schwein.:Fr., Fries 1821, Syst. Myc. I p. 26

= *Armillaria robusta* (Alb. & Schwein.:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:74, superfluous comb.

= *Armillaria robusta* (Alb. & Schwein.:Fr.) Qué!, Quélet 1875, Qué! Jura Champ. Jura Vosques suppl. III, in Mém. Soc. Emul. Montbéliard, 5:433, superfluous comb.

Note: *Tricholoma robustum* sensu Ricken, Ricken 1914, Die Blätterpilze p.332 is the same as *Tricholoma subannulatum* (Batsch) Ricken non Peck, q.v.; *fide* Saccardo 1887, Sylloge Fungorum 5:75; *fide* Moser 1983, Keys to Agarics and Boleti p. 123

romagnesii, *Tricholoma* SEE *ramentacea*

rufa

Armillaria rufa Quél., Quélet 1881, Jura Suppl. 10, in C.R. Ass. Fr. Av. Sci. 9:661.

basionym: *Armillaria rufa* Quél., Quélet 1881, Jura Suppl. 10, in C.R. Ass. Fr. Av. Sci. 9:661 [based on a fungus described by Battara, the identity of which Quélet did not indicate, although it is probably *Sphaerocephalus rufus* Battara, Battara 1755 t. 8 F, but in any case Battara names are not accepted. ICBN Art.23.6(c) Ex. 10]

accepted name: = *Tricholoma focale* (Ft.) Ricken, q.v.; *fide* Ricken 1914, Die Blätterpilze p. 332; *fide* Lindau and Ulbrich 1928, Kryptogamenflora für Anfänger p. 351; *fide* Riva 1988, Fungi Europaei: *Tricholoma* p. 403; *Sphaerocephalus rufus* Battara, Battara 1755 t. 8 F is also cited by Fries 1838, Epicr. p. 20, as a synonym of *Agaricus focalis* Fr.

= *Agaricus (Armillaria) causetta* Barla, Barla 1859, Champ. Nice. p. 16 t. 9 & 10 f. 4-7; *fide* Quélet 1881, *loc. cit.*

≡ *Tricholoma rufum* (Quél.) Emel, Emel 1921, Le genre *Armillaria* p.75, published as a provisional combination, invalid, ICBN Art. 34.1(b)

rugoso-reticulata

Armillaria rugoso-reticulata (FLorinser) Zeller, Zeller 1933, Mycologia 25:378

basionym: *Agaricus (Lepiota) rugoso-reticulatus* F.Lorinser, Lorinser 1879, Oest. Bot. Zeitschrift 29:23

accepted name: ≡ *Cystoderma rugosoreticulatum* (F.Lorinser) Wasser, Wasser 1978, Ukr. bot. Zh. 35(5): 518

≡ *Cystoderma amianthinum* (Scop.:Fr.) Fayod var. *typicum* f. *rugosoreticulatum* (FLorinser) A.H. Smith & Singer, Smith and Singer 1944 (1945), Pap. Mich. Acad. Sci. 30: 110

Wasser's name has also been transliterated as Vasser.

sajor-caju, *Lentinus* SEE *dactyliophora*

saltensis

Armillaria saltensis Speg., Spegazzini 1899, Anales del Museo Nacional de Buenos Aires 6:99

accepted name: *nomen dubium fide* Singer 1952, Sydowia 6:345, no extant type, not an *Armillaria* species

saviczii

Armillaria saviczii (Singer) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenání Rádem Práce BRNO p.42

basionym: *Armillariella saviczii* Singer, Singer 1938, Bot. Mater. (Not. Sys. Sect. Crypt. Inst. Acad. Scient. URSS), vol 4 fasc 10-12: p.6 (not seen, redescribed in Singer 1956, Lloydia 19(3):178)

accepted name:

fide Romagnesi and Marxmüller 1983, Bull. Mycol. Soc. France 99:301-324, this may be identical to *Armillaria cepistipes* f. *pseudobulbosa* q.v.; *fide* Termorshuizen and Arnolds 1987, Mycotaxon 30:113, this "may very well not fit into one of Korhonen's species, if it belongs to *A.mellea* agg. at all"

schreieri

Armillaria schreieri (Maire & Konrad) Zerov in Zerov & Peresipkin, Zerov & Peresipkin 1979, Vznachnik Gribiv Ukraini [Guide to the fungi of the Ukraine] 5, Basidiomycetes (2):288; invalid comb., no full reference to basionym given. ICBN Art. 33

basionym: = *Squamanita schreieri* Imbach ex Imbach, Imbach 1946, Mitt. Naturf. Ges. Luzern 16:83

accepted name: = *Squamanita schreieri* Imbach ex Imbach, Imbach 1946, *loc. cit.*; *fide* Singer 1962, Agaricales p. 242

Imbach 1942, Schweiz. Zeits. Pilzk. 20: 130,152, had earlier mentioned this species as "*Squamamanita schreieri* Imbach," but this genus name is not validly published since it is a *nomen nudum* [no Latin description, invalid ICBN Art. 36.11 However Imbach's (1942) epithet should be treated as a "protonym" for Imbach's (1946) later epithet. (ICBN Art. 68.1). There is some controversy surrounding the authority citation for this name, which is often cited as "*Squamanita schreieri* Imbach," Imbach 1946, Mitt. Naturf. Ges. Luzern 16:83; e.g. *fide* Bas 1965, Persoonia 3:337; *fide* Redhead *et al.* 1994, Canad. J. Bot. 72: 1817.

= *Tricholoma schreieri* Maire & Konrad, Maire 1945, Bulletin Soc. Hist. Naturelle de l'Afrique du Nord 36: 27. This name is legitimate and validly published, but the epithet may only be used in the genus *Tricholoma*. Maire and Konrad (1945) did not mention Imbach's 1942 description, and we assume they did not know of it. All these authors named the species after Schreier, who had illustrated the species as *Tricholoma X* (Schreier 1938, Schweiz. Zeits. Pilzkunde, 7:97-100).

scruposa

Armillaria scruposa (Fr.) Gillet, Gillet 1874, Les Hym. p. 81

basionym: *Agaricus (Armillaria) scruposus* Fr., Fries 1838, Epicr. p.22

accepted name: = *Limacella furnacea* (Letell.) E.J. Gilbert, Gilbert, La Spore Champ. p. 96; *vide* Gilbert 1928, Bull. Mycol. Soc. Fr. 44:165

sinapina

Armillaria sinapina Bérubé & Dessur., Bérubé & Dessurealt 1988, Can. J. Bot. 66:2030

accepted name: = *Armillaria sinapina* Bérubé & Dessur., Bérubé & Dessurealt 1988, *loc. cit.*

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singula

Armillaria singula Cha & Igarashi, *in* Cha, Sung, and Igarashi 1994, Mycoscience 35:45

accepted name: = *Armillaria singula* Cha & Igarashi, *in* Cha, Sung, and Igarashi 1994, *loc. cit.*

singularis

Armillariella singularis (Höhn.) Singer, Singer 1949 (1951), Lilloa 22:216

basionym: *Aeruginospora singularis* Höhn., Höhnel 1908, Frag. zur Mykol. nr. 172 p. 1011

accepted name: = *Camarophyllus singularis* (Höhn.) Singer, Singer 1973, Beih. Sydowia 7:3

socialis

Armillaria socialis (DC: Fr.) Herink, Herink 1973, Vysoká Škola Zemědělská V Brně. Vyznamenání Rádem Práce BRNO p.44

basionym: *Agaricus socialis* DC, deCandolle 1815, Flora Francais 6:48

accepted name:

Watling *et al.* 1991, *Armillaria* Root Disease p. 5, adopted this name for a European exannulate species of *Armillaria*. Because of the confusion surrounding the exact identity of deCandolle's species and the fact that Fries considered it at different times in two tribes (*Flammula* and *Collybia*) characterized by different spore colors, it is best considered a *nomen dubium*.

≡ *Agaricus (Flammula) socialis* DC:Fr., Fries 1821, Syst. Myc. 1:251. Fries placed this species in Ser. Cortinarius ("*sporid. ferruginea*" p.10), tribe *Flammula* with *Agaricus alnicola*, *A. flavidus*, *A. ilicinus*, and *A. astragalinus*, all now considered members of the genus *Pholiota*.

≡ *Clitocybe socialis* (DC:Fr.) Bigeard & Guillemin, Bigeard and Guillemin 1913, Flore des Champignons Supérieurs de France p. 83. Invalid ICBN Art. 64.1, later homonym of *Clitocybe socialis* (Fr.) Gillet, Gillet 1874, Les Hym. p. 159

= *Armillaria tabescens* (Swp.) Emel, q.v.; *Agaricus socialis* DC was considered a synonym of *Agaricus tabescens* Scop. by Fries 1874, Hym. Eur. p. 111. In any case Scopoli's (1772) epithet is older than DeCandolle's (1815).

NOT *Agaricus (Clitocybe) socialis* Fr., Fries 1867, Icon. t.49 f.2; see also Hym. Eur. p. 83, p. 111 . Illegitimate ICBN Art. 64.1 --later homonym of *Agaricus socialis* DC 1815, q.v. and *Agaricus socialis* DC:Fr., Fries 1821 *loc. cit.*

[≡ *Clitocybe socialis* (Fr.) Gillet, Gillet 1874, Les Hym. p. 159, ≡ *Clitocybe socialis* (Fr.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 61, superfluous comb.]

solidipes

Armillaria solidipes Peck, Peck 1900, Bull. Torr. Bot. Club 27(12):611

accepted name: ≡ *Armillaria solidipes* Peck, Peck 1900, *loc. cit.* We examined the type specimen, FH, this is a true *Armillaria* species, but it is not known whether it is conspecific with any other *Armillaria* species.

= *Armillaria putrida* (Scop.) Murrill, Murrill 1914, N. Amer. Flora 10(1):39, fide Murrill 1914, *loc. cit.* ; fide Termorshuizen and Arnolds 1987, Mycotaxon 30: 113, *A.putrida* is a *nomen ambiguum*

≡ *Armillariella solidipes* (Peck) T.J. Baroni, Baroni 1981, Mycologia 73(1):186 NOT *Agaricus solidipes* Peck, Peck 1904, Bull. Torr. Bot. Club 31:180

NOT *Lepiota solidipes* Peck, Peck 1899, Bull. N.Y. State Mus. 5:647

[≡ *Limacella solidipes* (Peck) H.V. Smith, H.V. Smith 1944 (1945), Pap. Mich. Acad. Sci. 30: 142]

solitaria, *Amanita* SEE *echinocephala* and *strobiliformis*

sparrei

Armillaria sparrei (Singer) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.43

basionym: *Armillariella sparrei* Singer, Singer 1956, Lloydia 19: 183

accepted name: ≡ *Armillaria sparrei* (Singer) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p.43; fide Garrido 1985, Index Agaricalium Chilensium, Bib. Mycologica 99124

≡ *Armillaria sparrei* (Singer) Kile & Watling, Kile & Watling 1983, Trans. Brit. Mycol. Soc. 81(1):136, superfluous comb.

spongiosa

Armillaria spongiosa P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 23.

basionym: *Armillaria spongiosa* P.Karst., Karsten 1879, *loc. cit.*, treated as a *nomen novum* (Karsten cited this species as "*Armillaria spongiosa* (Fr.) P.Karst.," but his basionym, presumably *Agaricus (Pleurotus) spongiosus* Fr., is illegitimate. see below)

accepted name: = *Pleurotus spongiosus* (P.Karst.) Sacc., Saccardo 1887, *Sylloge Fungorum* 5:340, [as "(Fr.) Sacc. "]

= *Agaricus (Pleurotus) spongiosus* Fr., Fries 1838, *Epicr.* p. 130, is presumably a *nomen novum* for the cited species Lasch nr. 548, (in *Linnaea* 1829), which is *Agaricus pulvinatus* Pers., Persoon 1801, *Syn. Meth. Fung.* p. 370. The new name, *Agaricus spongiosus* Fr. is illegitimate (ICBN Art. 64.1) as a later homonym of *Agaricus spongiosus* Withering 1796? *Arr.* p. 200, (cited in Fries 1821, *Syst. Myc.* 1:212 as a synonym for *Agaricus brunneus* Fr.; We have seen a redescription of *Agaricus spongiosus* in Withering's fifth edition 1812 p. 235) Fries' 1838 name is also a synonym of *Agaricus spongiosus* Schumach., Schumacher 1803, *Enumeratio Plantarum* p. 311 (cited in Fries 1821, *Syst. Myc.* 1:121 as a synonym for *Agaricus butyraceus* Fr.)

squamea

Armillaria squamea Barla, Barla 1887, *Bull. Soc. Mycol. France* 3:139

accepted name: = *Tricholoma focale* (Fr.) Ricken, q.v.; *fide* Riva 1988, *Fungi Europaei: Tricholoma* p. 403

= *Collybia mellea* (Vahl:Fr.) Emel f. *squamea* (Barla) Emel, Emel 1921, *Le genre Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

Not an *Armillaria*; according to Barla's description, this taxon has a relationship with *Armillaria robusta* and *A. causetta*, now considered to be in *Tricholoma*, and with *A. imperialis*, now in *Catathelasma*

squamosa

Armillaria squamosa Masee, Masee 1908, *Bull. Bot. Gard. Kew* 1:1908 p. 2.

accepted name: = *Amanita squamosa* (Masee) Comer & Bas, Comer and Bas 1962, *Persoonia* 2(3):262

squamosidisca

Armillaria squamosidisca (Murrill) Murrill, Murrill 1944, Mycologia 36: 122

basionym: *Marasmius squamosidiscus* Murrill, Murrill 1940, Bull. Torr. Bot. Club 67: 151

accepted name: = *Ripartitella brusiliensis* (Speg.) Singer, Singer 1949 (1951), Lilloa 22:452; *fide* Pegler 1983, World Monogr. *Lentinus* p. 235

= *Lentodium floridanum* Murrill, Murrill 1943, Mycologia 35:426; *fide* Murrill 1944, Mycologia 36:122; *fide* Singer 1946, Lloydia 9: 128 [= *Lentinus floridanus* (Murrill) Murrill, Murrill 1943, Mycologia 35:433, alternative name in same publication]

≡ *Ripartitella squamosidisca* (Murrill) Singer, Singer 1946, Lloydia 9: 128 ; *fide* Hongo 1977, Mem. Natn. Sci. Mus., Tokyo 10:35

sterilis

Armillaria edodes (Berk.) Sacc. forma *sterilis* Iwade, Iwade 1944, Bull. Tokyo. Univ. For. 33: 56

accepted name: ≡ *Lentinula edodes* (Berk.) Pegler, Pegler 1975, Kavaka 3:20
≡ *Cortinellus edodes* (Berk.) Sawada forma *sterilis* Iwade, 1944, Bull. Tokyo. Univ. For. 33:56 [alternative name on the same page]

stipitis, *Agaricus* SEE *mellea*

straminea

Armillaria straminea (Krombh.) P.Kumm., Kummer 1871, Führ. Pilz. p.134

basionym: *Agaricus stramineus* Krombh., Krombholz 1836, Naturget. Abb. Schwämme Taf. 25, Bild 8-14, p. 12-13

accepted name: = *Floccularia luteovirens* (Alb. & Schwein.:Fr.) Pouzar, Pouzar 1957, Česká Mykol. 11:49; *fide* Singer 1962, Agaricales in Modern Taxonomy p.304; *fide* Saccardo 1887, Sylloge Fungorum 5:75

≡ *Floccularia straminea* (Krombh.) Pouzar, Pouzar 1957, Česká Mykol. 11:50
There is some controversy over whether *F.luteovirens* truly represents the same tazon described by Krombholz, although most authors have placed them in synonymy.

stobiliformis

Amilluria stobiliformis (Paulet ex Vittad.) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68:167. no description or indication of new sp. or comb.

basionym: *Hypophyllum stobilifome* Paulet, Paulet 1812-35, Iconogr. Champ. pl. 162 fig 1 [generic name not validly published *vide* Bas 1969, Persoonia 5:519]

accepted name: ≡ *Amanita stobiliformis* (Paulet ex Vittad.) Bertillon, Bertillon 1866 (1869 according to title page), in Dechambre. Diet. Encycl. Sci. médic. I 3:499; *vide* Bas 1969, Persoonia 5:519

≡ *Agaricus stobiliformis* Paulet ex Vittad., Vittadini 1832, Descr. Funghi Manger. p.59 p1.2

≡ *Amanita stobiliformis* (Paulet ex Vittad.) Quél., Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:68, superfluous comb.

≡ *Amanita solitaria* (Bull.:Fr.) Mérat var. *stobiliformis* (Paulet ex Vittad.) Costantin & Dufour, Costantin and Dufour 189 1, Nouvelle Flore des Champignons ed. 1 (Paris, France: P.Dupont) p.3; *vide* Bas 1969 Persoonia 5:519, this is a misapplied name.

subannulata

Armillaria subannulata (Batsch) Quél., Quélet 1875, p. 541; plate I t.4; p. 549
basionym: *Agaricus subannulatus* Batach, Batsch 1783, Elenchus Fungorum p.76
accepted name: ≡ *Tricholoma subannulatum* (Batsch) Ricken, Ricken 1914, Die Blätterpilze p.333; this name was published and accepted by Ricken 1914, *loc. cit.*, and has nomenclatural priority over *Tricholoma subannulatum* (Murrill) Zeller, Zeller 1922, q.v.
 ≡ *Tricholoma subannulatum* (Batsch) Bres., Bresadola 1927, Icon. Mycol. 2: Tab 63.) superfluous comb.
 ≡ *Tricholoma subannulatum* (Batsch) Emel, Emel 1921, Le genre *Armillaria* p.75, published as a provisional combination, invalid, ICBN Art. 34.1(b)
 ≡ *Tricholoma albo-brunneum* (Pers.) Ricken var. *subannulata* (Batsch) Lucand, Lucand 1880, Figures Peintes de Champignons de la France, fig. 35-353
 = *Tricholoma fracticum* (Britzelm.) Kreissel, Kreisel 1984, Feddes. Repert. 95 (9-10): 700; *fide* Gulden 1992, Nordic Macromycetes 2: 186.
 = *Tricholoma batschii* Gulden, Gulden 1969, Musseronflora Slekten. *Tricholoma* (Fr. ex Fr.) Kummer sensu lato (Agaricales) Oslo-Bergen-Tromse; *nomen novum* for this species when *Tricholoma subannulatum* (Peck) Zeller, 1922, was thought to have nomenclatural priority over *Tricholoma subannulatum* (Batach) Bres., 1927
 = *Tricholoma robustum* (Alb. & Schwein.:Fr.) Ricken, ss. Ricken 1914, Die Blätterpilze p.332; *fide* Saccardo 1887, Sylloge Fungorum 5:75; *fide* Moser 1983, Keys to Agarics and Boleti p. 123
 NOT *Armillaria subannulata* Peck, Peck 1909, Bull. Torr. Bot. Club 36:330, q.v. [≡ *Tricholoma subannulatum* (Murrill) Zeller, Zeller 1922, q.v.]

subannulata

Armillaria subannulata Peck, Peck 1909, Bull. Torr. Bot. Club 36:330.

Illegitimate name ICBN Art. 64.1. later homonym of *Armillaria subannulata* (Batsch) Quél., q.v.

basionym: *Armillaria subannulata* Peck, Peck 1909, *loc. cit.*

accepted name:

Kristen M. Shanks (Duke Univ., Pers. Comm.) has studied the type specimens of *Armillaria subannulata* Peck and *Tricholoma californicum* (Murrill) Murrill [Murrill 1913, Mycologia 5:223] These two species are synonyms *fide* Murrill 1914, N. Amer. Flora 10: 30. Both belong in the genus *Tricholoma*, but the type specimens are in such poor condition that it is not possible to determine if these species are conspecific. If conspecific, *Tricholoma californicum* would be the correct name for this species, since it is the earliest available epithet in *Tricholoma*. If the two type specimens represent different species *Armillaria subannulata* Peck would need a new name in *Tricholoma*, because *Tricholoma subannulatum* (Batsch) Ricken (1914) has priority over *Tricholoma subannulatum* (Murrill) Zeller, Zeller 1922, q.v.

≡ *Melanoleuca subannulata* Murrill, Murrill 1914, N. Amer. Flora 10:30; treated as a *nomen novum* for *Armillaria subannulata* Peck, q.v., an illegitimate name; see Murrill 1914, *loc. cit.* for other synonyms

≡ *Tricholoma subannulatum* (Murrill) Zeller, Zeller 1922, Mycologia 19: 187; Petrak 1922-28 p. 674, Illegitimate ICBN Art. 64.1, later homonym of *Tricholoma subannulatum* (Batsch) Ricken, Ricken 1914, Die Blätterpilze p.333, q.v.

NOT *Armillaria subannulata* (Batsch) Quél., Quélet 1875, p. 541; plate I t.4; p. 549, q.v.

subcaligata

Armillaria subcaligata A.H. Smith & P.M. Rea, Smith and Rea 1944, Mycologia 36:128

basionym: *Armillaria subcaligata* A.H. Smith & P.M. Rea, Smith and Rea 1944, Mycologia 36:128

accepted name: ≡ *Amanita subcaligata* (A.H. Smith & P.M. Rea) A.H. Smith ex Tulloss, comb. nov. Rod Tulloss (Pers. Comm.) has examined the type of this species and believes it belongs in the genus *Amanita*. He has agreed to publish the new combination here. A formal redescription of the species will be published later (Tulloss, Pers. Comm.). Smith made the combination in an unfinished and unpublished manuscript on *Amanita*, currently being revised by Tulloss; This fulfills the tenets of ICBN Recommendation 50A.2, and thus "the word 'ex' should be used in citations to connect the names of the two authors. "

≡ *Floccularia subcaligata* (A.H. Smith & P.M. Rea) Bon, Bon 1991, Documents Mycologiques 21 (no. 81) :55

≡ *Amanita subcaligata* (A.H. Smith & P.M. Rea) A.H. Smith; Smith made this combination in an unfinished and unpublished manuscript, and thus is not validly published; *fide* Smith 1979, Beih. Sydowia 8:375, this taxon probably belongs in the genus *Amanita* but formal combination not made.

subcava

Armillaria subcava (Schumach.:Fr.) Gillet, Gillet 1874, Les Hym. p. 76

basionym: *Agaricus subcava* Schumach., Schumacher 1803, Enumeratio Plantarum p.262; redescribed by Schumacher 1825, Fl. Dan. t. 1843

accepted name: not known; *fide* Watling *et al.* *Armillaria* Root Disease p.6, probably a *Limacella* ; *fide* Scott Redhead, Pers. Comm., almost certainly not a *Limacella*

≡ *Agaricus (Armillaria) subcavus* Schumach.:Fr., Fries 1821, Syst. Myc. 1 p. 28

≡ *Armillaria subcava* (Schumach.:Fr.) Sacc., Saccardo 1887, superfluous comb.

≡ *Clitocybe subcava* (Schumach.:Fr.) Ricken, Ricken 1914, Die Blätterpilze p.363; nr. 1077

≡ *Armillaria subconcava* "Schum.-Ricken", as cited by Kauffman 1923, Pap. Mich. Acad. Sci. 2:59. Orthographic error in epithet by Kauffman.

subconcava, *Armillaria* SEE *subcava*

subcinerescens

Armillaria subcinerescens Rick, Rick 1961, Iheringa Sér. Bot. 8:307

accepted name:

NOT *Tricholoma subcinerescens* Rick, Rick 1937, Lilloa 1:313

Rick makes no mention of this species having an annulus. No further information is available regarding this taxon.

subdehiscens

Armillaria subdehiscens (Britzelm.) Sacc., Saccardo 1895, Sylloge Fungorum 11:8

basionym: *Agaricus (Armillaria) subdehiscens* Britzelm., Britzelmayr 1891, Hym. Südbayr. VII pl. 1 f.325,422

accepted name: = *Tricholoma aurantium* (Schaeff.:Fr.) Ricken, q.v.; *fide* Stangl and Bresinsky 1967, Zeits. Pilz. 33:33

subimperialis

Armillaria subimperialis (Britzelm.) Sacc., Saccardo 1895, Sylloge Fungorum 11:7

basionym: *Agaricus (Armillaria) subimperialis* Britzelm., Britzelmayr 1891, Hym. Südbayr. IX p.2 f.138469

accepted name: = *Catathelasma imperiale* (Fr.) Singer q.v.; *fide* Stangl and Bresinsky, 1967, Zeits. Pilz. 33:33

subpessundatum, *Tricholoma* SEE *badicephala*

sulfurea

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *sulfurea* (Weinm.) PKarst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.22

basionym: ?*Agaricus melleus* var. *sulfureus* Weinm., Weimann 1836, Hymeno & Gasteromycetes hucusque in imperio Rossico observanti. Saint-Petersbourg. -- original not seen, cited in Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p.22; cited in Bigeard and Guillemin 1909, p. 69; cited in P.M. Rea 1922, Brit. Basidiomycetae p. 109. We are unsure of the basionym for this species.

accepted name:

fide Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Prace BRNO p. 33, this is a yellow-gilled form of *Amellea* s.l.

sulphurescens, *Tricholoma* SEE *rhacophora*

tabescens

Armillaria tabescens (Swp.) Emel, Emel 1921, Le genre *Armillaria* Fr., sa suppression de la systématique bot. Thèse. Université de Strasbourg, p. 50.

basionym: *Agaricus tabescens* Scop., Scopoli 1772, Flora Camiolica Plantas Camirolae Indigenas no. 1537, p.446. [As the basis for his species, Scopoli cited Haller 1753, Enumeratio plantarum horti regii et agri., but this work is pre-Linnean (see Fuchs, 1963, Taxon 12:205) and the names in it are invalid (ICBN Art. 13. Id); *fide* Donald Pfister, Pers. Comm.]

accepted name: *h Armillaria tabescens* (Scop.) Emel, Emel 1921, *loc. cit.* This combination is legitimate and validly published (see introduction to this paper). [Although this is sometimes cited as "*Armillaria tabescens* (Scop.:Fr.) Emel," Fries should not be cited as validating Scopoli's name because the date for valid publication is 1753 (ICBN Art. 13.Id). Moreover, Fries did not mention *Agaricus tabescens* until Fries 1838, Epicrisis p. 33.1

≡ *Armillaria tabescens* (Scop.) Dennis, Orton & Hora, Dennis Orton & Hora 1960, Trans. Brit. Mycol. Soc. suppl. p. 18. Although Dennis *et al.* did not claim to be making a new combination, the species has been cited with them as the authorities for the combination. However, their combination is superfluous.

≡ *Agaricus (Tricholoma) tabescens* Scop. ex Fr., Fries 1838, Epicrisis p. 33.

≡ *Agaricus (Collybia) tabescens* Scop. ex Fr., Fries 1874, Hym. Eur. p. 111

≡ *Armillariella tabescens* (Scop.) Singer, Singer 1943, Ann. Mycol. 41:19

≡ *Clitocybe tabescens* (Scop.) Bres., Bresadola 1900, Fungi Tridentini 2:84; *fide* Ricken 1914, Die Blätterpilze p.383; *fide* Dennis, Orton, & Hora 1960 Trans.

Brit. Mycol. Soc. supplement 1960, the new combination was made by Bresadola in 1928, but this reference is incorrect

≡ *Clitocybe tabescens* (Scop.) Boud., Boudier 1904, Iwnes Mycologicae t. 1 pl. 61, text Icones Mycologicae t.4 p. 31, superfluous comb.

≡ *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *tabescens* (Scowp.) P.M. Rea & Ramsb., Rea and Ramsbottom 1917, Trans. Brit. Mycol. Soc. 5:352

≡ *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *tabescens* (Scop.) P.M. Rea, Rea 1922, Brit. Basidiomycet., p. 110, superfluous combination

≡ *Collybia mellea* (Vahl:Fr.) Emel ssp. *tabescens* (Scop.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

= *Armillaria socialis* (DC) Herink, Herink 1973, Vysoká Škola Zemědělská V Brně. Vyznamenaná Rádem Práce BRNO p.44 [as "(DC:Fr.) Herink"] *sensu* Watling *et al.*, 1991, *Armillaria* Root Disease p. 5; *fide* Fries 1874, Hym. Eur. p. 111, but see discussion under *socialis*.

= *Lentinus caespitosus* Berk., Berkeley 1868, Lond. Jour. Bot. 6:317; *fide* Singer 1970, Flora Neotropica 3: 13; *fide* Pegler 1983, World Monogr. *Lentinus* p. 224. [= *Agaricus caespitosus* (Berk.) Berk. & M.A. Curtis, = *Pleurotus caespitosus* (Berk.) Sacc., = *Monadelphus caespitosus* (Berk.) Murrill]

= *Armillaria mellea* (Vahl:Fr.) P.Kumm. var. *exannulata* Peck, Peck 1893, NY State Mus. Rept. State Botanist 46: 134; *fide* Singer 1970, Flora Neotropica 3:13
 = *Clitocybe aquatica* Banning in Peck, Peck 1892, Ann. Rept. NY State Mus. 44: 180; *fide* Singer 1970, Flora Neotropica 3: 13; *fide* Bigelow 1985, Beih. Nov. Hedw. 81:425
 = *Clitocybe parasitica* Wilcox, Wilcox 1901, Bull. Oklahoma Exp. Sta. 49: 18; *fide* Singer 1970, Flora Neotropica 3:13
 = *Armillaria gymnopodia* (Bull.) Emel, Emel 1921, Le genre *Armillaria* p.52; *fide* Emel 1921, Le genre *Armillaria* p.52; *fide* Bresadola 1900, Fungi Tridentini II fasc. 14 p. 251.
 = *Agaricus monadelphus* Morgan, Morgan 1883, J. Cincinnati Soc. Nat. Hist. 6:69; *fide* Singer 1970, Flora Neotropica 3: 13; See additional discussion under *monadelpha*.

terreii, *Cystoderma* SEE *cinnabarina*, *granulosa*

tigrensis

Armillariella tigrensis (Singer) Raithelth., Raithelhuber 1983, Metrodiana Sonderheft 2:3

basionym: *Armillariella puiggarii* (Speg.) Singer subsp. *tigrensis* Singer, Singer 1970, Flora Neotropica Monogr. 3:8

accepted name: ≡ *Armillaria tigrensis* (Singer) Volk & Burdsall comb. nov. ; Until cultures are obtained and studied this must be considered a separate species of *Armillaria*. We interpret the description as a true *Armillaria* species and provide the appropriate new combination.

tumescens

Armillaria tumescens (Viv.) Sacc., Saccardo 1887, Sylloge Fungorum 5:80

basionym: *Agaricus (Armillaria) tumescens* Viv., Viviani 1834, Funghi d'Italia t. 31 p. 35-36

accepted name:

Description and picture do not appear to be a true *Armillaria*, annulate, pale orange to buff gills; *fide* Saccardo 1887, *loc. cit.*, "habitus *Tricholomatis*"

tympניתica

Armillaria tympניתica (Berk. & M.A. Curtis) Sacc., Saccardo 1887, Sylloge Fungorum 5:86

basionym: *Agaricus (Armillaria) tympניתicus* Berk. & M.A. Curtis, Berkeley and Curtis 1858, Proc. Amer. Acad. Sci. Boston 4:111 (also cited as N. Pac. exp. n.4)

accepted name:

Berkeley and Curtis 1858, *loc. cit.*, indicate that taxon is "allied to *A.mucidus*" q.v. now placed in *Oudemansiella*; No further information is available regarding this taxon.

umbilicata

Armillaria umbilicata (Pat.) Sacc. & Syd., Saccardo and Sydow 1902, Sylloge Fungorum 16:19

basionym: *Armillariella umbilicata* Pat., Patouillard 1899, Bull. Soc. Mycol. France 15:191

accepted name:

No further information is available regarding this taxon. Patouillard's description suggests this is a true *Armillaria* with affinities to *Armillaria melleo-rubens* (Berk. & M.A. Curtis) Sacc. q.v. Its true disposition is not known.

umbonata

Armillaria umbonata (Sumst.) Murrill, Murrill 1914, N. Amer. Flora 10(1):38

basionym: *Vaginata umbonata* Sumst., Sumstine 1914, Mycologia 6:35

accepted name: = *Squamanita umbonata* (Sumst.) Bas, Bas 1965, Persoonia 3:33; *fide* Redhead *et al.* 1994, Canad. J. Bot. 72:1817

umbrinobrunnea

Armillariella montagnei Singer var. *umbrinobrunnea* Singer, Singer 1956, Lloydia 19:183

accepted name: = *Armillaria ostoyae* (Romagn.) Herink, Herink 1973, Vysoká Skola Zemědělská V Brně Vyznamenaná Rádem Prace BRNO p.42; *fide* Garrido, 1985, Index Agaricalium Chilensium, Bib. Mycologica 99:23 [as "*A. obscura*"]; *fide* Watling *et al.*, 1991, *Armillaria* Root Disease, p.5, (as var. *umbrinolutea* Singer, see below)

≡ *Armillariella montagnei* Singer var. *umbrinolutea* Singer, cited in Watling *et al.* 1991, see below.

umbrinolutea

Armillariella montagnei Singer var. *umbrinolutea* Singer, cited in Watling *et al.* 1991, *Armillaria* root disease p.5 as a synonym of *Armillaria ostoyae* (Romagn.) Herink. This taxon does not exist. It is an orthographic variant of *Armillariella montagnei* Singer var. *umbrinobrunnea* Singer, Singer 1956, *Lloydia* 19:183

basionym: none

accepted name: = *Armillaria ostoyae* (Romagn.) Herink, q.v.; *fide* Watling *et al.*, 1991, *Armillaria* Root Disease, p.5

vagans

Armillaria vagans (Fr.) Gillet, Gillet 1874, *Les Hym.* p. 82

basionym: *Agaricus (Armillaria) vagans* Fr., Fries 1821, *Syst. Myc.* I p. 29 (based on *Fungus vagus alter* Battara, Battara 1755 t.8 C D E; but Battara names are not accepted. ICBN Art.23.6(c) Ex. 10)

accepted name: *nomen dubium fide* Watling *et al.* 1991, *Armillaria* Root Disease p. 6

vara

Armillaria vara (Berk.) Sacc., Saccardo 1887, *Sylloge Fungorum* 5:83

basionym: *Agaricus (Armillaria) varus* Berk., Berkeley 1850, *Hooker's J. Bot.* 2:45 nr. 246

accepted name: *nomen dubium fide* Chandra and Watling 1981, *Kavaka* 10:76; *fide* Singer 1970, *Flora Neotropica* 3:16, this is a synonym of *Armillaria omniuens* (Berk.) Sacc., Saccardo 1887, *Sylloge Fungorum* 5:84

ventricosa

Armillaria ventricosa (Peck) Peck, Peck 1907, *Bull. Torr. Bot. Club* 34:104

basionym: *Lentinus ventricosus* Peck, Peck 1896, *Bull. Torr. Bot. Club* 23:414

accepted name: = *Catathelasma ventricosa* (Peck) Singer, Singer 1940, *Rev. Mycologie* 5:9

≡ *Biannularia ventricosa* (Peck) Pomerleau, Pomerleau 1980, *Naturaliste Ca.* 107: 303

≡ *Biannularia ventricosa* (Peck) Pomerl., Pomerleau 1980, *Flore des Champ.* Québec p. 308 *nomen invalidum*, ICBN Art. 33.2, basionym and reference not cited

verrucipes

Armillaria verrucipes Fr. in Quél., Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:317

basionym: *Armillaria verrucipes* Fr. in Quél., Quélet 1872, Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:317 (cited in Fries 1874, Hym. Eur. p. 43, as "Quél. Jura p. 304 t.11 f. 1")

accepted name: = *Melanoleuca verrucipes* (Fr. in Quél.) Singer, Singer 1935, Etude systématique de *Melanoleuca* d'Europe; original not seen, cited in Singer 1943, Ann. Mycol. 41:52; *fide* Pomerleau 1980, Flore des Champ. Québec p. 304; *fide* Moser 1983, Keys to Agarics and Boleti p. 147

= *Armillaria verrucipes* (Fr. in Quél.) Sacc., Saccardo 1887, Sylloge Fungorum 5:78, superfluous comb.

= *Tricholoma verrucipes* (Fr. in Quél.) Costantin & Dufour, Costantin & Dufour 1891, Nouvelle Flore Champignons, p. 13

= *Tricholoma verrucipes* (Fr. in Quél.) Bres., Bresadola 1892, Fungi Tridentini 2:5 no. 137, superfluous comb.

= *Tricholoma verrucipes* (Fr. in Quél.) Bigeard & Guillemin, Bigeard and Guillemin 1909, Flore des Champignons Supérieurs de France p. 83, superfluous comb.

= *Clitocybe verrucipes* (Fr. in Quél.) Emel, Emel 1921, Le genre *Armillaria* p.76, published as a provisional combination, invalid, ICBN Art. 34.1(b)

= *Clitocybe puellula* (P.Karst.) P.Karst., Karsten 1879, Rysslands, Finlands och den Skandinaviska halföns Hattsvampar p. 65; *fide* Singer 1949 (1951), Lilloa 22:249; *fide* Emel 1921, Le genre *Armillaria* p. 37; *fide* Bigeard and Guillemin 1913, Flore des Champignons Supérieurs de France v. 2 p. 53

versicolor

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *versicolor* (With.:Fr.) W.G. Smith, Smith 1908, Synopsis British Basidiomycetes p.30

basionym: *Agaricus versicolor* With., Withering 1812, Systematic arrangement of British Plants 4: 197. We have seen Withering's species characterization in the Fifth edition of this work (1812); however, the fungus was likely initially described in one of the earlier editions in 1776, 1792, 1796, or 1801.

accepted name: = *Stropharia versicolor* (With.:Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5: 1013

= *Agaricus (Stropharia) versicolor* With.:Fr., Fries 1821, Syst. Myc. I p. 286 This was cited in Rea 1922, Brit. Basidiomycetae p. 109, as "*Armillaria mellea* var. *versicolor* With. "; *fide* Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenaná Rádem Práce BRNO p. 33, this is a "questionable" taxon.

virginea

Armillaria virginea Rick, Rick 1961, Iheringa Sér. Bot. 8:307

accepted name:

Rick describes this species as "In horto ad terrum stercoreatum" ---In a park on manured soil. The small spores (5-7 x 4µm) along with the habitat indicate this is probably not an *Armillaria*. No further information is available regarding this taxon.

viridi-flava

Armillaria mellea (Vahl:Fr.) P.Kumm. var. *viridi-flava* Barla, Barla 1887, Bull. Soc. Mycol. France 3:143

accepted name:

vide Termorshuizen and Arnolds 1987, Mycotaxon 30: 113, Barla's plate suggest *A.mellea* s.s. "except for strongly squamulose pileus"

viridiflava

Armillariella viridiflava Singer, Singer 1989, Fieldiana 21:12

basionym: *Armillariella viridiflava* Singer, Singer 1989, Fieldiana 21:12

accepted name: ≡ *Armillaria viridiflava* (Singer) Volk & Burdsall, comb. nov. According to the description, *this* is a true species of *Armillaria*. Further testing of cultural and mating characteristics may reveal affinities to known species. *vide* Singer 1989, *loc. cit.*, this may be same as *A. mellea* var. *viridi-flava* Barla q.v., but did not cite Barla's taxon as the basionym. Rather, he described this- as a new species.

viscidipes

Armillaria viscidipes Peck, Peck 1892, NY State Museum Rept. State Botanist 44: 128

accepted name:

Thiers & Sundberg 1976, Madroño 23 (8): 451, believe that this species is closely related to "*Armillaria ponderosa*"; Kauffman 1923, Pap. Mich. Acad. Sci. 2:62 described the spores as "delicately rough-punctate" ; from all description appears to be a mycorrhizal fungus, not an *Armillaria*; specimen at OSC (Corvallis Oregon) identified by Kauffman (1925, Pap. Mich. Acad. Sci. 5: 115-148) as *Armillaria viscidipes* Peck is not an *Armillaria*. This species probably belongs in the genus *Tricholoma*.

vittadini

Armillaria vittadini (Moretti) Locq., Locquin 1952, Bull. trimest. Soc. Mycol. France 68:167. no description or indication of new sp. or comb.

basionym: *Agaricus vittadini* Moretti, Moretti 1826, in G. Fis. Chim. Stor. nat. Med. Arti Pavia Dec 2 9:66 original not seen-- cited in Bas 1969, Persoonia 5:349; Saccardo 1887, Sylloge Fungorum 5:41, cites this as Botanico Italiano t.1

accepted name: = *Amanita vittadini* (Moretti) Vittad., Vittadini 1826, Tent. Mycol. s. Amanita III 31 pl. I; *vide* Bas 1969, Persoonia 5:349
 = *Lepiota vittadini* (Moretti) Quél., Quélet 1873, Quél. Champ. Jura Vosques I in Mém. Soc. Emul. Montbéliard II 5:338
 = *Amanita vittadini* (Moretti:Fr.) Quél., Quélet 1877 (1878), Bull. Soc. Mycol. France 24:317

vivianii

Armillaria vivianii (Fr.) Sacc., Saccardo 1887, Sylloge Fungorum 5:82

basionym: *Agaricus (Armillaria) vivianii* Fr., Fries 1874, Hym. Eur. p.45

accepted name:
 = *Agaricus (Armillaria) piopparello* Viv., Viviani 1834, Funghi d'Italia p.6 t.6
 No further information is available regarding this taxon. Its proper disposition is unknown. *Agaricus (Armillaria) vivianii* Fr. is apparently a *nomen novum* for this species. Fries 1874, *loc. cit.*, cites *A. piopparello* Viviani in his description, reducing this name to a synonym.

watsonii

Armillariella watsonii (Murrill) Singer, Singer (1949) 1951, Lilloa 22:216

basionym: *Monadelphus watsonii* Murrill, Murrill 1944 (1945), Proc. Fl. Acad. Sci. 7:111

accepted name: *nomen dubium*. The type specimen of this species has been lost (*vide* James F. Kimbrough FLAS, Pers. Comm.); treated as an *Armillariella* by Bigelow 1985, Beih. Nova Hedw. 81:430

= *Clitocybe watsonii* (Murrill) Murrill, Murrill 1944 (1945), Proc. Fl. Acad. Sci. 7: 127, alternative name in same publication

NOT *Tricholoma watsonii* (Murrill) Murrill, Murrill 1944 (1945), Proc. Fl. Acad. Sci. 7:127 [= *Melanoleuca watsonii* Murrill, Murrill 1944 (1945), *loc. cit.* p. 111, alternative name in same publication]

xantha

Armillariella sparrei Singer var. *xantha* Singer, Singer 1969, Beih. Nova Hedwigia 29:45

accepted name:

No further information is available regarding this taxon.

yungensis

Armillaria yungensis (Singer) Herink, Herink 1973, Vysoká Skola Zemědělska V Brně. Vyznamenání Rádem Práce BRNO p.43

basionym: *Armillariella yungensis* Singer, Singer 1970, Flora Neotropica 3:12

accepted name: ≡ *Armillaria yungensis* (Singer) Herink, Herink 1973, *loc. cit.* From the description, this species apparently belongs in *Armillaria*, but whether it is conspecific with any other *Armillaria* species is unknown.

zelleri

Armillaria zelleri Stuntz & A.H. Smith, Smith 1949, Mushrooms in their Natural Habitats p. 351

accepted name: = *Tricholoma focale* (Fr.) Ricken, Ricken 1914, Die Blätterpilze p. 332; *fide* Clark Ovrebo, Pers. Comm.; *fide* Ovrebo 1973, Taxonomy of the genus *Tricholoma* in the Pacific Northwest. M.S. Thesis, University of Idaho, Moscow, ID; *fide* Clark Ovrebo 1980, A taxonomic study of the genus *Tricholoma* (Agaricales) in the Great Lakes region, Ph.D. thesis, University of Toronto, p. 177; *fide* Roy Watling (Pers. Comm.)
≡ *Tricholoma zelleri* (Stuntz & A.H. Smith) Ovrebo & Tylutki, Ovrebo and Tylutki 1975, Mycologia 67:80